

Fishery Management Report No. 08-37

Kodiak Management Area Salmon Escapement and Catch Sampling Results, 2007

by

M. Birch Foster

June 2008

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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

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

Roughly 1.2 million sockeye salmon *Oncorhynchus nerka* were estimated to escape through Alaska Department of Fish and Game (ADF&G) salmon counting weirs in the Kodiak Management Area (KMA) during 2007. Adult sockeye salmon were sampled for age, sex, and length determination on river systems in the KMA and approximately 14,000 escapement scale samples were used to represent escapement age compositions. The overall sampled sockeye salmon escapement was predominantly composed of age-2.3 (33.7%), -2.2 (25.7%) and -1.3 (8.4%) fish, but primary age classes varied by system. The 2007 commercial salmon catch for the KMA totaled 27.9 million fish, greater than the 1997-2006 average of 23.4 million fish. The commercial harvest consisted of approximately 17 thousand Chinook *O. tshawytscha*, 2.0 million sockeye, 357 thousand coho *O. kisutch*, 24.8 million pink *O. gorbuscha*, and 729 thousand chum *O. keta* salmon. Sockeye salmon were sampled by ADF&G for age determination from a variety of catch areas throughout the KMA and of these samples, roughly 14,000 scales were used to represent a combined harvest of approximately 1.1 million sockeye salmon. The overall sampled sockeye salmon catch was predominantly composed of age-2.2 (28.9%), -2.3 (23.3%) and -1.3 (20.7%) fish; however, primary age classes varied by section and district. Sockeye salmon brood tables were updated for the Karluk, Ayakulik, Upper Station, and Frazer; 10-year average return-per-spawner estimates ranged from 1.8 for Karluk late run to 3.3 for Upper Station early run. Correlation in system specific annual sockeye salmon abundance was related more to run timing than geography pointing to the significance of regional climate changes.

Key words: Kodiak, escapement, sockeye salmon, commercial harvest, age, historical trends.

INTRODUCTION

The Kodiak Management Area (KMA) encompasses western Gulf of Alaska waters surrounding the entire Kodiak Archipelago and waters along that portion of the Alaska Peninsula draining into Shelikof Strait from Cape Douglas to Kilokak Rocks (Figure 1). The Kodiak archipelago and Alaska Peninsula portions of the management area are each about 240 km in length, while Shelikof Strait averages 48 km in width.

There are about 800 anadromous salmon systems located throughout the KMA (Johnson and Weiss 2006). These systems combined support five commercially important salmon species: Chinook *Oncorhynchus tshawytscha*, sockeye *O. nerka*, coho *O. kisutch*, pink *O. gorbuscha*, and chum *O. keta* salmon. About 39 of these systems support various sizes of sockeye salmon runs (Dinnocenzo 2006).

Weirs operated by the Alaska Department of Fish and Game (ADF&G) provide the primary mode of enumeration for virtually all Chinook salmon and a majority of the sockeye salmon escapements into KMA streams (Figure 2; Caldentey 2007). Remaining streams are monitored by aerial and foot surveys to index pink, chum, and coho salmon escapements (Dinnocenzo 2006).

The KMA is composed of seven commercial salmon fishing districts and 56 sections (Figures 1 and 3–9). The primary emphasis of the ADF&G salmon management program is to promote maximum production for future KMA salmon returns by supporting salmon escapement of sufficient magnitude and distribution (Wadle 2007). Simultaneously, the goal is to provide for orderly fisheries, maximize harvest opportunities and product quality, and adhere to management plans adopted by the Alaska Board of Fisheries (BOF). Five species of salmon are commercially harvested within the KMA, all of which have established escapement goals. The targeted escapement goals for KMA salmon are approximately: 8 thousand to 17 thousand Chinook, 750 thousand to 1.7 million sockeye, 2.3 million to 5.8 million pink, 6 thousand to 14 thousand coho (on the Kodiak town road system streams only), and 300 thousand chum salmon (Honnold et al. 2007; Nelson et al. 2005). Directed commercial fisheries occur on sockeye, pink,

chum, and coho salmon; Chinook salmon are not targeted. To open and close the fishery inseason, managers utilize qualitative analyses of run timing, catch per unit effort (CPUE) statistics, species composition estimates, regulatory management plans, aerial survey estimates, test fishery numbers, and weir escapement counts (Dinnocenzo 2006).

The BOF has approved area salmon management plans for the Cape Igvak Section of the Mainland District, Alitak Bay District, North Shelikof Strait, Westside Kodiak, Eastside Afognak, Crescent Lake, Spiridon Lake, Eastside Kodiak, Mainland District, and North Afognak/Shuyak Island (5 AAC 18.360.-18.369.). The intent of these plans is to maintain traditional commercial fishing opportunities and subsequent harvest allocations, stock conservation, and provide for a high quality salmon product.

Age, sex, and length (ASL) composition of KMA sockeye salmon escapements have been collected under the direction of various researchers and agencies since the mid 1920s. The ADF&G, Division of Commercial Fisheries (CFD), initiated an expanded catch and escapement sampling program in 1985 focusing on sockeye salmon. The purpose of this program was to collect representative ASL data from major sockeye salmon systems as well as representative age data from selected commercial sockeye salmon harvests. These data continue to expand the KMA salmon baseline ASL database. These samples are used to reconstruct numerous sockeye salmon runs, employing age marker analysis, scale pattern analysis (SPA), and historical harvest proportions to estimate specific stock contributions to commercial fisheries in the KMA (Baer and Honnold 2002; Barrett and Nelson 1994; Barrett and Nelson 1995; Foster 2006; Nelson 1999; Nelson and Swanton 1996; Nelson and Swanton 1997; Sagalkin 1999; Swanton 1992; Witteveen et al. 2005). Accordingly, these samples provide the foundation for preseason run forecasting and escapement goal evaluation.

This report summarizes the results of the 2007 KMA salmon escapement and catch sampling program. This report is a compilation of data, with some interpretation and discussion but is not intended as a rigorous analysis. The emphasis of this report is on sockeye salmon.

METHODS

ADULT SALMON ESCAPEMENT AND CATCH ESTIMATES

Salmon escapement enumeration was accomplished via weir counts at seven systems throughout the KMA in 2007 (Figure 2). Major systems enumerated by ADF&G, CFD personnel included Karluk, Ayakulik (Red Lake), Frazer (Dog Salmon Creek), and South Olga Lakes (Upper Station). A weir was located at the mouth of Dog Salmon Creek and at the outlet to Frazer Lake (Frazer fish pass), within the same sockeye salmon system, to facilitate timely management, maintenance, and operation of the fish pass. Minor systems with weirs operated by ADF&G personnel included Afognak (Litnik) Lake and Buskin River; ADF&G, Division of Sport Fish monitored salmon escapement through a weir at Buskin Lake and Lake Louise (within the Buskin River system). The Alaska State Parks operated a salmon weir at Big Bay Creek (Shuyak Island) in 2007 enumerating coho and pink salmon, however the results are outside the scope of this report.

Escapements at weirs were manually enumerated by field technicians and biologists using hand tally denominators as fish migrated upstream through aluminum panel gates (Caldentey 2007). Gates are normally closed to allow fish buildup and are intermittently opened allowing salmon enumeration and passage. Therefore, these counts were treated as a census with minor

adjustments made to the total counts only when high water events washed out weirs or after weir removal at season's end. In these cases, when escapements were not directly counted, they were estimated by aerial or foot surveys conducted by field personnel.

KMA salmon catch numbers for the 2007 season were obtained from summary reports of individual harvest receipts (fish tickets). The fish ticket database was edited by Kodiak area salmon management biologists prior to summary reports being generated on 2 January, 2008.

ADULT SALMON ESCAPEMENT AND CATCH SAMPLING

Sockeye salmon escapements were sampled weekly for ASL data at Karluk, Ayakulik, Upper Station, Dog Salmon and Frazer weirs (Figure 2; ADF&G 2007). Frazer Lake salmon are initially enumerated at Dog Salmon weir (near saltwater) and then counted again as they transit the fish pass and into Frazer Lake. Sampling weeks and associated calendar dates are presented in Table 1. Fish were collected using a live-box trap attached to the upstream side of the weir. Ideally, three samples of 80 fish were collected weekly on alternating days to meet the required weekly sample size of 240 fish. Within-week adjustments were made in the schedule when necessary to obtain the full sample. The weekly escapement sample size enabled all age classes to be simultaneously estimated within $\pm 6.5\%$ of the true proportions (Thompson 1987) with 90% confidence. For Litnik, a goal of 600 fish (Table 2) was established with the sampling effort distributed throughout the season and proportional to escapement counts (i.e., peaks in sampling effort will occur during peaks of escapement). An alternative sampling plan was conducted by the Division of Sport Fish on the Buskin River where sockeye were sampled at the Buskin Lake weir and Lake Louise weir and supplemented with creel sampling through 15 July (Tracy and Schmidt *Unpublished*).

Designated commercial sockeye salmon catches were sampled weekly for age during commercial fisheries (ADF&G 2007; Table 3). The catch sample size of 400 fish per week enabled all age classes to be simultaneously estimated within $\pm 6.5\%$ of the true proportion with 95% confidence (Thompson 1987). Consistent with weir sampling, 240 fish per week were sampled for ASL data from the Spiridon Bay Special Harvest Area (SBSHA) to represent the Spiridon Lake sockeye salmon run (Duesterloh 2007; Nelson and Swanton 1997).

Catch samples were collected at processing facilities located in the Port of Kodiak, Alitak, and Larsen Bay (Figure 2). The catch sampling crew obtained fish ticket information before collecting samples to determine if the fish were exclusively harvested from the section designated to be sampled. If fish ticket data were not available, the sampling crew interviewed the processing facility dock foreman or tender operator. Once fish ticket information became available, the origin of the catch was confirmed.

All scales, when possible, were collected from the preferred area of each fish following procedures outlined by the International North Pacific Fisheries Commission (INPFC 1963). Scales were mounted on scale "gum" cards and impressions were made on cellulose acetate (Clutter and Whitesel 1956). Fish ages were assigned by examining scale impressions for annual growth increments using a microfiche reader fitted with a 48X lens following designation criteria established by Mosher (1968). Ages were recorded on sampling forms using European notation (Koo 1962) where a decimal separates the number of winters spent in fresh water (after emergence) from the number of winters spent in salt water. The total age of the fish includes an additional year representing the time between egg deposition and emergence of fry. Length measurements were taken from METF (mm) and sex was determined from external

morphological characteristics. All ASL data were recorded on standard optical scanning (Opscan) data forms. All data forms were digitally scanned and edited for errors.

Age, sex, and length statistics were computed for each escapement sample. Age and sex composition estimates were interpolated daily between sampling events and summarized weekly when targeted sampling goals were achieved. When limited samples were obtained, the age composition was estimated to reflect the sampling period only. Length composition data were summarized by age and sex.

When weekly targeted catch sample sizes were obtained, catch-at-age by area and day were estimated by multiplying the daily age composition of a particular sample by the daily catch from the corresponding catch area. Age composition of the catch from days not sampled was estimated using linear interpolation between sampling events. Descriptions of component programs used to compute age, length, and sex composition summaries can be found in Blackburn (*unpublished*).

SOCKEYE SALMON RUN RECONSTRUCTION ESTIMATES

Spiridon Lake

In lieu of formal stock separation analyses performed from 1998 through 2007, the 1994-1997 average estimated proportion of Spiridon-bound harvest occurring in the SBSHA was used to calculate the number of Spiridon Lake sockeye salmon harvested in the SW Afognak Section and NW Kodiak District combined (Nelson 1999; Witteveen et al. 2005). This catch estimate was combined with the SBSHA sockeye salmon catch to estimate the 2007 Spiridon Lake run. This enhanced run was fully utilized; therefore, there was no escapement. The age composition of the SBSHA commercial harvest samples was applied to the total Spiridon Lake run to estimate the run by age class.

Karluk Lake Early Run

A natural age marker (age 3.) was used to estimate the number by age class of Karluk Lake bound sockeye salmon harvested in the westside Kodiak commercial fishery (Witteveen et al. 2005). Early- and late-run numbers were estimated separately.

The number of Karluk Lake bound sockeye salmon harvested in the Central, Inner and Outer Karluk and Sturgeon sections through 15 July was estimated following the methods described in Barrett and Nelson (1995). The total Karluk Lake early-run estimate was calculated by summing the escapement (through 21 July) and assigned catch numbers by age class. Estimates by age class were assigned to the parent year (brood year) escapement and return-per-spawner (R/S) estimates were calculated by dividing annual returns by respective parent year escapements.

Karluk Lake Late Run

The number of Karluk Lake bound sockeye salmon harvested in the Central, Inner and Outer Karluk, and Sturgeon sections post 15 July were estimated following the methods described in Barrett and Nelson (1995). The total Karluk late-run estimate was determined by summing the escapement (post 21 July) and assigned catch numbers by age class. Estimates by age class were assigned to the parent year (brood year) escapement and R/S estimates were calculated by dividing annual returns by respective parent year escapements.

Ayakulik River (Red Lake)

Currently, no formal run reconstruction method exists to attribute commercial sockeye salmon catch to the Ayakulik. Historically, the Ayakulik run reconstruction was accomplished by

combining the Ayakulik River weir sockeye salmon escapement, 90% of the total Inner and Outer Ayakulik sections sockeye salmon catch and one third of the Halibut Bay Section sockeye salmon catch for the period from 21 June through 1 August by age class (Witteveen et al. 2005). In 2007, no harvest occurred in the Ayakulik or Halibut Bay sections until 22 July. Due to the age composition of the catch samples, timing, and harvest locations, 100% of the Ayakulik and 33% of the Halibut Bay sections catch were used to index the commercial catch attributable to the Ayakulik sockeye salmon run. Estimates by age class were assigned to the parent year (brood year) escapement and R/S estimates were calculated by dividing annual returns by respective parent year escapements.

Frazer Lake (Dog Salmon Creek)

The majority of sockeye salmon bound for Frazer Lake are assumed to be harvested in the Alitak District (AD). Run timing of Frazer Lake (Dog Salmon Creek) sockeye salmon coincides with the early sockeye salmon run to Upper Station (Sagalkin 1999). Based on previous studies (Swanton 1992, Tyler et al. 1986), 80% of the catch in the Cape Alitak and Humpy-Deadman sections and 95% of the catch in the Alitak, Moser, and Olga Bay sections were assumed to be of either Frazer Lake or Upper Station origin (Witteveen et al. 2005). In lieu of SPA in 2007, the Frazer Lake catch estimate was based on a weekly proportion (using a running 3-day average) of Frazer/Upper Station escapement differences of 80% of the Cape Alitak Section catch through 15 July and 95% of the Alitak, Moser, and Olga Bay sections catch through 15 July. This catch estimate for Frazer Lake, by age class, was added to escapement counted at the Dog Salmon Creek weir (based on age classes sampled at Dog Salmon Creek weir). Total run estimates by age class were assigned to the parent year (brood year) escapement and R/S estimates were calculated by dividing annual returns by respective parent year escapements.

South Olga Lakes (Upper Station) Early Run

The South Olga Lakes system (commonly referred to as Upper Station) is known to have an early- and late-run sockeye salmon component (based on run timing) and each component was estimated separately.

Upper Station early-run sockeye salmon are generally harvested along with the Frazer Lake run in the AD during June and early July. The early-run catch estimate was based on a weekly proportion of Frazer/Upper Station escapement differences as described above for the Frazer Lake run reconstruction through 15 July. Total run estimates by age class were assigned to the parent year (brood year) escapement and R/S estimates were calculated by dividing annual returns by respective parent year escapements.

South Olga Lakes (Upper Station) Late Run

The number of Upper Station late-run sockeye salmon harvested in the AD (post 15 July) were estimated in an identical fashion as the early run until August 22. All harvest in the Alitak Bay District after August 22 (week 34) was attributed to Upper Station. The total Upper Station late-run estimate was determined by summing escapement counts post 15 July from the Upper Station weir and assigned catch numbers by age class. Estimates by age class were assigned to the parent year (brood year) escapement and R/S estimates were calculated by dividing annual returns by respective parent year escapements.

BROOD TABLES AND HISTORICAL TRENDS

All run reconstructions estimates were used to update their respective brood tables. Reliable and consistent run reconstruction data for Karluk Lake only date back to 1985 run year; however

reliable data for Ayakulik River, Upper Station, and Frazer Lake date back to the early 1970s. Annual trends in freshwater and saltwater ages, by run year for sockeye salmon, were graphed for visual interpretation. Lastly, a simple correlation analysis was conducted to examine the relationships in annual abundance, by run year, between the major Kodiak area and other major sockeye salmon stocks of the Westward Region Chignik, Nelson, and Bear rivers (Tschersich and Zeiser 2008; Witteveen et al. 2007).

RESULTS

ADULT SOCKEYE SALMON ESCAPEMENT ABUNDANCE, AGE, SEX, AND SIZE DATA

A total of 1,310,463 individual sockeye salmon were estimated as escapement through eight weirs in the KMA during 2007 (Tables 4 and 5); this figure includes 120,186 fish enumerated at Frazer fish pass that were originally counted through Dog Salmon weir. A total of 13,621 of the escapement scale samples were ageable, representing a combined escapement of 1,190,277 sockeye salmon (Table 6), not including the duplicated counts at Frazer fish pass. In its entirety, the escapement was roughly composed of 6- (40%), 5- (35%) and 4- (15%) year-old fish. To ameliorate report reading hereafter, all estimates of age composition will be rounded to the nearest percent. Primary age classes varied by system and area but overall, major age classes were 2.3 (34%), 2.2 (26%) followed by small percentages (~8% each) of age-1.3, -3.3, and -1.2 (Table 6). Individual age, length, and sex composition summaries by escapement area are presented in Tables 7 through 34.

On Afognak Island, age-1.3 (54%) and -1.2 (33%) sockeye salmon dominated the Litnik escapement (Table 7). On the westside of Kodiak Island, age-2.3 (56%) and 3.3 (16%) sockeye salmon were the most common in the Karluk Lake early run escapement (Table 10) while the Karluk Lake late run was dominated by age-2.3 (51%) and -2.2 (21%) sockeye salmon (Table 13). The Ayakulik River, on the southwest end of Kodiak Island, was dominated by age-2.2 (40%) and -2.3 (27%) sockeye salmon (Table 16). Within the Alitak District, the Upper Station early run was mostly age-2.3 (35%) and -1.2 (32%) whereas saltwater-age-2 sockeye salmon dominated (79%) the late-run escapement to Upper Station (Tables 19 and 22). Frazer Lake (Dog Salmon Creek), in contrast, was dominated by saltwater-age-1 (59%) sockeye salmon (Tables 25 and 28). The one-year study to compare ages between Dog Salmon and Frazer resulted in little difference between the two; no significant sampling biases or age-specific mortality was detected. On the Buskin River system, Buskin Lake and Lake Louise sockeye escapement were dominated by age-1.3 (79% and 59% respectively) sockeye salmon (Tables 31 and 32).

KMA sockeye salmon escapement length measurements ranged from a 253 mm age-2.1 fish at Dog Salmon weir (Table 26) to a 661 mm age-2.3 sockeye salmon at Karluk late run (Table 14). On average, the largest sockeye salmon were sampled at Karluk during the late run (538 mm; Table 14) and the smallest at Dog Salmon weir (412 mm; Table 29) due to the prevalence of jacks escaping. Sex percentages of sockeye salmon escapement samples ranged from 56% female at Litnik (Table 9) to 20% female at Dog Salmon weir (Table 30).

COMMERCIAL SALMON CATCH ABUNDANCE AND AGE DATA

The 2007 commercial salmon catch in the KMA totaled 27,928,351 fish consisting of 17,248 Chinook, 2,014,141 sockeye, 356,583 coho, 24,811,459 pink, and 728,920 chum salmon (Tables 35 and 36). To most accurately representing run strength, these figures include test fishery and personal use fish retained from commercial catch. The 2007 overall salmon harvest was greater

than the recent 10-year (1997–2006) average of 23.4 million fish. The greatest district harvest of commercial sockeye salmon occurred within the NW Kodiak District, followed by the SW Kodiak and the Eastside districts (Table 36).

During the 2007 season, roughly 17,000 harvested sockeye salmon were sampled, from which 14,012 salmon scales were ageable and utilized to represent the commercial catch from a variety of catch areas throughout the KMA (Table 37). These samples were utilized to represent a combined catch of 1,145,360 fish (Table 37). The overall sockeye salmon catch was predominantly composed of age-2.2 (29%), -2.3 (23%), and -1.3 (21%) fish; however, primary age classes varied by section and district. Individual age, length, and sex composition summaries by catch are presented in Tables 38 through 47.

Uganik-Viekoda bays commercial sockeye salmon catch had strong components of age-2.2 (32%), -2.3(24%) and -1.3 (22%) fish (Table 38). Commercial harvests in Uyak Bay were predominantly composed of age-2.3 (29%), -2.2 (27%), and -1.3 (21%) sockeye salmon (Table 39).

The Spiridon Bay Special Harvest Area (SBSHA) catch were predominantly composed of age-1.2 (62%) fish (Table 40). SBSHA sockeye salmon length measurements ranged from 398 mm to 670 mm (Table 41). On average, the sampled SBSHA sockeye salmon measured 537 mm in length and estimated percentage of females in the SBSHA catch was about 53% (Table 42).

Commercial sockeye salmon catch samples from Inner and Outer Karluk and Sturgeon sections were predominantly age-2.3 (35%) and age-2.2 (25%) but samples were only collected during three statistical weeks (Table 43). Halibut Bay section commercial sockeye salmon catch from early August was dominated by age-2.2 (47%) and -1.2 (32%) fish (Table 44). Inner and Outer Ayakulik sections commercial sockeye salmon catch samples collected in late July were also predominately age-2.2 (59%) and -1.2 (20%) fish (Table 45). Cape Alitak and Humpy-Deadman sections purse seine sockeye salmon catch was primarily age-2.2 and -1.3 fish, however, sample size was extremely small and only collected in during two statistical weeks due to relatively poor outside catches (Table 46). The inside gillnet areas of Alitak Bay, Moser Bay, and Olga Bay sections showed catch samples that were predominantly composed of age-2.2 (38%) and -1.2 (22%) sockeye salmon (Table 47); most of the harvest occurred after mid-July and thus favored Upper Station sockeye salmon.

SOCKEYE SALMON RUN RECONSTRUCTION ESTIMATES

Spiridon Lake

A total of 70,250 sockeye salmon were commercially harvested in the SBSHA during 2007 (Table 48). An average of 41% (ranging from 33% to 45%) of Spiridon Lake bound sockeye salmon were harvested in the SBSHA from 1994-1997 (Nelson 1999). Based on this proportion, an estimated total of 101,091 Spiridon Lake sockeye salmon were harvested in the Southwest Afognak Section and Northwest Kodiak District (not including the SBSHA) combined. The 2007 estimated Spiridon Lake run of 171,341 sockeye salmon was well below the estimated 10-year (1997–2006) average run of 271,583 sockeye salmon (Figure 10). About 62% (105,737 fish) of the total estimated Spiridon Lake run were age-1.2 and 37% (63,038 fish) were classified as age-1.3.

Karluk Lake Early Run

The 2007 Karluk Lake early sockeye salmon run estimate of 493,094 was predominantly composed of age-2.3 (56%) and -3.3 (15%) fish (Table 49). The estimated 2007 Karluk early run was similar to the 2006 run, but below the recent 10-year average (1997–2006) estimated run of 577,402 fish (Figure 11). The 1990 through 1999 Karluk early-run sockeye salmon escapements have produced an estimated average return of 597,207 fish (range: 241,483–854,229) with an average R/S estimate of 2.3 (Table 50).

Karluk Lake Late Run

The Karluk Lake late sockeye salmon run was estimated to be 721,610 fish in 2007 (Table 51). Age-2.3 fish were predominant (42%) followed by age-2.2 (25%). The estimated 2007 run was more than the 2006 run of 570,450 but below the recent 10-year average (1997–2006) estimated run of 826,891 fish (Figure 12). The 1990 through 1999 Karluk Lake late-run sockeye salmon escapements have produced an estimated average return of 823,225 fish (range: 332,669–1,204,530) with an average R/S estimate of 1.8 (Table 52).

Ayakulik River (Red Lake)

The 2007 estimated Ayakulik sockeye salmon run totaled 382,979 fish, with age-2.2 (43%) and -2.3 (25%) fish accounting for the majority of the run (Table 53). The 2007 estimated Ayakulik run was much larger than the 2006 run of 120,105 but below the recent 10-year average (1997–2006) estimated run of 521,637 fish (Figure 13). The 1991–2000 Ayakulik sockeye salmon escapements have produced an estimated average return of 631,060 fish (range: 91,802–1,454,921) with an average R/S of 1.9 (Table 54).

Frazer Lake (Dog Salmon Creek)

The 2007 Frazer Lake sockeye salmon run estimate of 168,571 (Table 55) was predominantly composed of salt-water-age-1 “jacks” (50%) and saltwater-age-2 (39%) fish. The 2007 run was more than the 2006 estimated run (117,900), but well below the recent 10-year average (1997–2006) estimated run of 405,818 fish (Figure 14). Frazer Lake sockeye salmon escapements from 1991–2000 have produced an estimated average return of 446,756 fish (range: 53,837–867,981) with an average R/S estimate of 2.3 (Table 56).

South Olga Lakes (Upper Station) Early Run

The 2007 Upper Station early sockeye salmon run estimate was 37,772 was predominantly composed of age-2.3 (36%) and -1.2 (29%) fish (Table 57). This estimated run was similar to the 2006 run of 32,429 fish and below the 10-year average (1997–2006) estimated run of 116,418 sockeye salmon (Figure 15). The 1991–2000 Upper Station early sockeye salmon escapements have produced an estimated average return of 140,972 fish (range: 26,069–294,021; Table 58) with an average R/S of 3.3.

South Olga Lakes (Upper Station) Late Run

The 2007 Upper Station sockeye salmon late-run estimate of 193,741 fish was predominantly composed of age-2.2 (50%) and -1.2 (27%) fish (Table 59). The 2007 estimated run was less than the 2006 estimated run (215,449) and below the recent 10-year average (1997–2006) estimated run of 347,477 fish (Figure 16). Upper Station late-run salmon escapements from 1991–2000 have produced an estimated average return of 453,120 fish (range: 162,877–1,084,640) with an average R/S estimate of 2.2 (Table 60).

KODIAK SOCKEYE SALMON HISTORICAL TRENDS

Karluk

Karluk Lake is located on the west side of Kodiak Island and supports the largest sockeye salmon run in the KMA (Dinnocenzo et al. 2007; Wadle 2004). The early-run returns from late May until mid July while the late-run returns from mid July through September. Karluk Lake was fertilized from 1986 to 1990 and sockeye salmon fry from Upper Thumb River, a Karluk Lake tributary, were backstocked into the Upper Thumb River from 1979 to 1987.

Sockeye salmon freshwater residence time in Karluk Lake is typically 2 years but often will extend to 3 years (Kyle et al. 1988; Rounsefell 1958). Since 1985, freshwater-age-2 sockeye salmon have dominated the annual runs with the exception of the early 1990s when freshwater-age-3 fish spiked in abundance (Figure 17). Freshwater-age-3 fish, while not normally dominant, since the inception of sampling for salmon age (1920s) consistently have been an important part of the Karluk Lake early and late runs. Over the last 10 years freshwater-age-3 fish have normally composed over 20% of the annual run.

Both early- and late- run Karluk Lake sockeye salmon typically spend two years in the ocean, making age-2.2 the dominant historical age class since the 1920s. Since 1985, saltwater-age-2 sockeye salmon have dominated both runs but are more abundant during the late run (Figure 18). There appears to be a 5 or 6 year cycle of saltwater-age-3 sockeye salmon dominating during the early run. The late run has had a lesser saltwater-age-3 component yet during the last 10 years it has markedly increased. The most significant change in age component recently is the atypically high proportions of saltwater-age-3 fish from 2006 to 2007 (Figure 18).

Average size of both saltwater-age-2 and age-3 sockeye salmon at Karluk Lake are relatively small; however, 2007 marked the first increase in average size for both ages since 2002 (Figure 19; Table 61).

Since 1985, the Karluk early run has had the most consistent sockeye salmon production of any large sockeye salmon run in the Westward Region. Karluk early-run sockeye salmon abundance is positively correlated to all early run systems (Nelson, Upper Station early, and Chignik early) and negatively correlated to all other major stocks (Table 62). The Karluk late run, while not as consistent as the early run, has been the most abundant Kodiak area sockeye salmon run since 1985 and has historically been the most abundant. Karluk late run is positively correlated to Ayakulik, Frazer, and Chignik Late run.

Ayakulik

The Ayakulik River drainage is the second largest river system on Kodiak Island and drains approximately 500 km² of land on southwest Kodiak Island, including Red Lake (Hander 1997). The Ayakulik River sockeye salmon run extends from late May until mid August. Escapement timing extends over a longer period than most single-run systems (Barrett and Nelson 1994). The great majority of the sockeye salmon spawning is believed to occur in Red Lake or its associated tributaries.

Since 1970, freshwater residence time for Ayakulik sockeye salmon has typically been 2 years but often they will smoltify after only 1 year in Red Lake as indicated by age samples of the escapement (Foster 2006). On average, freshwater-age-2 sockeye salmon have composed 66% of the run while freshwater-age-1 fish have composed 32% of the whole run. Although freshwater-

age-1 sockeye occasionally outnumbered age-2 sockeye salmon in the Ayakulik River run during the 1980s, since 1992 they have only done so once in 1998 (Figure 17).

Ayakulik River sockeye salmon typically spend two years in the ocean but frequently (~40%) rear at sea for three years. Similar to Karluk Lake, there is a strong 5-year cycle of increased proportions of saltwater-age-3 sockeye salmon (Figure 18). Since 2003, saltwater-age-2 fish have been dominant but the trend since 1970 has been toward more equal proportions of saltwater-age-2 and age-3 sockeye salmon.

Average size of both saltwater-age-2 and age-3 sockeye salmon at Ayakulik are also small, even compared to Karluk, and have been decreasing in size for at least 15 years (Figure 19). Both age classes increased dramatically from 2006 to 2007 possibly signifying the start of an upward trend.

Unlike the Karluk early run, Ayakulik has demonstrated the most variable sockeye salmon production of any large sockeye salmon run in the Westward Region since 1985. Ayakulik showed increases in run production starting in 1977 and continuing through 1999, but thereafter runs declined substantially (Figure 13). Ayakulik sockeye salmon abundance is positively correlated (0.62) with Frazer Lake for which it was a major donor stock in the successful Frazer Lake colonization (Table 62). Ayakulik is negatively correlated with Karluk early run but positively correlated with Litnik (0.63; an early run), and Karluk, Upper Station and Chignik late runs. The correlation with nearly all other Westward region stocks of different timing suggests that Ayakulik might be best described as a two temporally differing runs, such was the case until 1998 (Nelson and Lloyd 2001). In fact, analysis of historical escapement counts into Ayakulik back to 1929 yield evidence that there may have been three temporally distinct sockeye runs.

South Olga Lakes

The South Olga Lakes system, colloquially referred to as Upper Station, is composed of two major lakes located on the southern end of Kodiak Island and supports one of the largest sockeye salmon runs in the Kodiak Archipelago (Wadle 2004). Two temporally distinct sockeye salmon runs return to Upper Station (Barrett and Nelson 1994). The early run returns from late May through mid July while the late run returns from mid July through September.

Since 1970, freshwater residence time for Upper Station early run sockeye salmon has typically been 2 years but often they will migrate to the ocean after only 1 year as indicated by age data from the escapement. For Upper Station, late-run freshwater age-2 fish are typically the most common. In the 1970s, freshwater-age-2 fish were most common, followed by age-1s, from 1980 to 1997 freshwater-age-2 fish were most common followed closely by freshwater-age-0 and age-1s, since 1998 freshwater-age-2 fish have been most abundant (Figure 17).

Upper Station sockeye salmon typically spend two years in the ocean but occasionally rear at sea for three years. There is an apparent 4- or 5-year cycle of increased proportions of saltwater-age-2 sockeye salmon in the early run, more so than the late run, (Figure 18) but not as consistent as with Ayakulik sockeye salmon. The Upper Station early run saltwater-age-3 fish have recently been the prevalent, if not the dominant age class. In contrast the Upper Station late-run sockeye salmon have been predominated by saltwater-age-2 fish.

Average size of saltwater-age-2 sockeye salmon at Upper Station have generally increased since 1995 while the size of saltwater-age-3 fish have cycled but remained relatively stable (Figure 19).

Upper Station early- and late-run sockeye salmon abundances are positively correlated which is different from the other early and late systems like Karluk and Chignik which are not correlated or slightly negative. These data suggest that competition between the Upper Station early and late runs is minimal whereas competition between Karluk early and late run sockeye (likely rearing together) is more significant. Evidence for this also lies in the freshwater ages of each run; Upper Station freshwater ages between the early and late runs are different while Karluk early- and late-run freshwater ages are virtually identical. An important component of Upper Station, and the much larger late-run, is the presence of freshwater-age-0 fish. Strong (sometimes dominant) components of freshwater-age-0 sockeye during the 1980s and 1990s coincided with extremely large runs (Figures 16-17).

Frazer

Frazer Lake is located on the southwest side of Kodiak Island. Sockeye salmon were introduced into the previously barren lake from 1951 through 1971 (Blackett 1979). The major donor stocks for Frazer were the nearby Red (Ayakulik) and Karluk lakes. Frazer Lake's outlet creek, (Dog Salmon Creek) flows into Olga Bay. A fish pass was constructed in 1962 to allow sockeye salmon to migrate around the barrier falls and into the lake. Frazer Lake was fertilized from 1988 to 1992. Frazer Lake now supports one of the largest sockeye salmon runs in the Kodiak Archipelago (Dinnocenzo et al. 2007; Wadle 2004).

Since 1965, freshwater residence time for Frazer sockeye salmon has typically been 2 years but often they will migrate to the ocean after only 1 year (Barrett 1989; Foster 2006; Sagalkin 1999). While freshwater-age-2 fish still predominate the annual runs, there has been a consistently increasing proportion of freshwater-age-3 fish (Figure 17); whether this is a signal of decreasing lake productivity or simply the genetic influence of its Karluk Lake donor stock, or both is unknown.

Frazer Lake sockeye salmon typically spend two years in the ocean but occasionally rear at sea for three (Figure 18). There is not a consistent cycle similar to that of Karluk, Ayakulik, and Upper Station fish. In addition, proportions of saltwater-age-2 and -3 fish vary much more dramatically than the nearby native stocks, which is not surprising considering the recent colonization of this newly anadromous system. The last ten years has shown considerable increase in the abundance of saltwater-age-1 sockeye salmon (jacks) which have outnumbered the saltwater-age-2 and -3 fish during the 2003 and 2007 runs.

Average size of both saltwater-age-2 and age-3 sockeye salmon at Frazer are similar to what they were in the 1980s (Figure 19).

Not surprisingly, Frazer sockeye salmon abundance is correlated to both Ayakulik and Karluk late run which were the main, if not the only remaining, donor stocks in the colonization of Frazer Lake. Being in the infancy of its wild spawning existence, it is not surprising that the Frazer Lake fresh and saltwater-ages are, by far, the most wildly fluctuating of any major Westward Region sockeye salmon stock. The recent abundance of saltwater-age-1 sockeye salmon has raised concern in the Alitak Bay area. While the majority of the Alitak Bay salmon catch since 1970 has been taken in a size-selective (larger) gillnet fishery (as opposed to purse seining) a similar abundance of early maturing sockeye salmon is not seen at the neighboring Upper Station system which undergoes similar fishing pressure. Furthermore, jacks are not prevalent by any measure in the major donor stocks of Karluk and Ayakulik, suggesting that the jack increase is due not to fishery or genetic influence but to a spawning ecosystem aspect in

Frazer Lake that may be selective toward smaller fish. On the other hand, if hereditary factors influence age of maturation, then the extremely high and possibly anomalous proportion of jacks in 2003 could have perpetuated a 4-year cycle of increased jack proportions.

Sockeye Salmon and the Climate Link

Identifying trends in returns, age, and size is an important initial step in recognizing the biological issues affecting sockeye salmon production. Unfortunately, all factors discussed in the preceding text are not independent of each other. Confounding factors can mask obvious production trends, but conversely congruent factors can easily magnify the same. The author of this report has only intended to highlight obvious trends. Any historical summary of sockeye salmon populations would be remiss if not including a brief summary of the major factors influencing such population abundance and age trends.

Successful salmon begin and end their life in freshwater and while over 95% of their growth, by weight, occurs in salt water (Ruggerone et al. 2005) the freshwater environment will largely influence their probability of reaching the ocean. Kodiak's freshwater systems, many of which are some of the most productive sockeye salmon systems of their size in the world, are shielded from each other by geography. With differing physical parameters and productivity, sockeye salmon systems display heterogeneity in their reactions to variability in the environment (Peterman et al. 2003)

For ease of description, nutrient loading combined with solar radiation drives primary production which in turn drives secondary production and it is this secondary production (zooplankton such as *Daphnia* and *Bosmina*) which serves as forage for rearing sockeye salmon. Assuming the spawning conditions are favorable, in the spring sockeye salmon fry emerge from the gravel and migrate to their associated nursery lake to rear. These young-of-the-year fish compete with one or even two older age classes of sockeye salmon for zooplankton forage prior to migration to the ocean.

Integral to the freshwater production is the addition of nutrients (Nelson and Edmundson 1955) and while far from the only source of nutrients, the marine derived nitrogen and phosphorous deposited in the lake systems from the spent adult salmon carcasses in densely populated salmon systems, like those on Kodiak Island, are often the major sources of nutrient input for the system (Koenings and Burkett 1987; Krohkin 1967; Moore and Schindler 2004; Schmidt et al. 1998). The marine derived nutrients are influential to the productivity of lakes yet some sockeye salmon populations are regulated by other key elements of the ecosystem such as limited spawning habit and density dependent juvenile growth rates (Schindler et al. 2005).

Further evidence from studies in Bristol Bay indicate sockeye salmon growth and survival are influenced by complex food web interactions, not only between sockeye salmon and prey but between other species of salmon as well, which are likely to significantly change under various scenarios of climate change that affect temperature (Ruggerone et al. 2005). Recent analysis of the Alagnak River system sockeye salmon population suggested that the unprecedented high run levels in the last few years are not due to management measures accorded the Kvichak River, but just a biological expression of the cyclic, long-term variability of the stock (Schindler et al. 2006).

To further complicate the picture, since the 1700s, and undoubtedly prior, major but systematic variability of sockeye salmon populations on a regional level has occurred in the North Pacific Ocean prior to and after the inception of commercial fishing influence (Finney et al. 2000); the

implication of such variability is that the ocean/climate combination is a major contributing factor to sockeye salmon abundance. As evidence, major climate shifts in the 1940s and late 1970s resulted in shifts in sockeye salmon production (Mantua et al. 1997). Put simply, the major regime shift in 1977 caused large increases in Alaska sockeye salmon stocks, major changes in species assemblages and increases in sea surface temperatures in the North Pacific Ocean (Anderson and Piatt 1999; Francis et al. 1998; Hare and Mantua 2000).

The concept of regime shifts emphasizes a greater need to understand the impact that the climate has on salmon population dynamics. Ayakulik, Frazer and Upper Station late runs large increases in sockeye salmon production coincided with the 1977 regime shift and were likely positive manifestations of that; however, it is important to note that Frazer Lake sockeye salmon production was rapidly increasing anyway due to the recent colonization. The correlations in annual abundance of Westward Region sockeye salmon stocks (Table 62), overall, appear to be driven more by timing than geography; that is, early runs are positively correlated with other early runs. That is compelling evidence of the impact that regional climate has on salmon stocks. Beamish et al.'s (1999) belief is that the climate regimes are dynamic and the smaller climate shift detected in 1989 did not just revert in a cyclic fashion to previous conditions. Currently, we are likely entering a new climate regime and not just cycling back to pre-1977 conditions (B. Finney, research professor, Idaho State University, personal communication). Even under perfect management scenarios within the KMA, that is, escapement goals attained precisely, fishery exploitation spread evenly over the seasonal run, sampling and run reconstructions accurately depicting the run level, the extreme nature of sockeye salmon stock variability will maintain and will always be difficult to predict and biologically explain.

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TABLES AND FIGURES

Table 1.—Sampling weeks and corresponding calendar dates, 2007.

Week	Calendar Dates	Week	Calendar Dates
10	1-Mar - 7-Mar	28	5-Jul - 11-Jul
11	8-Mar - 14-Mar	29	12-Jul - 18-Jul
12	15-Mar - 21-Mar	30	19-Jul - 25-Jul
13	22-Mar - 28-Mar	31	26-Jul - 1-Aug
14	29-Mar - 4-Apr	32	2-Aug - 8-Aug
15	5-Apr - 11-Apr	33	9-Aug - 15-Aug
16	12-Apr - 18-Apr	34	16-Aug - 22-Aug
17	19-Apr - 25-Apr	35	23-Aug - 29-Aug
18	26-Apr - 2-May	36	30-Aug - 5-Sep
19	3-May - 9-May	37	6-Sep - 12-Sep
20	10-May - 16-May	38	13-Sep - 19-Sep
21	17-May - 23-May	39	20-Sep - 26-Sep
22	24-May - 30-May	40	27-Sep - 3-Oct
23	31-May - 6-Jun	41	4-Oct - 10-Oct
24	7-Jun - 13-Jun	42	11-Oct - 17-Oct
25	14-Jun - 20-Jun	43	18-Oct - 24-Oct
26	21-Jun - 27-Jun	44	25-Oct - 31-Oct
27	28-Jun - 4-Jul	45	1-Nov - 7-Nov

Table 2.—Kodiak Management Area sockeye salmon escapement sampling schedule, 2007.

<i>System</i>	<i>Crew</i>	<i>Stream</i>	<i>Sampling</i>	<i>Date</i>		<i>Sample</i>
Sample Location	Supervision	No.	Frequency	Starting	Ending	Size
<i>Major Systems</i>						
Karluk River weir	G. Spalinger	255-10-101	3 times per week	25-May	30-Sep	240 (weekly total)
Ayakulik River weir	G. Spalinger	256-15-201	3 times per week	1-Jun	15-Aug	240 (weekly total)
Upper Station weir	J. Dinnocenzo	257-30-304	3 times per week	25-May	30-Sep	240 (weekly total)
Dog Salmon Weir	J. Dinnocenzo	257-40-403	3 times per week	1-Jun	15-Aug	240 (weekly total)
Frazer Lake fish pass	R. Baer	257-40-403	3 times per week	15-Jun	30-Aug	240 (weekly total)
<i>Minor Systems</i>						
Afognak (Litnik) Weir	J. Dinnocenzo	252-34-342	Run-dependent	1-Jun	1-Aug	600 (season total)
Buskin Lake weir ^a	D. Tracy	259-21-211	3 times per week	20-May	31-Jul	350 (season total)
Lake Louise weir ^a	D. Tracy	259-21-211	3 times per week	1-Jun	31-Aug	250 (season total)

^a Buskin River weir was operated by ADF&G Division of Sport Fish. Escapement sampling is supplemented with subsistence harvest sampling from 1 June to 15 July. Lake Louise is within the Buskin River system.

Table 3.—Kodiak Management Area sockeye salmon catch sampling schedule, 2007.

District	Geographic Area	Statistical Area(s)	Primary Sampling Site	Crew Leader	Sample		
					Frequency	Dates	Size
Afognak District							
	Waterfall Bay SHA ^{a,b}	251-84	Waterfall Bay	Baer	seasonally	6/1 - 7/1	600
	Foul Bay SHA ^{a,b}	251-41	Foul Bay	Baer	seasonally	6/1 - 6/15	600
NW Kodiak District							
	Uganik Bay (incl. Kupreanof)	253-11 - 253-35	Kodiak	Spafard	weekly	6/1 - 9/5	400
	Uyak Bay	254-10 - 254-40	Larsen Bay	Spafard	weekly	6/1 - 9/5	400
	Spiridon Bay SHA/Telrod Cove ^c	254-50	Telrod Cove	Watchers	weekly	7/15 - 9/15	240
SW Kodiak District							
	Inner/Outer Karluk Section	255-10 - 255-20	Larsen Bay	Spafard	when available	6/1 - 9/5	400
	Sturgeon Section	256-40	Kodiak	Spafard	when available	6/23 - 8/1	400
	Halibut/Gurney Bay	256-25 - 256-30	Lazy Bay (Alitak)	Spafard	when available	6/23 - 8/1	400
	Inner/Outer Ayakulik Section	256-10 - 256-20	Lazy Bay (Alitak)	Spafard	when available	6/1 - 8/1	400
Alitak Bay District							
	Cape Alitak/Humpy Deadman	257-10,20 257-50-70	Lazy Bay (Alitak)	Spafard	when available	6/5 - 8/31	400
	Moser/Olga Bay	257-40 - 257-43	Kodiak	Spafard	weekly	6/5 - 8/31	400

^a Waterfall Bay and Foul Bay special harvest areas (SHA) typically collect 600 samples total, frequency depending on harvest magnitude.

^b Due to harvest magnitude, no samples were collected during the 2007 season.

^c Spiridon Bay SHA collected 240 fish per week (consistent with escapement sampling).

Table 4.—Daily and cumulative (cum.) sockeye salmon escapement counted through weirs by system (major systems), Kodiak Management Area, 2007.

Date	System (weir)									
	Karluk		Ayakulik		Upper Station		Dog Salmon Creek		Frazer fish pass	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
05/21/07	0	0								
05/22/07	2	2	1	1						
05/23/07	0	2	0	1	0	0				
05/24/07	0	2	5	6	0	0				
05/25/07	0	2	0	6	4	4				
05/26/07	2	4	0	6	0	4				
05/27/07	6	10	0	6	0	4				
05/28/07	9	19	0	6	0	4				
05/29/07	4	23	11	17	0	4	0	0		
05/30/07	5	28	0	17	0	4	0	0		
05/31/07	3	31	22	39	186	190	0	0		
06/01/07	5	36	67	106	385	575	0	0		
06/02/07	8	44	24	130	69	644	0	0		
06/03/07	3	47	229	359	83	727	0	0		
06/04/07	14	61	96	455	38	765	0	0		
06/05/07	1	62	29	484	342	1,107	0	0		
06/06/07	0	62	3,336	3,820	953	2,060	0	0		
06/07/07	3	65	101	3,921	457	2,517	7	7		
06/08/07	1	66	2,745	6,666	1,769	4,286	1	8		
06/09/07	4,148	4,214	5,102	11,768	120	4,406	6	14		
06/10/07	20,883	25,097	0	11,768	735	5,141	22	36		
06/11/07	24,916	50,013	578	12,346	17	5,158	2	38		
06/12/07	4,621	54,634	10,868	23,214	72	5,230	18	56		
06/13/07	17,656	72,290	8,319	31,533	1,364	6,594	4	60		
06/14/07	46,784	119,074	10,405	41,938	1,155	7,749	0	60		
06/15/07	21,336	140,410	6,258	48,196	1,693	9,442	37	97		
06/16/07	37,628	178,038	5,298	53,494	4,237	13,679	52	149	2	2
06/17/07	162	178,200	1,314	54,808	668	14,347	35	184	1	3
06/18/07	45	178,245	58	54,866	1,975	16,322	7,110	7,294	1	4
06/19/07	19,701	197,946	2,901	57,767	1,116	17,438	2,299	9,593	15	19
06/20/07	7,899	205,845	4,356	62,123	1,523	18,961	2,706	12,299	29	48
06/21/07	26,077	231,922	2,625	64,748	587	19,548	767	13,066	2	50
06/22/07	5,888	237,810	1,031	65,779	1,395	20,943	719	13,785	1,720	1,770

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Table 4.–Page 2 of 4.

Date	System (weir)									
	Karluk		Ayakulik		Upper Station		Dog Salmon Creek		Frazer fish pass	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
06/23/07	41	237,851	9,252	75,031	78	21,021	0	13,785	613	2,383
06/24/07	489	238,340	2,272	77,303	1,033	22,054	432	14,217	189	2,572
06/25/07	44	238,384	1,198	78,501	333	22,387	1,903	16,120	144	2,716
06/26/07	77	238,461	51	78,552	132	22,519	4,781	20,901	1,228	3,944
06/27/07	4,230	242,691	643	79,195	313	22,832	3,205	24,106	182	4,126
06/28/07	143	242,834	5,914	85,109	2,244	25,076	2,289	26,395	383	4,509
06/29/07	5,651	248,485	3,162	88,271	1,693	26,769	996	27,391	114	4,623
06/30/07	58	248,543	3,808	92,079	104	26,873	9,201	36,592	75	4,698
07/01/07	1,749	250,292	15,363	107,442	785	27,658	3,346	39,938	296	4,994
07/02/07	13,748	264,040	363	107,805	358	28,016	7,191	47,129	5,903	10,897
07/03/07	5,757	269,797	4,183	111,988	48	28,064	5,866	52,995	2,264	13,161
07/04/07	49	269,846	2,532	114,520	7	28,071	3,430	56,425	1,119	14,280
07/05/07	26	269,872	2,397	116,917	7	28,078	1,869	58,294	6,550	20,830
07/06/07	4	269,876	3,373	120,290	361	28,439	10,079	68,373	2,313	23,143
07/07/07	1	269,877	6,497	126,787	2,820	31,259	3,313	71,686	15,040	38,183
07/08/07	1	269,878	4,263	131,050	27	31,286	2,068	73,754	1,027	39,210
07/09/07	3	269,881	4,539	135,589	64	31,350	3,640	77,394	1,227	40,437
07/10/07	0	269,881	137	135,726	95	31,445	8,779	86,173	1,365	41,802
07/11/07	17	269,898	9,059	144,785	12	31,457	2,757	88,930	580	42,382
07/12/07	127	270,025	11,452	156,237	13	31,470	4,670	93,600	2,174	44,556
07/13/07	9,357	279,382	3,121	159,358	33	31,503	2,462	96,062	710	45,266
07/14/07	7	279,389	7,271	166,629	332	31,835	4,259	100,321	147	45,413
07/15/07	1	279,390	2,967	169,596	60	31,895	1,698	102,019	237	45,650
07/16/07	53	279,443	3,645	173,241	893	32,788	2,807	104,826	729	46,379
07/17/07	9,065	288,508	275	173,516	5	32,793	2,747	107,573	11,030	57,409
07/18/07	50	288,558	2,071	175,587	428	33,221	4,829	112,402	3,558	60,967
07/19/07	15	288,573	7,394	182,981	78	33,299	4,763	117,165	383	61,350
07/20/07	5,251	293,824	4,075	187,056	1,933	35,232	4,987	122,152	512	61,862
07/21/07	916	294,740	654	187,710	157	35,389	492	122,644	2,528	64,390
07/22/07	1,653	296,393	483	188,193	330	35,719	1,675	124,319	782	65,172
07/23/07	1,695	298,088	594	188,787	2,218	37,937	829	125,148	505	65,677
07/24/07	18	298,106	530	189,317	5	37,942	100	125,248	101	65,778

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Table 4.–Page 3 of 4.

Date	System (weir)									
	Karluk		Ayakulik		Upper Station		Dog Salmon Creek		Frazer fish pass	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
07/25/07	3,270	301,376	4,736	194,053	6	37,948	1,531	126,779	15,450	81,228
07/26/07	6,672	308,048	4,129	198,182	0	37,948	269	127,048	7,649	88,877
07/27/07	213	308,261	4,885	203,067	3	37,951	214	127,262	566	89,443
07/28/07	131	308,392	128	203,195	4	37,955	581	127,843	1,067	90,510
07/29/07	16	308,408	17	203,212	1,278	39,233	3,237	131,080	1,056	91,566
07/30/07	495	308,903	83	203,295	4,726	43,959	2,289	133,369	2,617	94,183
07/31/07	3,195	312,098	1,777	205,072	665	44,624	703	134,072	188	94,371
08/01/07	1	312,099	2,830	207,902	199	44,823	147	134,219	67	94,438
08/02/07	97	312,196	194	208,096	45	44,868	2,516	136,735	143	94,581
08/03/07	56	312,252	3,800	211,896	0	44,868	107	136,842	244	94,825
08/04/07	392	312,644	1,045	212,941	43	44,911	17	136,859	3,026	97,851
08/05/07	1,836	314,480	0	212,941	823	45,734	46	136,905	602	98,453
08/06/07	53	314,533	180	213,121	2,923	48,657	341	137,246	782	99,235
08/07/07	13	314,546	13,507	226,628	3,951	52,608	92	137,338	1,001	100,236
08/08/07	614	315,160	3,679	230,307	1,104	53,712	151	137,489	2,340	102,576
08/09/07	100	315,260	2,632	232,939	1,385	55,097	787	138,276	4,332	106,908
08/10/07	184	315,444	6,520	239,459	2,706	57,803	64	138,340	381	107,289
08/11/07	64	315,508	4,998	244,457	1,234	59,037	119	138,459	229	107,518
08/12/07	35	315,543	3,126	247,583	3,107	62,144	143	138,602	1,711	109,229
08/13/07	25	315,568	6,820	254,403	4,055	66,199	472	139,074	2,352	111,581
08/14/07	495	316,063	6,072	260,475	14,283	80,482	153	139,227	567	112,148
08/15/07	140	316,203	571	261,046	4,481	84,963	164	139,391	566	112,714
08/16/07	62	316,265	1,058	262,104	1,351	86,314	0	139,391	1,395	114,109
08/17/07	210	316,475	1,005	263,109	8,246	94,560	282	139,673	1,373	115,482
08/18/07	48	316,523	153	263,262	3,752	98,312	11	139,684	144	115,626
08/19/07	66	316,589	350	263,612	1,877	100,189	22	139,706	199	115,825
08/20/07	56	316,645	1,417	265,029	613	100,802	18	139,724	104	115,929
08/21/07	25	316,670	685	265,714	2,989	103,791	5	139,729	109	116,038
08/22/07	26	316,696	4	265,718	4,201	107,992	79	139,808	40	116,078
08/23/07	176	316,872	1,845	267,563	2,002	109,994	0	139,808	1,217	117,295
08/24/07	7,936	324,808	896	268,459	1,506	111,500	0	139,808	1,127	118,422
08/25/07	332	325,140	3,069	271,528	8,044	119,544	0	139,808	575	118,997

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Table 4.–Page 4 of 4.

Date	System (weir)									
	Karluk		Ayakulik		Upper Station		Dog Salmon Creek		Frazer fish pass	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
08/26/07	13	325,153	786	272,314	5,061	124,605			194	119,191
08/27/07	45	325,198	1,712	274,026	5,283	129,888			224	119,415
08/28/07	94	325,292	878	274,904	2,616	132,504			84	119,499
08/29/07	8,940	334,232	1,313	276,217	1,564	134,068			617	120,116
08/30/07	6,949	341,181	1,135	277,352	7,675	141,743			70	120,186
08/31/07	603	341,784	609	277,961	8,450	150,193			0	120,186
09/01/07	72	341,856	824	278,785	3,750	153,943			0	120,186
09/02/07	119	341,975	332	279,117	5,360	159,303				
09/03/07	61	342,036	162	279,279	4,020	163,323				
09/04/07	146	342,182	248	279,527	4,452	167,775				
09/05/07	26,372	368,554	<i>312</i>	279,839	2,882	170,657				
09/06/07	3,145	371,699	325	280,164	1,367	172,024				
09/07/07	576	372,275	1,178	281,342	2,338	174,362				
09/08/07	17,285	389,560	400	281,742	1,167	175,529				
09/09/07	5,086	394,646	300	282,042	531	176,060				
09/10/07	345	394,991	300	282,342	588	176,648				
09/11/07	16	395,007	300	282,642	115	176,763				
09/12/07	234	395,241	200	282,842	941	177,704				
09/13/07	21	395,262	100	282,942	1,930	179,634				
09/14/07	13,909	409,171	100	283,042	1,226	180,860				
09/15/07	1,054	410,225			744	181,604				
09/16/07	175	410,400								
09/17/07	48,141	458,541								
09/18/07	512	459,053								
09/19/07	27,936	486,989								
09/20/07	533	487,522								
09/21/07	1,931	489,453								
09/22/07	300	489,753								
09/23/07	24,068	513,821								
09/24/07	10,593	524,414								
09/25/07	2,161	526,575								
09/26/07	20,000	546,575								
Totals	546,575		283,042		181,604		139,808		120,186	

Note: Escapement numbers in *ITALICS* represent estimates.

Table 5.—Daily and cumulative (cum.) sockeye salmon escapement counted through weirs by system (minor systems), Kodiak Management Area, 2007.

Date	System (weir)					
	Litnik		Buskin		L. Louise	
	Daily	Cum.	Daily	Cum.	Daily	Cum.
05/19/07	0	0				
05/20/07	0	0				
05/21/07	3	3				
05/22/07	0	3				
05/23/07	20	23	10	10		
05/24/07	0	23	38	48		
05/25/07	4	27	9	57		
05/26/07	0	27	4	61		
05/27/07	0	27	0	61		
05/28/07	49	76	0	61		
05/29/07	13	89	0	61		
05/30/07	5	94	0	61		
05/31/07	2	96	2	63		
06/01/07	1	97	1	64		
06/02/07	5	102	48	112		
06/03/07	43	145	268	380		
06/04/07	9	154	107	487		
06/05/07	35	189	440	927		
06/06/07	0	189	392	1,319		
06/07/07	377	566	753	2,072		
06/08/07	258	824	331	2,403		
06/09/07	102	926	304	2,707		
06/10/07	170	1,096	295	3,002		
06/11/07	119	1,215	2,248	5,250		
06/12/07	9	1,224	1,101	6,351		
06/13/07	727	1,951	328	6,679		

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Table 5.—Page 2 of 4.

Date	System (weir)					
	Litnik		Buskin		L. Louise	
	Daily	Cum.	Daily	Cum.	Daily	Cum.
06/14/07	453	2,404	113	6,792		
06/15/07	509	2,913	607	7,399		
06/16/07	2,113	5,026	1,024	8,423		
06/17/07	2,636	7,662	445	8,868		
06/18/07	115	7,777	353	9,221		
06/19/07	341	8,118	107	9,328		
06/20/07	767	8,885	329	9,657		
06/21/07	224	9,109	358	10,015		
06/22/07	381	9,490	331	10,346		
06/23/07	94	9,584	161	10,507		
06/24/07	244	9,828	88	10,595		
06/25/07	637	10,465	309	10,904		
06/26/07	16	10,481	196	11,100		
06/27/07	354	10,835	814	11,914		
06/28/07	80	10,915	0	11,914		
06/29/07	463	11,378	125	12,039		
06/30/07	214	11,592	106	12,145		
07/01/07	99	11,691	98	12,243		
07/02/07	339	12,030	76	12,319		
07/03/07	163	12,193	401	12,720		
07/04/07	122	12,315	231	12,951		
07/05/07	145	12,460	118	13,069		
07/06/07	283	12,743	551	13,620		
07/07/07	565	13,308	39	13,659		
07/08/07	993	14,301	10	13,669		
07/09/07	499	14,800	218	13,887		
07/10/07	1,596	16,396	263	14,150	0	0
07/11/07	46	16,442	63	14,213	0	0
07/12/07	73	16,515	45	14,258	41	41
07/13/07	91	16,606	204	14,462	24	65
07/14/07	20	16,626	3	14,465	0	65
07/15/07	16	16,642	1	14,466	1	66

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Table 5.—Page 3 of 4.

Date	System (weir)					
	Litnik		Buskin		L. Louise	
	Daily	Cum.	Daily	Cum.	Daily	Cum.
07/16/07	26	16,668	108	14,574	0	66
07/17/07	8	16,676	5	14,579	0	66
07/18/07	131	16,807	62	14,641	140	206
07/19/07	56	16,863	21	14,662	0	206
07/20/07	4	16,867	36	14,698	0	206
07/21/07	11	16,878	78	14,776	0	206
07/22/07	7	16,885	53	14,829	0	206
07/23/07	6	16,891	43	14,872	0	206
07/24/07	404	17,295	263	15,135	0	206
07/25/07	1,735	19,030	200	15,335	78	284
07/26/07	263	19,293	0	15,335	0	284
07/27/07	38	19,331	0	15,335	3	287
07/28/07	48	19,379	350	15,685	0	287
07/29/07	182	19,561	89	15,774	32	319
07/30/07	74	19,635	37	15,811	21	340
07/31/07	79	19,714	11	15,822	10	350
08/01/07	51	19,765	5	15,827	36	386
08/02/07	98	19,863	52	15,879	13	399
08/03/07	25	19,888	69	15,948	0	399
08/04/07	34	19,922	31	15,979	0	399
08/05/07	416	20,338	34	16,013	0	399
08/06/07	50	20,388	34	16,047	0	399
08/07/07	65	20,453	26	16,073	1	400
08/08/07	27	20,480	12	16,085	0	400
08/09/07	18	20,498	19	16,104	0	400
08/10/07	55	20,553	28	16,132	0	400
08/11/07	41	20,594	14	16,146	0	400
08/12/07	42	20,636	16	16,162	0	400
08/13/07	35	20,671	13	16,175	0	400
08/14/07	160	20,831	22	16,197	3	403
08/15/07	29	20,860	20	16,217	0	403
08/16/07	10	20,870	2	16,219	0	403

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Table 5.—Page 4 of 4.

Date	System (weir)					
	Litnik		Buskin		L. Louise	
	Daily	Cum.	Daily	Cum.	Daily	Cum.
08/17/07	200	21,070	7	16,226	0	403
08/18/07	0	21,070	43	16,269	97	500
08/19/07			16	16,285	210	710
08/20/07			1	16,286	8	718
08/21/07			9	16,295	0	718
08/22/07			8	16,303	5	723
08/23/07			11	16,314	53	776
08/24/07			14	16,328	2	778
08/25/07			11	16,339	0	778
08/26/07			8	16,347	0	778
08/27/07			33	16,380	17	795
08/28/07			0	16,380	531	1,326
08/29/07			0	16,380	141	1,467
08/30/07			14	16,394	33	1,500
08/31/07			6	16,400	11	1,511
09/01/07			8	16,408	3	1,514
09/02/07			5	16,413	2	1,516
09/03/07			11	16,424	3	1,519
09/04/07			37	16,461	57	1,576
09/05/07			2	16,463	16	1,592
09/06/07			10	16,473	8	1,600
09/07/07			4	16,477	12	1,612
09/08/07			3	16,480	8	1,620
09/09/07			0	16,480	1	1,621
09/10/07			4	16,484	2	1,623
09/11/07			2	16,486	1	1,624
9/12-9/30			16	16,502	52	1,676
Totals	21,070		16,502		1,676	

Note: Escapement numbers in *ITALICS* represent estimates.

Table 6.—Estimated age composition of sockeye salmon escapements by system, Kodiak Management Area, 2007.

System	Sample Size		Age										Total	
			1.1	1.2	2.1	3.1	1.3	2.2	2.3	3.2	3.3	Other ^a		
Afognak Lake														
(Litnik)	590	Percent	5.1	32.8	0.3	0.0	54.1	2.0	5.6	0.0	0.0	0.0	100.0	
		Numbers	1,080	6,913	70	0	11,399	425	1,175	0	0	8	21,070	
Karluk Lake														
Early Run	1,313	Percent	0.0	0.5	1.3	0.1	1.5	14.2	56.3	9.3	16.3	0.5	100.0	
		Numbers	0	1,341	3,734	343	4,549	41,808	166,060	27,341	48,169	1,396	294,740	
Late Run	2,045	Percent	0.0	0.3	0.6	0.2	0.8	21.3	51.0	6.2	18.8	0.8	100.0	
		Numbers	5	730	1,409	538	2,004	53,694	128,554	15,541	47,304	2,055	251,835	
Ayakulik River														
(Red Lake)	2,001	Percent	0.7	11.4	1.5	0.0	17.2	40.0	27.3	0.6	0.7	0.5	100.0	
		Numbers	2,080	32,291	4,105	61	48,757	113,345	77,237	1,645	1,990	1,530	283,042	
Upper Station														
Early Run	1,484	Percent	4.8	31.7	10.0	0.0	12.1	5.9	35.4	0.0	0.0	0.1	100.0	
		Numbers	1,547	10,123	3,202	0	3,857	1,869	11,280	0	0	17	31,895	
Late Run	2,126	Percent	1.0	26.6	4.9	0.0	10.0	49.8	4.9	0.2	0.0	2.6	100.0	
		Numbers	1,522	39,866	7,373	0	14,924	74,507	7,369	300	29	3,818	149,709	
Frazer														
Fish Pass	1,907	Percent	10.6	3.2	41.3	6.6	0.4	11.3	5.3	20.7	0.1	0.4	100.0	
		Numbers	12,778	3,892	49,623	7,897	469	13,601	6,420	24,900	94	513	120,186	
Dog Salmon	1,602	Percent	10.6	2.7	41.4	7.9	0.7	13.8	5.3	17.0	0.0	0.7	100.0	
		Numbers	14,755	3,748	57,852	11,072	1,001	19,263	7,412	23,713	57	935	139,808	
Buskin River														
Buskin	324	Percent	0.0	4.0	0.0	0.0	79.2	1.3	13.9	0.0	0.0	1.6	100.0	
		Numbers	0	657	0	0	13,067	220	2,297	0	0	261	16,502	
Lk. Louise	229	Percent	3.1	17.8	3.7	0.0	59.2	10.7	5.0	0.0	0.0	0.5	100.0	
		Numbers	52	299	62	0	993	179	83	0	0	8	1,676	
Totals	13,621	Percent	1.8	8.1	6.5	1.0	8.4	25.7	33.7	5.8	8.2	0.8	100.0	
		Numbers	21,041	95,969	77,807	12,015	100,550	305,312	401,468	68,541	97,548	10,027	1,190,277	

^a Other age classes listed in the table consist of age-0.1,0.2,0.3,3.1,0.4,1.4,4.1,2.4,4.2,4.3, and 3.4.

Table 7.—Estimated age composition of Afognak Lake (Litnik) sockeye salmon escapement by week, 2007.

Week	Sample Size		Age							Total
			1.1	1.2	2.1	1.3	2.2	1.4	2.3	
21-23 5/17-6/6	0	Percent	0.0	0.0	0.0	75.0	0.0	0.0	25.0	100.0
		Numbers	0	0	0	142	0	0	47	189
24 6/07-6/13	4	Percent	0.6	4.2	0.0	72.4	0.1	0.0	22.6	100.0
		Numbers	11	74	1	1,276	3	0	397	1,762
25 6/14-6/20	212	Percent	4.3	29.5	0.3	56.6	1.0	0.0	8.2	100.0
		Numbers	297	2,048	23	3,928	69	1	568	6,934
26 6/21-6/27	219	Percent	5.1	61.7	0.7	31.3	0.8	0.3	0.2	100.0
		Numbers	99	1,203	14	609	15	6	3	1,950
27 6/28-7/04	53	Percent	10.3	58.1	1.6	29.4	0.3	0.1	0.3	100.0
		Numbers	152	860	23	436	4	1	5	1,480
28 7/05-7/11	50	Percent	9.9	44.9	0.2	39.6	1.9	0.0	3.5	100.0
		Numbers	410	1,852	8	1,636	78	0	143	4,127
29 7/12-7/18	0	Percent	7.0	33.9	0.0	53.2	3.4	0.0	2.5	100.0
		Numbers	25	124	0	194	12	0	9	365
30 7/19-7/25	52	Percent	2.1	17.9	0.0	74.2	5.7	0.0	0.1	100.0
		Numbers	47	399	0	1,649	126	0	2	2,223
31-34 7/26-8/22	0	Percent	1.9	17.3	0.0	75.0	5.8	0.0	0.0	100.0
		Numbers	39	353	0	1,530	118	0	0	2,040
Total	590	Percent	5.1	32.8	0.3	54.1	2.0	0.0	5.6	100.0
		Numbers	1,080	6,913	70	11,399	425	8	1,175	21,070

Table 8.—Length composition of Afognak Lake (Litnik) sockeye salmon escapement samples by age and sex, 2007.

	Age							Total
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	
Females								
Mean Length (mm)	333	479	545	591	-	496	558	516
SE	-	2	2	-	-	15	9	2
Range	333-333	427-552	448-590	-	-	461-529	540-590	333-591
Sample Size	1	127	160	1	0	4	5	298
Males								
Mean Length (mm)	335	495	553	-	354	499	560	495
SE	3	2	4	-	9	15	-	4
Range	290-368	382-576	310-616	-	341-371	449-539	-	290-616
Sample Size	30	165	87	0	3	5	1	291
All Fish								
Mean Length (mm)	335	488	548	591	354	498	558	506
SE	3	2	2	-	9	10	7	2
Range	290-368	382-576	310-616	-	341-371	449-539	540-590	290-616
Sample Size	31	292	247	1	3	9	6	589

Table 9.—Estimated sex composition of Afognak Lake (Litnik) sockeye salmon escapement by week, 2007.

Week	Dates	Sample Size			Percent		Escapement		
		Females	Males	Total	Females	Males	Number		Total
							Females	Males	
21-23	5/17-6/06	0	0	0	60.0	40.0	113	76	189
24	6/07-6/13	3	2	5	59.4	40.6	1,047	715	1,762
25	6/14-6/20	146	122	268	55.8	44.2	3,871	3,063	6,934
26	6/21-6/27	128	154	282	45.0	55.0	878	1,072	1,950
27	6/28-7/04	23	37	60	41.5	58.5	614	866	1,480
28	7/05-7/11	34	18	52	62.3	37.7	2,569	1,558	4,127
29	7/12-7/18	0	0	0	62.1	37.9	227	138	365
30	7/19-7/25	34	26	60	56.9	43.1	1,264	959	2,223
31-34	7/26-8/22	0	0	0	56.7	43.3	1,156	884	2,040
Total		368	359	727	55.7	44.3	11,738	9,332	21,070

Table 10.—Estimated age composition of Karluk Lake early-run sockeye salmon escapement by week, 2007.

Week	Sample Size		Age											Total	
			0.2	0.3	1.2	2.1	1.3	2.2	3.1	2.3	3.2	2.4	3.3		4.2
21	0	Percent	0.4	0.0	0.0	0.0	1.3	12.1	0.0	60.5	7.6	0.0	17.9	0.0	100.0
5/17-5/23		Numbers	0	0	0	0	0	0	0	1	0	0	0	0	2
22	0	Percent	0.4	0.0	0.0	0.0	1.3	12.1	0.0	60.5	7.6	0.0	17.9	0.0	100.0
5/24-5/30		Numbers	0	0	0	0	0	3	0	16	2	0	5	0	26
23	0	Percent	0.4	0.0	0.0	0.0	1.3	12.1	0.0	60.5	7.6	0.0	17.9	0.0	100.0
5/31-6/06		Numbers	0	0	0	0	0	4	0	21	3	0	6	0	34
24	223	Percent	0.4	0.0	0.1	0.3	1.3	12.4	0.0	60.1	7.8	0.0	17.6	0.0	100.0
6/07-6/13		Numbers	294	0	60	181	942	8,933	0	43,431	5,661	0	12,695	30	72,228
25	221	Percent	0.1	0.0	0.7	1.8	1.2	14.8	0.1	56.2	9.6	0.0	15.1	0.3	100.0
6/14-6/20		Numbers	165	50	881	2,442	1,626	19,788	100	75,120	12,843	0	20,149	390	133,555
26	210	Percent	0.0	0.3	0.9	1.4	2.5	20.4	0.6	46.8	12.7	0.0	14.1	0.1	100.0
6/21-6/27		Numbers	0	117	322	533	933	7,530	235	17,227	4,690	12	5,204	44	36,846
27	211	Percent	0.0	0.0	0.0	2.1	1.8	11.5	0.0	54.9	10.8	0.4	18.4	0.0	100.0
6/28-7/04		Numbers	0	4	8	572	487	3,125	8	14,922	2,940	105	4,985	0	27,155
28	17	Percent	0.0	0.0	0.0	4.4	4.3	4.4	0.0	61.0	4.2	0.2	21.5	0.0	100.0
7/05-7/11		Numbers	0	0	0	2	2	2	0	32	2	0	11	0	52
29	212	Percent	0.0	0.0	0.4	0.0	1.7	10.9	0.0	59.8	5.1	0.8	21.2	0.0	100.0
7/12-7/18		Numbers	0	0	66	4	324	2,036	0	11,158	961	153	3,959	0	18,660
30	219	Percent	0.0	0.0	0.1	0.0	3.8	6.3	0.0	66.9	3.9	0.5	18.7	0.0	100.0
7/19-7/21		Numbers	0	0	3	0	233	387	0	4,134	239	31	1,155	0	6,182
Total	1,313	Percent	0.2	0.1	0.5	1.3	1.5	14.2	0.1	56.3	9.3	0.1	16.3	0.2	100.0
		Numbers	459	171	1,341	3,734	4,549	41,808	343	166,060	27,341	301	48,169	464	294,740

Table 11.—Length composition of Karluk Lake early-run sockeye salmon escapement samples by age and sex, 2007.

	Age												Total
	0.2	0.3	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	4.2	
<i>Females</i>													
Mean Length (mm)	-	-	439	536	0	488	534	580	-	476	530	-	522
SE	-	-	-	7	-	3	1	-	-	5	3	-	1
Range	-	-	-	475-583	0-0	416-556	453-600	-	-	394-558	468-618	-	394-618
Sample Size	0	0	1	16	0	79	315	1	0	49	100	0	561
<i>Males</i>													
Mean Length (mm)	439	632	462	560	327	493	548	558	358	485	546	489	529
SE	-	-	10	12	7	4	2	1	18	6	3	-	2
Range	-	-	446-491	533-609	294-381	381-580	455-651	556-560	341-376	382-577	455-651	-	294-651
Sample Size	1	1	4	6	12	91	350	3	2	60	114	1	645
<i>All Fish</i>													
Mean Length (mm)	439	632	457	543	327	490	541	563	358	481	538	489	525
SE	-	-	9	6	7	3	1	6	18	4	2	-	1
Range	-	-	439-491	475-609	294-381	381-580	453-651	556-580	341-376	382-577	455-651	-	294-651
Sample Size	1	1	5	22	12	170	665	4	2	109	214	1	1,206

Table 12.—Estimated sex composition of Karluk Lake early-run sockeye salmon escapement by week, 2007.

Week	Dates	Sample Size			Percent		Escapement		
		Females	Males	Total	Females	Males	Number		Total
							Females	Males	
21-23	5/17-6/06	0	0	0	35.8	64.2	22	40	62
24	6/07-6/13	86	154	240	36.3	63.7	26,242	45,986	72,228
25	6/14-6/20	99	141	240	39.9	60.1	53,319	80,236	133,555
26	6/21-6/27	104	136	240	43.6	56.4	16,071	20,775	36,846
27	6/28-7/04	133	107	240	54.2	45.8	14,716	12,439	27,155
28	7/05-7/11	9	9	18	51.8	48.2	27	25	52
29	7/12-7/18	140	101	241	56.0	44.0	10,445	8,215	18,660
30	7/19-7/21	119	121	240	50.5	49.5	3,121	3,061	6,182
Total		690	769	1,459	42.1	57.9	123,963	170,777	294,740

Table 13.—Estimated age composition of Karluk Lake late-run sockeye salmon escapement by week, 2007.

Week	Sample Size		Age															Total
			0.2	1.1	0.3	1.2	2.1	1.3	2.2	3.1	2.3	3.2	2.4	3.3	4.2	3.4	4.3	
30 7/22-7/25	219	Percent	0.0	0.0	0.0	0.0	0.2	3.9	8.6	0.0	65.3	3.1	0.5	18.4	0.0	0.0	0.0	100.0
		Numbers	0	0	0	0	12	260	574	0	4,334	206	30	1,220	0	0	0	6,636
31 7/26-8/01	221	Percent	0.0	0.0	0.0	0.0	0.4	3.4	11.7	0.0	62.8	2.6	0.4	18.8	0.0	0.0	0.1	100.0
		Numbers	0	0	0	0	39	367	1,251	0	6,730	274	43	2,013	0	0	6	10,723
32 8/02-8/08	231	Percent	0.0	0.0	0.0	0.0	0.5	1.5	9.9	0.0	64.3	2.8	0.1	20.4	0.0	0.0	0.4	100.0
		Numbers	0	1	0	0	16	46	303	0	1,970	86	3	624	0	0	12	3,061
33 8/09-8/15	214	Percent	0.0	0.3	0.0	0.0	1.2	2.1	9.0	0.3	62.0	5.4	0.8	18.7	0.0	0.0	0.2	100.0
		Numbers	0	3	0	0	12	22	94	3	647	56	8	195	0	0	2	1,043
34 8/16-8/22	153	Percent	0.0	0.1	0.1	0.1	0.8	0.6	11.4	1.0	56.3	7.0	0.7	21.3	0.0	0.0	0.5	100.0
		Numbers	0	0	0	0	4	3	56	5	278	35	3	105	0	0	2	493
35 8/23-8/29	214	Percent	0.1	0.0	0.7	1.1	1.1	1.1	9.7	0.8	65.4	3.0	0.5	16.5	0.0	0.1	0.1	100.0
		Numbers	19	0	117	195	185	195	1,693	135	11,477	518	87	2,886	0	19	9	17,536
36 8/30-9/05	187	Percent	0.3	0.0	0.1	0.5	0.4	0.6	8.6	0.1	66.5	2.0	0.5	20.0	0.0	0.3	0.0	100.0
		Numbers	116	0	35	169	142	214	2,938	35	22,840	677	178	6,861	0	116	0	34,322
37 9/06-9/12	198	Percent	0.0	0.0	0.1	0.1	0.9	0.4	13.8	0.1	60.3	3.1	0.5	20.6	0.0	0.0	0.0	100.0
		Numbers	6	0	17	23	243	118	3,695	17	16,100	835	135	5,493	0	6	0	26,687
38 9/13-9/19	195	Percent	0.0	0.0	0.4	0.4	0.5	0.2	24.2	0.4	44.6	7.9	0.4	20.9	0.1	0.0	0.0	100.0
		Numbers	0	0	340	340	477	224	22,181	340	40,925	7,268	357	19,191	104	0	0	91,748
39 9/20-9/26	213	Percent	0.0	0.0	0.0	0.0	0.5	0.9	35.1	0.0	39.0	9.4	0.0	14.6	0.5	0.0	0.0	100.0
		Numbers	0	0	3	3	280	555	20,910	3	23,252	5,586	3	8,715	277	0	0	59,586
Total	2,045	Percent	0.1	0.0	0.2	0.3	0.6	0.8	21.3	0.2	51.0	6.2	0.3	18.8	0.2	0.1	0.0	100.0
		Numbers	141	5	513	730	1,409	2,004	53,694	538	128,554	15,541	847	47,304	381	141	31	251,835

Note: A post-weir estimate of 20,000 fish was included on 9/26.

Table 14.—Length composition of Karluk Lake late-run sockeye salmon escapement samples by age and sex, 2007.

	Age														Total	
	0.2	0.3	1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.2		4.3
<i>Females</i>																
Mean Length (mm)	480	582	-	487	526	0	498	541	524	-	499	536	-	531	518	531
SE	-	-	-	19	6	-	2	1	4	-	4	2	-	-	-	1
Range	-	582-582	-	412-519	470-583	0-0	404-567	454-661	513-538	-	413-543	452-607	-	-	-	404-661
Sample Size	1	1	0	5	17	0	162	658	5	0	59	200	0	1	1	1,110
<i>Males</i>																
Mean Length (mm)	-	563	325	-	548	345	504	562	577	359	489	562	620	-	584	546
SE	-	2	-	-	10	8	3	1	23	14	6	2	-	-	-	2
Range	-	561-565	-	-	488-611	305-388	403-565	456-628	540-620	318-386	396-526	465-629	-	-	-	305-629
Sample Size	0	2	1	0	11	13	109	485	3	5	30	161	1	0	1	822
<i>All Fish</i>																
Mean Length (mm)	480	569	325	487	535	345	500	550	544	359	496	548	620	531	551	538
SE	-	6	-	19	6	8	2	1	13	14	3	2	-	-	33	1
Range	-	561-582	-	412-519	470-611	305-388	403-567	454-661	513-620	318-386	396-543	452-629	-	-	518-584	305-661
Sample Size	1	3	1	5	28	13	271	1144	8	5	89	361	1	1	2	1,933

Table 15.—Estimated sex composition of Karluk Lake late-run sockeye salmon escapement by week, 2007.

Week	Dates	Sample Size			Escapement					
		Females	Males	Total	Percent		Number			
					Females	Males	Females	Males	Total	
30	7/22-7/25	119	121	240	54.1	45.9	3,593	3,043	6,636	
31	7/26-8/01	147	93	240	59.7	40.3	6,400	4,323	10,723	
32	8/02-8/08	172	90	262	66.6	33.4	2,040	1,021	3,061	
33	8/09-8/15	188	52	240	75.1	24.9	783	260	1,043	
34	8/16-8/22	121	56	177	69.2	30.8	341	152	493	
35	8/23-8/29	124	115	239	52.2	47.8	9,145	8,391	17,536	
36	8/30-9/05	113	128	241	48.4	51.6	16,628	17,694	34,322	
37	9/06-9/12	122	118	240	50.3	49.7	13,428	13,259	26,687	
38	9/13-9/19	115	125	240	45.7	54.3	41,932	49,816	91,748	
39	9/20-9/26	92	148	240	38.4	61.6	22,889	36,697	59,586	
Total		1,313	1,046	2,359	46.5	53.5	117,181	134,654	251,835	

Note: A post-weir estimate of 20,000 fish is included on 9/26.

Table 16.—Estimated age composition of Ayakulik River (Red L.) sockeye salmon escapement by week, 2007.

Week	Sample Size		Age													Total
			1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	
21-23	26	Percent	0.0	0.2	1.1	0.2	0.2	22.6	21.0	0.0	0.0	54.7	0.0	0.0	0.0	100.0
5/17-6/06		Numbers	0	6	43	6	6	864	803	0	0	2,092	0	0	0	3,820
24	218	Percent	0.2	0.9	3.8	0.5	0.3	27.9	24.0	0.0	0.0	42.0	0.0	0.4	0.0	100.0
6/07-6/13		Numbers	51	239	1,062	137	86	7,727	6,663	0	0	11,645	0	102	0	27,713
25	164	Percent	0.4	1.4	5.9	0.8	0.1	26.4	24.1	0.0	0.0	40.0	0.0	0.8	0.0	100.0
6/14-6/20		Numbers	130	418	1,793	257	28	8,081	7,378	0	0	12,245	0	260	0	30,590
26	96	Percent	0.2	0.1	12.6	2.8	0.0	23.3	26.2	0.0	0.0	34.6	0.1	0.1	0.1	100.0
6/21-6/27		Numbers	40	19	2,144	485	0	3,970	4,479	0	0	5,900	11	13	11	17,072
27	222	Percent	2.4	0.0	9.1	2.1	0.0	22.8	32.5	0.0	0.0	29.8	0.7	0.0	0.7	100.0
6/28-7/04		Numbers	836	0	3,204	741	0	8,044	11,486	0	0	10,524	244	0	244	35,325
28	210	Percent	1.4	0.0	16.0	3.9	0.0	15.7	40.3	0.0	0.1	22.4	0.1	0.0	0.2	100.0
7/05-7/11		Numbers	417	0	4,846	1,167	0	4,767	12,187	0	21	6,777	20	0	63	30,265
29	216	Percent	0.7	0.0	15.3	1.4	0.0	14.2	42.9	0.0	0.3	24.4	0.0	0.0	0.7	100.0
7/12-7/18		Numbers	216	0	4,712	444	0	4,387	13,212	0	104	7,513	7	0	208	30,802
30	213	Percent	0.8	0.0	15.0	0.9	0.0	14.5	40.0	0.1	0.2	28.0	0.4	0.0	0.2	100.0
7/19-7/25		Numbers	142	0	2,765	163	0	2,677	7,386	10	41	5,164	76	0	41	18,466
31	216	Percent	0.6	0.0	17.5	1.3	0.0	13.4	43.3	0.3	0.6	21.9	0.8	0.1	0.2	100.0
7/26-8/01		Numbers	87	0	2,422	179	0	1,860	6,001	42	85	3,030	107	7	29	13,849
32	209	Percent	0.7	0.0	11.5	1.2	0.0	11.6	49.6	0.0	0.1	22.4	0.8	0.3	1.8	100.0
8/02-8/08		Numbers	156	0	2,570	271	0	2,592	11,116	8	17	5,019	189	74	394	22,405
33	211	Percent	0.0	0.0	12.7	0.5	0.0	7.2	61.7	0.0	0.0	14.0	1.9	0.0	1.9	100.0
8/09-8/15		Numbers	6	0	3,915	152	0	2,223	18,978	0	0	4,304	573	3	583	30,739
34-38	0	Percent	0.0	0.0	12.8	0.5	0.0	7.1	62.1	0.0	0.0	13.7	1.9	0.0	1.9	100.0
8/16-9/19		Numbers	0	0	2,815	104	0	1,564	13,656	0	0	3,023	417	0	417	21,996
Total	2,001	Percent	0.7	0.2	11.4	1.5	0.0	17.2	40.0	0.0	0.1	27.3	0.6	0.2	0.7	100.0
		Numbers	2,080	682	32,291	4,105	120	48,757	113,345	61	268	77,237	1,645	459	1,990	283,042

Note: A post-weir estimate of 1,700 fish is included from 9/8-9/14.

Table 17.—Length composition of Ayakulik River (Red L.) sockeye salmon escapement samples by age and sex, 2007.

	Age													Total
	0.3	0.4	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	
Females														
Mean Length (mm)	543	-	-	496	539	548	332	506	537	561	-	507	537	521
SE	4	-	-	3	2	14	-	2	2	-	-	16	-	1
Range	538-552	-	-	423-563	471-610	535-562	-	411-594	477-619	-	-	476-527	-	332-619
Sample Size	3	0	0	103	155	2	1	290	259	1	0	3	1	818
Males														
Mean Length (mm)	573	570	322	514	546	515	353	526	546	491	307	525	540	527
SE	-	-	5	3	2	-	4	1	2	28	-	14	8	1
Range	-	-	302-367	393-592	457-640	-	312-410	351-622	400-645	464-519	-	465-585	499-582	302-645
Sample Size	1	1	14	129	196	1	27	484	304	2	1	7	11	1,178
All Fish														
Mean Length (mm)	550	570	322	506	543	537	352	518	542	514	307	519	540	524
SE	8	-	5	2	2	14	4	1	1	28	-	11	8	1
Range	538-573	-	302-367	393-592	457-640	515-562	312-410	351-622	400-645	464-561	-	465-585	499-582	302-645
Sample Size	4	1	14	232	351	3	28	774	563	3	1	10	12	1,996

Table 18.—Estimated sex composition of Ayakulik River (Red L.) sockeye salmon escapement by week, 2007.

Week	Dates	Sample Size			Escapement					
		Females	Males	Total	Percent		Number			
					Females	Males	Females	Males	Total	
21	5/17-5/23	0	0	0	38.7	61.3	0	1	1	
22	5/24-5/30	0	0	0	38.7	61.3	6	10	16	
23	5/31-6/06	12	19	31	39.2	60.8	1,492	2,311	3,803	
24	6/07-6/13	98	146	244	43.7	56.3	12,098	15,615	27,713	
25	6/14-6/20	100	93	193	48.7	51.3	14,890	15,700	30,590	
26	6/21-6/27	48	61	109	44.6	55.4	7,613	9,459	17,072	
27	6/28-7/04	111	135	246	43.8	56.2	15,475	19,850	35,325	
28	7/05-7/11	94	148	242	39.4	60.6	11,913	18,352	30,265	
29	7/12-7/18	94	146	240	39.0	61.0	12,003	18,799	30,802	
30	7/19-7/25	88	153	241	38.0	62.0	7,025	11,441	18,466	
31	7/26-8/01	106	136	242	41.1	58.9	5,694	8,155	13,849	
32	8/02-8/08	83	157	240	37.1	62.9	8,304	14,101	22,405	
33	8/09-8/15	101	139	240	41.9	58.1	12,887	17,852	30,739	
34-38	8/16-9/19	0	0	0	42.1	57.9	9,257	12,739	21,996	
Total		935	1,333	2,268	41.9	58.1	118,657	164,385	283,042	

Note: A post-weir estimate of 1,700 fish was included from 9/8-9/14.

Table 19.—Estimated age composition of South Olga Lakes (Upper Station) early-run sockeye salmon escapement by week, 2007.

Week	Sample Size		Age								Total
			1.1	1.2	2.1	1.3	2.2	1.4	2.3	2.4	
22 5/24-5/30	0	Percent	0.9	13.0	2.7	12.1	3.6	0.4	66.8	0.4	100.0
		Numbers	0	1	0	0	0	0	3	0	4
23 5/31-6/06	223	Percent	1.7	15.8	4.3	12.7	4.0	0.3	60.9	0.3	100.0
		Numbers	35	325	88	261	82	7	1,252	7	2,056
24 6/07-6/13	220	Percent	3.4	24.3	8.1	13.6	5.2	0.0	45.3	0.0	100.0
		Numbers	153	1,102	366	617	236	2	2,055	2	4,534
25 6/14-6/20	216	Percent	4.3	36.0	11.2	12.0	6.8	0.0	29.8	0.0	100.0
		Numbers	530	4,455	1,381	1,479	837	0	3,686	0	12,367
26 6/21-6/27	219	Percent	7.8	40.0	15.4	8.2	6.8	0.0	21.9	0.0	100.0
		Numbers	301	1,547	595	318	261	0	849	0	3,871
27 6/28-7/04	161	Percent	6.3	32.0	9.2	13.6	4.2	0.0	34.6	0.0	100.0
		Numbers	332	1,678	484	712	219	0	1,814	0	5,239
28 7/05-7/11	223	Percent	5.4	26.3	7.7	12.4	6.3	0.0	41.8	0.0	100.0
		Numbers	184	891	262	418	215	0	1,416	0	3,386
29 7/12-7/15	222	Percent	2.7	28.4	6.0	11.8	4.4	0.0	46.8	0.0	100.0
		Numbers	12	124	26	52	19	0	205	0	438
Total	1,484	Percent	4.8	31.7	10.0	12.1	5.9	0.0	35.4	0.0	100.0
		Numbers	1,547	10,123	3,202	3,857	1,869	9	11,280	9	31,895

Table 20.—Length composition of South Olga Lakes (Upper Station) early-run sockeye salmon escapement samples by age and sex, 2007.

	Age								Total
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	
<i>Females</i>									
Mean Length (mm)	-	500	540	-	-	505	542	-	526
SE	-	2	2	-	-	5	2	-	1
Range	-	419-596	478-598	-	-	432-578	368-608	-	368-608
Sample Size	0	201	99	0	0	41	307	0	648
<i>Males</i>									
Mean Length (mm)	331	504	555	595	362	506	550	604	488
SE	2	3	3	-	2	6	2	-	3
Range	300-385	405-590	465-612	-	311-418	427-578	338-616	-	300-616
Sample Size	62	203	71	1	124	36	261	1	759
<i>All Fish</i>									
Mean Length (mm)	331	502	546	595	362	505	546	604	505
SE	2	2	2	-	2	4	1	-	2
Range	300-385	405-596	465-612	-	311-418	427-578	338-616	-	300-616
Sample Size	62	404	170	1	124	77	568	1	1,407

Table 21.—Estimated sex composition of South Olga Lakes (Upper Station) early-run sockeye salmon escapement by week, 2007.

Week	Dates	Sample Size			Escapement					
		Females	Males	Total	Percent		Number			
					Females	Males	Females	Males	Total	
22	5/24-5/30	0	0	0	49.8	50.2	2	2	4	
23	5/31-6/06	122	123	245	47.6	52.4	980	1,076	2,056	
24	6/07-6/13	103	140	243	42.9	57.1	1,946	2,588	4,534	
25	6/14-6/20	100	142	242	41.3	58.7	5,106	7,261	12,367	
26	6/21-6/27	98	147	245	42.1	57.9	1,629	2,242	3,871	
27	6/28-7/04	93	81	174	52.0	48.0	2,724	2,515	5,239	
28	7/05-7/11	111	133	244	46.6	53.4	1,577	1,809	3,386	
29	7/12-7/15	146	103	249	55.4	44.6	242	196	438	
Total		773	869	1,642	44.5	55.5	14,205	17,690	31,895	

Table 22.—Estimated age composition of South Olga Lakes (Upper Station) late-run sockeye salmon escapement by week, 2007.

Week	Sample Size		Age											Total	
			0.1	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2		3.3
29 7/16-7/18	222	Percent	0.0	0.2	2.0	0.1	28.8	5.6	12.5	3.9	0.1	46.8	0.0	0.0	100.0
		Numbers	0	3	27	2	381	74	165	51	2	621	0	0	1,326
30 7/19-7/25	178	Percent	0.0	1.8	3.1	1.0	27.4	6.2	16.6	7.8	0.9	35.2	0.0	0.0	100.0
		Numbers	0	86	147	47	1,294	294	784	369	42	1,664	0	0	4,727
31 7/26-8/01	219	Percent	0.0	4.0	2.3	0.9	40.2	3.4	14.5	26.5	0.0	8.2	0.0	0.0	100.0
		Numbers	0	276	157	61	2,761	234	994	1,823	2	567	0	0	6,875
32 8/02-8/08	218	Percent	0.0	2.9	1.1	0.0	34.7	6.9	7.5	44.8	0.0	2.2	0.0	0.0	100.0
		Numbers	0	255	101	0	3,087	611	663	3,978	0	193	0	0	8,889
33 8/09-8/15	225	Percent	0.0	3.7	0.5	0.0	33.0	3.6	10.8	45.9	0.0	2.3	0.1	0.0	100.0
		Numbers	0	1,168	144	0	10,303	1,126	3,389	14,359	0	719	43	0	31,251
34 8/16-8/22	241	Percent	0.0	2.7	0.5	0.0	27.6	4.2	12.0	49.1	0.0	3.4	0.4	0.0	100.0
		Numbers	0	611	123	0	6,364	977	2,774	11,314	0	776	90	0	23,029
35 8/23-8/29	220	Percent	0.0	2.6	1.2	0.0	23.4	5.2	10.8	52.0	0.0	4.3	0.4	0.0	100.0
		Numbers	1	691	302	0	6,108	1,348	2,827	13,571	0	1,114	115	0	26,076
36 8/30-9/05	231	Percent	0.3	0.9	1.1	0.0	20.4	5.2	7.6	60.6	0.0	3.8	0.1	0.0	100.0
		Numbers	109	343	389	0	7,462	1,913	2,765	22,170	0	1,385	52	0	36,589
37 9/06-9/12	227	Percent	0.4	1.2	1.4	0.0	19.8	8.3	4.1	61.6	0.0	3.1	0.0	0.1	100.0
		Numbers	28	82	102	0	1,398	586	286	4,339	0	221	0	5	7,047
38 9/13-9/19	145	Percent	0.0	0.2	0.8	0.0	18.2	5.4	7.1	65.0	0.0	2.8	0.0	0.6	100.0
		Numbers	2	7	31	0	708	209	277	2,534	0	109	0	24	3,900
Total	2,126	Percent	0.1	2.4	1.0	0.1	26.6	4.9	10.0	49.8	0.0	4.9	0.2	0.0	100.0
		Numbers	139	3,521	1,522	111	39,866	7,373	14,924	74,507	46	7,369	300	29	149,709

Table 23.—Length composition of South Olga Lakes (Upper Station) late-run sockeye salmon escapement samples by age and sex, 2007.

	Age												Total
	0.1	0.2	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.2	3.3	
Females													
Mean Length (mm)	-	487	512	427	526	566	542	413	537	546	547	-	537
SE	-	5	-	-	2	3	-	4	1	2	5	-	1
Range	-	441-517	-	-	447-598	489-632	-	404-426	440-595	479-618	542-552	-	404-632
Sample Size	0	18	1	1	279	117	1	6	493	124	2	0	1,042
Males													
Mean Length (mm)	287	508	591	358	543	577	583	388	558	557	-	564	529
SE	26	7	25	7	3	5	-	2	2	6	-	-	2
Range	262-313	432-590	556-640	308-416	420-620	332-646	-	330-427	403-626	459-635	-	-	262-646
Sample Size	2	25	3	26	262	73	1	105	389	51	0	1	938
All Fish													
Mean Length (mm)	287	499	571	361	534	570	562	389	546	549	547	564	533
SE	26	5	27	7	2	3	21	2	1	2	5	-	1
Range	262-313	432-590	512-640	308-427	420-620	332-646	542-583	330-427	403-626	459-635	542-552	-	262-646
Sample Size	2	43	4	27	541	190	2	111	882	175	2	1	1,980

Table 24.—Estimated sex composition of South Olga Lakes (Upper Station) late-run sockeye salmon escapement by week, 2007.

Week	Dates	Sample Size			Escapement					
		Females	Males	Total	Percent		Number			
					Females	Males	Females	Males	Total	
29	7/12-7/18	146	103	249	58.1	41.9	771	555	1,326	
30	7/19-7/25	104	86	190	53.6	46.4	2,534	2,193	4,727	
31	7/26-8/01	100	140	240	42.0	58.0	2,890	3,985	6,875	
32	8/02-8/08	111	133	244	46.1	53.9	4,101	4,788	8,889	
33	8/09-8/15	118	128	246	50.2	49.8	15,693	15,558	31,251	
34	8/16-8/22	148	121	269	54.7	45.3	12,596	10,433	23,029	
35	8/23-8/29	135	105	240	56.0	44.0	14,611	11,465	26,076	
36	8/30-9/05	146	94	240	58.9	41.1	21,534	15,055	36,589	
37	9/06-9/12	123	127	250	52.9	47.1	3,725	3,322	7,047	
38	9/13-9/19	93	67	160	57.2	42.8	2,232	1,668	3,900	
Total		1,224	1,104	2,328	53.9	46.1	80,687	69,022	149,709	

Table 25.—Estimated age composition of Frazer Lake sockeye salmon escapement by week, 2007.

Week	Sample Size		Age													Total
			1.1	1.2	2.1	1.3	2.2	3.1	1.4	2.3	3.2	4.1	2.4	3.3	4.2	
25	0	Percent	4.9	3.3	18.1	1.6	29.7	3.3	0.0	12.6	25.8	0.5	0.0	0.0	0.0	100.0
6/14-6/20		Numbers	2	2	9	1	14	2	0	6	12	0	0	0	0	48
26	182	Percent	5.4	3.5	18.4	1.6	27.8	3.4	0.0	13.3	26.0	0.5	0.1	0.1	0.0	100.0
6/21-6/27		Numbers	218	145	752	64	1,135	137	0	542	1,061	20	3	3	0	4,078
27	209	Percent	9.1	4.7	24.1	0.8	14.7	3.8	0.2	13.6	28.3	0.0	0.3	0.3	0.0	100.0
6/28-7/04		Numbers	921	479	2,450	82	1,497	384	15	1,385	2,877	1	32	32	0	10,154
28	216	Percent	11.0	3.7	31.4	0.5	13.0	3.7	0.4	6.4	29.8	0.0	0.0	0.0	0.0	100.0
7/05-7/11		Numbers	3,099	1,040	8,824	136	3,642	1,051	115	1,799	8,375	0	11	11	0	28,102
29	207	Percent	14.2	1.2	50.3	0.1	8.5	5.2	0.0	2.8	17.5	0.1	0.0	0.0	0.0	100.0
7/12-7/18		Numbers	2,645	218	9,349	18	1,585	974	6	522	3,255	12	0	0	0	18,585
30	208	Percent	12.1	3.5	53.3	0.3	7.5	9.7	0.1	2.0	11.0	0.3	0.0	0.0	0.0	100.0
7/19-7/25		Numbers	2,449	717	10,801	70	1,521	1,967	25	403	2,237	70	0	0	0	20,261
31	176	Percent	12.5	3.6	52.0	0.2	6.3	8.4	0.3	3.5	13.0	0.2	0.0	0.0	0.0	100.0
7/26-8/01		Numbers	1,646	472	6,867	25	836	1,116	46	466	1,712	24	0	0	0	13,210
32	240	Percent	7.7	2.8	44.3	0.6	13.2	8.3	0.4	6.5	15.7	0.0	0.0	0.1	0.3	100.0
8/02-8/08		Numbers	628	229	3,606	52	1,070	677	30	533	1,281	0	0	6	26	8,138
33	197	Percent	7.8	3.6	41.2	0.2	11.3	10.2	0.1	5.1	20.0	0.0	0.0	0.4	0.1	100.0
8/09-8/15		Numbers	788	366	4,177	22	1,145	1,038	11	518	2,024	2	0	37	11	10,138
34	176	Percent	6.1	2.9	46.8	0.0	10.8	8.7	0.0	2.4	21.6	0.4	0.0	0.2	0.0	100.0
8/16-8/22		Numbers	207	98	1,576	0	364	292	0	81	728	13	0	6	0	3,364
35	96	Percent	4.2	3.1	29.5	0.0	19.2	6.3	0.0	4.0	32.6	1.0	0.0	0.0	0.0	100.0
8/23-8/29		Numbers	171	124	1,193	0	777	255	0	161	1,316	41	0	0	0	4,038
36	0	Percent	4.2	3.1	28.1	0.0	19.8	6.3	0.0	4.2	33.3	1.0	0.0	0.0	0.0	100.0
8/30-9/05		Numbers	3	2	20	0	14	4	0	3	23	1	0	0	0	70
Total	1,907	Percent	10.6	3.2	41.3	0.4	11.3	6.6	0.2	5.3	20.7	0.2	0.0	0.1	0.0	100.0
		Numbers	12,778	3,892	49,623	469	13,601	7,897	248	6,420	24,900	184	45	94	37	120,186

Table 26.—Length composition of Frazer Lake sockeye salmon escapement samples by age and sex, 2007.

	Age													Total
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	4.1	4.2	
<i>Females</i>														
Mean Length (mm)	380	489	578	-	391	493	548	551	336	498	-	387	486	499
SE	-	5	6	-	7	3	4	-	12	2	-	-	-	2
Range	-	432-543	566-600	-	348-418	325-594	448-604	-	325-348	352-566	-	-	-	325-604
Sample Size	1	31	5	0	12	142	55	1	2	228	0	1	1	479
<i>Males</i>														
Mean Length (mm)	330	491	585	532	350	504	563	-	352	513	533	356	-	393
SE	2	7	6	22	1	4	3	-	2	3	1	20	-	2
Range	277-405	418-576	573-603	489-561	259-420	372-574	498-618	-	305-416	331-598	532-534	321-391	-	259-618
Sample Size	173	30	4	3	743	108	66	0	124	172	2	3	0	1,428
<i>All Fish</i>														
Mean Length (mm)	331	490	581	532	351	497	556	551	351	504	533	364	486	420
SE	2	4	4	22	1	2	3	-	2	2	1	16	-	2
Range	277-405	418-576	566-603	489-561	259-420	325-594	448-618	-	305-416	331-598	532-534	321-391	-	259-618
Sample Size	174	61	9	3	755	250	121	1	126	400	2	4	1	1,907

Table 27.—Estimated sex composition of Frazer Lake sockeye salmon escapement by week, 2007.

Week	Dates	Sample Size			Escapement					
		Females	Males	Total	Percent		Number			
					Females	Males	Females	Males	Total	
25	6/14-6/20	0	0	0	25.8	74.2	12	36	48	
26	6/21-6/27	55	158	213	26.5	73.5	1,081	2,997	4,078	
27	6/28-7/04	75	165	240	31.3	68.7	3,179	6,975	10,154	
28	7/05-7/11	76	164	240	31.1	68.9	8,729	19,373	28,102	
29	7/12-7/18	41	199	240	17.4	82.6	3,229	15,356	18,585	
30	7/19-7/25	29	211	240	13.6	86.4	2,752	17,509	20,261	
31	7/26-8/01	35	165	200	15.5	84.5	2,042	11,168	13,210	
32	8/02-8/08	72	208	280	26.4	73.6	2,147	5,991	8,138	
33	8/09-8/15	83	157	240	32.1	67.9	3,256	6,882	10,138	
34	8/16-8/22	54	146	200	29.9	70.1	1,007	2,357	3,364	
35	8/23-8/29	45	75	120	36.9	63.1	1,489	2,549	4,038	
36	8/30-9/05	0	0	0	37.5	62.5	26	44	70	
Total		565	1,648	2,213	24.1	75.9	28,950	91,236	120,186	

Table 28.—Estimated age composition of Dog Salmon Creek sockeye salmon escapement by week, 2007.

Week	Sample Size		Age												Total	
			1.1	1.2	2.1	1.3	2.2	3.1	1.4	2.3	3.2	4.1	2.4	3.3		4.2
24	20	Percent	14.8	4.8	20.5	0.2	19.8	19.1	0.0	5.2	10.9	0.0	4.6	0.0	0.0	100.0
6/07-6/13		Numbers	9	3	12	0	12	11	0	3	7	0	3	0	0	60
25	210	Percent	14.0	2.5	29.1	1.9	16.3	7.5	0.0	7.9	20.3	0.3	0.1	0.0	0.0	100.0
6/14-6/20		Numbers	1,716	308	3,561	228	2,000	919	0	963	2,485	42	17	0	0	12,239
26	210	Percent	15.0	2.8	33.4	0.7	15.3	6.5	0.0	7.2	18.7	0.2	0.3	0.0	0.0	100.0
6/21-6/27		Numbers	1,767	329	3,941	83	1,812	768	0	847	2,205	22	33	0	0	11,807
27	221	Percent	11.7	2.5	32.8	0.8	18.0	6.1	0.0	5.2	22.4	0.4	0.2	0.0	0.0	100.0
6/28-7/04		Numbers	3,771	796	10,598	262	5,828	1,970	0	1,670	7,250	115	60	0	0	32,319
28	218	Percent	10.7	1.4	43.2	0.4	14.2	8.9	0.0	5.1	15.2	0.1	0.7	0.0	0.1	100.0
7/05-7/11		Numbers	3,480	457	14,028	146	4,630	2,892	0	1,651	4,941	16	226	0	38	32,505
29	224	Percent	10.1	1.5	53.4	0.3	9.2	11.4	0.0	3.6	9.7	0.1	0.1	0.1	0.7	100.0
7/12-7/18		Numbers	2,360	344	12,528	67	2,164	2,686	0	841	2,271	13	30	13	155	23,472
30	219	Percent	7.2	5.4	47.4	1.2	11.1	7.9	0.0	5.5	13.4	0.3	0.0	0.3	0.3	100.0
7/19-7/25		Numbers	1,035	779	6,818	172	1,591	1,138	2	787	1,928	45	0	42	41	14,377
31	217	Percent	6.4	6.9	44.8	0.5	10.4	6.4	0.4	5.2	18.4	0.4	0.0	0.0	0.0	100.0
7/26-8/01		Numbers	478	516	3,332	36	777	478	31	390	1,368	32	0	1	0	7,440
32	8	Percent	3.2	3.4	65.9	0.2	5.2	3.2	0.2	2.6	15.7	0.2	0.0	0.0	0.0	100.0
8/02-8/08		Numbers	104	113	2,155	7	171	106	7	86	514	7	0	0	0	3,270
33	55	Percent	1.4	4.3	40.2	0.0	11.4	4.3	0.0	7.1	31.2	0.0	0.0	0.0	0.0	100.0
8/09-8/15		Numbers	27	81	765	0	217	81	0	136	594	0	0	0	0	1,902
34	0	Percent	1.8	5.5	27.3	0.0	14.5	5.5	0.0	9.1	36.4	0.0	0.0	0.0	0.0	100.0
8/16-8/22		Numbers	8	23	114	0	61	23	0	38	152	0	0	0	0	417
Total	1,602	Percent	10.6	2.7	41.4	0.7	13.8	7.9	0.0	5.3	17.0	0.2	0.3	0.0	0.2	100.0
		Numbers	14,755	3,748	57,852	1,001	19,263	11,072	40	7,412	23,713	293	369	57	233	139,808

Table 29.—Length composition of Dog Salmon Creek sockeye salmon escapement samples by age and sex, 2007.

	Age													Total
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	4.1	4.2	
Females														
Mean Length (mm)	410	494	535	562	391	486	542	526	400	496	527	-	515	496
SE	21	4	7	-	12	3	4	44	-	2	-	-	-	2
Range	390-431	434-548	524-547	-	313-420	342-543	475-585	482-570	-	349-593	-	-	-	313-593
Sample Size	2	37	3	1	8	108	45	2	1	142	1	0	1	351
Males														
Mean Length (mm)	329	465	551	-	347	494	558	506	347	505	-	347	427	388
SE	2	13	13	-	1	5	4	12	2	3	-	21	-	2
Range	275-382	327-582	468-624	-	253-458	335-583	511-610	494-518	298-465	321-593	-	295-396	-	253-624
Sample Size	165	21	11	0	622	111	51	2	124	138	0	4	1	1,250
All Fish														
Mean Length (mm)	330	484	547	562	348	490	550	516	348	500	527	347	471	412
SE	2	6	10	-	1	3	3	19	2	2	-	21	44	2
Range	275-431	327-582	468-624	-	253-458	335-583	475-610	482-570	298-465	321-593	-	295-396	427-515	253-624
Sample Size	167	58	14	1	630	219	96	4	125	280	1	4	2	1,601

Table 30.—Estimated sex composition of Dog Salmon Creek sockeye salmon escapement by week, 2007.

Week	Dates	Sample Size			Escapement					
		Females	Males	Total	Percent		Number			
					Females	Males	Females	Males	Total	
24	6/07-6/13	7	16	23	29.5	70.5	18	42	60	
25	6/14-6/20	42	198	240	16.3	83.7	1,991	10,248	12,239	
26	6/21-6/27	31	210	241	17.3	82.7	2,043	9,764	11,807	
27	6/28-7/04	58	182	240	22.7	77.3	7,333	24,986	32,319	
28	7/05-7/11	43	198	241	17.7	82.3	5,744	26,761	32,505	
29	7/12-7/18	27	217	244	14.5	85.5	3,399	20,073	23,472	
30	7/19-7/25	78	171	249	24.7	75.3	3,557	10,820	14,377	
31	7/26-8/01	67	173	240	26.3	73.7	1,959	5,481	7,440	
32	8/02-8/08	0	9	9	13.5	86.5	441	2,829	3,270	
33	8/09-8/15	38	27	65	45.9	54.1	873	1,029	1,902	
34	8/16-8/22	0	0	0	58.5	41.5	244	173	417	
Total		391	1,401	1,792	19.7	80.3	27,601	112,207	139,808	

Table 31.—Estimated age composition of Buskin Lake sockeye salmon escapement by sampling period, 2007.

Sampling Period	Sample Size		Age								Total
			1.1	1.2	2.1	1.3	2.2	1.4	2.3	3.2	
1 6/1-6/15	122	Percent	0.0	2.5	0.0	78.7	0.8	1.6	16.4	0.0	100.0
		Numbers	0	182	0	5,822	61	121	1,213	0	7,399
2 6/16-6/30	102	Percent	0.0	3.9	0.0	85.3	2.0	2.9	5.9	0.0	100.0
		Numbers	0	186	0	4,048	93	140	279	0	4,746
3 7/1-7/15	35	Percent	0.0	5.7	0.0	74.3	2.9	0.0	17.1	0.0	100.0
		Numbers	0	133	0	1,724	66	0	398	0	2,321
4 7/16-8/31	65	Percent	0.0	7.7	0.0	72.3	0.0	0.0	20.0	0.0	100.0
		Numbers	0	157	0	1,472	0	0	407	0	2,036
Total	324	Percent	0.0	4.0	0.0	79.2	1.3	1.6	13.9	0.0	100.0
		Numbers	0	657	0	13,067	220	261	2,297	0	16,502

Table 32.—Estimated age composition of Lake Louise (Buskin Lake system) sockeye salmon escapement by sampling period, 2007.

Sampling Period	Sample Size		Age								Total
			1.1	1.2	2.1	1.3	2.2	1.4	2.3	3.2	
1 6/1-7/15	50	Percent	0.0	8.0	2.0	70.0	10.0	4.0	6.0	0.0	100.0
		Numbers	0	5	1	46	7	3	4	0	66
2 7/16-7/31	53	Percent	7.5	24.5	0.0	56.6	3.8	1.9	5.7	0.0	100.0
		Numbers	21	70	0	161	11	5	16	0	284
3 8/1-8/15	38	Percent	2.6	13.2	5.3	63.2	5.3	0.0	10.5	0.0	100.0
		Numbers	1	7	3	33	3	0	6	0	53
4 8/16-8/31	88	Percent	2.3	17.0	4.5	59.1	12.5	0.0	4.5	0.0	100.0
		Numbers	29	217	58	752	159	0	58	0	1,273
Total	229	Percent	3.1	17.8	3.7	59.2	10.7	0.5	5.0	0.0	100.0
		Numbers	52	299	62	993	179	8	83	0	1,676

Table 33.—Estimated sex composition of Buskin Lake sockeye salmon escapement by sampling period, 2007.

Sampling Period	Dates	Sample Size			Percent		Escapement		
		Females	Males	Total	Females	Males	Females	Males	Total
1	6/1-6/15	64	76	140	45.7	54.3	3,382	4,017	7,399
2	6/16-6/30	43	68	111	38.7	61.3	1,839	2,907	4,746
3	7/1-7/15	15	23	38	39.5	60.5	916	1,405	2,321
4	7/16-8/31	34	35	69	49.3	50.7	1,003	1,033	2,036
Total		156	202	358	43.3	56.7	7,140	9,362	16,502

Table 34.—Estimated sex composition of Lake Louise (Buskin Lake system) sockeye salmon escapement by sampling period, 2007.

Sampling Period	Dates	Sample Size			Percent		Escapement		
		Females	Males	Total	Females	Males	Females	Males	Total
1	6/1-7/15	30	23	53	56.6	43.4	37	29	66
2	7/16-7/31	22	35	57	38.6	61.4	110	174	284
3	8/1-8/15	12	27	39	30.8	69.2	16	37	53
4	8/16-8/31	57	45	102	55.9	44.1	711	562	1,273
Total		121	130	251	52.2	47.8	875	801	1,676

Table 35.—Kodiak Management Area commercial salmon harvest by species and year, 1970 through 2007.

Year	Species ^a					Total
	Chinook	Sockeye	Coho	Pink	Chum	
1970	1,089	917,047	66,424	12,036,598	919,972	13,941,130
1971	920	478,479	22,844	4,334,492	1,541,444	6,378,183
1972	1,300	222,408	16,587	2,478,064	1,163,426	3,881,785
1973	800	167,341	3,573	511,708	317,921	1,001,343
1974	545	418,761	13,631	2,647,244	249,294	3,329,475
1975	101	136,418	23,659	2,942,801	84,431	3,187,410
1976	766	641,484	23,714	11,077,992	740,495	12,484,451
1977	585	623,468	27,920	6,252,405	1,072,313	7,976,691
1978	3,228	1,071,782	48,795	15,004,065	814,345	16,942,215
1979	1,907	630,756	140,629	11,285,809	358,336	12,417,437
1980	529	651,394	139,154	17,290,615	1,075,557	19,157,249
1981	1,418	1,288,980	121,544	10,336,829	1,345,328	13,094,099
1982	1,214	1,203,787	344,823	8,089,780	1,262,587	10,902,191
1983	3,839	1,231,989	157,612	4,603,371	1,085,165	7,081,976
1984	4,657	1,950,639	229,524	10,844,293	649,092	13,678,205
1985	4,970	1,842,731	284,166	7,334,825	430,757	9,897,449
1986	4,381	3,188,046	168,690	11,807,727	1,134,372	16,303,216
1987	4,613	1,794,773	192,540	5,075,101	682,023	7,749,050
1988	22,374	2,699,014	303,298	14,559,038	1,426,410	19,010,134
1989 ^b	4,851	2,628,565	141,433	22,648,511	835,734	26,259,094
1990	18,808	5,248,400	293,819	5,983,812	577,750	12,122,589
1991	22,234	5,704,100	324,860	16,642,841	1,029,071	23,723,106
1992	24,299	4,167,871	280,085	3,310,644	679,559	8,462,458
1993	41,029	4,378,886	313,467	34,019,420	588,331	39,341,133
1994	22,576	2,877,999	296,311	8,162,564	738,856	12,098,306
1995	18,704	4,488,502	307,795	42,849,309	1,522,810	49,187,120
1996	13,071	4,970,362	201,836	3,486,930	543,751	9,215,950
1997	18,735	2,506,427	381,099	11,035,134	520,331	14,461,726
1998	17,349	3,623,712	425,152	22,062,465	316,115	26,444,793
1999	18,299	4,653,057	296,979	11,898,382	913,867	17,780,584
2000	12,293	2,906,441	333,052	9,927,397	1,194,448	14,373,631
2001	23,843	2,659,637	409,193	19,567,163	1,053,763	23,713,599
2002	19,320	1,831,014	503,615	18,328,638	650,178	21,332,765
2003	18,603	4,053,847	351,767	14,067,235	1,151,885	19,643,337
2004	28,907	4,169,565	490,161	21,440,905	1,121,873	27,251,411
2005	14,465	3,052,048	396,841	30,143,647	477,435	34,084,436
2006	20,383	1,585,630	556,310	31,694,492	1,082,132	34,938,947
2007	17,248	2,014,141	356,583	24,811,459	728,920	27,928,351
Average						
2002-2006	20,336	2,938,421	459,739	23,134,983	896,701	27,450,179
1997-2006	19,220	3,104,138	414,417	19,016,546	848,203	23,402,523

^a Catch numbers include personal use with commercial gear and ADF&G test fisheries.

^b Catch numbers represent the projected harvest if the *Exxon Valdez* oil spill had not eliminated a major portion of the commercial fishery (Barrett et al. 1990).

Table 36.—Commercial salmon catch numbers by species, district, and section, Kodiak Management Area, 2007.

District	Section	Species									
		Chinook		Sockeye		Coho		Pink		Chum	
		Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Afognak District											
S.W.AFOGNAK & RASPBERRY STRAITS SECTIONS (251-10,11,12,20)											
		7,937	69,595	86,958	475,511	16,613	124,199	852,876	3,059,273	22,669	168,174
N.W. AFOGNAK SECTION (251-30,40,41,50)											
		102	1,028	21,867	114,345	3,436	28,961	188,987	648,539	1,095	7,591
SHUYAK ISLAND SECTION (251-60,70,81)											
		0	0	820	4,676	17	133	0	0	3,090	8,033
PERENOSA & PAULS BAYS SECTIONS COMBINED (251-82,83,84,85)											
		1	22	111	476	659	4,648	27,589	99,509	37	253
N.E.AFOGNAK SECTION (251-90,252-10,20)											
		65	676	4,306	24,010	5,381	39,452	1,181,679	4,203,580	3,734	28,387
DUCK & IZHUT BAYS SECTIONS COMBINED (252-30,31)											
		1,056	11,034	31,342	165,989	82,139	597,648	4,463,080	16,368,044	144,255	1,047,474
KITOI BAY SECTION (252-32)											
		458	4,504	3,298	17,389	43,862	291,515	3,385,606	13,069,543	63,779	464,744
S.E.AFOGNAK (252-33,34,35)											
		4	60	917	4,604	709	5,107	121,037	446,219	2,716	20,932
Subtotal		9,623	86,919	149,619	807,000	152,816	1,091,663	10,220,854	37,894,707	241,375	1,745,588
Northwest Kodiak District											
UGANIK, TERROR, VIEKODA, & KUPREANOF AREAS COMBINED (253-11,12,13,14,31-35)											
		3,362	28,738	393,853	2,266,783	71,322	538,602	2,268,626	8,183,721	70,420	546,803
UYAK, SPIRIDON, & ZACHAR, AREAS COMBINED (254-10,20,30,40)											
		813	11,022	483,393	2,781,245	30,313	230,998	2,214,493	8,427,842	68,502	547,440
TELROD COVE (SHA) (254-50)											
		8	71	70,250	376,978	15	112	52,638	190,575	3,233	26,771
NORTH CAPE, ANTON LARSEN, SHERATIN, & KIZHUYAK SECTIONS COMBINED (259-35,36,37,38,39)											
		618	5,631	51,891	293,521	12,066	78,415	542,047	2,113,833	30,456	228,780
Subtotal		4,801	45,462	999,387	5,718,527	113,716	848,127	5,077,804	18,915,971	172,611	1,349,794

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Table 36.--Page 2 of 3.

District	Section	Species									
		Chinook		Sockeye		Coho		Pink		Chum	
		no.	lbs	no.	lbs	no.	lbs	no.	lbs	no.	lbs
Southwest Kodiak District											
INNER KARLUK SECTION (255-10)		72	768	25,416	125,845	11	108	2,132	6,158	4,901	30,114
OUTER KARLUK SECTION (255-20)		328	3,388	266,098	1,476,813	21,189	169,017	1,209,004	4,484,311	14,737	110,174
STURGEON SECTION (256-40)		14	176	6,377	36,945	1,871	12,374	126,360	493,464	429	3,648
HALIBUT BAY SECTION (256-25,30)		234	4,408	149,079	843,643	13,518	105,569	1,433,346	4,907,945	4,002	33,916
INNER & OUTER AYAKULIK SECTIONS (256-10,15,20)		15	286	50,294	282,984	580	4,705	73,174	294,231	3,578	12,287
Subtotal		663	9,026	497,264	2,766,230	37,169	291,773	2,844,016	10,186,109	27,647	190,139
Alitak Bay District											
CAPE ALITAK AND HUMPY-DEADMAN SECTIONS (257-10,20,50,60,70)		17	374	16,829	97,218	930	7,402	404,360	1,414,918	43,811	381,151
ALITAK BAY, MOSER BAY, OLGA BAY, AND OUTER UPPER STATION SECTIONS (257-30,40,41,42,43)		6	112	68,640	384,210	1,526	12,336	69,656	279,567	4,120	35,141
Subtotal		23	486	85,469	481,428	2,456	19,738	474,016	1,694,485	47,931	416,292
Eastside Kodiak District											
SEVEN RIVERS SECTION (258-70,80,83,85,90)		60	867	18,465	107,987	4,389	29,365	152,682	579,634	5,874	44,305
TWO-HEADED SECTION (258-54,55,60)		127	1,399	31,931	180,280	4,520	28,698	329,527	1,281,276	11,263	95,121
SITKALIDAK SECTION (258-10,20,30,40,51,52,53)		316	4,714	92,821	503,298	15,618	117,763	4,032,245	13,758,253	141,887	1,166,477
INNER & OUTER UGAK (259-40,41,42,43)		30	483	18,227	103,609	2,248	20,470	728,017	2,563,339	21,739	191,991
Subtotal		533	7,463	161,444	895,174	26,775	196,296	5,242,471	18,182,502	180,763	1,497,894

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Table 36.—Page 3 of 3.

Distict	Section	Species									
		Chinook		Sockeye		Coho		Pink		Chum	
		no.	lbs	no.	lbs	no.	lbs	no.	lbs	no.	lbs
Northeast Kodiak District											
MONASHKA MILLBAY SECTION											
(259-10)	20	268	8	38	2,908	20,114	15,553	58,505	9	74	
INNER AND OUTER CHINIAK BAY SECTIONS											
(259-21,22,23,24,25)	2	30	611	2,893	3,932	32,666	319,403	1,250,892	6,171	48,299	
Subtotal	22	298	619	2,931	6,840	52,780	334,956	1,309,397	6,180	48,373	
Mainland District											
BIG RIVER SECTION											
(262-10,15)	0	0	746	3,655	229	1,588	2,016	7,081	216	1,540	
HALLO BAY SECTION											
(262-20)	0	0	55	330	34	302	280	840	213	1,699	
INNER AND OUTER KUKAK BAY SECTIONS											
(262-25,27,30)	8	57	829	4,249	69	705	510	1,650	300	2,615	
DAKAVAK BAY SECTION											
(262-35,40,45,50,55)	337	3,410	39,350	213,397	10,174	76,981	131,092	427,038	14,363	117,882	
KATMAI SECTION											
(262-60)	88	1,139	8,948	51,269	1,514	11,084	19,799	64,858	1,417	12,262	
ALINCHAK BAY SECTION											
(262-65,70)	190	1,890	7,962	45,190	2,298	20,165	348,576	1,100,130	20,035	161,638	
CAPE IGVAK											
(262-75,80,90,95)	960	7,614	62,449	385,700	2,493	19,416	115,069	405,230	15,869	120,922	
Subtotal	1,583	14,110	120,339	703,790	16,811	130,241	617,342	2,006,827	52,413	418,558	
GRAND TOTAL	17,248	163,764	2,014,141	11,375,080	356,583	2,630,618	24,811,459	90,189,998	728,920	5,666,638	

Note: Catch numbers include personal use with commercial gear and ADF&G test fisheries.

Table 37.—Estimated age composition of commercial sockeye salmon catches by sample area, Kodiak Management Area, 2007.

District Catch Area	Sample Size									Total
			1.2	1.3	2.2	2.3	3.2	3.3	Other ^a	
NW Kodiak District										
Uganik-Viekoda-Kupreanof	4,660	%	7.1	22.3	31.7	23.6	9.4	4.2	1.8	100.0
		no.	27,845	87,742	124,691	92,780	37,102	16,572	7,120	393,853
Uyak Bay	4,816	%	4.7	20.5	26.5	28.6	9.6	8.0	2.1	100.0
		no.	22,608	98,998	128,105	138,467	46,388	38,541	10,286	483,393
Spiridon SHA (Telrod Cove)	1,207	%	61.7	36.8	1.1	0.4				100.0
		no.	43,352	25,846	780	272				70,250
SW Kodiak District										
Inner and Outer Karluk and Sturgeon ^b	1,021	%	7.5	12.5	24.7	34.7	7.9	8.1	4.6	100.0
		no.	4,685	7,755	15,319	21,526	4,904	5,041	2,847	62,077
Halibut Bay ^b	322	%	32	9	47	6	0	1	6	100
		no.	7,382	2,171	10,929	1,303	72	145	1,303	23,305
Inner and Outer Ayakulik ^b	354	%	19.8	8.8	58.5	9.6	0.6	0.3	2.5	100.0
		no.	8,007	3,546	23,677	3,889	229	114	1,029	40,491
Alitak Bay District										
Alitak (seine) ^b	189	%	4.9	32.1	34.6	19.8	1.2	2.5	6.2	100.0
		no.	743	614	1,346	370	92	7	180	3,351
Moser-Olga-Alitak (gillnet)	1,443	%	21.6	15.4	38.4	11.3	8.6	0.9	3.9	100.0
		no.	14,828	10,578	26,333	7,723	5,895	623	2,660	68,640
Total	14,012	%	11.3	20.7	28.9	23.3	8.3	5.3	2.2	100.0
		no.	129,450	237,250	331,180	266,330	94,682	61,043	25,424	1,145,360

^a Other age classes listed in the table consist of age-0.2, 1.1, 0.3, 2.1, 0.4, 3.1, 1.4, 2.4, 3.3, 3.4, 4.2 and 4.3.

^b Age composition estimates are not necessarily representative of the entire season's harvest for that commercial fishing section (see individual section tables).

Table 38.—Estimated age composition of Uganik-Viekoda-Kupreanof bays (253-11, 12, 13, 14, 31, 32, 33, 35) commercial sockeye salmon catch by week, 2007.

Week	Sample Size		Age															Total
			0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	3.4	4.3	
23 5/31-6/06	355	Percent	0.0	0.0	1.4	5.1	0.0	0.0	44.5	9.3	0.0	26.5	5.6	0.0	7.3	0.3	0.0	100.0
		Numbers	0	0	72	261	0	0	2,291	478	0	1,363	290	0	377	14	0	5,147
24 6/07-6/13	370	Percent	0.0	0.0	1.1	6.4	0.2	0.0	42.5	12.8	0.8	25.2	4.0	0.6	6.4	0.1	0.0	100.0
		Numbers	2	0	90	531	16	0	3,517	1,062	64	2,084	328	49	530	5	0	8,278
25 6/14-6/20	362	Percent	0.2	0.0	0.9	4.3	0.1	0.0	34.4	13.4	0.5	36.5	3.4	0.4	6.1	0.0	0.0	100.0
		Numbers	70	0	343	1,746	25	0	13,846	5,390	186	14,708	1,368	177	2,445	0	0	40,304
26 6/21-6/27	366	Percent	0.0	0.0	2.8	9.4	0.0	0.0	28.3	21.3	0.2	27.4	3.3	0.4	7.0	0.0	0.0	100.0
		Numbers	0	0	579	1,939	0	0	5,857	4,398	45	5,665	681	91	1,440	0	0	20,695
27 6/28-7/04	356	Percent	0.0	0.0	1.9	15.5	0.0	0.0	27.1	30.0	0.1	19.7	3.0	0.1	2.6	0.0	0.0	100.0
		Numbers	0	0	381	3,070	0	0	5,378	5,957	12	3,907	597	24	516	0	0	19,841
28 7/05-7/11	348	Percent	0.0	0.0	1.1	14.4	0.0	0.0	18.2	31.0	0.2	25.8	5.7	0.5	3.1	0.0	0.0	100.0
		Numbers	0	0	311	4,135	0	14	5,225	8,906	61	7,434	1,642	135	906	0	0	28,767
29 7/12-7/18	356	Percent	0.0	0.0	0.4	12.6	0.1	0.2	22.1	29.5	0.2	29.7	2.0	0.3	2.9	0.0	0.0	100.0
		Numbers	0	0	195	6,536	50	95	11,474	15,308	100	15,410	1,055	145	1,505	0	0	51,873
30 7/19-7/25	361	Percent	0.0	0.0	0.7	12.6	0.2	0.0	27.6	23.1	0.5	29.3	1.6	0.3	4.0	0.0	0.0	100.0
		Numbers	0	14	282	4,869	90	3	10,662	8,904	181	11,296	612	121	1,552	0	0	38,587
31 7/26-8/01	354	Percent	0.0	0.2	1.8	7.1	0.0	0.0	22.5	23.2	0.1	33.6	4.1	0.5	6.7	0.0	0.0	100.0
		Numbers	2	37	272	1,062	3	0	3,347	3,452	11	4,990	614	79	990	0	0	14,857
32 8/02-8/08	352	Percent	0.2	0.0	1.5	5.6	0.0	0.1	31.8	19.0	0.9	32.1	3.6	0.4	4.9	0.0	0.0	100.0
		Numbers	59	3	503	1,849	0	32	10,540	6,285	308	10,626	1,209	127	1,611	0	0	33,151
33 8/09-8/15	361	Percent	0.0	0.0	1.4	2.4	0.0	0.2	36.0	22.6	1.3	21.9	8.2	0.5	5.3	0.0	0.0	100.0
		Numbers	9	0	515	847	0	76	12,859	8,093	473	7,846	2,932	175	1,899	14	14	35,752
34 8/16-8/22	363	Percent	0.0	0.0	0.5	2.4	0.0	0.0	9.6	48.6	0.3	11.7	20.5	0.3	5.6	0.2	0.2	100.0
		Numbers	0	0	107	514	0	11	2,066	10,422	63	2,503	4,403	65	1,203	44	44	21,446
35 8/23-8/29	356	Percent	0.0	0.0	0.0	0.9	0.0	0.0	1.1	60.4	0.0	7.0	27.8	0.0	2.6	0.0	0.0	100.0
		Numbers	0	0	8	166	0	0	201	10,957	0	1,265	5,033	8	477	8	8	18,132
36-39 8/30-9/26	0	Percent	0.0	0.0	0.0	0.6	0.0	0.0	0.8	61.5	0.0	6.5	28.7	0.0	2.0	0.0	0.0	100.0
		Numbers	0	0	0	320	0	0	481	35,079	0	3,684	16,338	0	1,121	0	0	57,023
Total	4,660	Percent	0.0	0.0	0.9	7.1	0.0	0.1	22.3	31.7	0.4	23.6	9.4	0.3	4.2	0.0	0.0	100.0
		Numbers	142	53	3,659	27,845	185	229	87,742	124,691	1,503	92,780	37,102	1,195	16,572	86	66	393,853

Table 39.—Estimated age composition of Uyak Bay (254-10, 20, 30, 40) commercial sockeye salmon catch by week, 2007.

Week	Sample Size		Age																Total	
			0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	4.2	3.4		4.3
23	360	Percent	0.0	0.0	1.6	2.2	0.0	0.0	27.2	9.4	0.0	0.3	45.6	4.5	0.0	8.9	0.0	0.3	0.0	100.0
5/31-6/06		Numbers	0	0	248	344	0	0	4,215	1,456	0	46	7,074	695	3	1,376	3	40	0	15,501
24	365	Percent	0.0	0.0	1.1	4.4	0.0	0.0	26.5	11.6	0.0	0.4	38.0	6.9	0.2	10.7	0.2	0.1	0.0	100.0
6/07-6/13		Numbers	3	0	177	732	0	0	4,434	1,938	0	74	6,343	1,150	31	1,783	28	15	0	16,708
25	369	Percent	0.2	0.0	0.4	6.2	0.0	0.0	21.8	18.5	0.0	0.3	35.9	7.7	0.3	8.7	0.1	0.0	0.0	100.0
6/14-6/20		Numbers	76	0	169	2,483	0	0	8,704	7,381	0	136	14,336	3,073	113	3,479	28	0	0	39,977
26	363	Percent	0.1	0.0	0.5	8.9	0.0	0.0	21.5	32.2	0.0	0.2	28.5	3.4	0.5	4.2	0.0	0.0	0.0	100.0
6/21-6/27		Numbers	19	0	117	2,209	0	0	5,343	7,984	0	61	7,069	838	117	1,036	0	0	0	24,793
27	360	Percent	0.2	0.2	0.6	8.3	3.1	0.0	26.9	24.5	0.5	0.0	25.8	5.3	0.4	4.2	0.0	0.0	0.0	100.0
6/28-7/04		Numbers	65	65	224	2,868	1,073	0	9,285	8,449	163	0	8,885	1,841	126	1,444	0	0	0	34,487
28	362	Percent	0.4	0.4	0.9	7.9	6.6	0.0	22.4	21.1	1.0	0.1	24.1	9.1	0.1	5.9	0.0	0.0	0.1	100.0
7/05-7/11		Numbers	57	57	124	1,125	937	0	3,208	3,014	142	20	3,450	1,297	20	837	0	0	10	14,296
29	411	Percent	0.0	0.0	0.9	6.9	0.7	0.0	45.5	12.2	0.1	0.5	26.8	1.6	0.5	4.0	0.0	0.0	0.2	100.0
7/12-7/18		Numbers	17	17	392	2,882	280	0	18,953	5,074	42	188	11,156	664	209	1,656	0	0	94	41,625
30	395	Percent	0.0	0.0	0.8	6.6	0.0	0.1	27.3	15.3	0.0	0.4	37.4	2.7	0.8	8.2	0.0	0.0	0.2	100.0
7/19-7/25		Numbers	0	0	276	2,265	12	24	9,325	5,211	12	142	12,785	935	290	2,795	0	0	71	34,143
31	507	Percent	0.0	0.0	0.9	5.7	0.2	0.4	25.3	17.7	0.2	0.0	38.2	3.1	0.3	8.0	0.0	0.0	0.0	100.0
7/26-8/01		Numbers	0	0	289	1,790	55	111	7,894	5,541	55	4	11,922	975	88	2,502	0	0	2	31,230
32	384	Percent	0.0	0.0	0.5	5.5	0.1	0.1	18.9	20.1	0.1	0.0	35.9	4.6	0.8	13.6	0.0	0.0	0.0	100.0
8/02-8/08		Numbers	0	0	193	2,223	24	47	7,633	8,117	24	3	14,508	1,840	324	5,506	0	0	0	40,443
33	364	Percent	0.0	0.0	0.3	2.8	0.0	0.0	24.0	23.0	0.0	0.4	30.1	6.0	1.7	11.7	0.0	0.0	0.0	100.0
8/09-8/15		Numbers	0	0	95	988	0	0	8,352	7,989	0	139	10,482	2,075	582	4,086	5	0	0	34,792
34	221	Percent	0.0	0.0	0.4	1.8	0.0	0.0	16.5	34.2	0.0	0.1	23.9	13.6	0.7	8.2	0.7	0.0	0.0	100.0
8/16-8/22		Numbers	0	0	153	694	0	0	6,253	12,972	0	47	9,081	5,148	271	3,097	267	0	0	37,983
35	355	Percent	0.0	0.0	0.2	1.7	0.0	0.0	8.5	41.6	0.0	0.3	20.2	19.2	0.2	7.6	0.4	0.0	0.0	100.0
8/23-8/29		Numbers	0	0	70	565	0	0	2,764	13,446	0	95	6,519	6,209	70	2,474	140	0	0	32,352
36-39	0	Percent	0.0	0.0	0.0	1.7	0.0	0.0	3.1	46.5	0.0	0.6	17.5	23.1	0.0	7.6	0.0	0.0	0.0	100.0
8/30-9/26		Numbers	0	0	0	1,438	0	0	2,636	39,536	0	479	14,856	19,648	0	6,470	0	0	0	85,063
Total	4,816	Percent	0.0	0.0	0.5	4.7	0.5	0.0	20.5	26.5	0.1	0.3	28.6	9.6	0.5	8.0	0.1	0.0	0.0	100.0
		Numbers	237	139	2,527	22,608	2,380	182	98,998	128,105	438	1,435	138,467	46,388	2,245	38,541	470	55	177	483,393

Table 40.—Estimated age composition of Spiridon Bay (Telrod Cove: 254-50) Special Harvest Area sockeye salmon catch by week, 2007.

Week	Sample Size		Age				Total
			1.2	1.3	2.2	2.3	
26 6/21-6/27	179	Percent	64.6	34.2	1.1	0.1	100.0
		Numbers	6,299	3,329	102	14	9,744
27 6/28-7/04	214	Percent	60.8	37.6	0.5	1.1	100.0
		Numbers	6,573	4,066	54	117	10,810
28 7/05-7/11	192	Percent	68.1	31.3	0.2	0.4	100.0
		Numbers	6,279	2,891	16	40	9,226
29 7/12-7/18	278	Percent	64.7	34.2	0.9	0.1	100.0
		Numbers	12,945	6,847	184	21	19,996
30 7/19-7/25	172	Percent	61.6	36.0	2.0	0.5	100.0
		Numbers	5,462	3,189	174	44	8,869
31 7/26-8/01	139	Percent	51.2	46.8	1.4	0.6	100.0
		Numbers	3,182	2,912	86	36	6,217
32 8/02-8/08	33	Percent	48.5	48.5	3.0	0.0	100.0
		Numbers	2,612	2,612	163	0	5,388
Total	1,207	Percent	61.7	36.8	1.1	0.4	100.0
		Numbers	43,352	25,846	780	272	70,250

Table 41.—Length composition of Spiridon Bay (Telrod Cove: 254-50) Special Harvest Area sockeye salmon catch samples by age and sex, 2007.

	Age				Total
	1.2	1.3	2.2	2.3	
<i>Females</i>					
Mean Length (mm)	508	557	525	566	527
SE	1	2	7	4	1
Range	412-591	398-620	496-557	562-570	398-620
Sample Size	370	235	9	2	616
<i>Males</i>					
Mean Length (mm)	524	587	524	603	547
SE	2	2	8	8	2
Range	416-613	452-670	517-532	592-619	416-670
Sample Size	378	204	2	3	587
<i>All Fish</i>					
Mean Length (mm)	516	571	525	588	537
SE	1	1	6	10	1
Range	412-613	398-670	496-557	562-619	398-670
Sample Size	748	439	11	5	1,203

Table 42.—Estimated sex composition of Spiridon Bay (Telrod Cove: 254-50) Special Harvest Area sockeye salmon catch by week, 2007.

Week	Dates	Sample Size			Percent		Harvest		
		Females	Males	Total	Females	Males	Number		Total
							Females	Males	
26	6/21-6/27	89	121	210	42.7	57.3	4,164	5,580	9,744
27	6/28-7/04	110	130	240	46.1	53.9	4,985	5,825	10,810
28	7/05-7/11	115	105	220	50.4	49.6	4,649	4,577	9,226
29	7/12-7/18	174	146	320	54.9	45.1	10,970	9,026	19,996
30	7/19-7/25	117	83	200	57.8	42.2	5,123	3,746	8,869
31	7/26-8/01	91	68	159	59.0	41.0	3,667	2,550	6,217
32	8/02-8/08	27	13	40	67.5	32.5	3,637	1,751	5,388
Total		723	666	1,389	53.0	47.0	37,193	33,057	70,250

Table 43.—Estimated age composition of Inner and Outer Karluk and Sturgeon Sections (255-10, 20 and 256-40) commercial sockeye salmon catch, weeks 24, 25, and 31, 2007.

Week	Sample Size		Age													Total	
			0.2	1.1	0.3	1.2	2.1	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3		3.4
24 6/07-6/13	372	Percent	0.1	0.1	0.6	6.4	0.9	12.3	20.2	0.1	0.2	41.0	7.6	0.0	10.2	0.2	100.0
		Numbers	8	8	77	758	107	1,464	2,392	16	26	4,864	902	0	1,210	26	11,858
25 6/14-6/20	288	Percent	0.3	0.3	0.2	8.7	3.7	9.1	27.0	0.6	0.1	32.9	9.5	0.0	7.6	0.0	100.0
		Numbers	116	112	67	3,395	1,457	3,547	10,521	226	22	12,822	3,688	2	2,957	16	38,947
31 7/26-8/01	361	Percent	0.6	0.0	2.8	4.7	0.3	24.3	21.3	0.3	0.8	34.1	2.8	0.3	7.8	0.0	100.0
		Numbers	62	0	312	532	32	2,744	2,406	31	93	3,840	314	31	874	0	11,272
Total	1,021	Percent	0.3	0.2	0.7	7.5	2.6	12.5	24.7	0.4	0.2	34.7	7.9	0.1	8.1	0.1	100.0
		Numbers	186	120	455	4,685	1,597	7,755	15,319	274	141	21,526	4,904	33	5,041	42	62,077

Note: Age composition estimates represent harvest during weeks 24, 25, and 31 only. The total Inner and Outer Karluk and Sturgeon sockeye salmon harvest was 297,891.

Table 44.—Estimated age composition of Halibut Bay Section (257-25, 30) commercial sockeye salmon catch, week 33, 2007.

Week	Sample Size		Age										Total	
			0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2		3.3
33	322	Percent	2.5	0.6	0.3	31.7	1.9	9.3	46.9	0.3	5.6	0.3	0.6	100.0
8/09-8/15		Numbers	579	145	72	7,382	434	2,171	10,929	72	1,303	72	145	23,305
Total	322	Percent	2.5	0.6	0.3	31.7	1.9	9.3	46.9	0.3	5.6	0.3	0.6	100.0
		Numbers	579	145	72	7,382	434	2,171	10,929	72	1,303	72	145	23,305

Note: Age composition estimates represent harvest during week 33 only. The total Halibut Bay Section sockeye salmon harvest was 149,079.

Table 45.—Estimated age composition of Inner and Outer Ayakulik sections (256-10, 15, 20) commercial sockeye salmon catch, week 30, 2007.

Week	Sample Size		Age									Total
			0.3	1.2	2.1	1.3	2.2	3.1	2.3	3.2	3.3	
30 7/19-7/25	354	Percent	0.6	19.8	1.7	8.8	58.5	0.3	9.6	0.6	0.3	100.0
		Numbers	229	8,007	686	3,546	23,677	114	3,889	229	114	40,491
Total	354	Percent	0.6	19.8	1.7	8.8	58.5	0.3	9.6	0.6	0.3	100.0
		Numbers	229	8,007	686	3,546	23,677	114	3,889	229	114	40,491

Note: Age composition estimates represent harvest during week 30 only. The total Inner and Outer Ayakulik sockeye salmon harvest was 50,294.

Table 46.—Estimated age composition of Cape Alitak and Humpy-Deadman sections (257-10, 20, 50, 60, 70) commercial sockeye salmon catch, weeks 24 and 32, 2007.

Week	Sample Size		Age										Total
			0.2	1.1	1.2	2.1	1.3	2.2	2.3	3.2	2.4	3.3	
24	101	Percent	7.9	1.0	15.8	6.9	18.8	7.9	26.7	12.9	1.0	1.0	100.0
6/07-6/13		Numbers	49	6	97	43	116	49	164	79	6	6	614
32	88	Percent	2.5	0.0	23.6	0.2	18.2	47.4	7.5	0.5	0.0	0.0	100.0
8/02-8/08		Numbers	68	1	645	7	498	1,297	206	13	1	1	2,737
Total	189	Percent	1.2	2.5	4.9	1.2	32.1	34.6	19.8	1.2	1.2	2.5	100.0
		Numbers	116	7	743	49	614	1,346	370	92	7	7	3,351

Note: Age composition estimates represent harvest during weeks 24 and 32 only. The total Cape Alitak and Humpy-Deadman Sections sockeye salmon harvest was 16,829.

Table 47.—Estimated age composition of Olga Bay, Alitak Bay, and Moser Bay sections (257-40, 41, 43) commercial sockeye salmon catch, 2007.

Week	Sample		Age														Total
			0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	3.4	
24	123	Percent	0.8	0.0	0.8	11.4	0.0	0.8	14.6	8.9	0.0	45.5	12.2	0.0	4.9	0.0	100.0
6/07-6/13		Numbers	37	0	37	513	0	37	660	403	0	2,052	550	0	220	0	4,508
28	257	Percent	0.0	0.0	0.4	7.8	0.4	0.0	8.7	23.5	0.8	22.2	34.2	0.4	1.2	0.4	100.0
7/05-7/11		Numbers	1	0	25	502	24	1	555	1,500	49	1,421	2,188	24	79	24	6,394
29	0	Percent	0.8	0.1	0.5	10.4	0.4	0.0	16.4	22.7	0.6	19.1	26.7	0.7	1.1	0.4	100.0
7/12-7/18		Numbers	50	7	30	635	23	0	1,001	1,383	39	1,167	1,629	45	70	23	6,103
30	275	Percent	2.3	0.3	0.7	15.3	0.4	0.0	30.9	20.7	0.4	14.2	12.1	1.4	1.1	0.4	100.0
7/19-7/25		Numbers	141	20	42	929	22	0	1,880	1,259	24	866	736	83	67	22	6,092
31	185	Percent	5.3	0.1	1.0	26.3	0.5	0.0	15.9	41.2	0.1	4.7	3.6	0.7	0.6	0.1	100.0
7/26-8/01		Numbers	612	8	117	3,031	59	0	1,829	4,748	8	544	415	82	74	8	11,534
32	380	Percent	5.6	0.0	0.7	29.9	0.1	0.0	16.5	41.7	0.2	4.1	0.7	0.1	0.1	0.2	100.0
8/02-8/08		Numbers	679	0	79	3,611	15	0	1,998	5,041	25	492	83	15	15	25	12,076
34	223	Percent	0.0	0.0	0.0	25.6	0.0	0.0	12.1	54.7	0.0	5.4	1.3	0.4	0.4	0.0	100.0
8/16-8/22		Numbers	0	0	0	3,301	0	0	1,564	7,066	0	695	174	58	58	0	12,915
36-37	0	Percent	0.0	0.0	0.0	25.6	0.0	0.0	12.1	54.7	0.0	5.4	1.3	0.4	0.4	0.0	100.0
8/30-9/12		Numbers	0	0	0	2,305	0	0	1,092	4,934	0	485	121	40	40	0	9,018
Total	1,443	Percent	2.2	0.1	0.5	21.6	0.2	0.1	15.4	38.4	0.2	11.3	8.6	0.5	0.9	0.1	100.0
		Numbers	1,519	35	330	14,828	143	38	10,578	26,333	145	7,723	5,895	347	623	102	68,640

Table 48.—Spiridon Lake sockeye salmon estimated catch by area and estimated total run by age class, 2007.

Area	Sample Size					Total	
		1.2	1.3	2.2	2.3		
<i>Estimated Spiridon Catch by Area</i>							
Spiridon Bay Special Harvest Area (SBSHA-Telrod Cove: 254-50)							
	1,207	Percent	61.7	36.8	1.1	0.4	100.0
		Numbers	43,352	25,846	780	272	70,250
SW Afognak Section and NW Kodiak District							
		Percent ^a	61.7	36.8	1.1	0.4	100.0
		Numbers ^b	62,385	37,193	1,122	392	101,091
Total Run							
	1,207	Percent	61.7	36.8	1.1	0.4	100.0
		Numbers	105,737	63,038	1,902	664	171,341

^a Age composition based on samples collected at SBSHA.

^b Average proportion of Spiridon harvest occurring in the SBSHA (41%) was used to calculate the number of Spiridon sockeye salmon harvested in the SW Afognak Section and NW Kodiak District combined.

Table 49.—Karluk Lake early-run sockeye salmon estimated catch by area, escapement, and estimated total run by age class, 2007.

Area	Sample Size		Age													Total
			0.2	0.3	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.2	
<i>Estimated Karluk Early-Run Catch by Area</i>																
<i>Uyak Bay (254-10 - 254-40)</i>																
	2,590	Percent	0.2	0.1	0.4	1.5	2.8	13.9	55.3	0.1	0.4	11.6	13.5	0.1	0.1	
		Numbers	124	46	363	1,232	2,289	11,327	44,989	82	347	9,404	10,998	55	59	81,316
<i>Uganik-Viekoda-Kupreanof (253-11 - 253-35)</i>																
	2,513	Percent	0.1	0.1	0.5	1.6	0.0	14.4	57.2	0.1	0.0	11.5	14.5	0.0	0.0	
		Numbers	72	29	227	771	0	7,086	28,145	51	0	5,643	7,135	20	0	49,178
<i>Inner Karluk, Outer Karluk, and Sturgeon sections (255-10, 255-20, 256-40)</i>																
	660	Percent	0.2	0.1	0.5	1.5	5.0	14.1	52.4	0.1	0.8	13.3	12.1	0.1	0.0	
		Numbers	105	39	306	1,039	3,380	9,552	35,577	49	561	9,005	8,204	42	0	67,860
<i>Total Catch</i>																
	5,763	Percent	0.2	0.1	0.5	1.5	2.9	14.1	54.8	0.1	0.5	12.1	13.3	0.1	0.0	
		Numbers	301	115	897	3,043	5,669	27,964	108,710	181	908	24,053	26,337	116	59	198,354
<i>Karluk Early-Run Escapement</i>																
	1,313	Percent	0.2	0.1	0.5	1.5	1.3	14.2	56.3	0.1	0.1	9.3	16.3	0.0	0.2	
		Numbers	459	171	1,341	4,549	3,734	41,808	166,060	301	343	27,341	48,169	0	464	294,740
<i>Total Run</i>																
	7,076	Percent	0.2	0.1	0.5	1.5	1.9	14.2	55.7	0.1	0.3	10.4	15.1	0.0	0.1	
		Numbers	760	286	2,237	7,592	9,403	69,773	274,770	483	1,251	51,394	74,506	116	523	493,094

Note: Catches were apportioned to Karluk using an age 3. marker.

Table 50.—Karluk Lake early-run sockeye salmon brood table showing estimated returns from parent escapements by age class.

Brood Year	Escap.	Age																		Total Return/ Return Spawner				
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	4.1	2.4	3.3	4.2	3.4	4.3		4.4			
1976	204,037																				0			
1977	185,312																				0	0	0	
1978	248,741														0	10,989	0	0	0	0				
1979	212,872													0	641	14,673	0	0	0	0				
1980	132,396							0	11,635	193,760	4,085	0	103,899	60,395	0	0	37,689	0	0	0	0			
1981	97,937			0	8,558	18,604	0	3,735	278,831	1,672	0	117,158	38,129	0	272	22,433	0	0	0	0	0			
1982	122,705	0	1,244	841	4,650	5,466	0	21,058	197,293	4,169	0	93,560	37,079	0	0	20,728	0	0	0	320		386,408	3.1	
1983	215,620	0	143	564	8,159	7,032	0	14,244	149,947	1,728	0	183,829	33,945	0	337	14,082	0	0	0	0		414,009	1.9	
1984	288,422	0	0	0	4,090	8,393	0	5,830	97,537	738	0	94,258	30,589	0	908	19,634	0	0	0	0		261,977	0.9	
1985	316,688	0	0	24	4,258	2,842	0	3,969	72,857	3,010	0	88,599	57,934	0	1,955	40,331	0	38	30	0		275,847	0.9	
1986	358,756	24	0	337	6,152	2,201	346	6,443	87,691	4,031	94	129,381	131,218	0	479	61,223	1,508	235	113	0		431,475	1.2	
1987	354,094	427	0	1,456	958	2,884	0	8,503	114,504	19,876	416	44,051	337,905	0	285	60,244	2,309	690	1,969	0		596,477	1.7	
1988	296,510	0	0	0	8,383	6,297	0	9,708	84,322	13,770	0	37,096	202,729	0	320	70,357	231	39	2,906	0		436,159	1.5	
1989	349,753	0	1,621	0	8,492	7,624	0	13,979	104,564	5,517	0	167,751	101,296	0	1	69,709	5,362	0	1,713	0		487,630	1.4	
1990	196,197	0	181	0	18,149	2,780	0	50,649	79,156	6,586	652	146,751	97,063	0	269	70,863	760	0	0	0		473,858	2.4	
1991	243,069	0	1,224	1,062	26,661	12,015	0	83,430	326,422	7,087	0	127,809	81,364	809	107	12,113	2,476	0	247	0		682,826	2.8	
1992	217,152	0	2,669	4	9,627	9,642	0	13,159	52,730	14,935	0	42,891	58,375	0	769	36,603	0	79	0	0		241,483	1.1	
1993	261,169	2	1,534	350	3,309	18,252	0	7,718	226,377	2,275	0	128,158	35,029	0	1,752	42,563	437	288	0	0		468,044	1.8	
1994	260,771	0	1,017	0	8,956	7,266	0	41,179	294,780	1,857	427	182,133	54,148	0	587	33,887	1,781	1,042	0	0		629,059	2.4	
1995	238,079	0	218	0	23,268	13,106	0	33,004	231,809	3,463	0	245,934	83,559	0	1,405	52,470	835	492	0	0		689,562	2.9	
1996	250,357	0	0	0	2,063	5,959	0	2,217	253,847	2,326	0	215,129	84,029	0	61	42,035	0	1,461	114	0		609,241	2.4	
1997	252,859	0	0	1,838	3,930	11,696	0	6,691	233,964	3,274	0	131,879	63,748	0	0	24,066	0	0	0	0		481,086	1.9	
1998	252,298	0	574	0	4,258	19,885	0	5,410	531,206	4,517	532	168,024	104,530	715	0	14,578	0	0	0	0		854,229	3.4	
1999	392,419	0	898	0	15,382	28,948	0	33,620	432,204	10,393	76	192,314	80,270	0	0	48,461	0	116	0			842,682	2.1	
2000	291,351	0	939	0	9,611	4,286	0	3,393	223,141	6,013	129	109,252	78,082	0	483	74,506	523					510,358	1.8	
2001	338,799	0	0	0	3,223	6,573	0	1,102	216,151	5,644	0	274,770	51,394	0										
2002	456,842	0	78	0	4,894	11,188	0	7,592	69,773	1,251														
2003	451,856	0	0	286	2237	9403																		
2004	393,468	760	0																					
2005	283,860																							
2006	202,366																							
2007	294,740																							
10-year average (1990-1999):																					597,207	2.3		

Table 51.—Karluk Lake late-run sockeye salmon estimated catch by area, escapement, and estimated total run by age class, 2007.

Area	Sample Size		Age														Total	
			0.2	0.3	1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.2		4.3
<i>Estimated Karluk Late-Run Catch by Area</i>																		
Uyak Bay (254-10 - 254-40)																		
	2,637	Percent	0.0	0.3	0.0	0.4	1.0	0.0	26.4	40.3	0.4	0.0	17.8	13.2	0.0	0.2	0.0	
		Numbers	0	525	0	748	2,053	91	55,008	83,806	868	91	36,984	27,543	0	391	31	208,139
Uganik-Viekoda-Kupreanof (253-11 - 253-35)																		
	2,503	Percent	0.1	0.3	0.0	0.4	1.0	0.0	27.7	37.7	0.4	0.0	24.9	7.5	0.1	0.0	0.0	
		Numbers	70	333	0	475	1,304	0	34,920	47,648	551	0	31,459	9,438	66	0	20	126,284
Inner Karluk, Outer Karluk, and Sturgeon sections (255-10, 255-20, 256-40)																		
	361	Percent	0.0	0.3	0.0	0.4	1.1	0.0	29.7	32.9	0.5	0.0	22.7	12.1	0.0	0.2	0.0	
		Numbers	62	368	0	524	1,439	43	38,546	42,732	608	43	29,460	15,757	0	274	12	129,869
Halibut Bay Section (256-25, 256-30)																		
	322	Percent	0.1	0.2	0.0	0.3	0.8	0.0	21.6	51.7	0.0	0.0	8.4	16.9	0.0	0.0	0.0	
		Numbers	3	11	0	16	44	0	1,184	2,835	0	0	463	926	0	0	0	5,482
<hr/>																		
Total Catch	3,320	Percent	0.0	0.3	0.0	0.4	1.0	0.0	27.6	37.7	0.4	0.0	20.9	11.4	0.0	0.1	0.0	
		Numbers	136	1,238	0	1,763	4,840	135	129,658	177,021	2,027	134	98,366	53,663	66	665	64	469,775
<hr/>																		
<i>Karluk Late-Run Escapement</i>																		
	2,045	Percent	0.1	0.2	0.0	0.3	0.8	0.6	21.3	51.0	0.3	0.2	6.2	18.8	0.1	0.2	0.0	
		Numbers	141	513	5	730	2,004	1,409	53,694	128,554	847	538	15,541	47,304	141	381	31	251,835
<hr/>																		
Total Run	5,365	Percent	0.0	0.2	0.0	0.3	0.9	0.2	25.4	42.3	0.4	0.1	15.8	14.0	0.0	0.1	0.0	
		Numbers	277	1,750	5	2,494	6,844	1,544	183,353	305,575	2,875	672	113,907	100,967	208	1,046	94	721,610

Note: Catches were apportioned to Karluk using an age 3. marker.

Table 53.—Ayakulik River (Red L.) sockeye salmon estimated catch by area, escapement, and estimated total run by age class, 2007.

Area	Sample Size	Age											Total			
		1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2		2.4	3.3	
<i>Estimated Ayakulik Catch by Area</i>																
Inner and Outer Ayakulik sections (256-10, -15, -20)																
	354	Percent	0.0	0.6	19.8	1.7	0.0	8.8	58.5	0.3	0.0	9.6	0.6	0.0	0.3	100.0
		Numbers	0	284	9,945	852	0	4,404	29,409	142	0	4,830	284	0	142	50,294
Halibut Bay Section (256-25, -30)																
	322	Percent	0.7	0.2	11.4	1.5	0.0	17.2	40.0	0.0	0.1	27.3	0.6	0.2	0.7	100.0
		Numbers	365	120	5,664	720	21	8,552	19,880	11	47	13,547	289	80	349	49,643
<hr/>																
Total Catch	676	Percent	0.4	0.4	15.6	1.6	0.0	13.0	49.3	0.2	0.0	18.4	0.6	0.1	0.5	100.0
		Numbers	365	404	15,609	1,573	21	12,956	49,289	153	47	18,377	573	80	491	99,937
<hr/>																
<i>Ayakulik (Red Lake) Escapement</i>																
	2,001	Percent	0.7	0.2	11.4	1.5	0.0	17.2	40.0	0.0	0.1	27.3	0.6	0.2	0.7	100.0
		Numbers	2,080	682	32,291	4,105	120	48,757	113,345	61	268	77,237	1,645	459	1,990	283,042
<hr/>																
Total Run	2,677	Percent	0.6	0.3	12.5	1.5	0.0	16.1	42.5	0.1	0.1	25.0	0.6	0.1	0.6	100.0
		Numbers	2,445	1,086	47,900	5,678	141	61,713	162,634	214	315	95,615	2,218	539	2,481	382,979

Table 54.—Ayakulik River (Red L.) sockeye salmon brood table showing estimated returns from parent escapements by age class.

Brood Year	Escap.	Age																Total Return	Return/Spawner
		0.1	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4		
1976	219,047	0	0	5,835	3,855	405,330	8,408	0	164,495	187,009	0	0	61,395	0	0	0	0	836,328	3.8
1977	306,982	0	0	0	0	5,060	3,431	0	18,656	170,721	0	0	85,541	3,940	0	0	0	287,349	0.9
1978	132,864	0	0	0	0	1,556	15,799	0	14,937	45,081	0	0	42,151	2,747	0	0	0	122,273	0.9
1979	222,270	0	0	3,625	441	16,345	18,352	0	40,958	131,539	0	0	41,815	1,438	0	0	0	254,511	1.1
1980	774,328	0	0	11,780	13,347	402,761	24,781	0	232,583	305,083	0	0	159,440	2,762	0	0	0	1,152,537	1.5
1981	279,200	0	0	17,149	0	310,784	7,450	0	230,889	328,622	0	0	168,527	28,564	0	0	0	1,091,984	3.9
1982	169,678	0	0	6,857	7,500	1,626	2,596	0	16,351	123,667	0	0	77,129	4,751	0	0	0	240,476	1.4
1983	171,415	0	0	548	1,171	20,198	15,116	0	72,231	168,055	0	0	104,765	0	0	0	0	382,085	2.2
1984	283,215	0	0	7,779	3,311	138,185	78,899	0	72,319	197,026	0	0	103,450	3,347	0	0	0	604,316	2.1
1985	388,759	0	0	61,345	3,903	365,489	18,971	0	589,731	513,314	0	0	229,750	4,276	0	0	0	1,786,779	4.6
1986	318,135	0	0	4,480	38,326	571,371	6,489	0	506,463	365,644	0	0	231,471	5,967	0	0	0	1,730,211	5.4
1987	261,913	0	0	12,991	15,380	173,341	13,602	0	103,512	317,142	0	0	341,728	32,807	0	5,063	0	1,015,566	3.9
1988	291,774	0	0	2,822	3,351	81,584	2,832	0	62,159	126,124	0	0	27,783	10,655	0	8,225	0	325,535	1.1
1989	768,101	0	0	2,571	5,565	26,297	29,189	0	18,318	310,379	0	0	254,557	59,553	0	46,238	0	752,667	1.0
1990	371,282	0	0	1,028	8,047	3,618	14,638	0	59,035	295,167	0	0	202,600	16,202	0	102	38	600,475	1.6
1991	384,859	0	640	22,371	17,118	145,925	36,123	0	393,249	482,187	0	19	158,923	5,779	64	2,796	112	1,265,306	3.3
1992	344,184	0	4,591	2,578	9,900	65,889	24,694	205	10,135	200,817	2,188	2,685	230,460	19,788	1,983	6,010	112	582,035	1.7
1993	286,170	0	0	3,093	3,678	2,504	16,283	400	176,539	409,718	516	8,075	138,504	7,591	344	5,426	0	772,671	2.7
1994	380,181	0	465	42,711	7,275	555,246	35,908	17,036	338,728	344,937	546	79	102,628	7,224	401	1,737	0	1,454,921	3.8
1995	317,832	0	0	4,711	4,707	101,292	18,181	516	53,759	227,822	3,186	0	240,294	22,068	1,125	6,135	0	683,795	2.2
1996	337,155	0	269	1,770	17,050	16,902	8,589	332	93,851	198,161	364	0	143,934	802	291	244	0	482,559	1.4
1997	308,214	0	5	1,250	4,810	14,447	5,395	597	11,767	34,814	330	0	16,169	727	0	1,490	0	91,802	0.3
1998	427,208	62	0	4,554	597	29,683	2,929	0	12,657	97,574	1,470	602	46,305	10,818	234	4,760	40	212,226	0.5
1999	295,717	0	0	2,953	4,818	53,015	8,754	353	124,906	192,030	0	240	80,066	4,301	658	1,930	0	474,025	1.6
2000	208,651	130	0	2,261	7,074	56,453	5,858	0	40,660	148,872	148	0	26,019	893	539	2,481		291,259	1.4
2001	218,892	0	0	97	0	21,217	4,756	0	12,812	57,133	0	315	95,615	2,218					
2002	229,292	0	0	499	121	13,352	4,881	141	61,713	162,634	214								
2003	197,892	0	40	2,224	1,086	47,900	5,678												
2004	275,238	0	0	2,445															
2005	251,906	0																	
2006	87,780																		
2007	283,042																		
10-year average (1990-1999):																		631,060	1.9

Table 55.—Frazer Lake (Dog Salmon Creek) sockeye salmon estimated catch by area, escapement, and estimated total run by age class, 2007.

Area	Sample Size	Age														Total	
		1.1	1.2	2.1	1.3	2.2	3.1	1.4	2.3	3.2	4.1	2.4	3.3	3.4	4.2		
<i>Estimated Frazer Catch by Area</i>																	
Olga, Moser, and Alitak Bay gillnet sections (257-40, -43, -41) adjusted 95% for other stocks.																	
	1,443	Percent	0.1	15.4	0.4	16.1	27.2	0.0	0.4	13.3	25.0	0.0	0.7	0.9	0.4	0.0	100.0
		Numbers	23	3,437	86	3,592	6,090	0	91	2,982	5,600	0	154	209	97	0	22,361
Cape Alitak and Humpy-Deadman sections (257-10, -20, -50, -60, -70) adjusted 80% for other stocks.																	
	189	Percent	0.4	21.5	2.5	18.9	35.2	0.0	0.0	14.2	6.6	0.0	0.4	0.4	0.0	0.0	100.0
		Numbers	23	1,379	161	1,207	2,256	0	0	909	420	0	23	23	0	0	6,402
<hr/>																	
Total Catch	1,632	Percent	0.2	16.7	0.9	16.7	29.0	0.0	0.3	13.5	20.9	0.0	0.6	0.8	0.3	0.0	100.0
		Numbers	46	4,816	246	4,799	8,346	0	91	3,891	6,021	0	177	232	97	0	28,763
<hr/>																	
<i>Dog Salmon Creek Escapement</i>																	
	1,602	Percent	10.5	2.7	41.3	0.7	13.7	8.0	0.0	5.4	16.9	0.2	0.3	0.0	0.0	0.2	100.0
		Numbers	14,711	3,748	57,795	1,045	19,146	11,173	40	7,585	23,612	293	369	57	0	233	139,808
<hr/>																	
<i>Total Run</i>																	
	3,234	Percent	8.8	5.1	34.4	3.5	16.3	6.6	0.1	6.8	17.6	0.2	0.3	0.2	0.1	0.1	100.0
		Numbers	14,757	8,565	58,042	5,844	27,492	11,173	131	11,476	29,633	293	547	289	97	233	168,571

Table 56.—Frazer Lake (Dog Salmon Creek) sockeye salmon brood table showing estimated returns from parent escapements by age class.

Brood Year	Escap.	Age																Total Return	Return/Spawner
		0.2	1.1	0.3	1.2	2.1	1.3	2.2	3.1	1.4	2.3	3.2	4.1	2.4	4.2	3.3	3.4		
1976	119,321	0	2,150	0	223,444	8,753	73,677	257,625	0	0	143,383	0	0	0	0	393	0	709,424	5.9
1977	139,548	0	2,764	0	73,189	2,928	92,211	107,917	0	0	146,064	393	0	0	0	0	0	425,466	3.0
1978	141,981	0	7,807	0	162,130	507	24,148	22,970	0	0	16,844	0	0	0	0	638	0	235,043	1.7
1979	126,742	0	507	0	1,374	982	2,965	24,323	0	0	26,791	0	0	0	0	2,165	0	59,106	0.5
1980	405,535	0	0	0	6,064	16,305	7,654	589,393	0	0	141,065	684	0	46	0	52	0	761,264	1.9
1981	377,716	0	876	0	12,120	0	2,455	7,748	0	172	5,239	0	0	0	0	862	0	29,471	0.1
1982	430,423	0	1,276	0	23,647	431	28,624	3,735	24	754	10,870	10,812	0	0	0	0	0	80,172	0.2
1983	158,340	0	10	26	8,935	9,729	13,438	380,531	1,604	0	586,833	0	0	0	0	36,986	0	1,038,092	6.6
1984	53,524	0	1,001	0	5,771	33,628	7,437	386,832	0	0	67,142	2,046	0	0	0	0	0	503,856	9.4
1985	485,835	0	192	0	16,502	4,399	49,290	53,978	151	0	22,578	9,032	0	1,595	0	2,694	0	160,412	0.3
1986	126,529	1,393	67,475	0	727,658	40,794	230,893	972,290	0	0	168,815	9,129	0	0	0	8,584	0	2,227,031	17.6
1987	40,544	0	1,787	1,851	3,019	26,596	3,902	187,581	0	0	159,822	104	0	156	0	882	0	385,701	9.5
1988	246,704	0	1,886	0	21,073	7,793	30,096	210,586	133	0	64,565	20,510	0	16	0	7,994	0	364,652	1.5
1989	360,373	0	16,191	208	327,929	12,847	153,078	373,277	5,752	0	300,182	145,325	0	0	0	40,754	0	1,375,543	3.8
1990	226,707	0	1,096	0	18,217	12,986	33,393	400,750	1,678	0	210,744	15,341	0	455	0	9,340	0	704,000	3.1
1991	190,358	0	621	0	2,031	57,463	1,728	330,834	302	0	105,361	630	0	0	0	0	0	498,970	2.6
1992	185,825	0	3,545	0	20,513	78,168	27,471	211,959	4,666	0	185,148	18,141	0	0	0	2,209	0	551,819	3.0
1993	178,391	0	2,529	45	12,677	41,759	56,178	291,218	4,831	0	64,155	17,867	0	256	0	5,830	0	497,344	2.8
1994	206,071	0	2,056	0	23,034	17,688	39,741	112,849	1,048	0	77,546	15,427	0	187	0	15,733	0	305,309	1.5
1995	196,323	0	10,106	0	59,574	39,574	77,223	152,287	1,251	0	251,356	11,284	0	815	0	5,387	0	608,857	3.1
1996	198,695	0	20,062	0	41,983	22,276	81,667	32,786	26	1,641	50,325	101	0	191	0	201	0	251,259	1.3
1997	205,264	0	626	0	8,327	1,639	9,831	14,560	231	630	15,665	2,251	0	0	0	0	77	53,837	0.3
1998	233,755	0	367	0	1,374	24,808	14,710	87,861	16,454	0	57,957	88,617	0	366	0	33,880	0	326,394	1.4
1999	216,565	0	1,152	0	3,507	136,968	77	481,220	0	0	241,075	1,299	0	496	0	2,090	97	867,981	4.0
2000	158,044	0	35,476	0	68,494	15,072	219,630	107,018	0	521	58,178	330	0	547	233	289	0	505,788	3.2
2001	154,349	0	814	0	21,700	557	5,639	3,657	23,842	131	11,476	29,633	293						
2002	85,317	0	335	0	5,659	14,124	5,844	27,492	11,173										
2003	201,679	0	3,365	0	8,565	58,042													
2004	120,664	0	14,757																
2005	136,949																		
2006	89,516																		
2007	120,185																		
10-Year Average (1990-1999):																	446,756	2.3	

Table 57.—South Olga Lakes (Upper Station) early-run sockeye salmon estimated catch by area, escapement, and estimated total run by age class, 2007.

Area	Sample Size	Age														Total	
		0.1	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3		
<i>Estimated Upper Station Early-Run Catch by Area</i>																	
Olga, Moser, and Alitak Bay gillnet sections (257-40, -43, -41) adjusted 95% for other stocks.																	
	380	Percent	0.0	1.5	0.0	1.6	13.0	0.2	0.7	17.5	16.7	0.3	43.9	0.0	0.3	4.3	100.0
		Numbers	0	83	2	88	696	9	36	937	895	15	2,350	0	15	230	5,354
Cape Alitak and Humpy-Deadman sections (257-10, -20, -50, -60, -70) adjusted 80% for other stocks.																	
	101	Percent	0.0	20.7	0.9	0.0	16.1	6.5	0.0	18.6	9.8	0.0	25.5	0.0	0.9	0.9	100.0
		Numbers	0	108	5	0	84	34	0	97	51	0	133	0	5	5	523
Total Catch																	
	481	Percent	0.0	3.3	0.1	1.5	13.3	0.7	0.6	17.6	16.1	0.3	42.3	0.0	0.3	4.0	100.0
		Numbers	0	191	7	88	780	43	36	1,034	946	15	2,483	0	19	235	5,877
<i>Upper Station Early Run Escapement</i>																	
	1,484	Percent	0.0	0.0	4.8	0.0	31.7	10.0	0.0	12.1	5.9	0.0	35.4	0.0	0.0	0.0	100.0
		Numbers	0	0	1,547	0	10,123	3,202	0	3,857	1,869	9	11,280	0	9	0	31,895
Total Run																	
	1,965	Percent	0.0	0.5	4.1	0.2	28.9	8.6	0.1	12.9	7.5	0.1	36.4	0.0	0.1	0.6	100.0
		Numbers	0	191	1,553	88	10,903	3,245	36	4,890	2,815	24	13,764	0	28	235	37,772

Table 58.—South Olga Lakes (Upper Station) early-run sockeye salmon brood table showing estimated returns from parent escapements by age class.

Brood Year	Escap.	Age															Total Return	Return/Spawner
		0.1	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	3.3	2.4		
1976	28,567	0	0	0	133	9,722	0	0	10,438	47,090	0	0	27,139	0	0	0	94,522	3.3
1977	26,380	0	0	0	0	32,041	243	0	48,850	94,081	0	0	35,526	634	0	0	211,375	8.0
1978	66,157	0	243	243	1,809	28,948	0	0	32,354	70,735	0	0	19,660	0	37	0	154,029	2.3
1979	53,115	0	0	0	0	4,124	0	0	17,554	65,300	0	46	14,870	38	142	0	102,074	1.9
1980	37,866	0	317	0	2,341	11,937	0	0	4,000	7,165	38	0	7,259	0	25	0	33,082	0.9
1981	77,042	0	0	0	542	2,832	1,498	0	4,370	85,872	0	43	23,861	0	0	0	119,018	1.5
1982	170,610	0	2,472	234	1,006	113,439	781	0	75,684	37,220	0	360	18,131	70	0	0	249,398	1.5
1983	115,890	0	285	1,220	1,181	5,491	1,205	0	11,396	87,555	0	0	41,723	217	0	0	150,273	1.3
1984	96,798	0	109	0	3,443	2,118	66	0	1,792	46,879	0	0	14,103	113	60	0	68,683	0.7
1985	27,408	0	1,476	4	2,865	2,314	22,466	0	6,714	86,949	0	0	42,895	633	64	0	166,380	6.1
1986	100,812	0	35	5,680	449	51,361	936	0	36,048	83,179	60	18	8,248	340	408	0	186,763	1.9
1987	74,747	0	2,134	46	1,022	2,027	3,849	0	726	30,417	27	0	25,242	779	57	0	66,326	0.9
1988	56,724	0	17	0	71	82	852	0	1,607	35,640	210	206	7,282	1,072	0	0	47,038	0.8
1989	64,582	0	450	404	5,823	8,751	6,313	0	5,539	67,810	0	0	34,127	0	0	0	129,217	2.0
1990	56,159	0	1,497	578	0	6,275	3,414	0	19,145	82,269	0	0	6,839	361	6	0	120,384	2.1
1991	50,026	0	407	3,258	20,467	46,391	6,815	0	57,478	131,931	0	0	27,274	0	0	0	294,021	5.9
1992	19,076	52	2,338	223	5,878	5,959	3,583	0	3,435	24,099	0	0	7,268	0	0	0	52,835	2.8
1993	34,852	219	669	605	2,423	5,189	2,741	0	11,812	31,749	0	0	5,168	1,229	0	62	61,866	1.8
1994	37,645	0	229	994	4,887	53,607	1,320	0	7,176	33,104	0	0	17,361	570	0	0	119,248	3.2
1995	41,492	0	185	2,467	5,857	33,691	1,497	360	44,415	44,608	0	492	20,938	689	92	0	155,291	3.7
1996	58,686	0	79	177	2,723	30,487	1,973	0	81,164	51,987	4	25	15,238	281	0	0	184,138	3.1
1997	47,655	0	422	45	0	972	2,438	0	558	11,566	34	0	7,233	795	2,006	0	26,069	0.5
1998	30,713	0	0	6	0	145	6,264	0	418	45,950	0	0	16,490	8	0	0	69,281	2.3
1999	36,521	0	0	2,598	328	27,894	6,080	0	34,497	81,382	0	360	38,405	626	28	0	192,198	5.3
2000	55,761	0	780	10,912	7,338	122,434	2,623	69	59,315	40,862	69	121	9,843	139	235	28	254,768	4.6
2001	66,795	0	1,131	1,123	3,856	6,472	5,116	0	4,335	15,475	0	24	13,764	0			51,298	0.8
2002	36,802	82	532	382	574	1,295	42	36	4,890	2,815	0							
2003	76,175	0	75	502	88	10,903	3,245											
2004	78,487	0	191	1,553														
2005	60,349	0																
2006	24,997																	
2007	31,895																	
10-Year Average (1991-2000):																	140,972	3.3

Table 59.—South Olga Lakes (Upper Station) late-run sockeye salmon estimated catch by area, escapement, and estimated total run by age class, 2007.

Area	Sample Size	Age											Total			
		0.1	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2		2.4	3.3	
<i>Estimated Upper Station Late-Run Catch by Area</i>																
Olga, Moser, and Alitak Bay gillnet sections (257-40, -43, -41) adjusted 95% for other stocks.																
	1,443	Percent	0.0	3.6	0.0	0.6	26.5	0.1	14.7	48.1	0.1	5.3	0.0	0.4	0.4	100.0
		Numbers	0	1,360	9	226	9,954	42	5,521	18,032	32	2,005	0	160	153	37,493
Cape Alitak and Humpy-Deadman sections (257-10, -20, -50, -60, -70) adjusted 80% for other stocks.																
	189	Percent	0.0	5.8	0.1	0.0	22.7	0.5	17.8	44.9	0.0	8.0	0.0	0.1	0.1	100.0
		Numbers	0	382	5	0	1,487	32	1,164	2,934	0	526	0	5	5	6,539
<hr/>																
Total Catch	1,632		0.0	4.0	0.0	0.5	26.0	0.2	15.2	47.6	0.1	5.7	0.0	0.4	0.4	100.0
			0	1,743	13	226	11,441	73	6,684	20,966	32	2,531	0	165	158	44,032
<hr/>																
<i>Upper Station Late Run Escapement</i>																
	2,126	Percent	0.1	2.4	1.0	0.1	26.6	4.9	10.0	49.8	0.0	4.9	0.2	0.0	0.0	100.0
		Numbers	139	3,521	1,522	111	39,866	7,373	14,924	74,507	46	7,369	300	0	29	149,709
<hr/>																
Total Run	3,758	Percent	0.1	2.7	0.8	0.2	26.5	3.8	11.2	49.3	0.0	5.1	0.2	0.1	0.1	100.0
		Numbers	139	5,264	1,535	337	51,307	7,446	21,609	95,473	78	9,900	300	165	187	193,741

Table 60.—South Olga Lakes (Upper Station) late-run sockeye salmon brood table showing estimated returns from parent escapements by age class.

Brood Year	Escap.	Age															Total Return	Return/Spawner
		0.1	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	3.3	2.4		
1976	48,650	0	10,190	0	36,479	38,399	2,560	0	11,501	141,154	0	0	10,336	940	0	0	251,559	5.2
1977	49,001	0	640	0	3,137	52,279	1,046	0	66,714	312,897	0	0	9,732	0	0	0	446,444	9.1
1978	38,126	0	82,601	1,046	90,205	134,367	4,698	0	55,146	217,342	0	0	26,755	2,638	0	0	614,798	16.1
1979	134,579	0	31,947	0	63,256	71,366	0	0	103,020	339,950	0	736	10,850	360	280	0	621,765	4.6
1980	77,718	0	124,890	0	56,178	35,951	2,131	0	21,758	55,472	399	0	16,555	965	223	0	314,522	4.0
1981	118,900	0	1,294	0	17,853	157,249	12,280	1,007	149,158	345,506	0	0	14,809	0	0	879	700,035	5.9
1982	306,161	0	644,017	5,129	324,600	364,312	5,029	117	92,824	231,963	0	0	5,168	2,042	0	0	1,675,201	5.5
1983	179,741	4,867	182,514	0	135,177	23,242	1,682	0	53,195	92,799	0	0	30,036	0	1,488	0	525,000	2.9
1984	239,608	3,012	37,733	528	89,721	187,451	5,064	0	21,543	224,033	0	0	23,712	4,642	0	0	597,438	2.5
1985	408,409	2,313	562,757	1,958	309,775	34,924	12,374	0	40,759	179,839	0	578	45,289	6,140	0	0	1,196,706	2.9
1986	367,922	1,449	72,415	1,953	94,380	291,815	5,610	678	116,039	451,917	0	0	17,721	1,579	1,289	6	1,056,851	2.9
1987	156,274	0	68,016	495	113,821	12,899	127	0	17,053	104,995	0	225	27,470	15,072	39	0	360,212	2.3
1988	247,647	0	9,222	216	27,793	76,583	1,000	0	71,330	80,102	177	133	4,037	1,244	0	0	271,836	1.1
1989	221,706	401	169,158	1,125	85,530	83,807	12,864	142	53,928	184,067	308	0	21,693	0	0	0	613,023	2.8
1990	198,287	1,432	56,992	3,904	115,907	27,747	7,728	444	17,591	237,284	0	0	4,315	0	67	0	473,411	2.4
1991	242,860	6,744	51,810	4,858	163,283	73,541	6,484	160	44,507	712,676	31	0	20,546	0	0	0	1,084,640	4.5
1992	199,067	4,913	61,018	1,108	15,733	58,923	12,611	79	6,302	279,349	0	0	7,189	156	192	26	447,599	2.2
1993	187,229	5,186	46,015	5,688	114,817	35,842	45,256	444	10,769	199,820	191	278	27,883	5,350	0	0	497,539	2.7
1994	221,675	1,417	10,206	6,322	23,167	90,488	17,439	44	25,603	293,322	80	0	6,069	968	0	0	475,125	2.1
1995	203,659	233	3,020	3,340	3,349	179,562	24,492	0	13,017	251,855	0	254	14,264	307	247	20	493,960	2.4
1996	235,727	277	1,972	6,536	1,335	35,606	4,057	0	15,478	88,856	121	1	4,856	2,282	0	1,500	162,877	0.7
1997	230,793	0	347	0	916	2,842	11,901	0	1,932	129,206	1,984	130	8,502	17,554	1,942	0	177,256	0.8
1998	171,214	0	0	89	0	2,511	13,979	0	3,281	219,890	25,325	0	13,190	890	0	0	279,155	1.6
1999	210,016	0	279	2,323	672	80,315	15,939	0	20,091	313,886	19	346	40,906	5,360	465	9	480,610	2.3
2000	176,783	96	34,433	5,197	36,394	122,248	4,045	98	30,388	181,491	0	31	16,677	986	187	165	432,436	2.4
2001	74,408	0	522	215	1,701	5,696	8,310	0	7,078	77,172	0	78	9,900	300				
2002	150,349	411	2,421	3,965	7,179	94,543	8,085	0	21,609	95,473	0							
2003	200,894	43	888	1,667	337	51,307	7,446											
2004	177,108	668.9	5264.29	1535.3														
2005	156,401	139.3																
2006	153,153																	
2007	149,709																	
10-Year Average (1991-2000):																	453,120	2.2

Table 61.—Kodiak sockeye salmon average length (mm) by year, system, and saltwater age class, 1985-2007.

Year	System																								Sample Size
	Spiridon			Karluk Early			Karluk Late			Ayakulik			Frazer			Upp.Station Early			Upp. Station Late			All Kodiak			
	x.1	x.2	x.3	x.1	x.2	x.3	x.1	x.2	x.3	x.1	x.2	x.3	x.1	x.2	x.3	x.1	x.2	x.3	x.1	x.2	x.3	x.1	x.2	x.3	
1985				390	516	555	417	537	579	370	515	559	293	502	539	365	515	557	376	485	553	372	499	547	12,629
1986				360	517	551	425	557	599	363	519	557	303	498	554	343	507	564	359	544	581	342	517	559	11,072
1987				360	517	561	368	532	579	375	525	570	360	500	568	382	528	574	355	553	586	361	522	573	13,889
1988				356	505	570	359	532	583	367	519	555	364	508	557	362	518	568	364	496	578	360	504	561	14,795
1989				360	509	560	412	535	580	402	529	565	364	506	564	358	514	561	373	519	562	362	519	563	12,707
1990				355	501	554	345	538	572	346	521	558	364	481	533	340	480	542	370	511	564	339	502	557	15,494
1991				359	505	546	390	521	554	356	527	560	342	505	554	339	497	544	331	527	551	342	510	549	13,091
1992				363	477	529	361	518	549	373	522	563	343	498	534	353	488	533	354	490	542	343	495	540	13,391
1993				355	501	532	363	524	554	374	550	579	361	499	542	352	502	540	341	497	553	351	510	555	18,128
1994				344	481	523	344	513	548	356	514	556	350	483	542	347	480	522	354	502	553	347	496	542	14,858
1995	421	558	571	354	502	541	366	538	551	366	530	566	354	511	549	359	502	548	354	519	556	347	515	551	15,581
1996	417	555	616	365	516	570	378	549	584	362	539	568	346	526	572	368	517	562	392	539	580	346	523	567	17,836
1997	393	533	578	377	505	559	371	503	555	348	505	545	359	512	568	362	506	550	390	520	549	358	502	551	15,653
1998	431	516	565	368	487	533	395	517	552	361	496	529	344	489	545	342	478	519	378	519	543	346	495	528	13,567
1999	418	541	574	345	507	538	344	529	543	345	534	560	322	513	548	343	508	540	373	536	557	337	513	546	15,459
2000	415	557	580	378	503	547	348	526	566	348	511	555	358	500	557	354	500	544	374	562	589	342	513	551	12,846
2001	387	525	590	380	518	561	379	535	574	369	517	555	344	521	567	362	506	555	388	556	592	357	517	561	15,416
2002	405	528	585	374	501	557	395	537	588	342	530	555	336	514	569	363	524	554	392	550	578	356	521	563	12,832
2003	402	529	576	376	513	551	415	534	567	381	519	571	354	501	561	354	497	534	383	535	565	359	516	556	12,513
2004	358	520	578	362	490	535	419	529	573	363	513	551	332	507	562	366	491	549	370	542	575	356	512	547	8,443
2005	378	521	564	357	487	533	357	510	541	347	493	526	334	486	547	350	487	538	373	524	558	363	500	537	11,699
2006	406	507	549	368	476	526	370	486	540	349	496	526	329	517	544	341	496	537	384	526	546	344	500	536	10,649
2007	*	516	571	330	486	540	347	500	549	341	516	542	346	498	554	352	502	546	382	541	559	348	513	547	14,257
Total	413	534	575	364	501	548	372	527	560	361	519	557	347	501	556	355	500	552	375	525	564	351	509	553	316,805

Note: * denotes that no fish of that size class were sample for length.

Table 62.—Correlation matrix of Kodiak and other large Westward Region sockeye salmon stocks relative annual estimated run abundance, 1985 to 2007.

	System										
	<i>Kar E</i>	<i>Kar L</i>	<i>Ayak</i>	<i>Frz</i>	<i>Up E</i>	<i>Up L</i>	<i>Br L</i>	<i>Nelson</i>	<i>Chig E</i>	<i>Chig L</i>	<i>Litnik</i>
Karluk Early	1										
Karluk Late	-0.12283	1									
Ayakulik	-0.443196	0.381634	1								
Frazer	-0.316472	0.402374	0.623279	1							
Upper Station Early	0.237305	0.08088	0.302247	0.409135	1						
Upper Station Late	-0.299317	0.038095	0.430623	0.264969	0.398226	1					
Bear Late	-0.31487	0.223085	0.307481	0.391359	-0.154862	-0.011401	1				
Nelson	0.302782	0.197636	0.048769	0.416514	0.131335	0.018141	0.152332	1			
Chignik Early	0.109078	0.168913	0.109649	0.000303	0.317642	0.210446	0.061276	-0.13674	1		
Chignik Late	-0.226233	0.325896	0.572361	0.402448	-0.009347	-0.013759	0.543868	-0.047639	-0.094773	1	
Litnik	-0.169952	0.088439	0.63665	0.544905	0.232026	0.344531	0.461724	0.046561	0.263183	0.456237	1

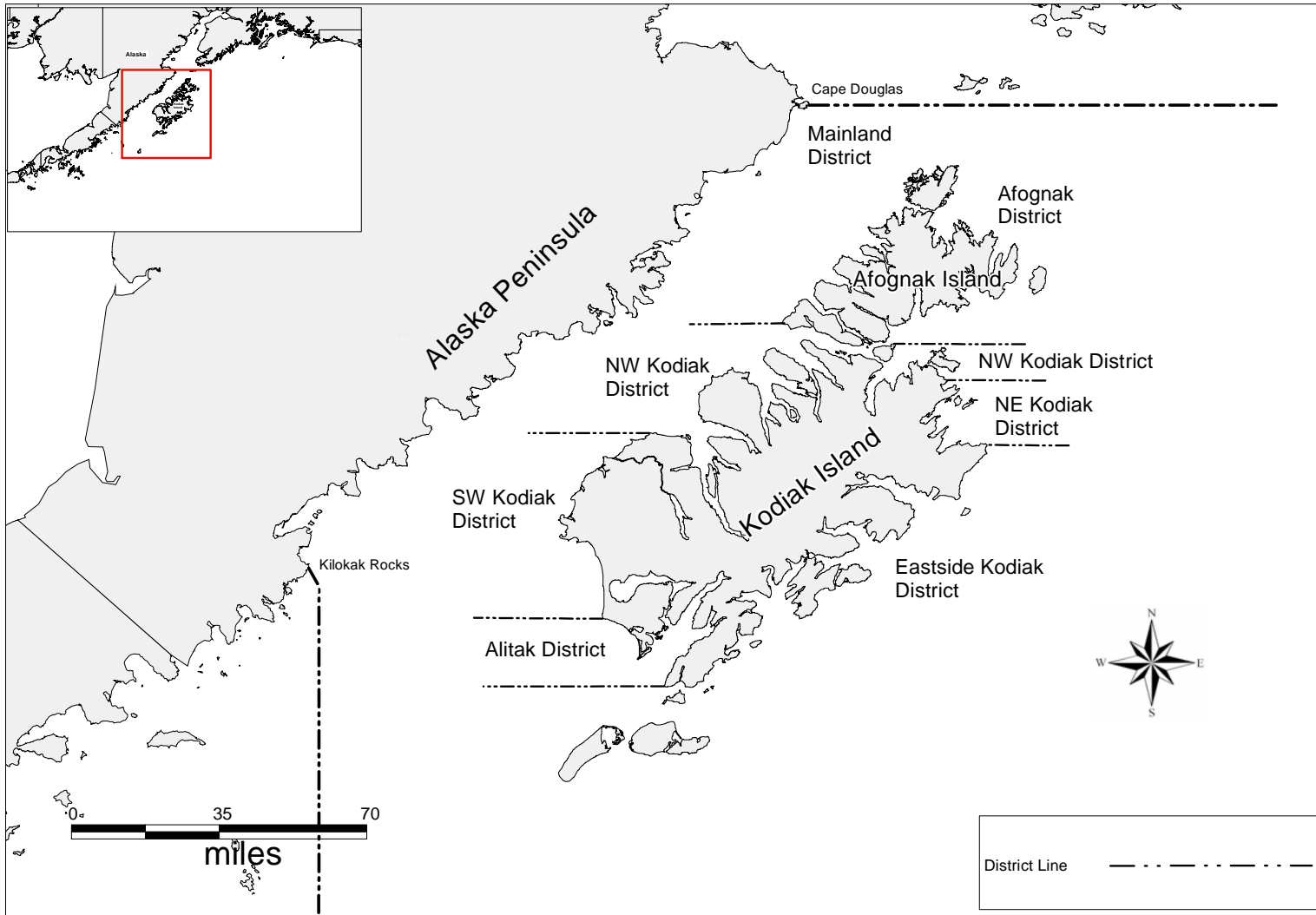


Figure 1.—Kodiak Management Area commercial salmon fishing districts.

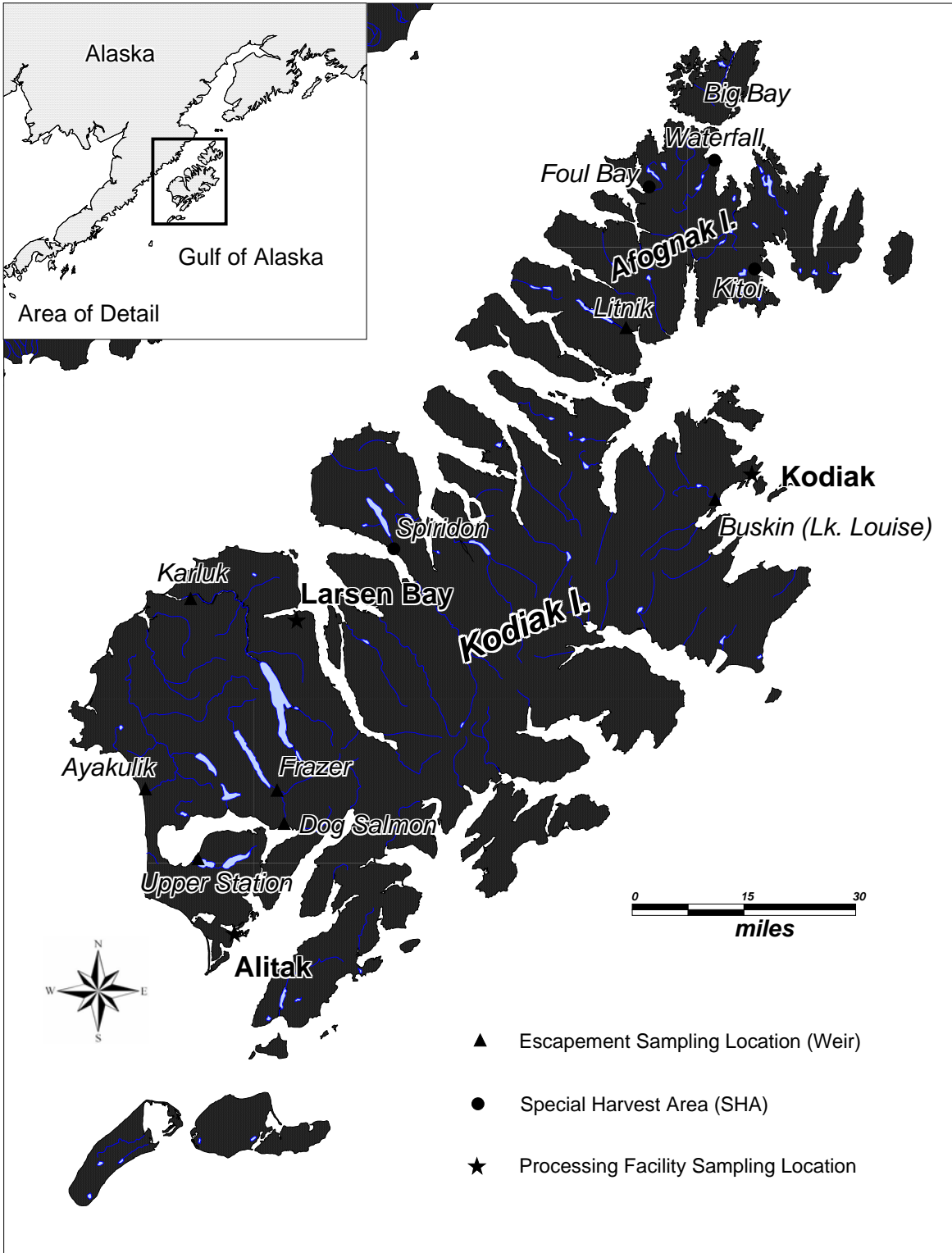


Figure 2.—Salmon escapement, special harvest areas, and processing facility sampling locations in the Kodiak Management Area, 2007.

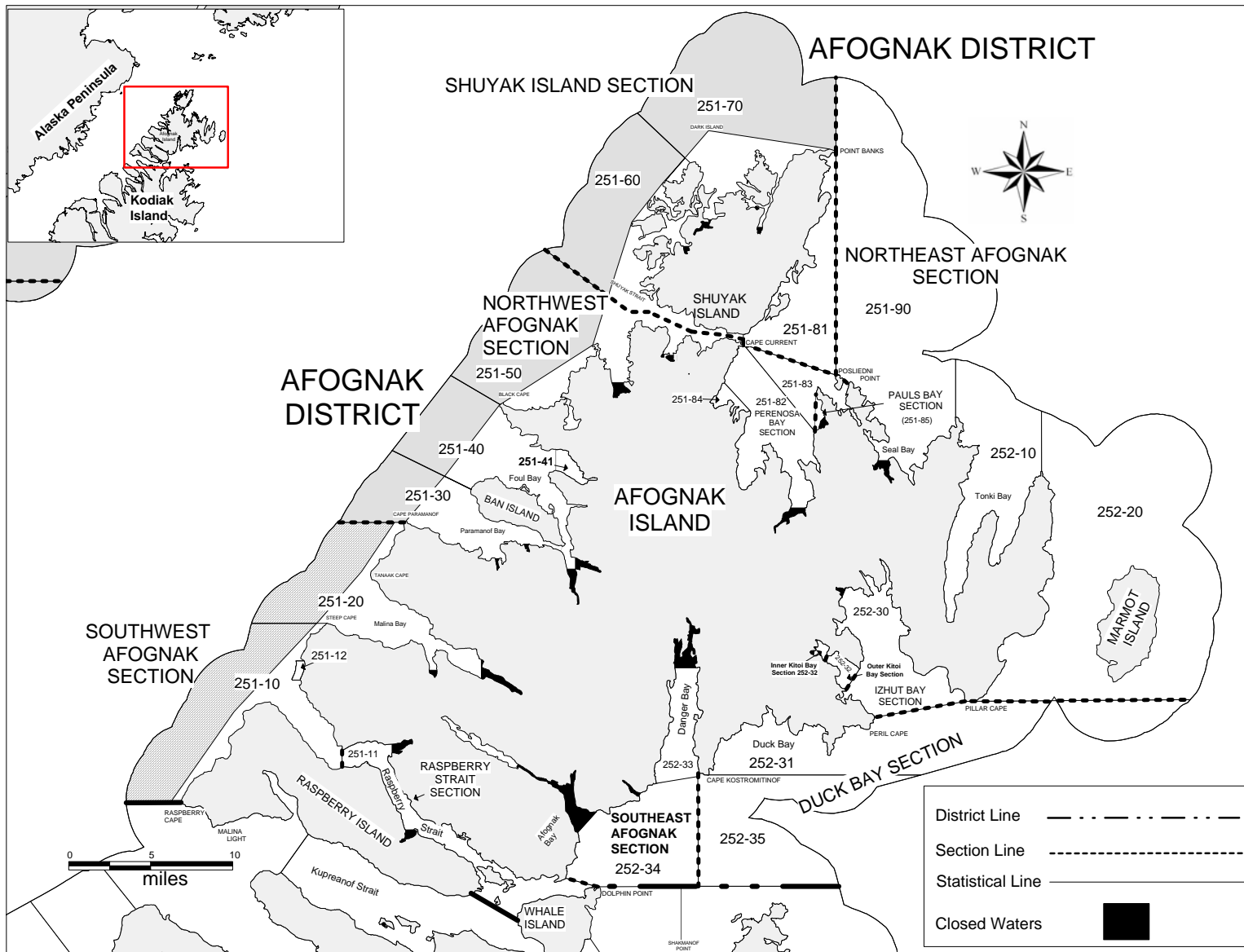


Figure 3.—Afognak District commercial salmon fishing sections and statistical areas, 2007.

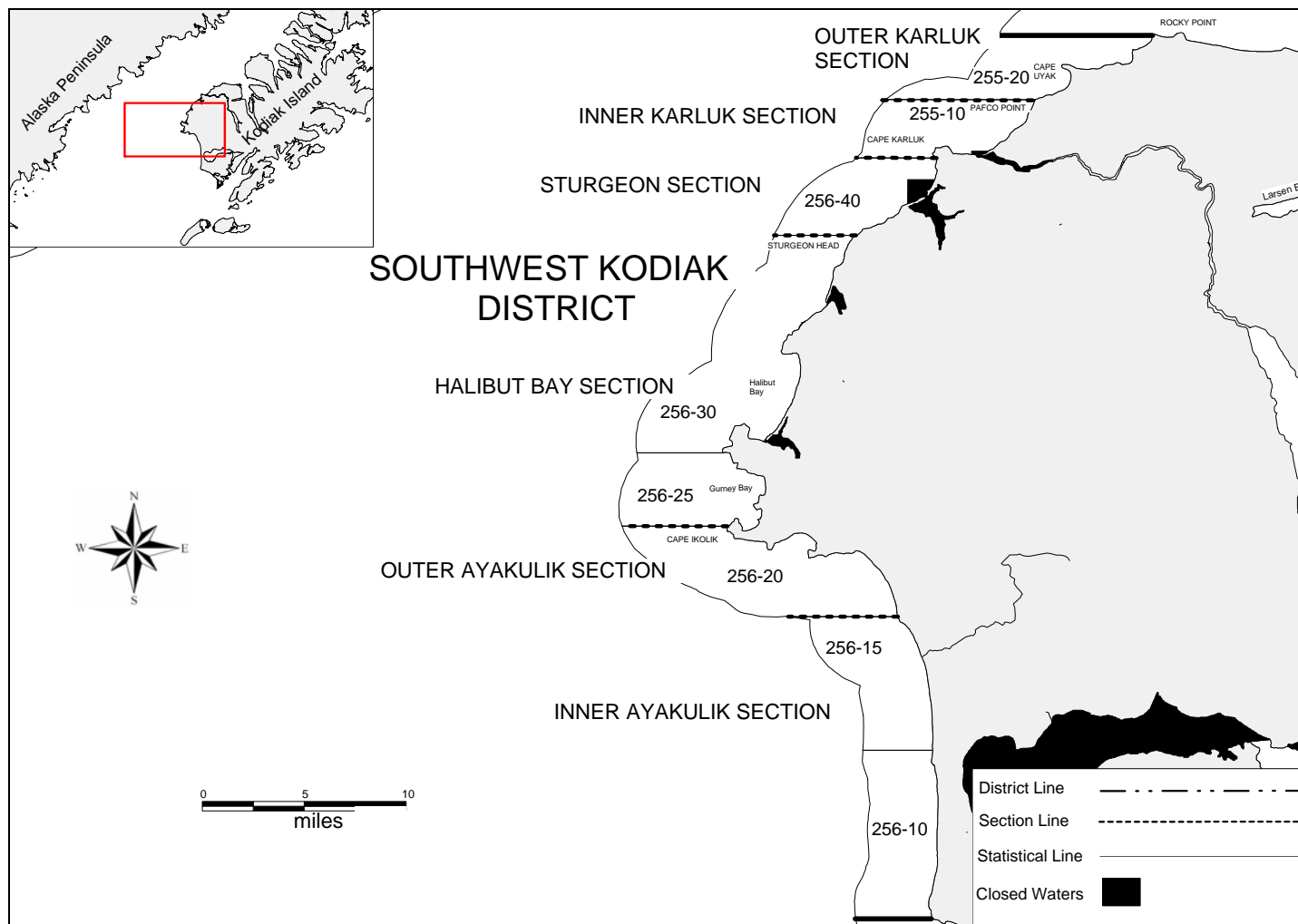


Figure 5.—Southwest Kodiak District commercial salmon fishing sections and statistical areas, 2007.

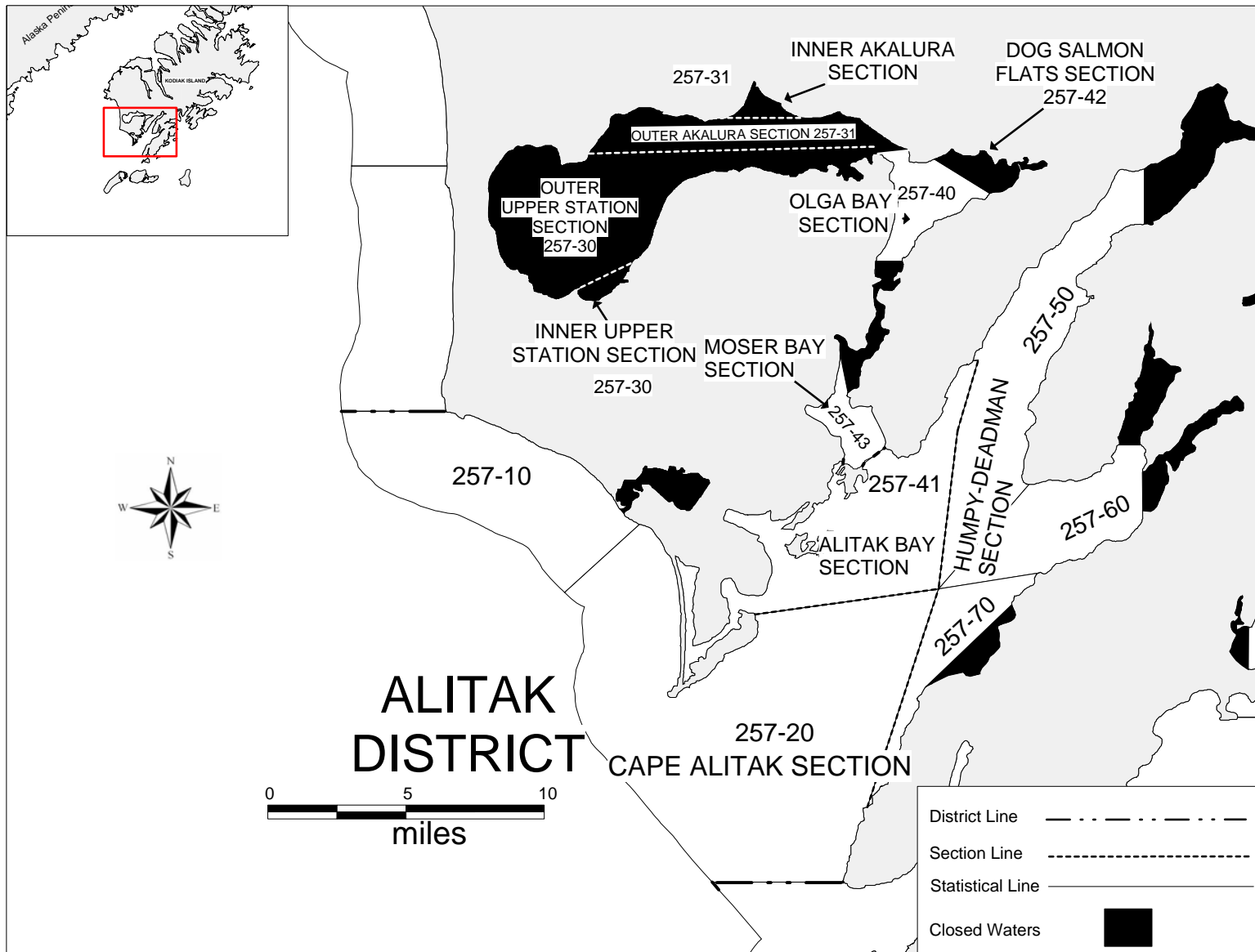


Figure 6.—Alitak Bay District commercial salmon fishing sections and statistical areas, 2007.

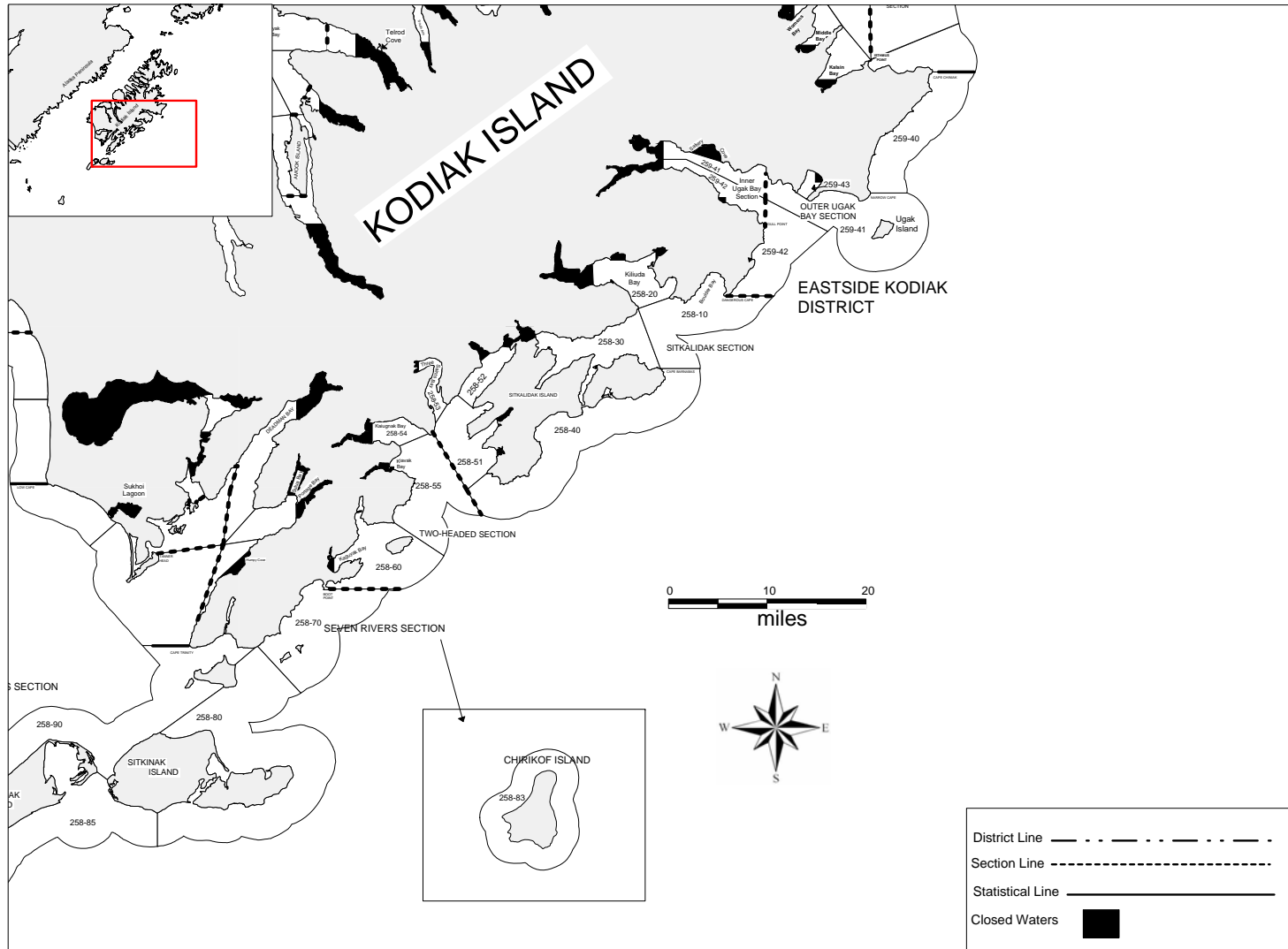


Figure 7.—Eastside Kodiak District commercial salmon fishing sections and statistical areas, 2007.

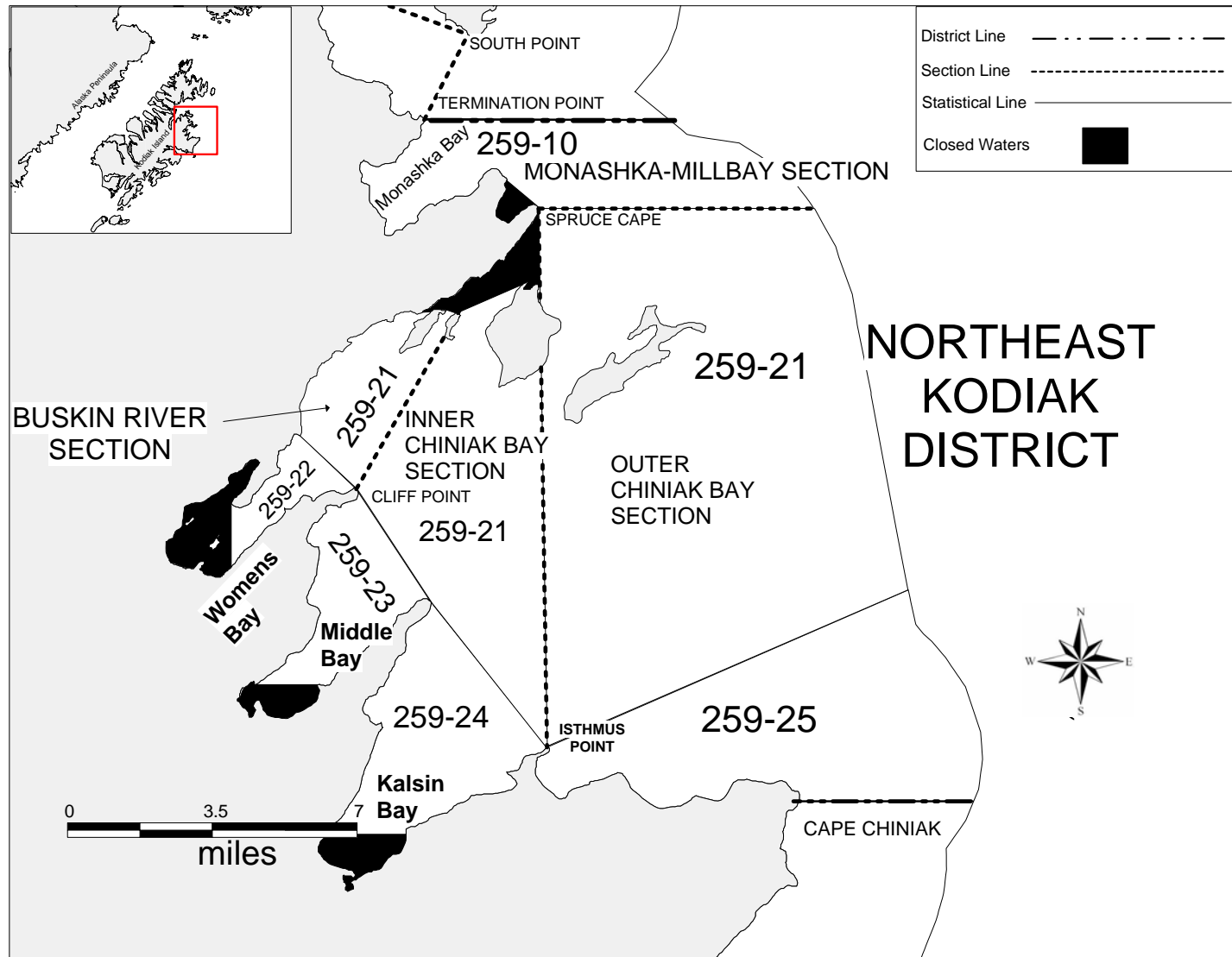


Figure 8.— Northeast Kodiak District commercial salmon fishing sections and statistical areas, 2007.

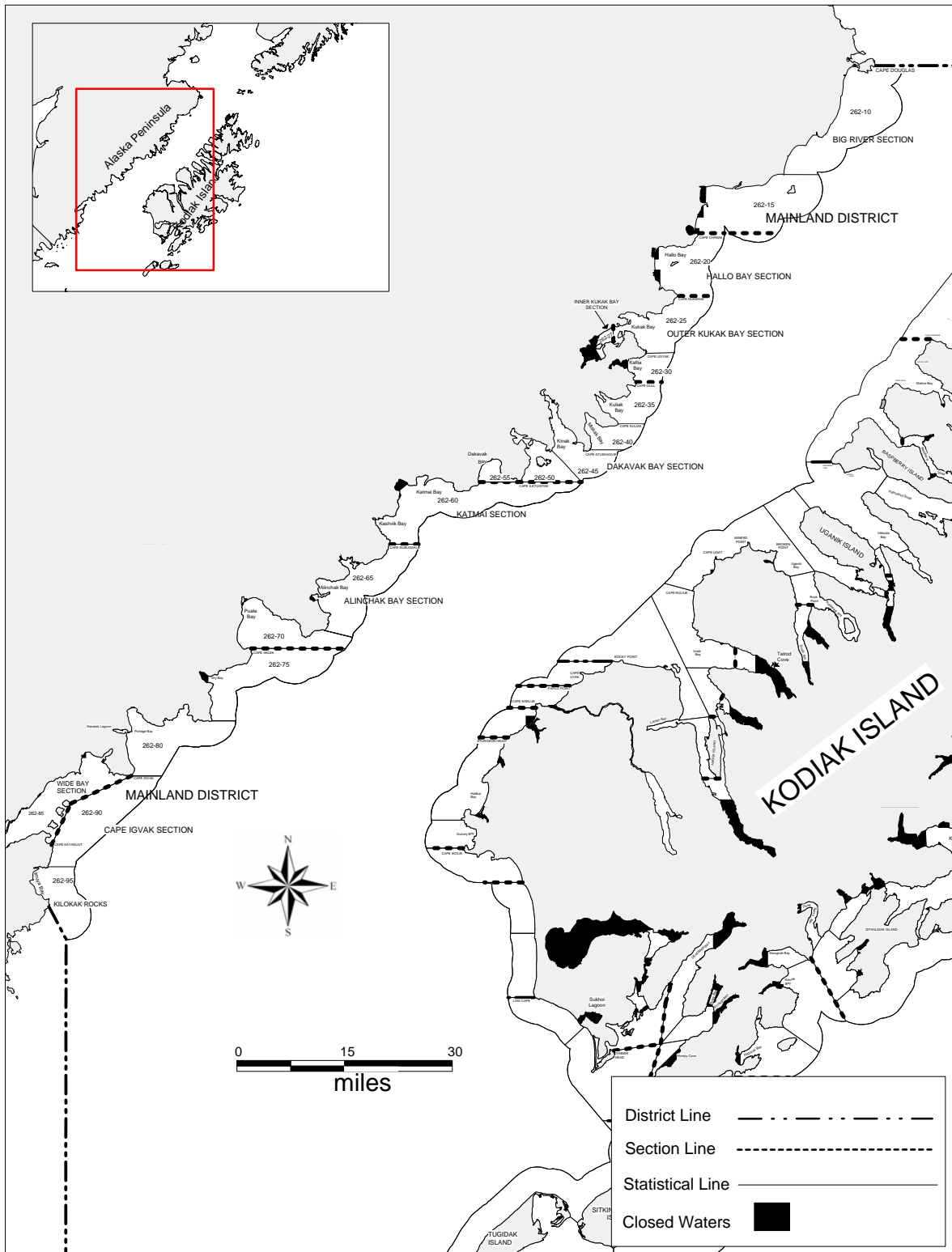


Figure 9.—Mainland District commercial salmon fishing sections and statistical areas, 2007.

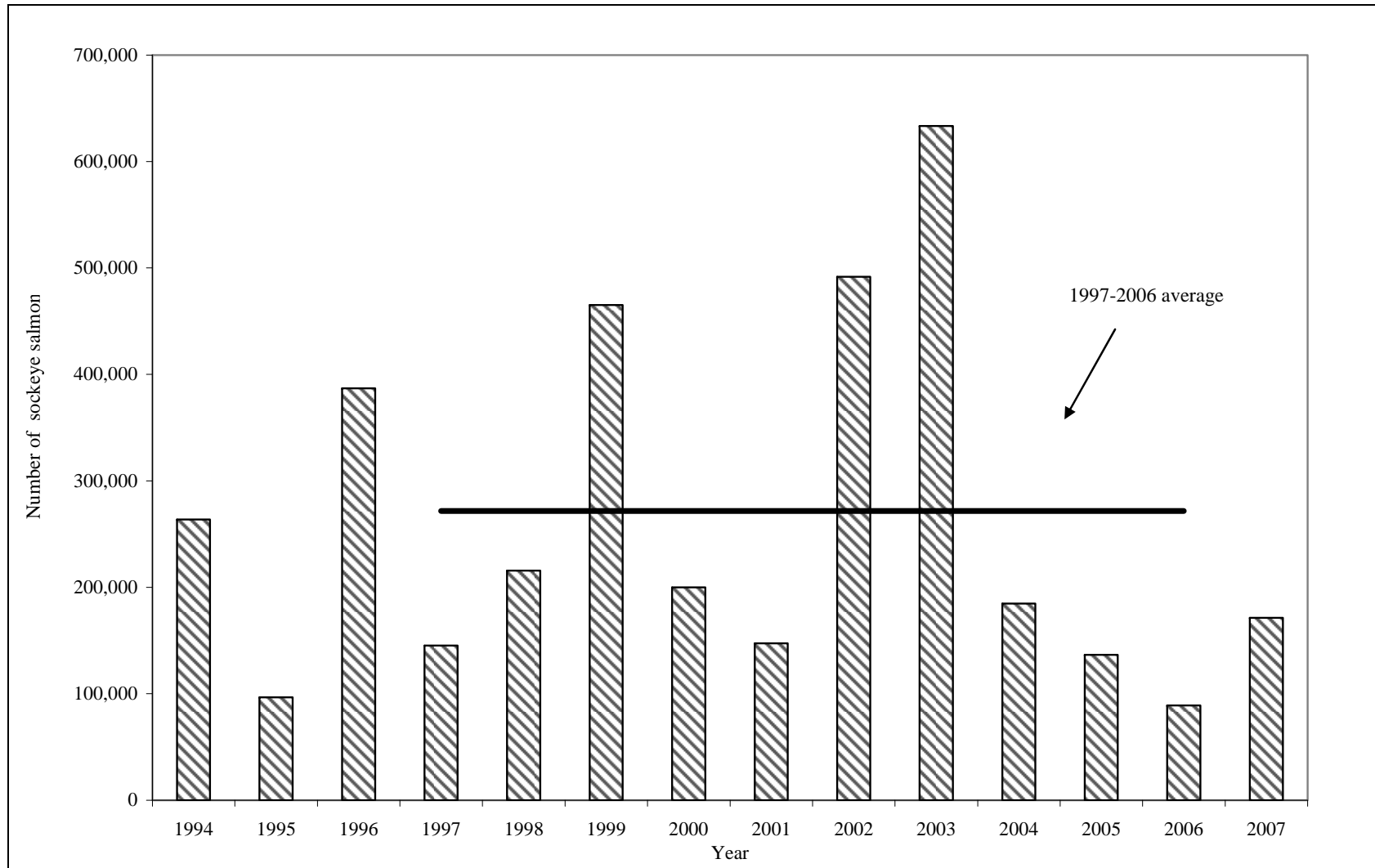


Figure 10.—Spiridon Lake (SBSHA) sockeye salmon catch (run) estimates, 1994-2007, and the recent 10-year average estimated run (1997-2006).

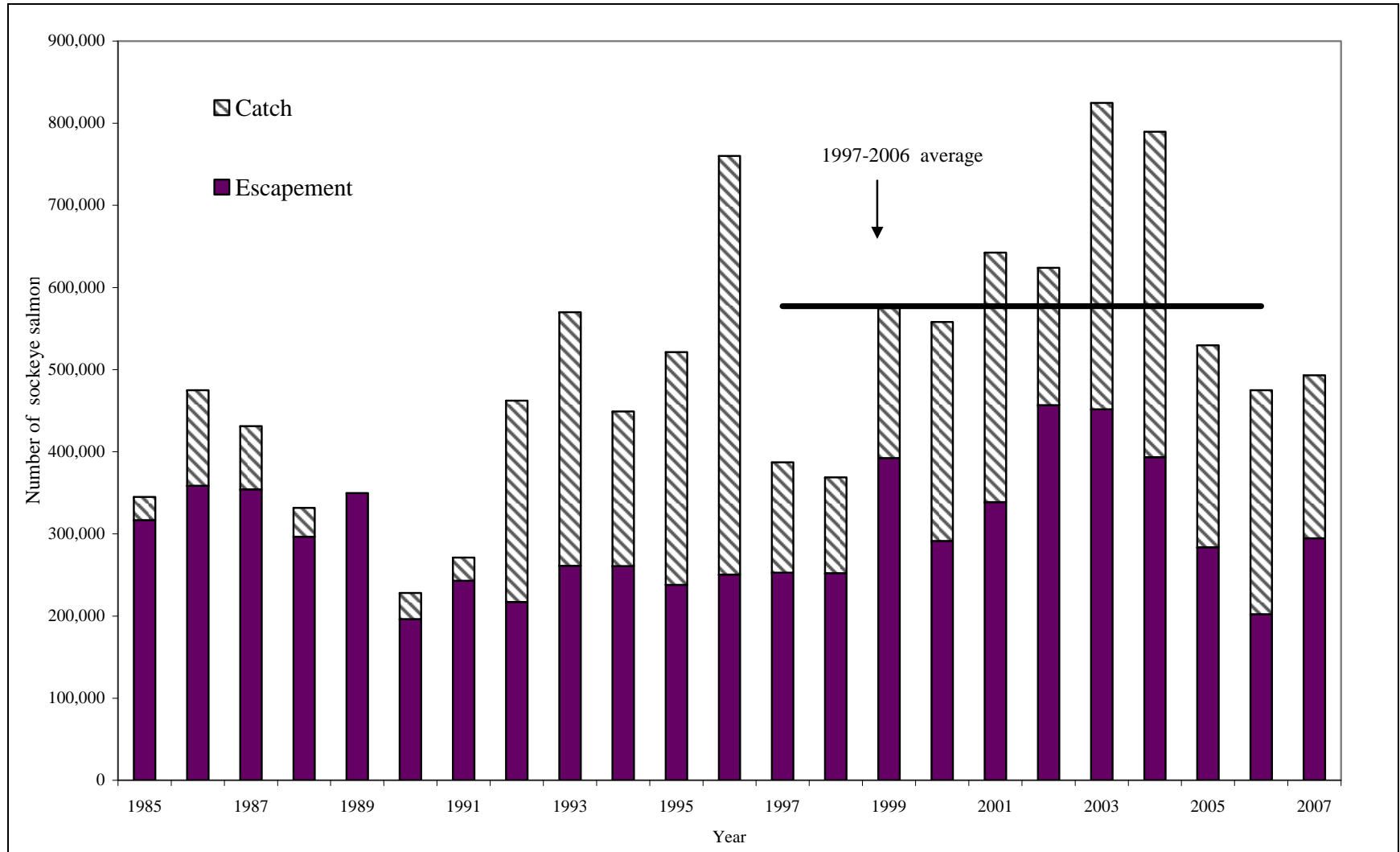


Figure 11.—Karluk Lake early-run sockeye salmon escapement, catch, and run estimates, 1985-2007, and the recent 10-year average estimated run (1997-2006).

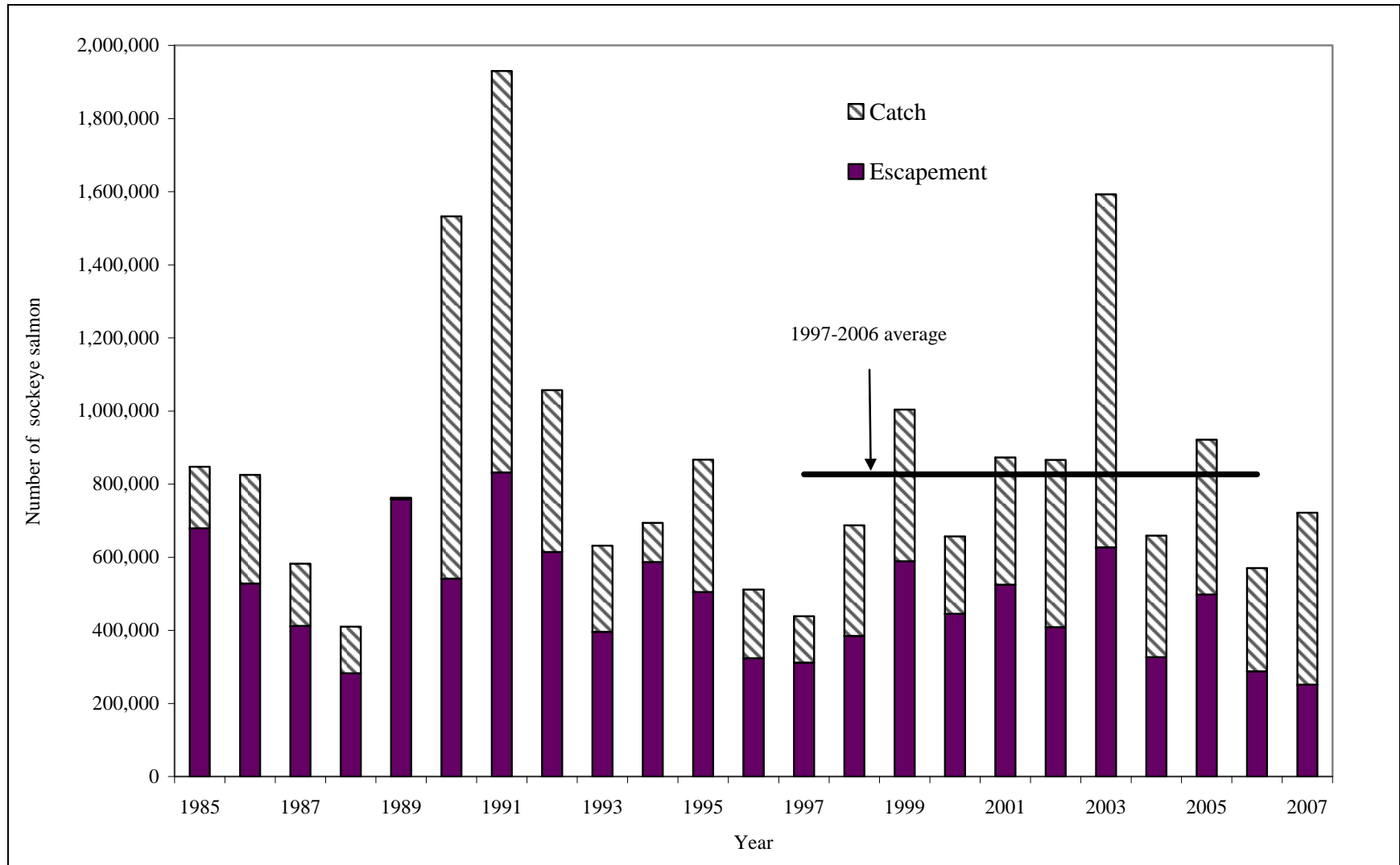


Figure 12.—Karluk Lake late-run sockeye salmon escapement, catch, and run estimates, 1985-2007, and the recent 10-year average estimated run (1997-2006).

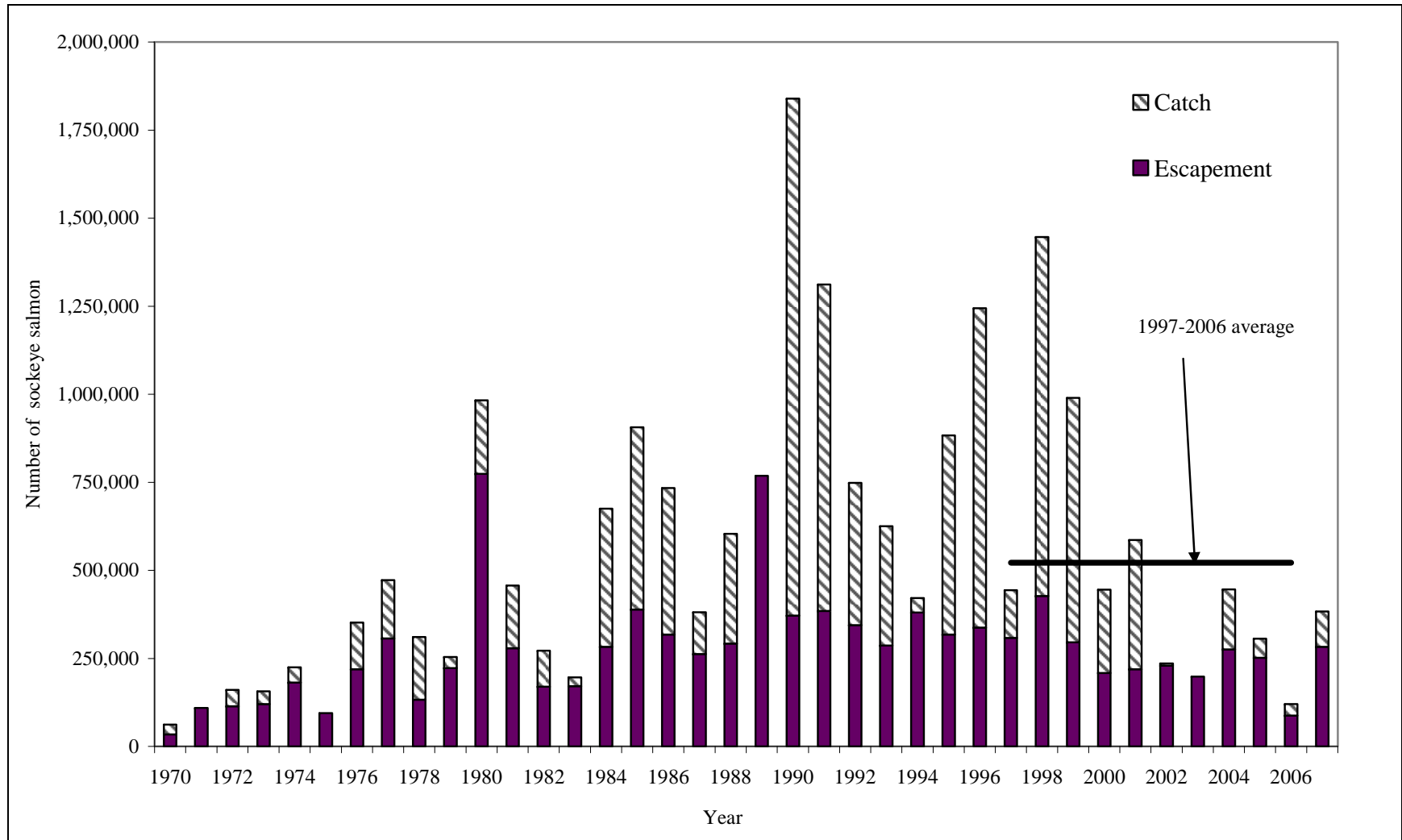


Figure 13.—Ayakulik River (Red Lake) sockeye salmon escapement, catch, and run estimates, 1970-2007, and the recent 10-year average estimated run (1997-2006).

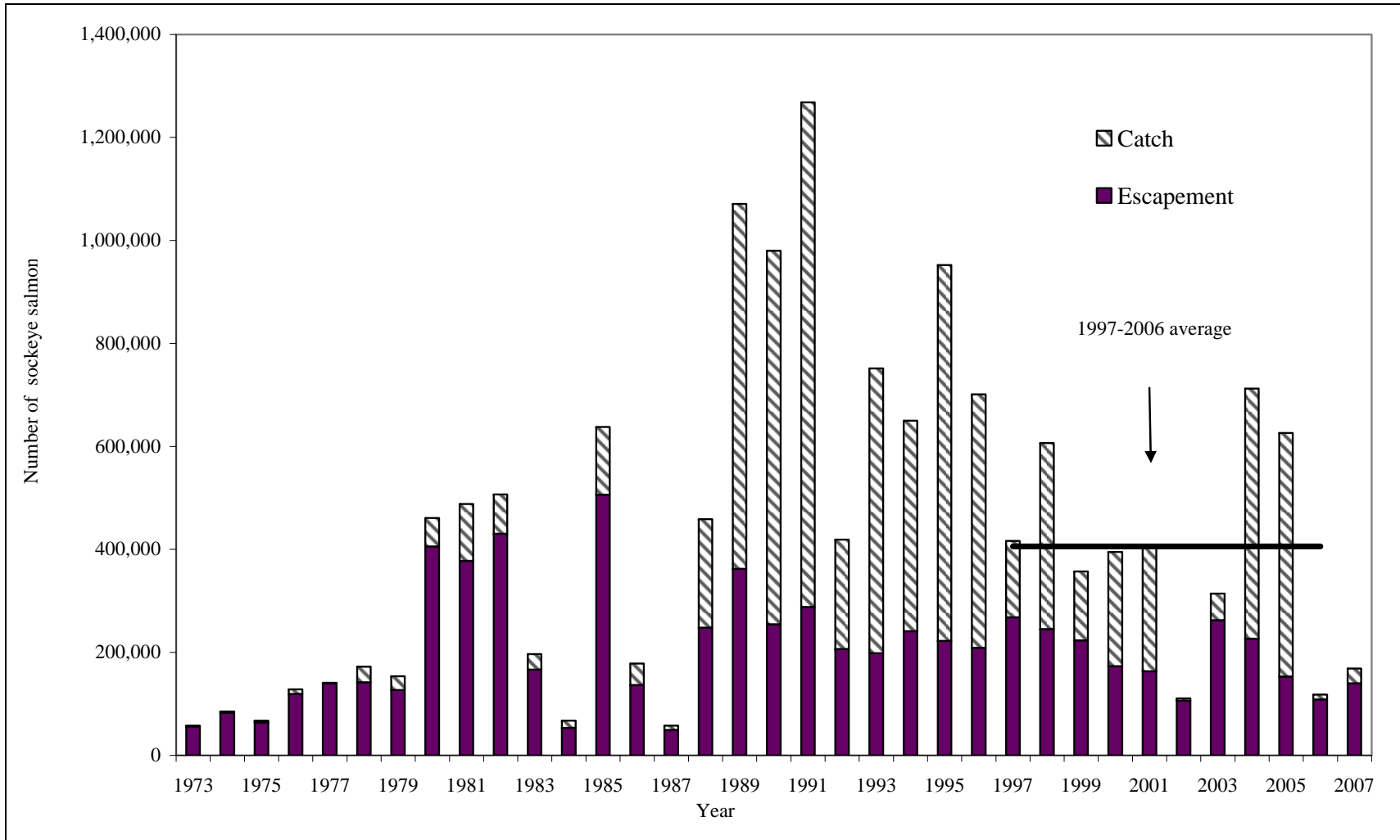


Figure 14.—Frazer Lake sockeye salmon escapement (Dog Salmon weir counts), catch, and run estimates, 1973-2007, and the recent 10-year average estimated run (1997-2006).

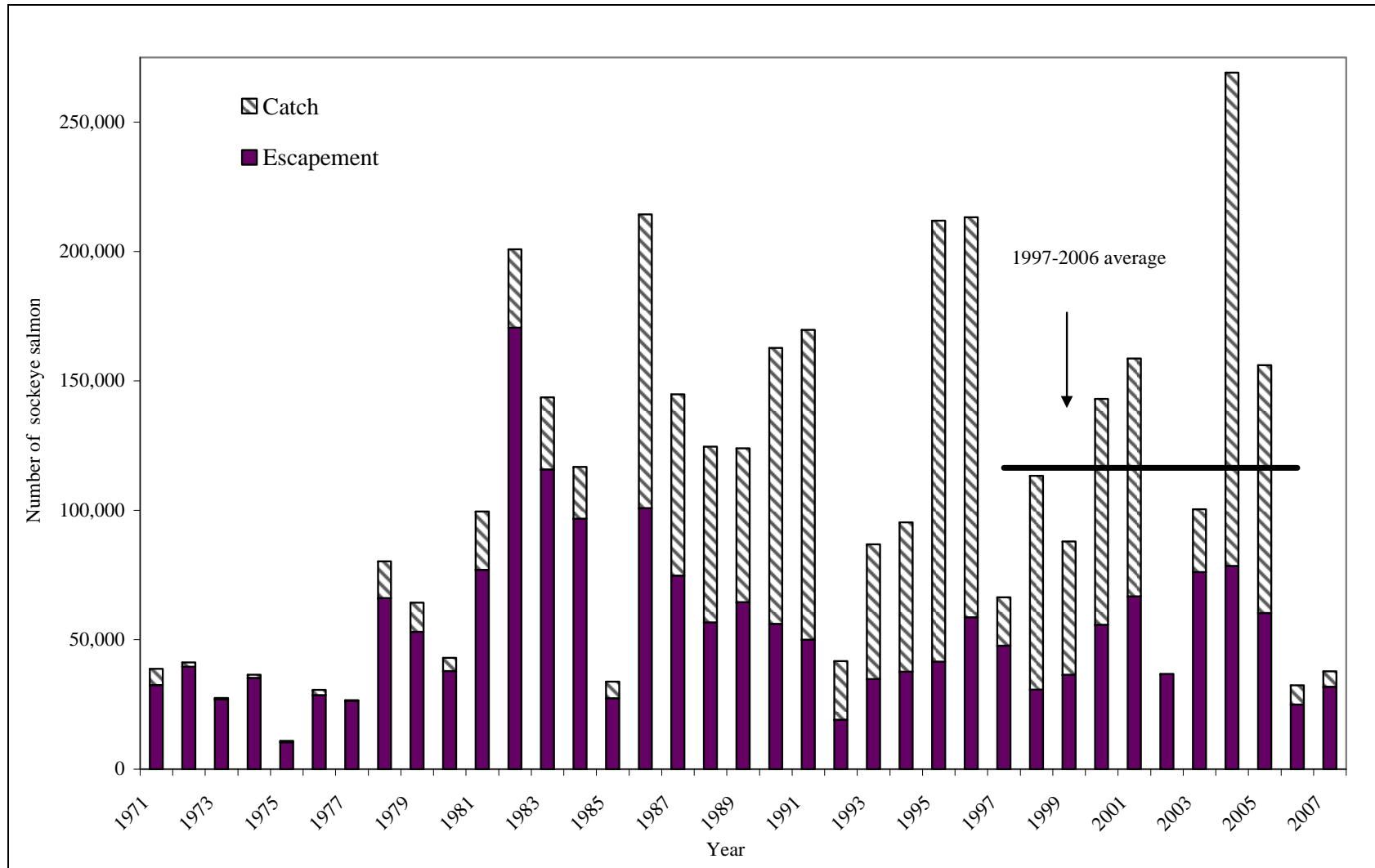


Figure 15.—South Olga Lakes (Upper Station) early-run sockeye salmon escapement, catch, and run estimates, 1971-2007, and the recent 10-year average estimated run (1997-2006).

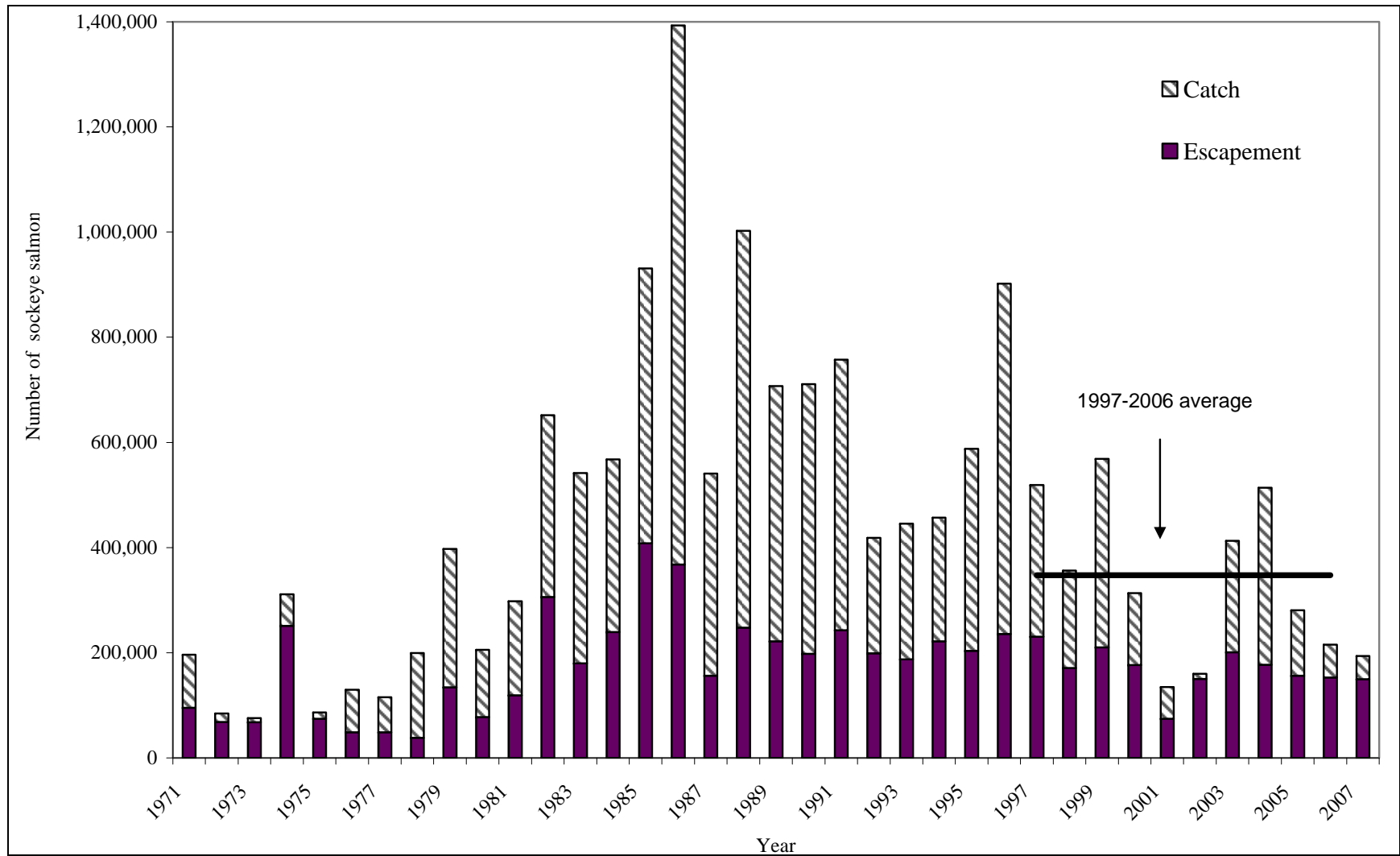


Figure 16.—South Olga Lakes (Upper Station) late-run sockeye salmon escapement, catch, and run estimates, 1971-2007 and the recent 10-year average estimated run (1997-2006).

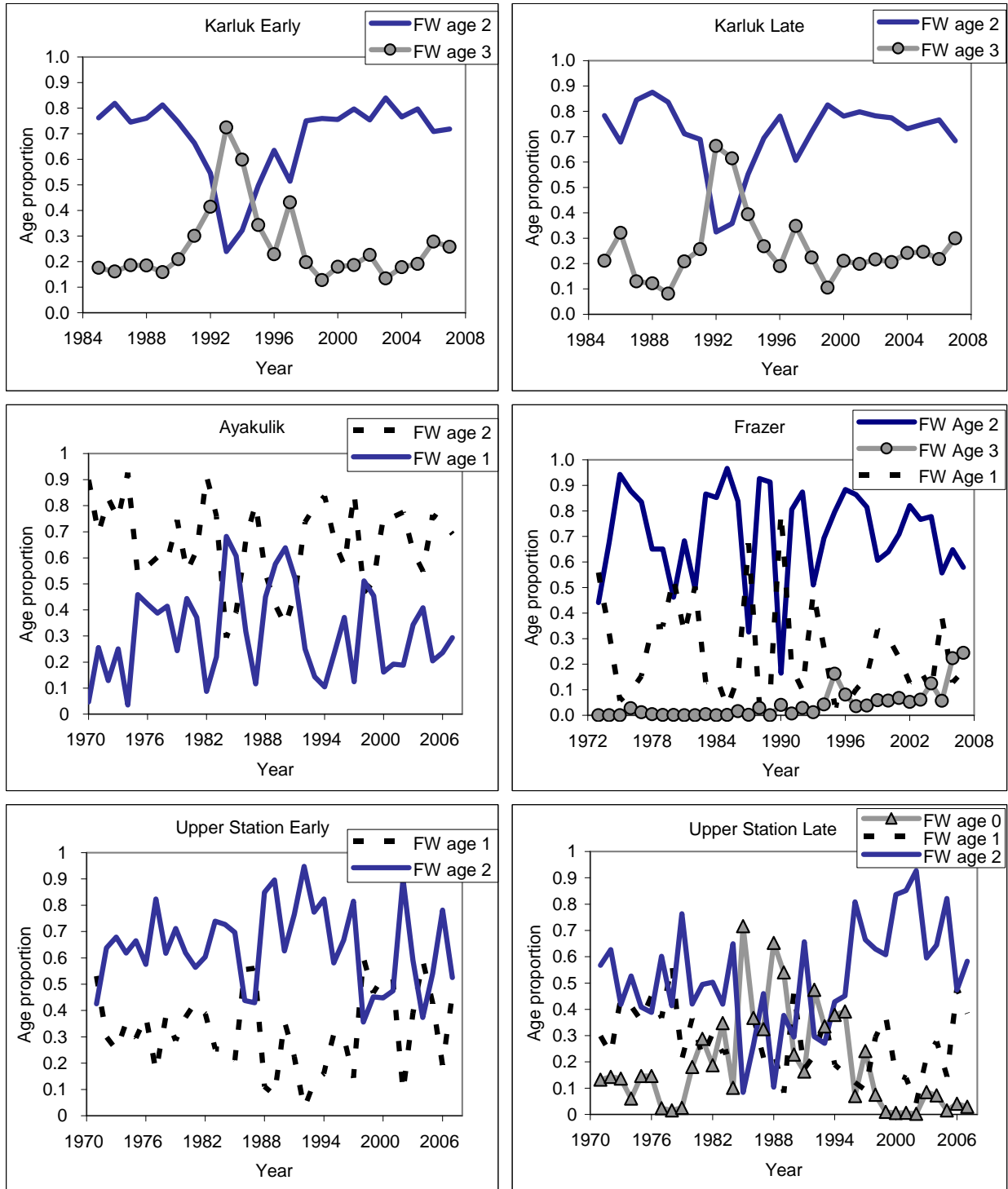


Figure 17.—Historical trends in the proportion of freshwater ages comprising the major Kodiak Island sockeye salmon annual runs.

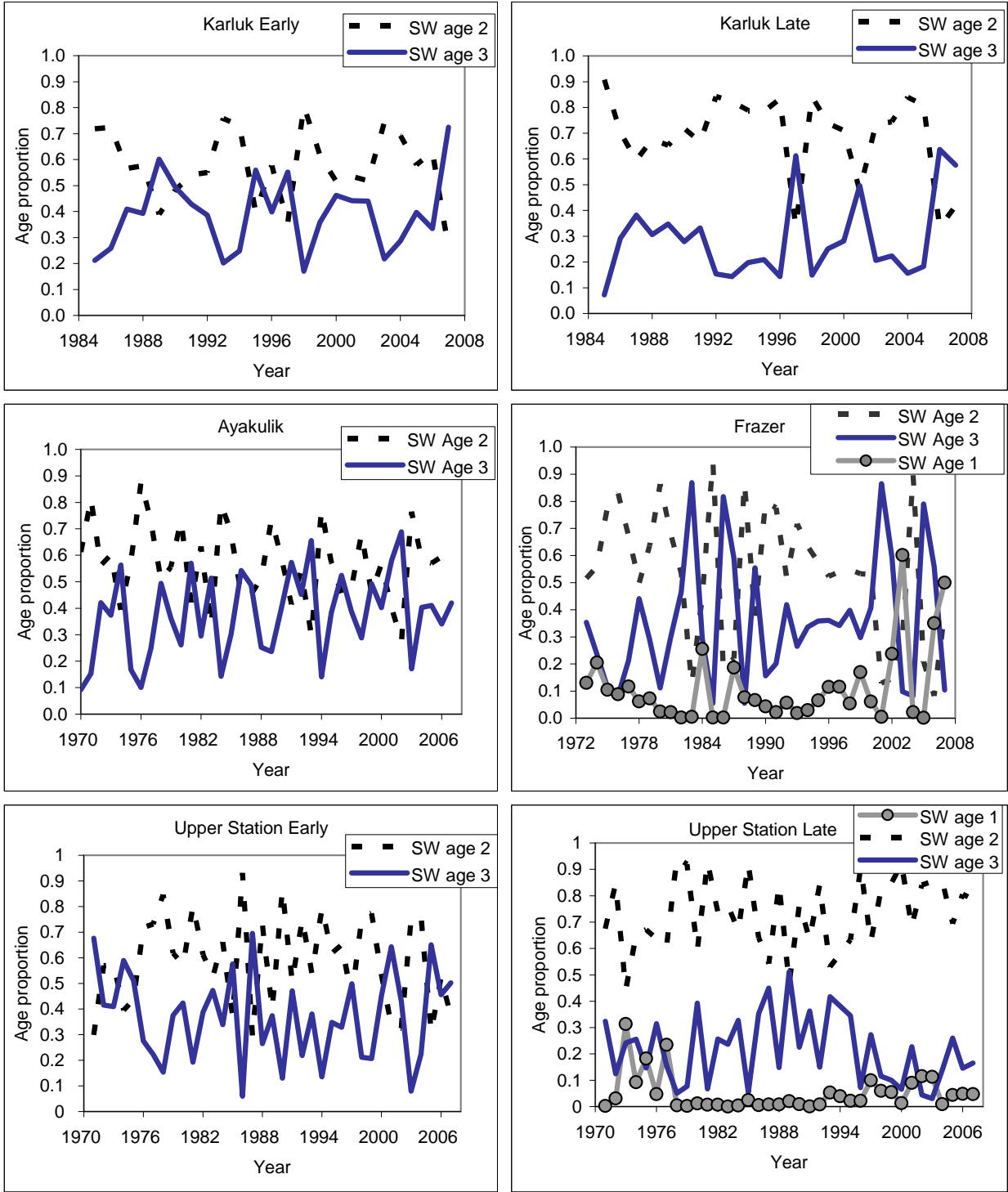


Figure 18.—Historical trends in the proportion of saltwater ages comprising the major Kodiak Island sockeye salmon annual runs.

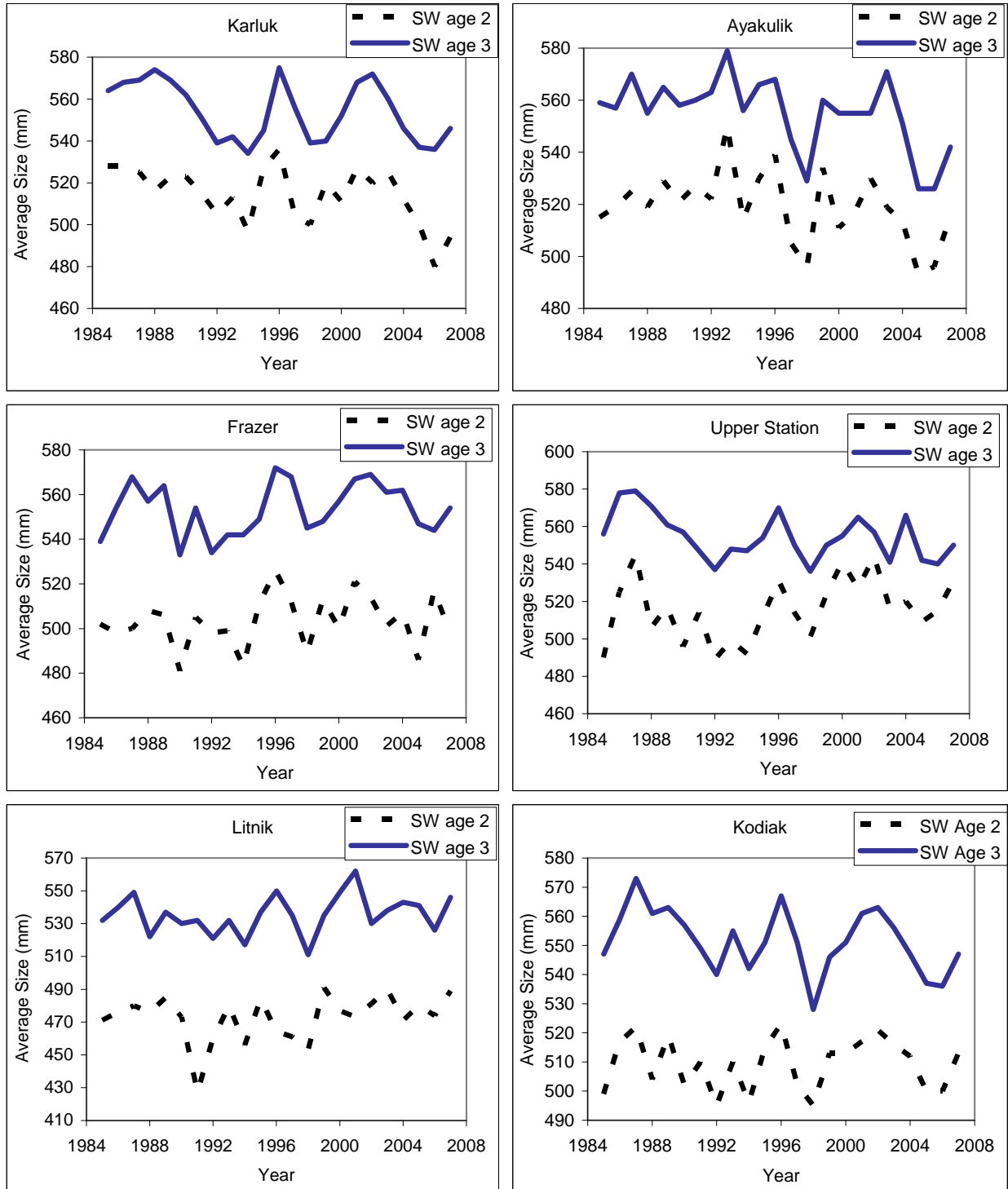


Figure 19.—Historical trends of the average size of the major Kodiak Island sockeye salmon annual runs by adult saltwater age class, 1985 to present.