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CHIGNIK MANAGEMENT AREA

ANNUAL FINFISH MANAGEMENT REPORT

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By

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CHIGNIK SALMON FISHERIES

Introduction

The Chignik Management Area (CMA) includes of all coastal waters and inland drainages of the northwest Gulf of Alaska between Kilokak Rocks and Kupreanof Point (Figures 1 and 2). The area includes approximately 100 salmon producing streams, the most important being the Chignik River system (Figure 3). The CMA is bordered by the Alaska-Peninsula Management Area to the west and the Kodiak Island Management Area to the east.

The CMA is divided into five districts which are, from east to west, the Eastern, Central, Chignik Bay, Western, and Perryville Districts (Figure 4). Five species of Pacific Salmon are commercially harvested: they are chinook (*Oncorhynchus tschawytscha*), sockeye (*O. nerka*), pink (*O. gorbuscha*), chum (*O. keta*), and coho (*O. kisutch*) salmon. The Alaska Department of Fish and Game (ADF&G), Division of Commercial Fisheries, manages the CMA salmon fisheries to achieve desired escapements while allowing for an orderly harvest of the run surplus.

The only legal commercial gear type within the CMA is a purse seine. During 1990, 101 limited entry permit holders actively fished salmon in the area (Tables 1) with over 84% claiming Alaska Residency (Table 2).

The 1990 Annual Management Report (AMR) adds to a series of reports dating from 1922. The historical database was reviewed and edited in 1989 and presented in the Annual Management Report (Thompson and Fox, 1990). Disparities between previously reported catch and escapement statistics and those presented since the 1989 AMR, can be attributed to the editorial process and the objective of providing the most accurate information available.

Overview of the 1990 Salmon Season

The total 1990 salmon harvest in the CMA of 3.05 million fish (Tables 3, 4, and 5) processed by five companies (Table 6) was approximately 9% more than the 1981-90 average of 2.75 million fish (Table 7 and Figure 5). The chinook, sockeye and chum harvests were well above forecasted values, while pink and coho catches were below projected catch levels (Appendix A).

The ex-vessel value of the 1990 commercial salmon harvest, based on average in-season prices, was estimated at $24,776,691, the third highest annual value since 1981 (Table 8 and Figure 6).

Total salmon escapement in the CMA was estimated at 2,221,791. All sockeye and chinook escapement was counted through the Chignik weir in the Chignik Bay District. For pink and chum salmon, escapement was counted by aerial survey with the largest estimates projected for the Eastern District (Table 9).

Chinook Salmon

Background

Chinook salmon production in the CMA is limited to the Chignik River system which is the largest chinook producing system on the south side of the Alaska Peninsula. Chinook salmon return to the Chignik River primarily during July and August with peak harvests, generally in July, occurring incidental to sockeye catches.

Chinook salmon runs from 1963 have ranged from a low of 927 fish (1974) to a high of 14,265 (1990) (Table 10). The average run size during this period has been 4,317 fish. Commercial catches have increased from an average of 2,237 (1963-1977) to 4,608 (1981-1990). A corresponding increase in escapement has also occurred within the last ten years.

1990 Management

The 1990 CMA chinook harvest was a record 9,901 fish, about 2,600 more fish than the previous high catch of 7,296 and over 5,000 more than the 1981-1990 average catch of 4,608 (Figure 7). Catch timing ranged from June 16 to September 6 with a peak daily harvest of 1,224 on July 7 (Table 4).

The total ex-vessel value of the 1990 chinook salmon harvest was estimated at $185,256, averaging $1,834 per permit holder (Table 8).

The 1990 chinook salmon escapement, based on weir counts, was 4,364 fish (Table 11). However, no adjustment has been made for chinook salmon smaller than 650 mm in length that may be confused with sockeye, fish removed by the sport fishery, fish that spawn below the counting weir, or escapement after the weir was removed on August 10.

Sockeye Salmon

Background

Economically, sockeye salmon represent the most important commercial species in the CMA. The commercial fishery targets on two runs of sockeye returning to the Chignik Lakes System (Figure 3). Sockeye salmon destined for the Chignik Lakes system are also intercepted outside the CMA in two historic fisheries; one to the east at Cape Igvak (Kodiak Management Area), and one to the west in Balboa-Stepovak Bays (Alaska-Peninsula Management Area).

Although most CMA sockeye production originates from the Chignik Lakes System, some spawning activity does occur in the Eastern District primarily in tributaries to the Aniakchak River: Albert Johnson Creek, and Surprise Lake. Compared to Chignik Lake Stocks, these are of minor importance. Most sockeye harvested in the

Eastern District are intercepted enroute to spawning areas outside of the district. Summarized data (from several years of tagging from the Aniakchak Bay and Cape Kumlik areas) showed that sockeye harvested in these waters are almost exclusively of Chignik Lakes origin (Lechner 1969). Consequently, the Eastern District sockeye salmon management strategies are based on the strength of the Chignik Lakes run.

Sockeye returning to the Chignik Lakes system are comprised of two stocks, one returning to Black Lake (early run), and the other to Chignik Lake (late run). Sockeye escapement goals for Black Lake and Chignik Lake stocks are 400,000 and 250,000 fish. Commercial fishing time for sockeye salmon has been regulated based on achieving threshold escapement levels for each run by specific dates. Monitoring escapement with respect to achieving these thresholds is complicated by an overlap of the timing of early and late runs, i.e., the transition period. This period generally occurs during the latter part of June through mid-July.

Two methods have been developed to estimate daily proportions of each run during the transition period. The first is based on tagging studies conducted from 1962-1966 (Dahlberg 1968). These studies allowed biologists to develop an average time of entry (ATOE) curve to apportion the Chignik sockeye runs into early and late components. A form of this method is currently used for in-season management of the fishery. The second method is based on differential growth between juvenile salmon rearing in Black Lake and Chignik Lake (Burgner and Marshall 1974, Conrad 1983). Sockeye fry rearing in Black Lake (early run) emerge earlier and grow at a faster rate than fry rearing in Chignik Lake (late run) (Narver 1966). The disparity in growth rates between Black Lake and Chignik Lake rearing fry is reflected by their scale patterns, and when measured, provide the variables used to separate (scale pattern analysis (SPA)) Black Lake from Chignik Lake sockeye salmon stocks. Post-season SPA is used in preference to the ATOE Curve

for the final post-season allocations of fish to early or late runs.

1990 Management

The Chignik River weir, located three miles from Chignik Lagoon, was operational on May 28 (Figure 3). High water conditions from spring rains and melt from an exceptionally large accumulation of snowpack washed out a portion of the weir on May 30. The weir was repaired and once again fish tight on June 7. Escapement between May 30 and June 7 was estimated using linear interpolation between known data points, totaled 7,000 sockeye (Table 12).

The importance of run allocation for management purposes (stock separation) resulted in a 1989 proposal to place a weir at the outlet of Black Lake to monitor the early run of sockeye in 1990. The Black River Weir is located at the confluence of the Black River and Chiaktuak Creek (Figure 3). The floating weir is a new design which uses rails placed along the bottom for panel attachment as opposed to a conventional tripod or pile driven weir. Installation in 1990 was complicated by high water and the necessity of design modifications in the field. The weir became operational on June 28 after most of the first run fish had passed the site (Table 13). Project results established that a weir was feasible providing important information for increasing in-season management precision. It should allow for verification of assumptions used by biologists in final post-season run allocations.

The first commercial fishing period is allowed when the cumulative escapement through the weir prior to June 12 is a minimum of 40,000 fish, and there is an indication of a buildup in Chignik Lagoon. Interim escapement goals have been established to facilitate achieving the 400,000 and 250,000 fish escapement goals for Black and Chignik Lakes (Appendix B).

The 1990 Chignik sockeye salmon fishery started on June 16 (Appendix C). The cumulative escapement through 8:00 am, June 15 was 110,000 fish which was within the desired range for this date. The hourly rate of sockeye passage indicated that interim escapement goals would be achieved; therefore, the Eastern, Central and Chignik Bay Districts were opened to commercial salmon fishing from 9:00 am, June 16 through 9:00 am, June 17. Total sockeye harvest for this period was 58,650 fish (Table 4).

Escapement dropped to about 8,300 fish on June 17 increasing the cumulative escapement to 146,800 sockeye (Table 12). The rate of escapement was not sufficient to justify another commercial opening until June 22 when a 24-hour period was announced for the Eastern, Central and Chignik Bay Districts. This period was extended an additional 24-hours until June 24. The total harvest for this 48-hour fishing period was 139,758 fish.

The rate of escapement recovered very quickly (37,190 fish on June 26) and another 48-hour period was announced for 6:00 am, Wednesday, June 27 through 6:00 am, Friday, June 29. The cumulative weir count reached 395,570 fish on June 28 and the current fishing period was extended until further notice, except for the Eastern District, which was closed as scheduled on June 29.

The period of time between the last part of June and the first part of July is generally a time of transition from early run to late run fish. It is also a critical time for the management biologist who must assess the catch composition to determine which sockeye salmon stock dominates; early or late run. Fishing time is either increased to harvest early run stocks or fishing time is decreased on the late run stocks to allow time for late run strength evaluation. A major indication of run composition is provided by the age composition of the harvest. The early run is dominated by age-1.3 and age-1.2 fish, while the late run is characterized by age-2.3 and age-2.2 fish. Historically, it is unusual for the late run to have a very large percentage of age-1.2 fish (Conrad, 1983).

Scale samples collected from the commercial fishery indicated an unusually large percentage (54% on June 26) of age-1.2 fish in the catch (Figure 8). The high percentage of younger fish was also reflected in a low average weight (5.5 lbs) on June 27 (Table 4 and 5). These data indicated that early run stocks still dominated the commercial harvest and the fishery was extended in additional 24-hour increments until 11:00 pm, July 6. The percentage of age-1.2 fish in the catch at this time was declining rapidly and average weights and percentage of age-2.3 fish were increasing, indicating that late run stocks were comprising a larger portion of the harvest. Late run stocks became the primary focus of management after July 6. The total sockeye CMA harvest through July 6 was 629,457 (Table 4 and 5).

Based on the in-season time of entry curve, late run escapement through July 7 totaled 14,880 fish (Table 14). Since the total harvest of sockeye in the CMA was more than 600,000 fish on July 7 and early indications did not suggest a weak late run, the Cape Igvak and Stepovak/Balboa interception fisheries on late run Chignik stocks were allowed to proceed as directed by the Board of Fisheries.

The late run escapement totaled 33,600 fish at 6:00 pm, on July 9, and the daily rate of escapement indicated that interim escapement goals would be achieved, therefore, a 48-hour fishing period in the Central and Chignik Bay Districts was announced for 6:00 am, July 11 until 6:00 am, July 13 (Table 12). The sockeye harvest on July 11 totaled 54,797 fish and the late run escapement was 83,457 fish, well above the interim goal for this date, justifying extension of the fishing period to 9:00 pm, July 16. Catches continued to show strength with a harvest of 55,285 sockeye on July 14. Escapements also remained higher than interim goal requirements, and the fishing period in the Central and Chignik Bay Districts was again extended until 9:00 pm, July 18. Weak chum salmon escapements mandated closure of Kujulik Bay during this extension. The harvest

for the fishing period July 15 - 18 was 192,816 fish (Table 4 and 5).

The late run continued to show unexpected strength through July, August, and September. The late run sockeye fishery was managed using escapement goals and catch per unit effort data until after August 10 when catch per unit effort was exclusively used. Late run strength was apparent when the number of fishing days was totaled, 24 days in July and 27 days in August. The fishing fleet was placed on a five day per week fishing schedule in the Central and Chignik Bay Districts during the last week of August through October 30, the end of the commercial salmon season.

The Cape Igvak interception fishery resulted in a harvest of an estimated 83,967 Chignik bound sockeye salmon through July 25 (Table 15). This represented 5.96% of the total Chignik salmon harvest through July 25, 9.04% less than allocated by the Board of Fisheries. The unusually late run timing of the first run coupled with excellent local Kodiak sockeye returns probably contributed to the low harvest percentage. Post-July catches (80% of total catch as defined for stocks assumed to be of Chignik origin) in the Cape Igvak area totaled 48,437 sockeye for a season harvest of 132,404 fish (Table 16).

The Stepovak/Balboa interception fishery resulted in a harvest of 128,601 fish through July 25 (Table 15). This represented 9.13% of the total Chignik salmon harvest through July 25, 3.13% more than allocated by the Board of Fisheries. The strength of the late run and liberal commercial fishing time prior to July 25 was probably the reason the Board of Fisheries allocations were exceeded. The post-July 25 catches (also 80% of total to define harvest of Chignik stocks) in the Stepovak/Balboa area totaled 88,345 sockeye for a season harvest of 216,946 sockeye salmon (Table 16).

The ex-vessel value of the sockeye salmon harvested in the CMA was approximately $22,509,923 (Table 8). The average value per permit holder was $222,871.

Post season analysis using SPA and linear discriminant functions (LDF) was used to assign sockeye to Black Lake or Chignik Lake stocks. Scale samples for the Black Lake standard were collected from the Black Lake outlet (Table 17) and the Chignik Lake scale samples were from Chignik Lagoon commercial catches collected after July 25 (Table 18). Estimates from LDF (age-1.3 and age-2.3 fish) of the commercial catches were assigned as percent composition to Black Lake or Chignik Lake for each commercial sample (Table 19 and 20). Interpolation of percent composition between sample dates was calculated for catch and escapement values and adjusted to Chignik Lagoon dates (Table 21) resulting in escapement and catches for each stock by day (Table 22 and 23).

The Black Lake sockeye escapement, based on post-season SPA, was 434,543 fish, 70,998 spawners more than the in-season estimate generated from the time of entry curve and 34,543 more than the 400,000 fish escapement goal (Table 14 and 24 and Figure 9). The estimated Chignik Lake sockeye escapement, based on post-season SPA, was 335,867 fish, 85,867 spawners more than the 250,000 fish late run escapement goal (Table 25 and Figure 10 and 11).

Major age classes (in percent) as determined by SPA contributed to the escapement and catch of the Black Lake run as follows: age-1.3 (43.3% and 32.0%), age-1.2 (31.0% and 35.2%), age-2.3 (19.6% and 21.4%) and age-2.2 (4.7% and 9.0%) (Table 24 and 25). Major age classes (in percent) as determined by SPA contributed to the escapement and catch of the Chignik Lake run as follows: age-2.3 (65.9% and 76.4%), age-1.3 (13.2% and 7.0%), age-1.2 (12.8% and 7.3%) and age-2.2 (6.7% and 7.5%) (Table 26 and 27).

In summary, the 1990 sockeye salmon run for Black Lake was 1.02 million fish and for Chignik Lake was 2.19 million fish. Total

escapement to both lakes was .77 million and harvest was 2.44 million for a combined total of 3.2 million fish (Table 28, 29 and Figure 12). This was not within the forecasted range of a 1.46 to 2.18 million fish return (Appendix A). The early run was within the forecasted range, however, the late run was much larger than anticipated. This may be a function of the forecast methods.

The early run forecast is based on the historical relationship between the prior year total return of age-1.2 fish, the average length of prior year age-1.2 male fish, and the parent year escapement. These variables provide the framework for the multiple linear regression forecast model.

The Chignik Lake forecast has historically been variable in its accuracy and developing a model, such as the one used for the early run, has been unsuccessful. Late run forecast estimates are based on a simple return per spawner estimate for each age class represented in the return.

Aerial surveys have been conducted in the Chignik Lakes system almost every year since 1960, but are not used to estimate sockeye escapement (Table 30).

Pink and Chum Salmon

Background

Pink and chum salmon escapement and production in the CMA is sporadic from year to year as indicated by the variable escapement and return per spawner for both pink (0.1-9.2) and chum (0.1-15.5) salmon (Tables 31-46). This erratic production for pink and chum streams could be attributed to the physical morphology of the river and stream systems that are characterized by loose substrates and steep gradients. These systems are impacted by fall, winter, and spring floods which can cause streambed scouring, resulting in high egg and fry mortality.

The CMA pink and chum salmon fisheries are managed based on in-season aerial assessment of escapement (Table 47), and catch per unit effort (CPUE) data collected during fishing periods. Several years of stream survey data are available (Table 48). Currently, all salmon processed locally are for the fresh frozen market as there are no operational canning facilities in the area. Consequently, to provide the quality required for the fresh frozen processing, the fisheries are managed to intercept migrating fish prior to or just as they reach terminal waters.

1990 Management

The 1990 projected harvest of pink and chum salmon was 1.96 million and 152,000 fish (Appendix A). The large projected return of pink salmon was based on a record escapement in 1988. An aggressive management strategy was anticipated early in the season prior to aerial assessment of bay and stream mouth buildups.

The Eastern, Western and Perryville Districts were opened to commercial salmon fishing from 9:00 am, July 6 through 6:00 pm, July 7 resulting in a catch of 7,370 pinks and 49,359 chums. Usually, the opening in early July is used to provide an assessment of early pink and chum salmon stocks. A second fishing period in these Districts was announced for 12:01 am, July 13 through 12:01 am, July 16. The Western and Perryville Districts were extended an additional 24-hours but the Eastern District was closed as mandated by the Eastern District Management Plan (Appendix D). Catches for this period totaled 31,667 pink and 55,017 chum salmon. The third fishing period targeting on pink and chum salmon was in the Western and Perryville Districts from 6:00 am, July 21 through 10:00 pm, July 23. During this period 63,300 pinks and 22,319 chums were caught. An ADF&G observer was placed aboard a tender located near Mitrofania Island to monitor catches of immature salmon. Although catches of immature salmon were recorded, the quantity was not sufficient to warrant a fishery closure.

Both the catch and escapement of pink salmon through July 23 was below anticipated levels for the projected run size. The catch and escapement of chum salmon was above anticipated levels, but terminal harvests were minimized because of the weak pink salmon returns. Aerial surveys on July 31 and August 1 indicated buildups of pink and chum salmon of sufficient quantity to justify a commercial fishery. The Eastern, Western and Perryville Districts were opened from 6:00 am, August 4 until 10:00 pm, August 5. The pink salmon catch on August 4 totaled only 34,700 fish, indicating that pink salmon entering the CMA were not of sufficient magnitude to sustain the commercial fishery and meet escapement requirements. Therefore, the fishery was closed for the remainder of the 1990 season.

The 1990 CMA pink salmon estimated escapement totaled 1.08 million fish as based on the area under the curve method (Johnson and Barrett 1988) (Table 36 and Figure 13). The escapement in the Eastern District was adequate (811,400 fish), however, escapements in the Western and Perryville Districts were extremely weak at 44,300 and 88,400 fish (Tables 32-34). The total catch of 550,000 was approximately about 25% of the projected 1.96 million harvest (Table 36 and Appendix A).

The CMA chum salmon catch and escapement were 270,000 and 253,800 fish (Table 42 and Figure 14). Escapements to Eastern, Western and Perryville Districts streams and rivers were 139,700, 28,800 and 55,800 fish (Tables 39-41).

The ex-vessel value of the pink and chum salmon harvest was $502,693 and $878,510 (Table 8). The average value per permit holder was $4,977 for pink salmon and 8,698 for chum salmon.

Coho Salmon

Background

Coho Salmon are present throughout the CMA, but usually the returns to the Chignik lakes system are the largest, not only to the CMA, but to the ADF&G Westward Region. Total production in the Chignik River system is unknown, primarily due to the lengthy run timing and the associated costs of enumerating escapements. However, Ruggerone (1989) used a run reconstruction model to estimate the average run at 131,200 fish.

Coho first appear in the commercial fishery about mid-July and are still present when the fishery closes in October. Since 1976, coho catches have ranged from 17,429 (1976) to 370,410 (1988) fish. Recently, coho catches have appeared bimodal with peaks in July during the targeted pink and chum fisheries and in late August and early September (Table 4). The early coho catches occurring primarily in the Western and Perryville Districts have lower average weights than those caught later in the Chignik Lagoon (Table 5). Based on run timing and average weights, it is suspected that an unknown portion of the early coho harvest is from the Chignik Bay District and considered local stocks.

1990 Management

A total of 130,131 coho salmon were harvested in the CMA in 1990, 8% less than the 1981-90 average harvest of 159,368 fish (Table 3, 7, and Figure 15). Reduced fishing time in the Western and Perryville Districts during July and early August due to poor pink salmon returns, could account for the lower than average total. Coho catches were reported through September 30 in the Chignik Bay District with a peak on September 6 of 4,960 (Table 5).

The ex-vessel value of the CMA coho salmon harvested was approximately $700,309 (Table 8). The average value per permit holder was $6,934.

Although coho were targeted in only one survey, many were observed within many area streams in other surveys that targeted pink and chum salmon. No estimates of Chignik area spawning coho salmon were made because budget constraints did not allow for late season surveys.

During 1990, a special project was funded to collect coho salmon scales from the commercial fishery for stock separation purposes (SPA). Age-2.1 fish predominated the catches (Table 49).

Subsistence

The CMA population centers of Chignik, Chignik Lake, Chignik Lagoon, Perryville and Ivanof Bay rely heavily on local resources for subsistence. In 1990, the Chignik area subsistence harvest totaled an estimated 112 chinook, 9,733 sockeye, 604 pink, 255 chum and 739 coho salmon (Table 50).

1991 Season Outlook

The total 1991 salmon harvest projection of 4.55 million fish is 1.91 million more than the 1981-90 average of 2.75 million fish (Table 7 and Appendix E). Harvest projections for chinook (3,500) and coho (125,000) salmon are close to the respective 1981-90 averages while the sockeye salmon harvest (3.25 million) is twice the 10 year average. The return of age-1.2 sockeye in 1990 was second highest on record and is the basis for the large return forecasted for 1991. The pink salmon harvest projection (1.2 million) is about 450,000 more than the 10 year average.

CHIGNIK HERRING FISHERIES

Background

The earliest recorded herring fishery in the Alaska Peninsula region was in 1906. During the early herring fishery, Chignik area catches were combined with catches from North and South Peninsula areas and labeled as Southwestern Alaska catches. Annual Southwestern Alaska herring catches did not exceed 500 tons. Herring were harvested with beach seines and marketed as a salted product. The herring fishery ceased in the late 1930's and did not commence again until 1980, with the sac-roe fishery.

Since 1980, the Chignik area herring sac-roe fishery has been a low effort, low yield fishery. Prior to 1984, harvests were concentrated in the Big River Section of the Eastern District (Figure 3). This area was closed to commercial herring fishing in 1985 and has remained closed to protect dwindling stocks. This closure shifted effort into other areas of the CMA (Appendix G and H).

Herring spawning schools that are in small geographic areas, generally a bay or lagoon, are managed as discrete stocks. The projected annual harvest for each of these stocks is dependent on the previous year biomass estimates at an exploitation rate of 0-20%. Pre-season harvest projections may differ from actual harvest levels if in-season information suggests that the spawning biomass of a discrete stock differs significantly from anticipated levels.

1990 Management

There was no commercial harvest of herring in 1990. This apparently occurred because of low abundance levels and a reluctance of processors to purchase local herring.

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Table 1. List of active permit holders in the Chignik Management Area, 1990.

	Name		Permit No.	Residency	ADF&G No.
1	ALECK	NICK	S01L56935 J	R	54974
2	ALEXANDER	JASON	S01L59000 W	R	21757
3	ANDERSON	AL	S01L57160 U	R	50763
4	ANDERSON	DAVID	S01L56415 U	R	32397
5	ANDERSON	DEAN	S01L60114 M	R	56231
6	ANDERSON	EUGENE	S01L60601 G	R	31492
7	ANDERSON	GUNNAR	S01L56589 I	R	49655
8	ANDERSON	H.	S01L57501 K	R	53370
9	ANDERSON	GEORGE	S01L57133 E	R	33375
10	ANDERSON	JULIUS	S01L55433 H	R	41205
11	ANDERSON	MARVIN	S01L58425 P	R	29063
12	ANDERSON	NEIL	S01L58578 P	R	1873
13	ANDERSON	RODNEY	S01L56936 B	R	118
14	ANDERSON	RONALD	S01L58818 F	R	57480
15	BATTISHILL	FRANK	S01L50045 K	R	117
16	BECK	MARK	S01L55925 M	NR	56222
17	BECKER	CARL	S01L57469 C	NR	51091
18	BRANDAL	ALEC	S01L55170 U	R	32586
19	BRANDAL	HENRY	S01L50032 K	R	11017
20	BUMPUS	DONALD	S01L61910 L	NR	59651
21	CAMPBELL	DANIEL	S01L55731 X	NR	40262
22	CARLSON	AXEL	S01L57612 J	R	35863
23	CARLSON	BERNARD	S01L50220 U	R	38182
24	CARLSON	CARL	S01L56192 Z	R	21898
25	CARLSON	DALE	S01L57473 V	R	43370
26	CARLSON	ERIC	S01L62210 Z	R	33957
27	CARLSON	ERNEST	S01L57125 P	R	43775
28	CARLSON	EUGENE	S01L55520 P	R	36054
29	CARLSON	RODERICK	S01L57704 F	R	44149
30	CARLSON	RUDY	S01L63976 A	R	22017
31	CARROLL	ALBERT	S01L60106 Z	NR	56231
32	CONSTANTINE	JOHNNY	S01L57808 I	R	15888
33	CRONK	GLEN	S01L58603 C	NR	38635
34	ENDRESEN	ANDY	S01L60183 F	R	17124
35	ERICKSON	CLARENCE	S01L56512 B	R	53266
36	GREGORIO	TONY	S01L58848 X	R	37548
37	GRUNERT	FRANK	S01L59851 X	R	32424
38	GRUNERT	MICHAEL	S01L55935 K	R	59482
39	HINDERER	WALLACE	S01L57085 S	R	41592
40	JOHNSON	PAUL	S01L56395 S	NR	35956
41	JONES	MORRIS	S01L56405 W	NR	39275

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Table 1. (page 2 of 3)

	Name		Permit No.	Residency	ADF&G No.
42	KALMAKOFF	ARTEMIE	S01L50090 M	R	23636
43	KALMAKOFF	GUSTIA	S01L50123 N	R	36497
44	KALMAKOFF	HARRY	S01L60115 F	R	6923
45	KALMAKOFF	JOSEPH	S01L60614 G	R	11017
46	KALMAKOFF	PETER	S01L58077 F	R	14805
47	KASHEVAROF	WILLIAM	S01L57487 N	R	54242
48	KOPUN	ALOYS	S01L57863 I	R	45995
49	KOSBRUK	BORIS	S01L58206 U	R	43200
50	KOSBRUK	HARRY	S01L56726 L	R	38528
51	KOSBRUK	IGNATIUS	S01L50116 R	R	45060
52	KULIN	STEPHEN	S01L60113 U	R	41178
53	LIND	ELLIOT	S01L56872 O	R	35950
54	LIND	JOHNNY	S01L50223 W	R	38404
55	LIND	LARRY	S01L57376 O	R	10567
56	LIND	WILLIAM	S01L57384 C	R	111
57	LOUNSBURY	BRETT	S01L58322 F	R	31995
58	MCCALLUM	CHARLES	S01L55399 O	NR	29006
59	MCKILLY	GABRIEL	S01L59493 O	R	32863
60	MCLENAGHAN	MICHAEL	SOIL55938 M	NR	36731
61	MINAKER	HARRY	S01L56203 U	NR	33848
62	MOORE	JEFFREY	SO1L61370 V	R	37252
63	MUNSON	HENRY	S01L59794 I	R	41317
64	ODOMIN	NICK	S01L57696 L	R	195
65	OGLE	LEONARD	S01L55311 R	R	40484
66	OLSON	JEFFREY	SO1L58496 R	NR	21877
67	OLSEN	KNUD	S01L56418 W	NR	55822
68	ORLOFF	GEORGE	S01L59308 M	R	57946
69	PEDERSEN	ALEC	S01L57695 S	R	51282
70	PEDERSEN	ALEC	S01L64188 M	R	34198
71	PEDERSEN	ALVIN	S01L55953 V	R	37662
72	PEDERSEN	AUGUST	S01L58126 H	R	28396
73	PEDERSEN	AUGUST	S01L50039 H	R	59642
74	PEDERSEN	HANS	S01L57171 K	R	40248
75	PEDERSEN	MARIUS	S01L64187 U	R	57465
76	PEDERSON	AUGUST	S01L58126 H	R	59642
77	PHILLIPS	ELIA	S01L50332 L	R	42335
78	SHANGIN	ANDY	S01L58145 K	R	39351
79	SHANGIN	CLEMENT	S01L56733 H	R	38622
80	SHANGIN	DENNIS	S01L58178 G	R	21899
81	SHANGIN	RUSSELL	S01L57003 B	R	56291
82	SIEMION	MATTHEW	S01L56992 S	NR	32361
83	SIEMION	THEODORE	S01L56322 H	NR	20453
84	SKONBERG	BERNARD	S01L55477 R	R	33858

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Table 1. (page 3 of 3)

	Name		Permit No.	Residency	ADF&G No.
85	SKONBERG	CALVIN	S01L56228 C	R	34184
86	SKONBERG	DARRELL	S01L55546 P	R	33614
87	SKONBERG	GUY	S01L55361 H	R	35698
88	SKONBERG	RALPH	S01L50205 L	R	28657
89	SKONBERG	ROY	S01L58470 R	R	42210
90	STEPANOFF	ANDREW	S01L60144 G	R	194
91	STEPANOFF	OLEANA	S01L58308 N	R	7143
92	STEPANOFF	SAM	S01L50338 P	R	33778
93	STEPANOFF	WALTER	S01L57091 W	R	11045
94	SUYDAM	LOWELL	S01L56680 K	R	39962
95	SUYDAM	GLENN	S01L59615 J	R	53205
96	TAKAK	AFONIE	S01L57035 F	R	50048
97	TEUBER	PAUL	S01L60121 I	NR	55545
98	VANWINGERDEN	MARK	S01L57296 B	R	58817
99	VEERHUSEN	DANIEL	S01L57662 X	R	36518
100	YAGIE	JERRY	S01L56797 N	R	36296
101	YAGIE	MARVIN	S01L57278 P	R	54909

Table 2. Chignik Area fishing effort in units of seine gear, by resident status, 1966-1990.

	Units of Gear				
Year	Resident	Percent	Non-Resident	Percent	Total
1966	65	89.0	8	11.0	73
1967	73	88.0	10	12.0	83
1968	59	88.1	8	11.9	67
1969	57	83.8	11	16.2	68
1970	57	82.6	12	17.4	69
1971	64	83.1	13	16.9	77
1972	62	78.5	17	21.5	79
1973	63	81.8	14	18.2	77
1974	79	84.0	15	16.0	94
1975	72	83.7	14	16.3	86
1976	66	85.7	11	14.3	77
1977	74	84.1	14	15.9	88
1978	82	86.3	13	13.7	95
1979	87	86.1	14	13.9	101
1980	87	86.1	14	13.9	101
1981	87	84.5	16	15.5	103
1982	89	84.8	16	15.2	105
1983	84	84.0	16	16.0	100
1984	84	83.2	17	16.8	101
1985	85	84.2	16	15.8	101
1986	87	87.0	13	13.0	100
1987	89	87.3	13	12.7	102
1988	88	86.3	14	13.7	102
1989	86	84.3	16	15.7	102
1990	85	84.2	16	15.8	101

Table 3. Chignik Management Area commercial salmon catches by district, statistical area, and species, 1990.

District	Stat Area	Catch by Species					Total
		Chinook	Sockeye	Coho	Pink	Chum	
Chignik Lagoon	271-10	3,719	1,400,069	61,260	94,528	11,460	1,571,036
	Total	3,719	1,400,069	61,260	94,528	11,460	1,571,036
Central	272-20	403	15,608	1,337	7,859	12,862	37,529
	272-30	668	250,237	20,586	89,715	49,805	411,011
	272-40	93	4,202	1,434	8,451	3,805	17,985
	272-50	516	205,652	2,350	66,193	40,406	315,117
	272-62	495	91,442	1,952	61,459	6,863	162,211
	Total	2,175	566,601	27,659	233,677	113,741	943,853
Eastern	272-60	170	46,274	30	2,962	17,618	67,054
	272-72	0	44	0	1,161	3,223	4,428
	272-80	0	7	0	6,885	3,860	10,752
	272-90	2	5	1	29,367	2,591	31,966
	272-92	3	5,113	1	199	171	5,487
	Total	175	51,443	32	40,574	27,463	119,687
Western	273-72	5	695	200	1,005	1,600	4,195
	273-74	1,223	24,998	15,559	93,921	64,521	200,222
	273-80	14	12,918	2,125	7,764	3,516	26,337
	273-84	0	491	32	737	279	1,539
	273-90	766	8,144	3,525	22,181	12,846	47,462
	273-94	1,182	5,946	1,981	10,202	8,841	28,152
	Total	3,190	53,192	23,422	135,810	91,603	307,217
Perryville	275-40	642	20,131	17,521	43,017	25,248	106,559
	275-50	0	2,214	237	2,402	489	5,342
	Total	642	22,345	17,758	45,419	25,737	111,901
Area Total		9,901	2,093,650	130,131	550,008	270,004	3,053,694

Table 4. Catch by day of all salmon caught within the Chignik Management Area, 1990.

Catch Date	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
			NUMBER	POUNDS	NUMBER	POUNDS	NUMBER	POUNDS	NUMBER	POUNDS	NUMBER	POUNDS
06/10	1[a]	1	0	0	470	3,051	0	0	0	0	0	0
06 14	1[a]	1	0	0	588	3,776	0	0	0	0	0	0
06/16	80	89	20	394	43,749	275,538	0	0	8	16	181	1,521
06/17	72	72	23	434	14,901	92,064	0	0	54	123	193	1,376
06/19	1[a]	1	0	0	683	4,700	0	0	0	0	0	0
06/21	1[a]	1	0	0	2,318	13,271	0	0	0	0	0	0
06/22	88	93	170	3,428	82,402	471,135	0	0	266	638	1,081	9,397
06/23	91	118	100	2,274	57,356	318,733	0	0	726	1,751	1,332	10,832
06/26	1[a]	1	0	0	642	3,415	0	0	0	0	0	0
06/27	93	102	238	5,474	95,427	520,917	0	0	859	2,070	2,443	20,571
06/28	90	96	240	5,201	51,565	275,635	154	969	3,073	8,121	4,601	36,672
06/29	87	98	199	4,147	45,873	253,842	215	1,835	1,417	3,235	4,720	37,188
06/30	82	91	202	5,064	33,307	189,052	0	0	748	1,677	4,465	35,542
07/01	75	85	202	3,702	37,701	208,779	44	386	1,915	3,687	6,768	51,669
07/02	81	84	236	4,499	30,030	171,373	18	131	567	1,094	4,993	38,737
07/03	84	89	316	5,173	38,525	215,987	15	121	988	2,093	6,810	54,073
07/04	77	79	252	4,628	29,726	173,666	7	53	508	1,091	6,261	49,133
07/05	65	69	256	4,599	28,817	171,521	16	92	879	2,202	6,516	48,679
07/06	79	84	840	9,095	35,377	213,099	451	2,713	3,564	7,951	29,525	191,495
07/07	59	63	1,224	8,793	9,550	53,241	1,200	7,187	3,958	8,953	23,127	143,574
07/09	1[a]	1	0	0	821	5,702	0	0	0	0	0	0
07/11	88	91	426	8,773	54,797	376,779	114	792	819	2,028	3,346	24,306
07/12	91	101	456	9,141	54,561	379,021	369	2,201	1,175	3,152	5,890	42,329
07/13	69	73	147	3,119	37,759	265,692	193	1,220	1,110	2,689	3,247	22,052
07/14	89	97	358	4,830	55,285	390,633	2,172	13,350	7,225	20,800	13,045	78,737
07/15	86	91	734	6,734	51,013	361,508	6,042	37,803	10,649	31,118	22,625	124,889
07/16	95	108	939	9,102	62,071	434,647	14,045	87,798	20,716	54,277	28,447	158,988
07/17	78	88	233	3,432	41,775	305,664	922	5,605	4,487	12,519	2,925	19,531
07/18	86	90	423	3,584	37,957	273,854	883	5,347	6,136	16,992	2,677	17,565
07/21	43	43	427	2,506	9,611	64,827	3,775	22,761	25,647	74,640	10,055	55,057
07/22	92	99	178	1,965	56,648	396,760	7,307	27,357	32,042	88,810	8,949	52,675
07/23	90	93	364	3,547	37,271	260,074	2,678	18,301	26,617	81,113	9,001	61,458
07/24	88	94	134	1,459	35,177	245,217	476	2,813	16,032	45,626	2,517	17,039
07/25	93	99	113	1,131	37,344	263,938	708	4,113	19,301	56,027	3,507	23,755
07/26	86	90	50	1,081	48,163	345,549	86	530	18,420	56,195	3,222	20,850
07/27	88	97	44	730	51,720	367,703	265	1,602	20,431	64,275	4,082	25,298
07/28	91	97	24	562	41,381	292,853	196	1,381	17,227	52,676	2,202	13,504
07/29	88	91	31	579	30,979	216,545	231	1,429	12,915	40,992	1,859	12,004
07/30	74	77	29	619	33,420	234,175	29	168	16,797	51,258	819	5,654
07/31	79	81	19	303	37,733	263,858	1,283	4,575	16,781	56,047	1,922	11,919
08/01	87	95	23	473	26,797	189,037	288	1,829	15,199	50,568	1,921	11,844
08/02	83	87	28	416	26,884	185,966	375	2,513	16,611	52,810	1,723	10,302
08/03	72	75	11	243	28,597	201,341	116	1,064	6,452	21,488	499	2,878
08/04	90	92	17	302	30,784	215,759	3,658	23,823	59,413	187,315	11,582	88,043

-Continued-

Table 4. (page 2 of 2)

Catch Date	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
			NUMBER	POUNDS	NUMBER	POUNDS	NUMBER	POUNDS	NUMBER	POUNDS	NUMBER	POUNDS
08/05	82	85	19	327	32,490	228,049	3,779	23,540	79,509	242,514	6,750	43,857
08/06	78	80	9	138	22,228	158,520	290	1,991	10,879	35,810	1,385	8,042
08/07	76	81	13	192	25,020	179,357	111	668	8,043	26,839	854	5,855
08/08	69	71	5	116	17,671	126,179	27	165	4,487	15,912	339	2,138
08/09	71	73	10	69	12,173	85,328	96	658	4,748	15,837	491	3,119
08/10	65	79	3	68	19,368	136,979	211	1,393	5,684	19,361	689	4,098
08/13	74	79	3	80	21,189	148,532	107	689	6,571	23,021	605	3,711
08/14	75	81	15	234	19,442	135,291	199	1,405	5,305	17,465	758	4,766
08/15	68	71	10	154	19,263	136,123	266	1,835	5,296	17,912	720	4,206
08/16	52	52	5	101	17,774	125,523	46	341	3,056	10,539	206	1,303
08/17	66	72	2	24	26,456	184,637	271	1,973	4,259	13,712	418	2,556
08/18	65	67	6	123	26,767	189,550	328	2,253	3,062	10,184	574	3,316
08/19	63	63	7	102	18,397	128,143	277	1,992	2,196	7,113	277	1,810
08/20	68	71	15	188	24,336	169,251	717	5,044	3,979	12,453	860	5,218
08/21	72	76	6	79	20,206	140,052	699	5,218	3,247	10,464	770	4,698
08/22	54	54	2	20	14,786	101,748	605	4,349	1,185	7,206	214	1,226
08/23	61	61	5	46	18,873	130,243	1,624	11,705	2,449	7,369	552	2,926
08/24	57	74	5	85	19,432	128,564	2,306	17,998	1,730	5,715	477	2,670
08/27	72	73	3	94	20,734	144,128	2,990	20,715	663	2,023	540	3,195
08/28	69	72	6	73	13,261	91,039	3,840	29,952	479	1,560	376	1,947
08/29	54	55	7	147	13,017	89,002	5,377	42,924	409	1,226	277	1,540
08/30	50	52	2	25	11,616	80,076	4,584	37,338	264	802	287	1,568
08/31	50	52	4	62	11,141	75,408	5,553	44,826	202	648	320	1,789
09/03	54	55	3	20	15,145	101,212	5,890	48,042	207	681	374	1,763
09/04	55	56	1	9	8,533	56,323	6,324	51,477	150	479	520	2,256
09/05	47	49	1	9	6,519	43,232	5,147	41,574	39	122	327	1,524
09/06	36	36	3	54	4,262	27,656	5,453	45,665	28	93	187	997
09/07	37	37	0	0	6,692	43,480	5,190	44,179	56	174	266	1,356
09/10	37	38	4	70	7,585	49,781	4,839	40,522	34	112	215	1,021
09/11	34	35	1	20	6,450	41,348	4,507	37,240	1	3	137	558
09/12	26	26	0	0	4,879	32,783	3,077	26,011	2	6	60	283
09/13	25	26	0	0	4,491	29,846	2,214	18,497	2	7	37	190
09/14	20	20	0	0	3,773	25,127	1,196	9,808	0	0	34	162
09/17	21	22	0	0	2,471	15,833	1,174	9,534	0	0	8	58
09/18	14	14	0	0	2,323	14,962	746	6,113	0	0	3	21
09/19	14	14	0	0	4,223	26,795	1,073	8,639	0	0	4	28
09/20	6	6	0	0	1,249	7,767	303	2,501	0	0	2	14
09/21	9	9	0	0	1,780	11,281	294	2,569	0	0	0	0
09/24	[b]		0	0	80	724	70	540	55	165	13	98
TOTALS	5,080	5,405	9,901	134,265	2,093,650	13,809,769	130,131	933,745	550,008	1,675,644	270,004	1,757,019
AVERAGE				13.56		6.60		7.18		3.05		6.51

[a]Test fishery within Chignik Lagoon.
[b]Confidentiality rules preclude listing data when less than 3 vessels.

Table 5. Catch by statistical area and day for all salmon species within the Chignik Management Area, 1990.[a]

Stat Area	Date	Fishing Effort		Chinook		Sockeye		Coho		Pink		Chum	
		Permits	Lndgs	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
271-10	6/10	1	1	0	0	470	3051	0	0	0	0	0	0
	6/14	1	1	0	0	588	3776	0	0	0	0	0	0
	6/16	74	83	17	352	41515	261937	0	0	0	0	1	8
	6/17	59	59	10	229	6858	42209	0	0	2	3	9	47
	6/19	1	1	0	0	683	4700	0	0	0	0	0	0
	6/21	1	1	0	0	2318	13271	0	0	0	0	0	0
	6/22	74	78	122	2613	61481	354305	0	0	0	0	6	68
	6/23	68	91	61	1464	35295	197033	0	0	18	35	8	57
	6/26	1	1	0	0	642	3415	0	0	0	0	0	0
	6/27	72	80	169	4195	72193	393997	0	0	20	32	7	59
	6/28	59	63	161	3699	29192	158755	0	0	430	823	123	962
	6/29	52	55	119	2790	19924	110786	215	1835	49	106	44	425
	6/30	56	63	153	4056	16579	93056	0	0	36	62	222	2012
	7/01	42	43	96	2179	9512	54261	0	0	19	34	165	1404
	7/02	57	57	160	3418	13648	76875	3	24	163	308	1030	7623
	7/03	47	48	114	2399	15226	87077	1	7	40	74	193	1392
	7/04	48	48	142	3108	18870	109712	2	15	93	172	549	4397
	7/05	37	39	156	3426	16313	97623	1	9	97	240	630	4415
	7/06	32	35	127	2741	24233	148836	0	0	2	4	2	17
	7/09	1	1	0	0	821	5702	0	0	0	0	0	0
	7/11	70	72	330	7507	39947	279794	22	163	162	344	1144	7747
	7/12	66	72	344	7528	33568	236799	3	17	39	105	8	60
	7/13	53	54	112	2541	23575	167909	2	16	64	161	16	127
	7/14	57	63	163	3404	32830	239288	1	9	56	151	22	151
	7/15	51	53	136	2944	27977	207020	5	33	68	182	20	134
	7/16	55	59	173	4365	27971	205650	0	0	62	173	7	54
	7/17	53	62	113	2521	28298	208890	286	1895	392	1117	442	2966
	7/18	54	55	150	2196	20484	149227	171	954	709	2207	357	2510
	7/22	62	63	55	1216	40551	287233	17	108	1125	3259	112	912
	7/23	65	65	95	2040	23682	167683	10	54	752	2413	37	290
	7/24	63	65	64	1185	19065	134459	13	71	436	1304	30	228
	7/25	62	66	69	672	23986	170627	68	435	1065	3201	163	1036
	7/26	60	62	42	972	33523	241425	0	0	860	2670	45	316
	7/27	60	66	37	647	33254	237761	6	42	1831	5973	104	681
	7/28	65	67	21	463	27148	193593	8	55	1963	6366	74	46

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Table 5. (page 2 of 13)

Stat Area	Date	Fishing Effort		Chinook		Sockeye		Coho		Pink		Chum	
		Permits	Lndgs	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
271-10	7/29	63	63	23	497	21680	151558	2	13	1823	5943	39	287
	7/30	67	69	24	519	27526	192810	1	8	3428	11388	55	404
	7/31	59	61	13	239	30321	212926	18	150	4271	14438	374	2283
	8/01	63	68	18	398	20056	141818	40	213	3451	12115	99	708
	8/02	57	58	14	283	18105	126538	17	111	4113	13827	110	752
	8/03	57	60	10	236	25005	177226	66	695	3563	11988	74	524
	8/04	52	53	9	174	25426	178605	53	384	4682	15700	136	980
	8/05	49	49	7	137	21376	150964	92	624	6285	21044	263	1616
	8/06	63	65	9	138	19161	137076	133	953	6983	23042	475	2912
	8/07	67	71	13	192	21811	156219	4	27	5125	18066	228	1533
	8/08	65	67	5	116	17276	123475	0	0	4328	15310	264	1774
	8/09	62	63	2	20	10856	76327	3	21	3165	10938	201	1319
	8/10	58	72	3	68	18323	129565	16	128	3955	13709	234	1532
	8/13	70	75	3	80	19500	136584	55	373	5900	20903	439	2714
	8/14	70	76	8	134	15830	110070	49	329	3436	11977	183	1143
	8/15	61	64	6	92	15966	112974	43	317	3328	11770	179	1105
	8/16	52	52	5	101	17774	125523	46	341	3056	10539	206	1303
	8/17	59	65	2	24	20529	143453	88	579	3146	10334	184	1138
	8/18	56	58	6	123	19473	138230	118	809	1760	5828	204	1309
	8/19	55	55	4	68	15626	108643	176	1224	1556	5098	187	1228
	8/20	55	57	3	50	17073	118753	209	1456	1674	5279	232	1372
	8/21	58	59	0	0	14930	104055	199	1481	1871	6134	259	1549
	8/22	51	51	2	20	13222	91400	437	3113	857	6016	162	963
	8/23	50	50	1	9	9096	62836	642	4759	526	1774	128	758
	8/24	49	65	0	0	14432	95198	1337	10718	576	1785	122	779
	8/27	58	59	3	94	16323	113478	2287	15215	344	1054	169	1005
	8/28	55	58	6	73	10699	73468	3312	25915	237	741	114	706
	8/29	45	46	4	98	10371	71123	4238	34171	181	546	73	473
	8/30	40	42	2	25	8998	62243	4003	32708	117	358	57	398
	8/31	39	41	1	14	8640	58405	4492	36595	95	302	107	652
	9/03	44	45	0	0	7007	47633	4194	34677	44	135	26	154
	9/04	40	40	1	9	3501	23387	3813	31766	23	80	21	114
	9/05	32	34	0	0	3748	25282	3652	29476	15	45	26	160
	9/06	28	28	1	14	3086	20193	4960	41724	17	58	45	199
	9/07	30	30	0	0	3493	22611	4401	37378	13	41	98	676
	9/10	26	27	0	0	5110	33954	4203	35151	28	95	67	356

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Table 5. (page 3 of 13)

Stat Area	Date	Fishing Effort		Chinook		Sockeye		Coho		Pink		Chum	
		Permits	Lndgs	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
271-10	9/11	24	24	0	0	3287	21084	3482	29121	0	0	6	28
	9/12	19	19	0	0	4136	27840	2837	24078	2	6	8	53
	9/13	22	22	0	0	3873	25848	2105	17636	1	3	16	84
	9/14	18	18	0	0	3158	21052	1013	8366	0	0	3	15
	9/17	21	22	0	0	2471	15833	1174	9534	0	0	8	58
	9/18	14	14	0	0	2323	14962	746	6113	0	0	3	21
	9/19	14	14	0	0	4223	26795	1073	8639	0	0	4	28
	9/20	6	6	0	0	1249	7767	303	2501	0	0	2	14
	9/21	9	9	0	1780	11281	294	2569	0	0	0	0	0
Total		95	3930	3719	80915	1400069	9374800	61260	497901	94528	319928	11460	77739
Avg. Wt.					21.76		6.70		8.13		3.38		6.78
272-20	6/17			1	8	839	5137	0	0	0	0	0	0
	6/29			5	95	10	58	1058	5087	458	1036	666	4917
	6/30			1	10	294	1610	0	0	92	180	71	585
	7/01			29	468	5781	30939	0	0	1542	2925	3203	23343
	7/02			15	171	737	3745	5	49	155	275	1047	7981
	7/03			41	437	1484	7361	0	0	261	510	2129	164[illegible]5
	7/04			40	576	678	3452	5	38	201	407	1589	122[illegible]
	7/05			31	369	486	2598	1	7	79	169	838	6325
	7/06			15	260	472	2618	10	58	128	290	732	5709
	7/11			4	102	124	745	14	117	70	166	69	500
	7/13			5	89	378	2404	5	33	20	37	35	153
	7/16			95	559	403	2318	378	2292	690	1697	711	4732
	7/17			62	285	363	2166	329	1795	857	2321	693	4557
	7/18			42	121	95	433	174	887	336	950	280	1635
	7/25			9	26	56	497	33	210	448	1265	150	955
	7/29			0	0	146	990	30	180	539	1740	135	885
	8/01			0	0	113	753	64	383	1269	3965	409	2293
	8/03			0	0	575	4031	0	0	153	539	0	0
	8/09			8	49	46	276	45	306	373	1227	71	424
	8/24			0	0	940	6258	244	1403	188	563	34	218

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Table 5. (page 4 of 13)

Stat Area	Date	Fishing Effort Permits	Fishing Effort Lndgs	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
272-20	8/24			0	0	940	6258	244	1403	188	563	34	218
Total		24	47	403	3625	15068	83418	1337	7758	7859	20262	12862	93902
Avg. Wt.					9.00		5.54	0	5.80		2.58		7.30
272-30	6/16			3	42	2019	12390	0	0	8	16	174	1461
	6/17			2	31	2380	15257	0	0	4	11	64	563
	6/22			7	166	5876	33148	0	0	0	0	732	6110
	6/23			13	297	2342	13106	0	0	156	295	335	3107
	6/27			17	272	3226	14936	0	0	25	55	676	7011
	6/28			19	286	1597	8896	0	0	62	133	845	7228
	6/29			8	101	2743	16305	0	0	91	152	1425	12415
	6/30			10	143	2537	15146	0	0	12	20	1417	117[illegible]
	7/01			3	29	1679	10002	0	0	3	4	1006	8190
	7/02			1	14	121	730	0	0	0	0	92	939
	7/03			33	364	1398	9058	10	85	402	860	1205	9837
	7/04			7	64	446	2878	0	0	5	15	544	4231
	7/05			16	151	394	2164	0	0	0	0	604	4385
	7/11			1	28	3011	20813	9	59	44	95	762	5636
	7/12			49	760	8131	56918	178	1040	488	1148	2713	18345
	7/13			28	483	12546	87819	181	1137	923	2281	3131	21285
	7/14			21	200	3411	24155	20	138	187	536	929	6279
	7/15			26	257	2530	17659	64	388	330	793	430	3296
	7/16			41	274	10010	70991	318	2236	1630	4055	1750	11527
	7/17			22	241	6771	50758	249	1551	1841	4881	1276	8485
	7/18			192	830	8168	58341	400	2583	2329	6383	1247	7508
	7/22			11	91	4775	32793	737	4575	6254	17335	1587	9440
	7/23			13	161	8922	59341	307	1782	7760	23694	3184	19335
	7/24			50	106	6728	46073	317	1861	3390	9983	1286	8380
	7/25			20	270	6993	49602	450	2459	5394	16196	2170	14683
	7/26			0	0	7374	53652	28	175	5552	17053	2204	14299
	7/27			0	0	8950	64725	60	400	6428	19906	2427	14718
	7/28			0	0	6358	45716	47	300	4016	12412	1292	7539
	7/29			0	0	4707	33377	54	307	2617	8308	945	5989

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Table 5. (page 5 of 13)

Stat Area	Date	Fishing Effort		Chinook		Sockeye		Coho		Pink		Chum	
		Permits	Lndgs	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
272-30	7/30			0	0	802	5624	6	24	1105	3354	360	2463
	7/31			1	8	2390	16511	64	424	3808	12043	723	4368
	8/01			0	0	1628	11656	101	680	2004	6310	615	3539
	8/02			3	33	5671	39496	229	1565	6457	20409	1103	6245
	8/03			1	7	2243	15362	50	369	1924	6540	375	2039
	8/04			0	0	1694	11645	119	799	2180	6988	582	3299
	8/05			0	0	3385	23592	118	822	3134	10063	1332	7132
	8/06			0	0	1851	13224	154	1018	2537	8691	756	4313
	8/07			0	0	1534	11318	64	412	1148	3609	491	3368
	8/08			0	0	26	190	9	66	18	55	47	210
	8/09			0	0	673	4649	29	197	550	1762	132	820
	8/10			0	0	533	3721	52	378	388	1335	201	1216
	8/13			0	0	1689	11948	52	316	671	2118	166	997
	8/14			7	100	3612	25221	150	1076	1869	5488	575	3623
	8/15			4	62	2815	19800	187	1253	1564	4864	510	2931
	8/17			0	0	5927	41184	183	1394	1113	3378	234	1418
	8/18			0	0	7294	51320	210	1444	1302	4356	370	2007
	8/19			3	34	2771	19500	101	768	640	2015	90	582
	8/20			5	73	6224	43584	290	2044	1746	5501	472	3012
	8/21			6	79	5089	34742	460	3459	1201	3755	470	2941
	8/22			0	0	1564	10348	168	1236	328	1190	52	263
	8/23			3	27	8928	61537	800	5534	1770	5090	335	1736
	8/24			5	85	3556	23677	618	5051	869	3076	284	1479
	8/27			0	0	4411	30650	703	5500	319	969	371	2190
	8/28			0	0	2562	17571	528	4037	242	819	262	1241
	8/29			3	49	2151	14638	881	6667	192	575	148	829
	8/30			0	0	2618	17833	581	4630	147	444	230	1170
	8/31			3	48	2501	17003	1061	8231	107	346	213	1137
	9/03			3	20	8138	53579	1696	13365	163	546	348	1609
	9/04			0	0	4974	32542	2453	19215	127	399	499	2142
	9/05			1	9	2771	17950	1495	12098	24	77	301	1364
	9/06			2	40	1176	7463	493	3941	11	35	142	798
	9/07			0	0	3199	20869	789	6801	43	133	168	680
	9/10			4	70	2475	15827	636	5371	6	17	148	665
	9/11			1	20	3163	20264	1025	8119	1	3	131	530
	9/12			0	0	743	4943	240	1933	0	0	52	230

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Table 5. (page 6 of 13)

Stat Area	Date	Fishing Effort Permits	Fishing Effort Lndgs	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
272-30	9/13			0	0	618	3998	109	861	1	4	21	106
	9/14			0	0	615	4075	183	1442	0	0	31	147
	9/24			0	0	80	724	70	540	55	165	13	98
Total		50	620	668	6425	250237	1706527	20586	154156	89715	273142	49805	328889
Avg. Wt.					9.62		6.82		7.49		3.04		6.60
272-40	6/28			0	0	78	455	154	969	1320	3886	515	2609
	7/05			22	275	1332	6901	11	55	535	1419	1105	7173
	7/16			62	392	1807	12862	711	5400	788	3504	1185	6853
	7/18			0	0	318	2087	25	96	150	423	25	193
	7/27			0	0	95	591	60	377	871	2464	232	1503
	7/29			0	0	32	179	69	422	717	2180	116	770
	8/02			9	40	197	1201	93	601	1342	4064	210	1279
	8/05			0	0	281	1991	191	1227	1706	5301	258	1524
	8/10			0	0	62	371	120	740	1022	3265	159	865
Total		6	14	93	707	4202	26638	1434	9887	8451	26506	3805	22769
Avg. Wt.				7.60		6.34		6.89		3.14		5.98	
272-50	6/17			10	166	3684	22804	0	0	48	109	119	752
	6/22			12	201	6170	35524	0	0	229	553	293	2657
	6/23			13	313	11831	66814	0	0	479	1254	913	6943
	6/27			18	432	8581	50985	0	0	556	1455	1478	10911
	6/28			45	942	9573	55023	0	0	1034	2800	1609	12234
	6/29			33	617	7629	42842	0	0	690	1643	2309	17060
	6/30			37	835	11910	68509	0	0	608	1415	2723	20936
	7/01			23	396	11381	63558	0	0	280	577	1874	14876
	7/02			35	517	13676	79621	9	51	214	413	2643	20884
	7/03			32	584	7821	43845	2	14	106	222	1796	14257
	7/04			49	760	9078	54003	0	0	205	484	3492	27502
	7/05			25	323	7622	46803	3	21	135	310	2698	21337

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Table 5. (page 7 of 13)

Stat Area	Date	Fishing Effort Permits	Fishing Effort Lndgs	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
272-50	7/06			25	387	1825	11548	11	77	22	47	2559	19791
	7/11			13	213	6093	39614	48	288	222	494	856	6587
	7/12			25	400	8562	57025	155	1021	483	1414	2858	21596
	7/13			0	0	100	700	5	34	8	23	52	360
	7/14			4	87	7264	48544	174	1001	408	1600	1564	10724
	7/15			29	351	6205	41391	190	1139	460	1570	1061	7476
	7/16			11	169	7316	47711	172	1026	456	1444	825	5783
	7/17			34	335	4437	31078	50	317	677	1962	331	2225
	7/18			23	228	6363	46285	102	747	1593	3994	661	5004
	7/22			7	115	564	3553	25	128	930	2633	86	568
	7/23			4	63	864	5528	62	471	985	2792	269	1857
	7/24			0	0	4774	33031	100	626	4173	12405	815	5834
	7/25			3	21	4156	28194	148	956	4202	12952	840	5798
	7/26			1	18	2935	20289	46	265	3070	9689	586	3507
	7/27			1	15	6560	45404	110	674	7831	25584	1163	7428
	7/28			1	40	6100	41889	109	822	8767	26531	740	4850
	7/29			0	0	2448	17205	62	414	2917	10100	526	3456
	7/30			2	45	3365	23409	18	115	5213	15656	349	2397
	7/31			0	0	4133	28933	67	462	7219	25064	760	4848
	8/01			0	0	3348	23180	60	416	4806	16761	490	3067
	8/02			0	0	1969	12118	30	184	996	3086	212	1482
	8/03			0	0	738	4430	0	0	455	1365	38	260
	8/05			0	0	925	6539	46	275	1278	4038	174	1061
	8/06			0	0	1216	8220	3	20	1359	4077	154	817
	8/07			0	0	1675	11820	43	229	1770	5164	135	954
	8/08			0	0	369	2514	18	99	141	547	28	154
	8/09			0	0	598	4076	19	134	660	1910	87	556
	8/10			0	0	450	3322	23	147	319	1052	95	485
	8/23			1	10	849	5870	182	1412	153	505	89	432
	8/29			0	0	495	3241	258	2086	36	105	56	238
Total		35	315	516	8583	205652	1286992	2350	15671	66193	205799	40406	299944
Avg. Wt.					16.63		6.26		6.67		3.11		7.42

-Continued-

Table 5. (page 8 of 13)

Stat Area	Date	Fishing Effort Permits	Fishing Effort Lndgs	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
272-60	6/17			0	0	1140	6657	0	0	0	0	1	14
	6/22			24	361	1800	9085	0	0	12	37	0	0
	6/23			13	200	7888	41780	0	0	73	167	76	725
	6/27			34	575	11427	60999	0	0	258	528	282	2590
	6/28			12	214	10677	50125	0	0	197	389	1461	13287
	7/01			42	508	6045	31394	0	0	64	127	297	2280
	7/02			1	20	772	3946	0	0	17	35	19	177
	7/03			32	462	4292	22803	0	0	33	65	341	2521
	7/04			0	0	94	490	0	0	0	0	18	163
	7/05			0	0	717	4053	0	0	6	12	204	1566
	7/06			11	172	684	4024	9	72	25	53	5874	44027
	7/07			1	7	176	1047	21	188	25	60	4414	38877
	7/14			0	0	294	1941	0	0	443	1355	1909	14885
	8/04			0	0	268	1842	0	0	1809	5084	2722	18661
Total		23	50	170	2519	46274	240186	30	260	2962	7912	17618	139773
Avg. Wt.					14.82		5.19		8.67		2.67		7.93
272-62	6/16			0	0	215	1211	0	0	0	0	6	52
	6/22			5	87	7075	39073	0	0	25	48	50	562
	6/28			3	60	448	2381	0	0	30	90	48	352
	6/29			34	544	11399	62577	0	0	115	268	271	2331
	6/30			1	20	1987	10731	0	0	0	0	32	278
	7/01			9	122	3303	18625	44	386	7	20	223	1576
	7/02			24	359	1076	6456	1	7	18	63	162	1135
	7/03			64	927	8304	45843	2	15	146	362	1146	9591
	7/04			14	120	560	3131	0	0	4	13	69	625
	7/05			6	55	1953	11379	0	0	27	52	437	3478
	7/11			78	923	5622	35813	21	165	321	929	515	3836
	7/12			38	453	4300	28279	33	123	165	485	311	2328
	7/13			2	6	1160	6860	0	0	95	187	13	127
	7/14			8	70	2352	16467	0	0	260	593	95	700
	7/15			52	449	4957	34344	2	10	665	1990	360	2595

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Table 5. (page 9 of 13)

Stat Area	Date	Fishing Effort Permits	Fishing Effort Lndgs	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
272-62	7/16			17	231	4027	27607	4	27	863	2605	141	1080
	7/17			2	50	1906	12772	8	47	720	2238	183	1298
	7/18			16	209	2529	17481	11	80	1019	3035	107	715
	7/22			10	155	1486	8915	15	105	1839	6209	95	663
	7/23			33	269	1034	7542	39	176	1361	4465	316	2426
	7/24			20	168	4610	31654	46	255	8033	21934	386	2597
	7/25			12	142	2153	15018	9	53	8192	22413	184	1283
	7/26			7	91	4331	30183	12	90	8938	26783	387	2728
	7/27			6	68	2861	19222	29	109	3470	10348	156	968
	7/28			2	59	1775	11655	32	204	2481	7367	96	653
	7/29			8	82	1966	13236	14	93	4302	12721	98	617
	7/30			3	55	1727	12332	4	21	7051	20860	55	390
	7/31			5	56	889	5488	1134	3539	1483	4502	65	420
	8/01			5	75	1652	11630	23	137	3669	11417	308	2237
	8/02			2	60	942	6613	6	52	3703	11424	88	544
	8/03			0	0	36	292	0	0	357	1056	12	55
	8/04			0	0	359	2428	4	26	630	2081	152	133[illegible]
	8/05			2	30	178	1158	0	0	235	647	31	18[illegible]
	8/15			0	0	482	3349	36	265	404	1278	31	170
	8/20			7	65	1039	6914	218	1544	559	1673	156	834
	8/21			0	0	187	1255	40	278	175	575	41	208
	8/24			0	0	504	3431	107	826	97	291	37	194
	9/04			0	0	58	394	58	496	0	0	0	0
Total		24	158	495	6060	91442	573739	1952	9129	61459	181022	6863	51163
Avg. Wt.					12.24		6.27		4.68		2.95		7.45
272-72	9/04			0	0	44	272	0	0	0	0	1513	13124
	9/05			0	0	0	0	0	0	1161	3386	1710	12000
Total				0	0	44	272	0	0	1161	3386	3223	25124
Avg. Wt.							6.18				2.92		7.80

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Table 5. (page 10 of 13)

Stat Area	Date	Fishing Effort Permits	Fishing Effort Lndgs	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
272-80	8/04			0	0	7	59	0	0	6885	20283	3860	34698
Total				0	0	7	59	0	0	6885	20283	3860	34698
Avg. Wt.							8.43				2.95		8.99
272-90	8/04			2	32	2	10	0	0	12640	44250	961	7698
	8/05			0	0	3	21	1	3	16727	50843	1630	13050
Total		4	7	2	32	5	31	1	3	29367	95093	2591	20748
Avg. Wt.					16.00		6.20		3.00		3.24		8.01
272-92	6/29			0	0	3120	16245	0	0	14	30	5	40
	7/07			3	30	1993	10429	1	10	185	383	166	1164
Total				3	30	5113	26674	1	10	199	413	171	1204
Avg. Wt.					10.00		5.22		10.00		2.08		7.04
273-72	07/14			5	25	693	4412	200	1307	1003	3042	1240	6398
	07/21			0	0	2	20	0	0	2	10	360	3308
Total				5	25	695	4432	200	1307	1005	3052	1600	9706
Avg. Wt.					5.00		6.38		6.54		3.04		6.07
273-74	07/06			262	2357	3378	19634	130	782	934	2400	9133	49746
	07/07			456	3139	2727	16020	596	3509	1206	2930	9950	50616
	07/14			95	448	3210	17287	1253	7583	2927	8828	6007	30823
	07/15			265	1445	5149	31832	6307	38252	11132	28839	27447	142853
	07/21			28	256	3485	23342	1400	8394	10504	29897	3681	17721

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Table 5. (page 11 of 13)

Stat Area	Date	Fishing Effort Permits	Fishing Effort Lndgs	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
273-74	07/22			77	220	3432	25007	357	2568	4663	13774	2779	15116
	07/23			34	137	450	3686	650	5157	5450	15618	3400	23933
	08/04			2	31	1007	6911	2177	13981	19005	57531	597	3959
	08/05			4	48	2160	14867	2689	16391	38100	113634	1527	1021
Total		35	87	1223	8081	24998	158586	15559	96617	93921	273451	64521	344982
Avg. Wt.					6.61		6.34		6.21		2.91		5.35
273-80	07/14			4	77	4547	34323	318	2002	1605	3715	420	2749
	07/15			4	68	3873	26641	1599	9795	2808	7313	2615	13166
	07/21			2	26	1075	7825	41	284	496	1528	132	844
	07/22			3	78	2099	15270	43	295	995	3360	195	1251
	07/23			0	0	564	3690	27	195	449	1475	40	330
	08/05			1	20	760	5244	97	600	1411	4232	114	773
Total		11	23	14	269	12918	92993	2125	13171	7764	21623	3516	19113
Avg. Wt.					19.21		7.20		6.20		2.79		5.44
273-84	08/04			0	0	183	1620	12	75	247	790	57	265
	08/05			0	0	308	2151	20	117	490	1560	222	1100
Total				0	0	491	3771	32	192	737	2350	279	1365
Avg. Wt.						7.68		6.00		3.19		4.89	
273-90	07/06			158	1201	1178	6545	88	496	754	1552	3033	19531
	07/07			223	1962	1260	7503	254	1481	1117	2349	3149	19831
	07/15			194	784	1209	7019	1226	7231	1367	4831	2928	15498
	07/21			186	1331	1176	8107	935	5462	5184	14733	2177	11082
	07/22			0	0	337	2321	130	846	608	1730	212	1295
	08/04			0	0	1122	7720	404	2882	4586	14360	227	1192

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Table 5. (page 12 of 13)

Stat Area	Date	Fishing Effort Permits	Fishing Effort Lndgs	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
273-90	08/05			5	92	1862	12881	488	3254	8565	26417	1120	6656
Total		26	40	766	5370	8144	52096	3525	21652	22181	65972	12846	75085
Avg. Wt.					7.01		6.40		6.14		2.97		5.85
273-94	07/06			143	1055	779	4593	0	0	200	465	1793	12911
	07/07			275	1969	1126	5780	68	400	374	778	1608	12066
	07/14			58	519	684	4216	206	1310	336	980	859	6028
	07/15			323	1540	433	2691	445	2956	351	1015	1069	6904
	07/21			211	893	2261	15210	670	4190	6080	17831	2676	16682
	07/22			1	3	48	344	32	227	285	855	74	518
273-94	07/23			171	797	615	4383	560	3556	2576	7546	762	5127
Total		29	40	1182	6776	5946	37217	1981	12639	10202	29470	8841	60236
Avg. Wt.				5.73		6.26		6.38		2.89		6.81	
275-40	07/06			99	922	2784	15029	203	1228	1499	3140	4886	26639
	07/07			266	1686	2268	12462	260	1599	1051	2453	3840	21020
	07/15			33	269	1560	10205	1003	6261	940	2607	1095	6665
	07/16			212	1739	5614	35913	7650	48466	8060	21220	9227	54032
	07/21			0	0	1601	10285	705	4271	2954	9215	941	4950
	07/22			14	87	3356	21324	5951	18505	15343	39655	3809	22912
	07/23			14	80	980	7031	823	5850	6004	18610	793	6900
	08/04			4	65	716	4919	889	5676	5588	16862	578	3959
	08/05			0	0	1252	8641	37	227	1578	4735	79	543
Total		25	52	642	4848	20131	125809	17521	92083	43017	118497	25248	147620
Avg. Wt.					7.55		6.25		5.26		2.75		5.85
275-50	07/16			0	0	2043	14301	13	89	695	1557	201	1229

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Table 5. (page 13 of 13)

Stat Area	Date	Fishing Effort		Chinook		Sockeye		Coho		Pink		Chum	
		Permits	Lndgs	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
	07/21			0	0	11	38	24	160	427	1426	88	470
	07/23			0	0	2054	14339	37	249	1122	2983	289	1699
Total		4	4			2214	15529	237	1309	2402	7483	489	2959
Avg. Wt.							7.01		5.52		3.12		6.05

[a]Data is omitted for effort when confidentiality rules would be precluded, less than three vessels.

Table 6. List of processors in the Chignik Management Area, 1990

F0622 Aleutian Dragon Fisheries, 5355 28th Ave. N.W., Seattle, WA 98107	F0021 International Seafoods of Alaska, P.O. Box 2997, Kodiak, AK 99615
F0365 Chignik Pride Fisheries, 4241 21st. Ave. W., Suite 300, Seattle, WA 98107	F0266 Columbia Ward Fisheries-Chignik, P.O. Box C-5030, University Station, 98105-0030
F0320 Western Pride Fisheries, 1111 3rd Ave. Suite 1210, Seattle, WA 98101	

Table 7. Chignik Management Area historical salmon catches, 1960-1990[a].

Year	Catch by Species					Total
	Chinook	Sockeye	Coho	Pink	Chum	
1960	643	715,969	8,933	557,327	486,699	1,769,571
1961	409	322,890	3,088	443,510	178,760	948,657
1962	435	364,753	1,292	1,519,305	364,335	2,250,120
1963	1,744	408,606	9,933	1,662,363	112,697	2,195,343
1964	1,099	556,890	2,735	1,682,365	333,336	2,576,425
1965	1,592	599,553	9,602	1,118,158	120,589	1,849,494
1966	636	219,794	16,050	683,215	238,883	1,158,578
1967	882	462,000	13,150	108,981	75,543	660,556
1968	674	977,382	2,200	1,290,660	223,861	2,494,777
1969	3,448	394,135	18,103	1,779,736	67,721	2,263,143
1970	1,225	1,325,883	15,348	1,287,605	464,674	3,094,735
1971	2,010	1,016,136	14,557	612,290	353,952	1,998,945
1972	464	378,669	19,615	72,240	78,356	549,344
1973	525	870,352	22,322	25,445	8,701	927,345
1974	255	662,905	12,245	70,017	34,454	779,876
1975	549	399,593	53,283	66,165	25,161	544,751
1976	763	1,163,728	35,301	388,917	80,221	1,668,930
1977	711	1,972,207	17,429	604,824	110,452	2,705,623
1978	1,603	1,576,283	20,212	985,114	120,889	2,704,101
1979	1,266	1,049,497	93,146	2,056,999	188,169	3,389,077
1980	2,325	859,966	117,862	1,125,465	312,572	2,418,190
1981	2,694	1,839,469	78,805	1,162,613	580,332	3,663,913
1982	5,236	1,521,857	300,384	873,390	390,096	3,090,963
1983	5,488	1,824,175	61,915	321,160	159,362	2,372,100
1984	4,318	2,660,478	110,128	446,184	63,408	3,284,516
1985	1,919	922,151	206,624	174,966	26,146	1,331,806
1986	3,037	1,645,834	116,633	647,125	176,640	2,589,269
1987	2,651	1,898,838	150,414	246,775	127,261	2,425,939
1988	7,296	795,841	370,410	2,997,159	267,126	4,437,832
1989	3,542	1,159,287	68,233	27,712	1,624	1,260,398
1990	9,901	2,093,650	130,131	550,008	270,004	3,053,694
Avg (1960-90)	2,237	1,053,180	67,745	825,413	194,904	2,143,478
Avg (1981-90)	4,608	1,636,158	159,368	744,709	206,200	2,751,043

[a]Catch does not include Cape Igvak or Southeastern District Mainland area.

Table 8. Economic value of salmon, in dollars, to Chignik Area fishermen, 1970-1990.

Year	Chinook		Sockeye		Coho		Pink		Chum		Total Value
	Total	Average	Total	Average	Total	Average	Total	Average	Total	Average	
1970	6,129	89	2,190,272	31,743	18,397	267	635,673	9,213	376,025	5,450	3,226,496
1971	6,472	84	2,034,279	26,419	23,240	302	366,693	4,762	326,760	4,244	2,757,444
1972	2,028	28	825,498	11,308	35,699	489	48,401	663	87,759	1,202	99,385
1973	5,255	72	3,030,057	41,508	73,663	1,009	20,610	282	10,180	139	3,139,765
1974	2,941	32	3,618,781	39,767	31,933	351	64,069	704	51,125	562	3,768,849
1975	6,561	76	1,384,271	16,240	213,539	2,581	104,115	12,211	61,704	717	1,770,190
1976	13,800	179	4,751,000	61,701	138,000	1,792	568,300	7,381	183,600	2,384	5,654,700
1977	18,828	212	14,553,720	163,525	104,819	1,178	920,881	10,347	368,066	4,136	[illegible].966,314
1978	56,700	597	15,653,500	164,774	116,400	1,225	1,131,500	11,911	404,500	4,258	17,362,600
1979	32,050	317	11,345,503	112,332	710,192	7,031	2,622,269	25,963	126,866	1,256	14,836,880
1980	67,657	670	5,532,290	54,775	520,655	5,155	1,477,060	14,624	1,061,963	10,514	8,659,625
1981	75,231	730	17,262,119	167,593	439,900	4,271	1,881,334	18,265	2,431,421	23,606	22,090,005
1982	75,276	717	13,038,510	124,176	1,782,027	16,972	578,184	5,506	1,356,597	12,920	16,830,594
1983	96,159	962	10,728,088	107,281	219,650	2,197	240,171	2,402	421,713	4,217	11,705,781
1984	114,502	1,134	20,402,076	202,000	759,972	7,525	330,916	3,276	146,024	1,446	21,753,490
1985	67,088	664	7,997,834	79,186	1,471,418	14,568	140,076	1,387	59,475	589	8,735,891
1986	84,800	848	16,882,290	168,823	667,740	6,677	356,147	3,562	456,546	4,565	18,447,523
1987	72,739	706	24,783,033	240,612	1,035,129	10,050	269,868	2,620	339,819	3,299	26,500,588
1988	286,740	2,811	14,350,354	140,690	4,153,424	40,720	6,771,266	66,385	2,189,293	21,464	27,751,077
1989	78,999	790	13,047,378	130,474	436,892	4,369	32,994	3,299	4,745	47	13,601,008
1990	185,256	1,834	22,509,923	222,871	700,309	6,934	502,693	4,977	878,510	8,698	24,776,691

Table 9. Chignik Management Area salmon escapements by district and statistical area, 1990.

District	Stat. Area	Species					
		Chinook	Sockeye	Coho[a]	Pink[b]	Chum	Total
Chignik Bay	271-10	4,364	770,410		5,968	1,540	782,282
	Total	4,364	770,410	44,000	5,968	1,540	782,282
Central	272-20				6,313		6,313
	272-30				16,707	200	16,907
	272-50			3,400	108,845	27,764	140,009
	Total			3,400	131,865	27,964	163,229
Eastern	272-60			3,300	92,001	19,873	115,174
	272-70			26,400	179,603	19,000	225,003
	272-72			1,000	23,587	9,920	34,507
	272-80			12,500	117,907	33,600	164,007
	272-90			6,670	257,418	30,250	294,338
	272-92				7,000	25,000	32,000
	272-96				133,895	500	134,395
	Total			49,870	811,411	139,693	1,000,974
Western	273-60					50	50
	273-70			5,000	7,493	800	13,293
	273-72			300	25,100	14,300	39,700
	273-80				8,180	200	8,380
	273-82				1,093	2,000	3,093
	273-84				900	11,444	12,344
	273-94				1,580	50	1,630
	Total			5,300	44,346	28,844	78,490
Perryville	275-40			7,900	65,993	55,011	128,904
	275-50			700	18,565	500	19,265
	275-60			50	3,822	275	4,147
	Total			8,650	88,380	55,786	152,816
All District Total		4,364	770,410	111,220	1,081,970	252,277	2,221,791

[a]Coho salmon escapement estimates from Eggers et al. (1991).

[b]Escapement estimates for pink and chum salmon based on methods of Johnson and Barrett (1988).

Table 10. Chignik River chinook salmon runs, 1960 - 1990.

Year	Escapement[a]	Catch	Total Run[b]
1960	-	643	643
1961	-	409	409
1962	-	435	435
1963	564	1,744	2,308
1964	914	1,099	2,013
1965	942	1,592	2,534
1966	822	636	1,458
1967	1,500	882	2,382
1968	1,000	674	1,674
1969	600	3,448	4,048
1970	2,500	1,225	3,725
1971	2,000	2,010	4,010
1972	1,500	464	1,964
1973	822	525	1,347
1974	672	255	927
1975	877	549	1,426
1976	700	763	1,463
1977	798	711	1,509
1978	1,197	1,603	2,800
1979	1,050	1,266	2,316
1980	876	2,325	3,201
1981	1,603	2,694	4,297
1982	2,412	5,236	7,648
1983	1,943	5,488	7,431
1984	5,806	4,318	10,124
1985	3,144	1,919	5,063
1986	3,612	3,037	6,649
1987	2,624	2,651	5,275
1988	4,868	7,296	12,164
1989	3,316	3,542	6,858
1990	4,364	9,901	14,265
Avg (1960-90)	1,894	2,423	4,317
Avg (1981-90)	3,369	4,608	7,977

[a]No estimate made for chinook salmon escapement after weir removal.

[b]Total run figures should be considered conservative due to the difficulty in distinguishing small chinook from sockeye salmon at the weir.

Table 11. Chignik weir chinook salmon escapement estimates by day, 1990.

Date	Escapements[a,b] Daily	Escapements[a,b] Cumulative	Date	Escapements[a,b] Daily	Escapements[a,b] Cumulative
14-Jun	0	0	13-Jul	168	2,670
15-Jun	0	0	14-Jul	138	2,808
16-Jun	0	0	15-Jul	18	2,826
17-Jun	0	0	16-Jul	60	2,886
18-Jun	0	0	17-Jul	78	2,964
19-Jun	0	0	18-Jul	198	3,162
20-Jun	0	0	19-Jul	72	3,234
21-Jun	0	0	20-Jul	90	3,324
22-Jun	0	0	21-Jul	252	3,576
23-Jun	6	6	22-Jul	300	3,876
24-Jun	24	30	23-Jul	78	3,954
25-Jun	48	78	24-Jul	42	3,996
26-Jun	90	168	25-Jul	54	4,050
27-Jun	12	180	26-Jul	36	4,086
28-Jun	48	228	27-Jul	85	4,171
29-Jun	102	330	28-Jul	72	4,243
30-Jun	48	378	29-Jul	18	4,261
01-Jul	30	408	30-Jul	6	4,267
02-Jul	18	426	31-Jul	0	4,267
03-Jul	30	456	01-Aug	12	4,279
04-Jul	144	600	02-Aug	18	4,297
05-Jul	108	708	03-Aug	36	4,333
06-Jul	144	852	04-Aug	12	4,345
07-Jul	156	1,008	05-Aug	6	4,351
08-Jul	294	1,302	06-Aug	0	4,351
09-Jul	678	1,980	07-Aug	0	4,351
10-Jul	150	2,130	08-Aug	12	4,363
11-Jul	144	2,274	09-Aug	1	4,364
12-Jul	228	2,502			

[a]Escapement estimates considered conservative due to the difficulty of distinguishing small chinook from sockeye as they pass through the weir.

[b]No adjustment made for escapement after removal of the weir on August 9.

Table 12. Daily sockeye salmon escapement counts at the Chignik weir site, 1990.

Date	Escapement Daily	Escapement Cumulative	Date	Escapement Daily	Escapement Cumulative
28-May	0	0	05-Jul	2,793	409,613
29-May	0	0	06-Jul	2,057	411,670
30-May	-	-[a]	07-Jul	3,946	415,616
31-May	-	-	08-Jul	19,151	434,767
01-Jun	-	-	09-Jul	32,247	467,014
02-Jun	-	-	10-Jul	33,189	500,203
03-Jun	-	-	11-Jul	39,228	539,431
04-Jun	-	-	12-Jul	13,537	552,968
05-Jun	-	-	13-Jul	5,830	558,798
06-Jun	-	-	14-Jul	4,773	563,571
07-Jun	7,000	7,000	15-Jul	974	564,545
08-Jun	3,227	10,227	16-Jul	2,312	566,857
09-Jun	4,902	15,129	17-Jul	1,056	567,913
10-Jun	7,330	22,459	18-Jul	2,488	570,401
11-Jun	6,344	28,803	19-Jul	1,218	571,619
12-Jun	8,210	37,013	20-Jul	11,534	583,153
13-Jun	15,870	52,883	21-Jul	37,576	620,729
14-Jun	47,955	100,838	22-Jul	43,082	663,811
15-Jun	22,734	123,572	23-Jul	15,325	679,136
16-Jun	14,937	138,509	24-Jul	2,415	681,551
17-Jun	8,291	146,800	25-Jul	2,353	683,904
18-Jun	3,446	150,246	26-Jul	1,489	685,393
19-Jun	15,133	165,379	27-Jul	3,227	688,620
20-Jun	39,501	204,880	28-Jul	3,217	691,837
21-Jun	68,839	273,719	29-Jul	1,514	693,351
22-Jun	20,484	294,203	30-Jul	780	694,131
23-Jun	4,091	298,294	31-Jul	756	694,887
24-Jun	5,558	303,852	01-Aug	2,371	697,258
25-Jun	22,891	326,743	02-Aug	1,344	698,602
26-Jun	37,190	363,933	03-Aug	726	699,328
27-Jun	26,657	390,590	04-Aug	864	700,192
28-Jun	4,980	395,570	05-Aug	1,782	701,974
29-Jun	3,216	398,786	06-Aug	1,530	703,504
30-Jun	2,225	401,011	07-Aug	1,618	705,122
01-Jul	2,184	403,195	08-Aug	3,951	709,073
02-Jul	1,435	404,630	09-Aug	3,565	712,638
03-Jul	468	405,098	10-Aug[b]	57,772	770,410
04-Jul	1,722	406,820			

[a]Weir was washed out from May 30 through June 6. Estimate of escapement for this period is included with escapement for June 7.

[b]Time series analysis of catch and escapement was used to estimate sockeye escapements after weir removal on 10 August.

Table 13. Daily sockeye salmon escapement counts at the Black River weir site, 1990.[a]

Date	Daily	Cumulative Total	Cumulative Percent
28-Jun	4,620	4,620	0.06
29-Jun	13,995	18,615	0.26
30-Jun	735	19,350	0.27
01-Jul	7,597	26,947	0.38
02-Jul	2,990	29,937	0.42
03-Jul	264	30,201	0.42
04-Jul	1 ,429	31,630	0.44
05-Jul	2, 274	33,904	0.47
06-Jul	931	34,835	0.49
07-Jul	1,108	35,943	0.50
08-Jul	1 ,232	37,175	0.52
09-Jul	260	37,435	0.52
10-Jul	420	37,855	0.53
11-Jul	9,915	47,770	0.67
12-Jul	4 ,021	51,791	0.72
13-Jul	6, 688	58,479	0.82
14-Jul	1,835	60,314	0.84
15-Jul	218	60,532	0.85
16-Jul	6 ,637	67,169	0.94
17-Jul	60	67,229	0.94
18-Jul	0	67,229	0.94
19-Jul	300	67,529	0.94
20-Jul	1,412	68,941	0.96
21-Jul	1,677	70,618	0.99
22-Jul	369	70,987	0.99
23-Jul	112	71,099	0.99
24-Jul	120	71,219	1.00
25-Jul	119	71,338	1.00
26-Jul	100	71,438	1.00
27-Jul	70	71,508	1.00
28-Jul	62	71,570	1.00

[a]The Black River weir was removed 29 Jul.

Table 14. Chignik Lake and Black Lake sockeye salmon escapements through the Chignik River weir using daily percentages derived from the in-season ATOE curve, 1990.

Date	Total		Chignik Lake			Black Lake
	Daily	Accum.	Percent	Daily	Accum.	Accum.
28-May	0	0	0	0	0	0
29 May	0	0	0	0	0	0
30-May	-	-	-	-	-	-
31-May	-	-	-	-	-	-
01-Jun	-	-	-	-	-	-
02-Jun	-	-	-	-	-	-
03-Jun	-	-	-	-	-	-
04-Jun	-	-	-	-	-	-
05-Jun	-	-	-	-	-	-
06-Jun	-	-	0.09	-	-	-
07-Jun[a]	7,000	7,000	0.11	8	8	6,992
08-Jun	3,227	10,227	0.13	4	12	10,215
09-Jun	4,902	15,129	0.17	8	20	15,109
10-Jun	7,330	22,459	0.21	15	36	22,423
11-Jun	6,344	28,803	0.26	16	52	28,751
12-Jun	8,210	37,013	0.32	26	78	36,935
13-Jun	15,870	52,883	0.39	62	140	52,743
14-Jun	47,955	100,838	0.49	233	373	100,465
15-Jun	22,734	123,572	0.60	137	510	123,062
16-Jun	14,937	138,509	0.75	111	621	137,888
17-Jun	8,291	146,800	0.92	76	697	146,103
18-Jun	3,446	150,246	1.14	39	737	149,509
19-Jun	15,133	165,379	1.41	214	950	164,429
20-Jun	39,501	204,880	1.74	689	1,639	203,241
21-Jun	68,839	273,719	2.15	1,483	3,122	270,597
22-Jun	20,484	294,203	2.66	544	3,667	290,536
23-Jun	4,091	298,294	3.28	134	3,801	294,493
24-Jun	5,558	303,852	4.03	224	4,025	299,827
25-Jun	22,891	326,743	4.95	1,133	5,158	321,585
26-Jun	37,190	363,933	6.07	2,256	7,414	356,519
27-Jun	26,657	390,590	7.41	1,977	9,390	381,200
28-Jun	4,980	395,570	9.03	450	9,840	385,730
29-Jun	3,216	398,786	11.0	353	10,193	388,593
30-Jun	2,225	401,011	13.3	295	10,488	390,523
01-Jul	2,184	403,195	15.9	348	10,836	392,359
02-Jul	1,435	404,630	19.0	273	11,109	393,521
03-Jul	468	405,098	22.6	106	11,214	393,884
04-Jul	1,722	406,820	26.5	457	11,671	395,149
05-Jul	2,793	409,613	30.9	864	12,535	397,078

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Date	Total Daily	Total Accum.	Chignik Lake Percent	Chignik Lake Daily	Chignik Lake Accum.	Black Lake Accum.
06-Jul	2,057	411,670	35.7	735	13,270	398,400
07-Jul	3,946	415,616	40.8	1,610	14,880	400,736
08-Jul	19,151	434,767	46.1	8,829	23,709	411,058
09-Jul	32,247	467,014	51.4	16,591	40,299	426,715
10-Jul	33,189	500,203	56.8	18,847	59,147	441,056
11-Jul	39,228	539,431	62.0	24,311	83,457	455,974
12-Jul	13,537	552,968	66.9	9,056	92,514	460,454
13-Jul	5,830	558,798	71.5	4,167	96,681	462,117
14-Jul	4,773	563,571	75.7	3,611	100,292	463,279
15-Jul	974	564,545	79.4	773	101,065	463,480
16-Jul	2,312	566,857	82.7	1,912	102,977	463,880
17-Jul	1,056	567,913	85.6	904	103,881	464,032
18-Jul	2,488	570,401	88.0	2,190	106,071	464,330
19-Jul	1,218	571,619	90.1	1,098	107,169	464,450
20-Jul	11,534	583,153	91.9	10,597	117,766	465,387
21-Jul	37,576	620,729	93.3	35,074	152,840	467,889
22-Jul	43,082	663,811	94.6	40,739	193,579	470,232
23-Jul	15,325	679,136	95.6	14,646	208,225	470,911
24-Jul	2,415	681,551	96.4	2,328	210,553	470,998
25-Jul	2,353	683,904	100	2,353	212,906	470,998
26-Jul	1,489	685,393	100	1,489	214,395	470,998
27-Jul	3,227	688,620	100	3,227	217,622	470,998
28-Jul	3,217	691,837	100	3,217	220,839	470,998
29-Jul	1,514	693,351	100	1,514	222,353	470,998
30-Jul	780	694,131	100	780	223,133	470,998
31-Jul	756	694,887	100	756	223,889	470,998
01-Aug	2,371	697,258	100	2,371	226,260	470,998
02-Aug	1,344	698,602	100	1,344	227,604	470,998
03-Aug	726	699,328	100	726	228,330	470,998
04-Aug	864	700,192	100	864	229,194	470,998
05-Aug	1,782	701,974	100	1,782	230,976	470,998
06-Aug	1,530	703,504	100	1,530	232,506	470,998
07-Aug	1,618	705,122	100	1,618	234,124	470,998
08-Aug	3,951	709,073	100	3,951	238,075	470,998
09-Aug	3,565	712,638	100	3,565	241,640	470,998
10-Aug[b]	57,772	770,410	100	57,772	299,412	470,998

[a]Weir not operational between 5/30 and 6/7, June 7th count includes estimate for 5/30 - 6/7.

[b]Time series analysis of catch and escapement was used to estimate sockeye salmon escapements after weir removal on 10 August.

Table 15. Harvest of Chignik bound sockeye salmon in the Chignik, Cape Igvak and Balboa-Stepovak areas[a] from 1964-1990.

	Chignik Area		Cape Igvak		Balboa-Stepovak		
Year	Number	Percent	Number	Percent	Number	Percent	Total
1964[b]	556,890	90.57	14,980	2.44	43,021	7.00	614,890
1965	599,553	89.94	11,021	1.65	56,020	8.40	666,594
1966	219,794	87.99	18,003	7.21	12,011	4.81	249,808
1967	462,000	91.48	23,014	4.56	20,021	3.96	505,034
1968	977,382	82.53	135,951	11.48	70,959	5.99	1,184,292
1969	394,135	78.96	97,982	19.63	7,013	1.41	499,130
1970	1,325,883	72.79	427,339	23.46	68,181	3.74	1,821,403
1971	1,016,136	76.97	253,044	19.17	50,952	3.86	1,320,132
1972	378,669	86.32	42,012	9.58	17,999	4.10	438,680

1964-72 catch and percentage figures are total for the entire season. Catch figures and percentages after 1972 are only through July 25.

1973[c]	769,256	88.99	57,098	6.61	38,102	4.41	864,456
1974	530,278	74.12	120,602	16.86	64,563	9.02	715,443
1975	115,984	81.78	23,635	16.67	2,205	1.55	141,824
1976	792,024	83.08	117,926	12.37	43,356	4.55	953,306
1977	1,547,285	90.61	128,852	7.55	31,498	1.84	1,707,635
1978[d,e]	1,454,389	85.48	225,078	13.23	22,029	1.29	1,701,496
1979[f]	794,504	91.98	13,950	1.61	55,344	6.41	863,798
1980	670,001	91.17	32	0.00	64,862	8.83	734,895
1981	1,606,290	79.89	282,342	14.04	121,870	6.06	2,010,502
1982	1,250,939	84.53	166,219	11.23	62,767	4.24	1,479,925
1983	1,450,832	72.57	320,932	16.05	227,392	11.37	1,999,156
1984	2,474,405	73.93	449,360	13.43	423,068	12.64	3,346,833
1985[g]	696,169	79.91	123,627	14.19	51,421	5.90	871,217
1986	1,456,729	82.64	188,017	10.67	118,006	6.69	1,762,752
1987	1,659,915	78.02	320,813	15.08	146,886	6.90	2,127,614
1988	678,912	94.95	10,520	1.47	25,565	3.58	714,997
1989	502,477	99.12	0	0.00	4,485	0.88	506,962
1990	1,196,599	84.92	83,967	5.96	128,601	9.13	1,409,167

[a]The Balboa-Stepovak fishery includes Beaver Bay (Southeastern District Mainland Fishery). The Cape Igvak and Balboa-Stepovak figures represent 80% of the total sockeye catches for those areas as it is estimated that roughly 80% of the sockeye caught in the Cape Igvak section and Balboa-Stepovak are destined for Chignik.

[b]The data from 1964 - 1972 are based on total annual catches. Prior to 1973, Cape Igvak and Balboa-Stepovak fisheries were set by regulation to weekly fishing periods, usually 5 days per week. Time modifications were implemented when poor escapements occurred at Chignik.

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[c]During 1973 through 1977 all three fisheries were managed on a day by day basis.

[d]From 1978 - 1990, the Cape Igvak Fishery Management Plan allocated 15 percent of the total sockeye catch destined for Chignik.

[e]During 1978, seining prior to July 11 was disallowed in Beaver, Balboa, and Stepovak Bays. The set gillnet fishery was allowed to fish 3 days per week through July 10 after which the fishery was managed on the basis of local stocks.

[f]During 1979-1984 and prior to July 11, fishing was allowed 5 days per week at Balboa-Stepovak (including Beaver Bay) with a estimated ceiling of 60,000 sockeye destined for Chignik. If the Chignik Area sockeye catch was 1,000,000 or more before July 11, the 60,000 ceiling was to be dropped.

[g]Beginning in 1985, Balboa-Stepovak was placed on an allocation of 6.2 percent of the total estimated Chignik sockeye catch through July 25. After July 25, Balboa-Stepovak is managed on a local stock basis. The allocation changed back to an even 6 percent beginning in 1988. Seining is still not allowed prior to July 11.

Table 16. Sockeye harvests in the Chignik Area and 80 percent of the sockeye in the Cape Igvak and Balboa-Stepovak Bay Areas, 1964-1990.

	Harvest To July 25 Only				Harvest For Entire Season			
YEAR	Chignik	Cape Igvak	Balboa-Stepovak	Total	Chignik	Cape Igvak	Balboa-Stepovak	Total
1964	-	-	-	-	556,890	14,980	43,021	614,891
1965	-	-	-	-	599,553	11,021	56,020	666,594
1966	-	-	-	-	219,794	18,003	12,011	249,808
1967	-	-	-	-	462,000	23,014	20,021	505,035
1968	-	-	-	-	977,382	135,951	70,959	1,184,292
1969	-	-	-	-	394,135	97,982	7,013	499,130
1970	1,325,883	427,338	67,582	1,820,803	1,325,883	427,339	68,181	1,821,403
1971	-	-	-	-	1,016,136	253,044	50,952	1,320,132
1972	-	-	-	-	378,669	42,012	17,999	438,680
1973	769,256	57,098	37,614	863,968	870,352	57,098	38,266	965,716
1974	530,278	120,602	64,563	715,443	662,905	120,602	65,514	849,021
1975	115,984	23,635	2,205	141,824	399,593	23,635	2,205	425,433
1976	792,024	117,926	43,356	953,306	1,163,728	117,978	44,781	1,326,4[illegible]7
1977	1,547,285	128,852	31,498	1,707,635	1,972,207	128,852	35,401	2,136,460
1978	1,454,389	225,078	21,952	1,701,419	1,576,283	225,117	23,990	1,825,390
1979	794,504	13,950	55,344	863,798	1,049,497	20,436	82,153	1,152,086
1980	670,001	32	63,570	733,603	859,966	631	88,046	948,643
1981	1,606,290	282,342	121,870	2,010,502	1,839,469	283,826	166,034	2,289,329
1982	1,250,939	166,219	62,767	1,479,925	1,521,857	167,113	86,849	1,775,819
1983	1,450,832	320,932	227,392	1,999,156	1,824,175	323,004	297,429	2,444,608
1984	2,474,405	449,360	423,068	3,346,833	2,660,478	450,054	487,938	3,598,470
1985	696,169	123,627	51,421	871,217	922,151	125,134	93,206	1,140,491
1986	1,456,729	188,017	118,006	1,762,752	1,645,834	188,126	147,056	1,981,016
1987	1,659,915	320,813	146,886	2,127,614	1,898,838	343,422	188,983	2,431,243
1988	678,912	10,520	19,320	708,752	795,841	27,681	79,101	902,623
1989	502,477	-	4,485	506,962	1,159,287	-	138,567	1,297,854
1990	1,196,599	83,967	128,601	1,409,167	2,093,650	132,404	216,946	2,443,000

Table 17. Age composition of scale samples collected from the Black Lake sockeye escapement that is used as a standard to separate Black Lake from Chignik Lake stocks, 1990.

Date	Sample Size (n)	Percent Composition							
		0.3	1.2	1.3	1.4	2.2	2.3	2.4	3.3
6/24	256	0.0	28.5	39.8	1.2	6.3	23.8	0.4	0.0
6/25	413	0.0	30.8	44.8	0.2	2.9	21.3	0.0	0.0
6/26	36	2.8	25.0	36.1	0.0	5.6	25.0	0.0	2.8
6/27	37	0.0	40.5	32.4	0.0	8.1	18.9	0.0	0.0
6/28	194	0.0	31.4	38.7	0.0	3.6	26.3	0.0	0.0
6/29	528	0.0	29.7	52.5	0.2	1.7	15.9	0.0	0.0
6/30	491	0.0	25.7	52.3	0.2	1.8	20.0	0.0	0.0
Totals									
Number	1,955	1	568	921	6	58	398	1	1
Percent		0.1	29.1	47.1	0.3	3.0	20.4	0.1	0.1

Table 18. Sockeye salmon age composition from scale samples collected from the Chignik Lagoon Commercial fishery, 1990.

Date	Sample Size (n)	Percent Composition												
		0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	0.4
6/10	448	0.0	0.0	1.6	14.3	0.0	57.1	1.1	0.0	25.4	0.0	0.0	0.2	0.2
6/14	442	0.0	0.5	0.2	24.4	0.0	54.5	2.3	0.5	17.4	0.0	0.0	0.2	0.0
6/17	579	0.0	1.0	0.2	29.0	0.0	46.2	4.5	1.0	17.6	0.0	0.0	0.0	0.3
6/19	547	0.0	0.0	0.0	30.2	0.0	48.4	2.2	0.0	19.0	0.0	0.2	0.0	0.0
6/22	649	0.0	0.0	0.3	44.7	0.0	36.2	3.9	0.3	14.2	0.2	0.2	0.2	0.0
6/26	480	0.2	0.8	0.0	51.9	0.0	36.0	5.0	0.0	6.0	0.0	0.0	0.0	0.0
6/30	476	0.0	0.0	0.2	44.7	0.0	37.4	7.6	0.0	9.9	0.0	0.0	0.0	0.2
7/03	531	0.2	0.0	0.6	44.8	0.0	18.6	10.7	0.2	24.7	0.0	0.2	0.0	0.0
7/06	538	0.0	0.0	0.4	32.2	0.0	27.7	4.8	0.4	34.4	0.0	0.2	0.0	0.0
7/09	539	0.2	0.0	0.4	21.5	0.0	25.5	7.6	0.0	44.5	0.0	0.4	0.0	0.0
7/11	550	0.0	0.2	0.0	17.1	0.0	11.5	9.8	0.2	60.0	0.5	0.7	0.0	0.0
7/15	503	0.2	0.0	1.8	8.3	0.0	10.9	4.6	0.0	73.2	0.0	0.8	0.0	0.2
7/22	467	0.9	0.0	0.4	2.8	0.0	4.5	10.7	0.4	79.4	0.4	0.4	0.0	0.0
7/30	533	0.4	0.0	1.9	1.3	0.0	3.6	9.0	0.2	82.6	0.0	1.1	0.0	0.0
8/05	513	0.6	0.0	0.0	3.9	0.0	6.4	9.6	0.0	79.1	0.0	0.4	0.0	0.0
8/13	346	0.0	0.0	0.6	2.0	0.0	2.3	5.2	0.0	89.6	0.0	0.3	0.0	0.0
8/20	481	0.2	0.0	0.4	0.4	0.2	5.2	4.6	0.0	89.0	0.0	0.0	0.0	0.0
8/28	458	0.0	0.0	0.0	1.3	0.0	2.8	9.0	0.0	86.0	0.0	0.9	0.0	0.0
9/06	343	0.0	0.0	0.0	1.2	0.0	3.2	14.6	0.0	79.3	0.0	1.7	0.0	0.0
Total	9,423													

Table 19. Estimated stock composition of age-1.3 Chignik sockeye salmon from commercial catch samples, based on scale pattern analysis, 1990.

Sample Date	Sample Size (n)	Stock	Adjusted Estimate	Estimated Variance	Smoothed Estimate	Smoothed Estimated Variance
10-Jun	102	Black Lake	0.764	0.01240	0.809	0.01240
		Chignik Lake	0.236	0.01240	0.191	0.01240
14-Jun	91	Black Lake	0.900	0.01240	0.865	0.01290
		Chignik Lake	0.100	0.01240	0.146	0.01290
17-Jun	76	Black Lake	0.897	0.01442	0.896	0.01313
		Chignik Lake	0.103	0.01442	0.105	0.01313
22-Jun	102	Black Lake	0.889	0.01130	0.898	0.01205
		Chignik Lake	0.111	0.01130	0.099	0.01205
26-Jun	32	Black Lake	0.917	0.01120	0.713	0.01268
		Chignik Lake	0.083	0.01120	0.355	0.01268
30-Jun	104	Black Lake	0.130	0.01700	0.437	0.01630
		Chignik Lake	0.870	0.01700	0.430	0.01630
03-Jul	65	Black Lake	0.571	0.02000	0.484	0.01880
		Chignik Lake	0.429	0.02000	0.483	0.01880
06-Jul	70	Black Lake	0.664	0.01820	0.687	0.01760
		Chignik Lake	0.336	0.01820	0.559	0.01760
09-Jul	83	Black Lake	0.849	0.01400	0.787	0.01780
		Chignik Lake	0.151	0.01400	0.355	0.01780
11-Jul	52	Black Lake	0.528	0.02500	0.569	0.02375
		Chignik Lake	0.472	0.02500	0.431	0.02375
15-Jul	40	Black Lake	0.516	0.03100	0.535	0.02950
		Chignik Lake	0.484	0.03100	0.465	0.02950
22-Jul	19	Black Lake	0.562	0.03100	0.547	0.03100
		Chignik Lake	0.438	0.03100	0.453	0.03100

Table 20. Estimated stock composition of age-2.3 Chignik sockeye salmon from commercial catch samples, based on scale pattern analysis, 1990.

Sample Date	Sample Size	Stock	Adjusted Estimate	Estimated Variance	Smoothed Estimate	Smoothed Estimated Variance
10-Jun	47	Black Lake	0.639	0.11169	0.694	0.10781
		Chignik Lake	0.361	0.11169	0.279	0.10781
14-Jun	50	Black Lake	0.885	0.10005	0.822	0.10329
		Chignik Lake	0.115	0.10005	0.179	0.10329
17-Jun	49	Black Lake	0.877	0.10136	0.895	0.10342
		Chignik Lake	0.123	0.10136	0.105	0.10342
22-Jun	36	Black Lake	0.942	0.11092	0.962	0.10854
		Chignik Lake	0.058	0.11092	0.038	0.10854
26-Jun	24	Black Lake	1.000	0.11095	0.930	0.10354
		Chignik Lake	0.000	0.11095	0.070	0.10354
30-Jun	37	Black Lake	0.605	0.08132	0.688	0.09527
		Chignik Lake	0.395	0.08132	0.312	0.09527
06-Jul	51	Black Lake	0.455	0.10748	0.444	0.09970
		Chignik Lake	0.545	0.10748	0.557	0.09970
11-Jul	50	Black Lake	0.259	0.10250	0.257	0.10043
		Chignik Lake	0.741	0.10250	0.743	0.10043
15-Jul	49	Black Lake	0.056	0.08925	0.113	0.09292
		Chignik Lake	0.944	0.08925	0.887	0.09292
22-Jul	95	Black Lake	0.080	0.09068	0.179	0.09020
		Chignik Lake	0.920	0.09068	0.928	0.09020

Table 21. Daily sockeye salmon escapement, catch by area, and total run adjusted to Chignik Lagoon date, 1990.

Date	Escapement	Chignik Lagoon	Hook Bay/ Kujulik	Aniakchak	Eastern District	Cape Igvak	Western District	Perryville District	Stepovak	Daily Total
6/ 6	7,000	0	0	0	0	0	0	0	0	7,000
6/ 7	3,227	0	0	0	0	0	0	0	0	3,227
6/ 8	4,902	0	0	0	0	0	0	0	0	4,902
6/10	6,344	470	0	0	0	0	0	0	0	6,814
6/11	8,210	0	0	0	0	0	0	0	0	8,210
6/12	15,870	0	0	0	0	0	0	0	0	15,870
6/13	47,955	0	0	0	0	0	0	0	0	47,955
6/14	22,734	588	0	0	0	0	0	0	0	23,322
6/15	14,937	0	0	0	0	0	0	0	0	14,937
6/16	8,291	41,515	0	0	0	0	0	0	0	49,806
6/17	3,446	6,858	2,234	0	0	0	0	0	0	12,538
6/18	15,133	0	6,903	0	0	0	0	0	0	22,036
6/19	39,501	683	0	1,140	0	0	0	0	0	41,324
6/20	68,839	0	0	0	0	0	0	0	0	68,839
6/21	20,484	2,318	0	0	0	0	0	0	0	22,802
6/22	4,091	61,481	0	0	0	0	0	0	0	65,572
6/23	5,558	35,295	19,121	0	0	0	0	0	0	59,974
6/24	22,891	0	14,173	1,800	0	0	0	0	0	38,864
6/25	37,190	0	0	7,888	0	0	0	0	0	45,078
6/26	26,657	642	0	0	0	0	0	0	0	27,299
6/27	4,980	72,193	0	0	0	0	0	0	0	77,173
6/28	3,216	29,192	11,807	0	0	0	0	0	0	44,215
6/29	2,225	19,924	11,696	11,427	0	0	0	0	0	45,272
6/30	2,184	16,579	22,829	10,677	0	0	0	0	0	52,269
7/ 1	1,435	9,512	16,728	0	0	0	0	0	0	27,675
7/ 2	468	13,648	22,144	0	3,120	0	0	0	0	39,380
7/ 3	1,722	15,226	15,610	6,045	0	0	0	0	0	38,603
7/ 4	2,793	18,870	19,007	772	0	0	0	0	0	41,442
7/ 5	2,057	16,313	10,762	4,292	0	0	0	0	0	33,424
7/ 6	3,946	24,233	11,787	94	0	0	0	0	0	40,060
7/ 7	19,151	0	2,297	717	0	0	0	0	0	22,165
7/ 8	32,247	0	0	684	0	0	5,335	0	0	38,266
7/ 9	33,189	821	0	176	44	0	5,113	2,784	0	42,127

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Table 21. (page 2 of 4)

Date	Escapement	Chignik Lagoon	Hook Bay/ Kujulik	Aniakchak	Eastern District	Cape Igvak	Western District	Perryville District	Stepovak	Daily Total
7/10	39,228	0	0	0	1,993	0	0	2,268	0	43,489
7/11	13,537	39,947	0	0	0	0	0	0	0	53,484
7/12	5,830	33,568	14,850	0	0	0	0	0	0	54,248
7/13	4,773	23,575	20,993	0	0	0	0	0	0	49,341
7/14	974	32,830	14,184	0	0	0	0	0	5,493	53,481
7/15	2,312	27,977	13,027	0	0	5,466	0	0	8,026	56,808
7/16	1,056	27,971	13,692	294	0	11,169	9,134	0	0	63,316
7/17	2,488	28,298	23,563	0	0	6,615	10,664	0	0	71,628
7/18	1,218	20,484	13,477	0	0	4,642	0	1,560	16,878	58,259
7/19	11,534	40,551	17,473	0	0	7,157	0	7,657	27,686	112,058
7/20	37,576	0	0	0	0	6,825	0	0	0	44,401
7/21	43,082	0	0	0	0	7,849	0	0	0	50,931
7/22	15,325	0	0	0	0	8,418	0	0	0	23,743
7/23	2,415	23,682	6,825	0	0	10,288	7,999	0	27,702	78,911
7/24	2,353	19,065	10,820	0	0	9,448	5,916	1,612	42,816	92,030
7/25	1,489	23,986	16,112	0	0	6,090	1,629	3,356	0	52,662
7/26	3,227	33,523	13,358	0	0	8,233	0	1,140	0	59,481
7/27	3,217	33,254	14,640	0	0	4,495	0	0	0	55,606
7/28	1,514	27,148	18,466	0	0	3,650	0	0	0	50,778
7/29	780	21,680	14,233	0	0	3,672	0	0	0	40,365
7/30	756	27,526	9,299	0	0	3,605	0	0	0	41,186
7/31	2,371	30,321	5,894	0	0	5,198	0	0	7,874	51,658
8/ 1	1,344	20,056	7,412	0	0	5,458	0	0	9,434	43,704
8/ 2	726	18,105	6,741	0	0	2,495	0	0	0	28,067
8/ 3	864	25,005	8,779	0	0	2,502	0	0	0	37,150
8/ 4	1,782	25,426	3,592	0	0	1	0	0	0	30,801
8/ 5	1,530	21,376	2,053	0	0	0	0	0	8,017	32,976
8/ 6	1,618	19,161	4,769	268	0	0	2,312	0	12,987	41,115
8/ 7	3,951	21,811	3,067	0	9	57	5,090	716	3,503	38,204
8/ 8	3,565	17,276	3,209	0	3	424	0	1,252	0	25,729
8/ 9	2,603	10,856	395	0	0	439	0	0	0	14,293
8/10	2,543	18,323	1,317	0	0	459	0	0	0	22,642
8/11	2,483	0	1,045	0	0	492	0	0	4,486	8,506
8/12	2,423	0	0	0	0	1,473	0	0	6,960	10,856
8/13	2,363	19,500	0	0	0	1,002	0	0	0	22,865
8/14	2,303	15,830	1,689	0	0	0	0	0	0	19,822

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Table 21. (page 3 of 4)

Date	Escapement	Chignik Lagoon	Hook Bay/ Kujulik	Aniakchak	Eastern District	Cape Igvak	Western District	Perryville District	Stepovak	Daily Total
8/15	2,243	15,966	3,612	0	0	0	0	0	0	21,821
8/16	2,183	17,774	3,297	0	0	0	0	0	0	23,254
8/17	2,123	20,529	0	0	0	0	0	0	0	22,652
8/18	2,063	19,473	5,927	0	0	1,622	0	0	0	29,085
8/19	2,003	15,626	7,294	0	0	1,359	0	0	0	26,282
8/20	1,943	17,073	2,771	0	0	1,000	0	0	0	22,787
8/21	1,883	14,930	7,263	0	0	636	0	0	0	24,712
8/22	1,823	13,222	5,276	0	0	153	0	0	0	20,474
8/23	1,763	9,096	1,564	0	0	0	0	0	0	12,423
8/24	1,703	14,432	9,777	0	0	0	0	0	0	25,912
8/25	1,643	0	5,000	0	0	0	0	0	0	6,643
8/26	1,583	0	0	0	0	0	0	0	0	1,583
8/27	1,523	16,323	0	0	0	0	0	0	0	17,846
8/28	1,463	10,699	4,411	0	0	0	0	0	0	16,573
8/29	1,403	10,371	2,562	0	0	0	0	0	0	14,336
8/30	1,343	8,998	2,646	0	0	0	0	0	0	12,987
8/31	1,283	8,640	2,618	0	0	12	0	0	0	12,553
9/ 1	1,223	0	2,501	0	0	0	0	0	0	3,724
9/ 2	1,163	0	0	0	0	0	0	0	0	1,163
9/ 3	1,103	7,007	0	0	0	0	0	0	0	8,110
9/ 4	1,043	3,501	8,138	0	0	0	0	0	0	12,682
9/ 5	983	3,748	5,032	0	0	0	0	0	0	9,763
9/ 6	923	3,086	2,771	0	0	0	0	0	3,693	10,473
9/ 7	863	3,493	1,176	0	0	0	0	0	7,334	12,866
9/ 8	803	0	3,199	0	0	0	0	0	9,360	13,362
9/ 9	743	0	0	0	0	0	0	0	0	743
9/10	683	5,110	0	0	0	0	0	0	0	5,793
9/11	623	3,287	2,475	0	0	0	0	0	0	6,385
9/12	563	4,136	3,163	0	0	0	0	0	0	7,862
9/13	503	3,873	743	0	0	0	0	0	431	5,550
9/14	443	3,158	618	0	0	0	0	0	2,328	6,547
9/15	383	0	615	0	0	0	0	0	2,156	3,154
9/16	323	0	0	0	0	0	0	0	370	693
9/17	263	2,471	0	0	0	0	0	0	918	3,652
9/18	203	2,323	0	0	0	0	0	0	970	3,496

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Date	Escapement	Chignik Lagoon	Hook Bay/ Kujulik	Aniakchak	Eastern District	Cape Igvak	Western District	Perryville District	Stepovak	Daily Total
9/19	143	4,223	0	0	0	0	0	0	0	4,366
9/20	83	1,249	0	0	0	0	0	0	0	1,332
9/21	23	1,780	0	0	0	0	0	0	0	1,803
9/22	0	0	0	0	0	0	0	0	0	0
9/23	0	0	0	0	0	0	0	0	1,121	1,121
9/24	0	0	0	0	0	0	0	0	2,073	2,073
9/25	0	0	80	0	0	0	0	0	1,346	1,426
9/23	0	0	0	0	0	0	0	0	1,121	1,121
9/24	0	0	0	0	0	0	0	0	2,073	2,073
9/25	0	0	80	0	0	0	0	0	1,346	1,426
9/26	0	0	0	0	0	0	0	0	943	943
9/27	0	0	0	0	0	0	0	0	0	0
9/28	0	0	0	0	0	0	0	0	0	0
9/29	0	0	0	0	0	0	0	0	1,314	1,314
9/30	0	0	0	0	0	0	0	0	343	343
10/ 1	0	0	0	0	0	0	0	0	225	225
10/ 2	0	0	0	0	0	0	0	0	68	68
10/ 3	0	0	0	0	0	0	0	0	36	36
10/ 4	0	0	0	0	0	0	0	0	55	55
Total	770,410	1,400,069	566,601	46,274	5,169	132,404	53,192	22,345	216,946	3,213,410

Table 22. Daily and cumulative sockeye salmon catch and escapement, as determined by scale pattern analysis for the Black Lake stock, 1990.[a]

Date	Escapement Counts	Catch	Daily Total	Cumulative Catch and Escapement	Cumulative Percent
06-Jun	7,000	0	7,000	7,000	0.7
07-Jun	3,123	0	3,123	10,123	1.0
08-Jun	4,588	0	4,588	14,711	1.4
09-Jun	6,626	0	6,626	21,337	2.1
10-Jun	5,532	410	5,942	27,279	2.7
11-Jun	7,088	0	7,088	34,367	3.4
12-Jun	13,561	0	13,561	47,928	4.7
13-Jun	40,554	0	40,554	88,482	8.7
14-Jun	19,025	492	19,517	107,999	10.6
15-Jun	12,868	0	12,868	120,867	11.8
16-Jun	7,350	36,805	44,155	165,022	16.1
17-Jun	3,142	8,293	11,435	176,457	17.3
18-Jun	13,838	6,310	20,148	196,605	19.2
19-Jun	36,201	1,671	37,872	234,477	22.9
20-Jun	63,549	0	63,549	298,026	29.2
21-Jun	19,051	2,158	21,209	319,235	31.2
22-Jun	3,835	57,630	61,465	380,700	37.2
23-Jun	4,915	48,103	53,018	433,718	42.4
24-Jun	18,994	13,255	32,249	465,967	45.6
25-Jun	28,819	6,113	34,932	500,899	49.0
26-Jun	19,174	462	19,636	520,535	50.9
27-Jun	3,426	49,668	53,094	573,629	56.1
28-Jun	2,112	26,919	29,031	602,660	58.9
29-Jun	1,391	26,907	28,298	630,958	61.7
30-Jun	1,296	29,723	31,019	661,977	64.7
01-Jul	806	14,699	15,505	677,482	66.3
02-Jul	247	20,359	20,606	698,088	68.3
03-Jul	830	17,799	18,629	716,717	70.1
04-Jul	1,386	19,191	20,577	737,294	72.1
05-Jul	1,050	16,007	17,057	754,351	73.8
06-Jul	2,067	18,920	20,987	775,338	75.8
07-Jul	9,658	1,519	11,177	786,515	76.9
08-Jul	15,604	2,911	18,515	805,030	78.7
09-Jul	15,365	4,138	19,503	824,533	80.6
10-Jul	15,034	1,633	16,667	841,200	82.3
11-Jul	4,026	11,881	15,907	857,107	83.8
12-Jul	1,599	13,285	14,884	871,991	85.3
13-Jul	1,202	11,223	12,425	884,416	86.5
14-Jul	222	12,054	12,276	896,692	87.7
15-Jul	481	11,320	11,801	908,493	88.9
16-Jul	210	12,328	12,538	921,031	90.1
17-Jul	466	12,973	13,439	934,470	91.4
18-Jul	216	10,074	10,290	944,760	92.4
19-Jul	1,902	16,582	18,484	963,244	94.2
20-Jul	5,737	1,042	6,779	970,023	94.9
21-Jul	6,024	1,098	7,122	977,145	95.6
22-Jul	1,936	1,065	3,001	980,146	95.9

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Table 22. (page 2 of 2)

Date	Escapement Counts	Catch	Daily Total	Cumulative Catch and Escapement	Cumulative Percent
23-Jul	270	8,582	8,852	988,998	96.7
24-Jul	229	8,821	9,050	998,048	97.6
25-Jul	126	4,339	4,465	1,002,513	98.1
26-Jul	243	4,276	4,519	1,007,032	98.5
27-Jul	216	3,533	3,749	1,010,781	98.9
28-Jul	90	2,908	2,998	1,013,779	99.2
29-Jul	40	2,015	2,055	1,015,834	99.4
30-Jul	31	1,737	1,768	1,017,602	99.5
31-Jul	88	1,821	1,909	1,019,511	99.7
01-Aug	42	1,293	1,335	1,020,846	99.9
02-Aug	16	644	660	1,021,506	99.9
03-Aug	12	587	599	1,022,105	100.0
04-Aug	14	242	256	1,022,361	100.0
	434,543	587,818		1,022,361	

[a]Catch and escapement adjusted to Chignik Lagoon date.

Table 23. Daily and cumulative sockeye salmon catch and escapement, as determined by scale pattern analysis for the Chignik Lake stock, 1990.[a]

Date	Escapement Counts	Catch	Daily Total	Cumulative Catch and Escapement	Cumulative Percent
06-Jun	0	0	0	0	0.0
07-Jun	104	0	104	104	0.0
08-Jun	314	0	314	418	0.0
09-Jun	704	0	704	1,122	0.1
10-Jun	812	60	872	1,994	0.1
11-Jun	1,122	0	1,122	3,116	0.1
12-Jun	2,309	0	2,309	5,425	0.2
13-Jun	7,401	0	7,401	12,826	0.6
14-Jun	3,709	96	3,805	16,631	0.8
15-Jun	2,069	0	2,069	18,700	0.9
16-Jun	941	4,710	5,651	24,351	1.1
17-Jun	304	799	1,103	25,454	1.2
18-Jun	1,295	593	1,888	27,342	1.2
19-Jun	3,300	152	3,452	30,794	1.4
20-Jun	5,290	0	5,290	36,084	1.6
21-Jun	1,433	160	1,593	37,677	1.7
22-Jun	256	3,851	4,107	41,784	1.9
23-Jun	643	6,313	6,956	48,740	2.2
24-Jun	3,897	2,718	6,615	55,355	2.5
25-Jun	8,371	1,775	10,146	65,501	3.0
26-Jun	7,483	180	7,663	73,164	3.3
27-Jun	1,554	22,525	24,079	97,243	4.4
28-Jun	1,104	14,080	15,184	112,427	5.1
29-Jun	834	16,140	16,974	129,401	5.9
30-Jun	888	20,362	21,250	150,651	6.9
01-Jul	629	11,541	12,170	162,821	7.4
02-Jul	221	18,553	18,774	181,595	8.3
03-Jul	892	19,082	19,974	201,569	9.2
04-Jul	1,407	19,458	20,865	222,434	10.2
05-Jul	1,007	15,360	16,367	238,801	10.9
06-Jul	1,879	17,194	19,073	257,874	11.8
07-Jul	9,493	1,495	10,988	268,862	12.3
08-Jul	16,643	3,108	19,751	288,613	13.2
09-Jul	17,824	4,800	22,624	311,237	14.2
10-Jul	24,194	2,628	26,822	338,059	15.4
11-Jul	9,511	28,066	37,577	375,636	17.1
12-Jul	4,231	35,133	39,364	415,000	18.9
13-Jul	3,571	33,345	36,916	451,916	20.6
14-Jul	752	40,453	41,205	493,121	22.5
15-Jul	1,831	43,176	45,007	538,128	24.6
16-Jul	846	49,932	50,778	588,906	26.9
17-Jul	2,022	56,167	58,189	647,095	29.5
18-Jul	1,002	46,967	47,969	695,064	31.7
19-Jul	9,632	83,942	93,574	788,638	36.0
20-Jul	31,839	5,783	37,622	826,260	37.7
21-Jul	37,058	6,751	43,809	870,069	39.7
22-Jul	13,389	7,353	20,742	890,811	40.7
23-Jul	2,145	67,914	70,059	960,870	43.9

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Table 23. (page 2 of 3)

Date	Escapement Counts	Catch	Daily Total	Cumulative Catch and Escapement	Cumulative Percent
24-Jul	2,124	80,856	82,980	1,043,850	47.6
25-Jul	1,363	46,834	48,197	1,092,047	49.8
26-Jul	2,984	51,978	54,962	1,147,009	52.3
27-Jul	3,001	48,856	51,857	1,198,866	54.7
28-Jul	1,424	46,356	47,780	1,246,646	56.9
29-Jul	740	37,570	38,310	1,284,956	58.6
30-Jul	725	38,693	39,418	1,324,374	60.4
31-Jul	2,283	47,466	49,749	1,374,123	62.7
01-Aug	1,302	41,067	42,369	1,416,492	64.6
02-Aug	710	26,697	27,407	1,443,899	65.9
03-Aug	852	35,699	36,551	1,480,450	67.6
04-Aug	1,768	28,777	30,545	1,510,995	69.0
05-Aug	1,530	31,446	32,976	1,543,971	70.5
06-Aug	1,618	39,497	41,115	1,585,086	72.3
07-Aug	3,951	34,253	38,204	1,623,290	74.1
08-Aug	3,565	22,164	25,729	1,649,019	75.3
09-Aug	2,603	11,690	14,293	1,663,312	75.9
10-Aug	2,543	20,099	22,642	1,685,954	76.9
11-Aug	2,483	6,023	8,506	1,694,460	77.3
12-Aug	2,423	8,433	10,856	1,705,316	77.8
13-Aug	2,363	20,502	22,865	1,728,181	78.9
14-Aug	2,303	17,519	19,822	1,748,003	79.8
15-Aug	2,243	19,578	21,821	1,769,824	80.8
16-Aug	2,183	21,071	23,254	1,793,078	81.8
17-Aug	2,123	20,529	22,652	1,815,730	82.9
18-Aug	2,063	27,022	29,085	1,844,815	84.2
19-Aug	2,003	24,279	26,282	1,871,097	85.4
20-Aug	1,943	20,844	22,787	1,893,884	86.4
21-Aug	1,883	22,829	24,712	1,918,596	87.6
22-Aug	1,823	18,651	20,474	1,939,070	88.5
23-Aug	1,763	10,660	12,423	1,951,493	89.1
24-Aug	1,703	24,209	25,912	1,977,405	90.2
25-Aug	1,643	5,000	6,643	1,984,048	90.6
26-Aug	1,583	0	1,583	1,985,631	90.6
27-Aug	1,523	16,323	17,846	2,003,477	91.4
28-Aug	1,463	15,110	16,573	2,020,050	92.2
29-Aug	1,403	12,933	14,336	2,034,386	92.8
30-Aug	1,343	11,644	12,987	2,047,373	93.4
31-Aug	1,283	11,270	12,553	2,059,926	94.0
01-Sep	1,223	2,501	3,724	2,063,650	94.2
02-Sep	1,163	0	1,163	2,064,813	94.2
03-Sep	1,103	7,007	8,110	2,072,923	94.6
04-Sep	1,043	11,639	12,682	2,085,605	95.2
05-Sep	983	8,780	9,763	2,095,368	95.6
06-Sep	923	9,550	10,473	2,105,841	96.1
07-Sep	863	12,003	12,866	2,118,707	96.7
08-Sep	803	12,559	13,362	2,132,069	97.3
09-Sep	743	0	743	2,132,812	97.3
10-Sep	683	5,110	5,793	2,138,605	97.6
11-Sep	623	5,762	6,385	2,144,990	97.9

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Table 23. (page 3 of 3)

Date	Escapement Counts	Catch	Daily Total	Cumulative Catch and Escapement	Cumulative Percent
12-Sep	563	7,299	7,862	2,152,852	98.3
13-Sep	503	5,047	5,550	2,158,402	98.5
14-Sep	443	6,104	6,547	2,164,949	98.8
15-Sep	383	2,771	3,154	2,168,103	99.0
16-Sep	323	370	693	2,168,796	99.0
17-Sep	263	3,389	3,652	2,172,448	99.2
18-Sep	203	3,293	3,496	2,175,944	99.3
19-Sep	143	4,223	4,366	2,180,310	99.5
20-Sep	83	1,249	1,332	2,181,642	99.6
21-Sep	23	1,780	1,803	2,183,445	99.7
22-Sep	0	0	0	2,183,445	99.7
23-Sep	0	1,121	1,121	2,184,566	99.7
24-Sep	0	2,073	2,073	2,186,639	99.8
25-Sep	0	1,426	1,426	2,188,065	99.9
26-Sep	0	943	943	2,189,008	99.9
27-Sep	0	0	0	2,189,008	99.9
28-Sep	0	0	0	2,189,008	99.9
29-Sep	0	1,314	1,314	2,190,322	100.0
30-Sep	0	343	343	2,190,665	100.0
01-Oct	0	225	225	2,190,890	100.0
02-Oct	0	68	68	2,190,958	100.0
03-Oct	0	36	36	2,190,994	100.0
04-Oct	0	55	55	2,191,049	100.0
Total	335,867	1,855,182		2,191,049	

[a]Catch and escapement adjusted to Chignik Lagoon date.

Table 24. Black Lake weekly sockeye salmon escapement, by age class, estimated by scale pattern analysis, 1990.

Statistical Week		Age Class										
		0.2	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Other	
23	Number	0	340	3,042	12,286	234	0	5,351	0	0	84	21,337
	Percent	0.0	1.6	14.3	57.6	1.1	0.0	25.1	0.0	0.0	0.4	
24	Number	0	596	23,250	58,799	2,285	435	19,904	0	0	709	105,978
	Percent	0.0	0.6	21.9	55.5	2.2	0.4	18.8	0.0	0.0	0.7	
25	Number	3	145	50,030	63,664	4,169	226	25,719	83	268	224	144,531
	Percent	0.0	0.1	34.6	44.0	2.9	0.2	17.8	0.1	0.2	0.2	
26	Number	112	58	38,790	24,922	3,810	51	6,910	34	34	491	75,212
	Percent	0.1	0.1	51.6	33.1	5.1	0.1	9.2	0.0	0.0	0.7	
27	Number	13	70	5,341	5,388	1,052	46	4,094	0	39	1	16,044
	Percent	0.1	0.4	33.3	33.6	6.6	0.3	25.5	0.0	0.2	0.0	
28	Number	76	198	12,630	18,067	4,772	56	16,841	85	290	37	53,052
	Percent	0.1	0.4	23.8	34.1	9.0	0.1	31.7	0.2	0.5	0.1	
29	Number	252	280	1,536	4,011	3,219	103	5,330	103	182	20	15,036
	Percent	1.7	1.9	10.2	26.7	21.4	0.7	35.4	0.7	1.2	0.1	
30	Number	77	61	239	773	981	34	865	31	49	0	3,110
	Percent	2.5	2.0	7.7	24.9	31.5	1.1	27.8	1.0	1.6	0.0	
31	Number	3	12	15	67	75	0	65	0	6	0	243
	Percent	1.2	4.9	6.2	27.6	30.9	0.0	26.7	0.0	2.5	0.0	
Total	Number	536	1,760	134,873	187,977	20,597	951	85,079	336	868	1,566	434,543
	Percent	0.1	0.4	31.0	43.3	4.7	0.2	19.6	0.1	0.2	0.4	

Table 25. Black Lake weekly sockeye salmon catch, by age class, estimated by scale pattern analysis, 1990.

Statistical Week		Age Class 0.2	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Other	Total
24	Number	0	81	10,254	18,706	1,398	308	6,551	0	0	409	37,707
	Percent	0.0	0.2	27.2	49.6	3.7	0.8	17.4	0.0	0.0	1.1	
25	Number	24	310	54,065	45,513	4,992	403	18,023	192	204	439	124,165
	Percent	0.0	0.2	43.5	36.7	4.0	0.3	14.5	0.2	0.2	0.4	
26	Number	144	182	76,162	50,953	9,888	25	14,911	17	17	748	153,047
	Percent	0.1	0.1	49.8	33.3	6.5	0.0	9.7	0.0	0.0	0.5	
27	Number	111	513	44,162	28,711	8,961	259	25,557	0	186	34	108,494
	Percent	0.1	0.5	40.7	26.5	8.3	0.2	23.6	0.0	0.2	0.0	
28	Number	69	516	11,705	15,540	6,176	93	22,107	221	555	143	57,125
	Percent	0	1	20	27	11	0	39	0	1	0.3	
29	Number	546	1,629	7,916	18,210	8,308	171	27,486	171	819	161	65,417
	Percent	0.8	2.5	12.1	27.8	12.7	0.3	42.0	0.3	1.3	0.2	
30	Number	768	978	2,408	8,390	10,695	349	8,976	276	684	0	33,524
	Percent	2.3	2.9	7.2	25.0	31.9	1.0	26.8	0.8	2.0	0.0	
31	Number	127	415	512	2,202	2,553	46	2,218	3	263	0	8,339
	Percent	1.5	5.0	6.1	26.4	30.6	0.6	26.6	0.0	3.2	0.0	
Total	Number	1,789	4,624	207,184	188,225	52,971	1,654	125,829	880	2,728	1,934	587,818
	Percent	0.3	0.8	35.2	32.0	9.0	0.3	21.4	0.1	0.5	0.3	

Table 26. Chignik Lake weekly sockeye salmon escapement, by age class, estimated by scale pattern analysis, 1990.

Statistical Week		Age Class 0.2	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Other	Total
23	Number	0	19	169	561	13	0	354	0	0	6	1,122
	Percent	0.0	1.7	15.1	50.0	1.2	0.0	31.6	0.0	0.0	0.5	
24	Number	0	108	4,297	8,988	417	78	4,346	0	0	129	18,363
	Percent	0.0	0.6	23.4	48.9	2.3	0.4	23.7	0.0	0.0	0.7	
25	Number	0	12	4,059	6,412	342	19	1,631	6	21	19	12,521
	Percent	0.0	0.1	32.4	51.2	2.7	0.2	13.0	0.0	0.2	0.2	
26	Number	31	16	10,825	10,977	1,104	11	1,013	8	8	138	24,131
	Percent	0.1	0.1	44.9	45.5	4.6	0.0	4.2	0.0	0.0	0.6	
27	Number	10	65	4,919	2,863	971	40	6,624	0	35	1	15,528
	Percent	0.1	0.4	31.7	18.4	6.3	0.3	42.7	0.0	0.2	0.0	
28	Number	81	224	14,052	8,974	5,537	67	47,276	116	347	52	76,726
	Percent	0.1	0.3	18.3	11.7	7.2	0.1	61.6	0.2	0.5	0.1	
29	Number	449	503	2,757	2,217	5,724	184	71,852	184	325	35	84,230
	Percent	0.5	0.6	3.3	2.6	6.8	0.2	85.3	0.2	0.4	0.0	
30	Number	158	149	494	502	2,075	72	22,805	62	113	0	26,430
	Percent	0.6	0.6	1.9	1.9	7.8	0.3	86.3	0.2	0.4	0.0	
31	Number	39	88	184	335	723	13	6,934	0	64	0	8,380
	Percent	0.5	1.1	2.2	4.0	8.6	0.2	82.7	0.0	0.8	0.0	
32	Number	66	44	575	872	1,435	0	15,235	0	66	0	18,293
	Percent	0.4	0.2	3.1	4.8	7.8	0.0	83.3	0.0	0.4	0.0	
33	Number	11	82	247	506	802	0	14,009	0	35	9	15,701
	Percent	0.1	0.5	1.6	3.2	5.1	0.0	89.2	0.0	0.2	0.1	

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Table 26. (page 2 of 2).

Statistical Week		Age Class										
		0.2	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Other	Total
34	Number	18	38	85	578	731	0	11,263	0	30	18	12,761
	Percent	0.1	0.3	0.7	4.5	5.7	0.0	88.3	0.0	0.2	0.1	
35	Number	1	3	120	295	939	0	8,368	0	94	1	9,821
	Percent	0.0	0.0	1.2	3.0	9.6	0.0	85.2	0.0	1.0	0.0	
36	Number	0	0	84	216	935	0	5,537	0	109	0	6,881
	Percent	0.0	0.0	1.2	3.1	13.6	0.0	80.5	0.0	1.6	0.0	
37	Number	0	0	47	126	575	0	3,123	0	70	0	3,941
	Percent	0.0	0.0	1.2	3.2	14.6	0.0	79.2	0.0	1.8	0.0	
38	Number	0	0	12	33	151	0	827	0	15	0	1,03[illegible]
	Percent	0.0	0.0	1.2	3.2	14.5	0.0	79.7	0.0	1.4	0.0	
Total	Number	864	1351	42,926	44,455	22,474	484	221,197	376	1,332	408	335,867
	Percent	0.3	0.4	12.8	13.2	6.7	0.1	65.9	0.1	0.4	0.1	

Table 27. Chignik Lake weekly sockeye salmon catch, by age class, estimated by scale pattern analysis, 1990.

Statistical Week		Age Class 0.2	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Other	Total
24	Number	0	11	1,359	2,267	185	41	949	0	0	54	4,866
	Percent	0.0	0.2	27.9	46.6	3.8	0.8	19.5	0.0	0.0	1.1	
25	Number	3	26	4,685	5,717	435	34	894	16	17	41	11,868
	Percent	0.0	0.2	39.5	48.2	3.7	0.3	7.5	0.1	0.1	0.3	
26	Number	56	90	34,294	33,858	4,688	5	4,470	3	3	313	7780
	Percent	0.1	0.1	44.1	43.5	6.0	0.0	5.7	0.0	0.0	0.4	
27	Number	107	485	41,087	22,909	8,415	244	29,232	0	177	27	102,683
	Percent	0.1	0.5	40.0	22.3	8.2	0.2	28.5	0.0	0.2	0.0	
28	Number	109	881	17,766	9,989	9,613	143	107,554	349	896	233	147,533
	Percent	0.1	0.6	12.0	6.8	6.5	0.1	72.9	0.2	0.6	0.2	
29	Number	1,026	3,107	15,090	13,010	15,616	318	242,364	318	1,558	311	292,718
	Percent	0.4	1.1	5.2	4.4	5.3	0.1	82.8	0.1	0.5	0.1	
30	Number	1,942	2,792	6,100	7,534	27,825	888	300,507	664	1,895	0	350,147
	Percent	0.6	0.8	1.7	2.2	7.9	0.3	85.8	0.2	0.5	0.0	
31	Number	1,125	2,930	5,193	9,720	21,826	323	212,815	17	2,020	0	255,969
	Percent	0.4	1.1	2.0	3.8	8.5	0.1	83.1	0.0	0.8	0.0	
32	Number	722	268	5,591	8,737	13,888	0	135,350	0	616	0	165,172
	Percent	0.4	0.2	3.4	5.3	8.4	0.0	81.9	0.0	0.4	0.0	
33	Number	102	705	1,943	4,538	6,759	0	120,251	0	260	96	134,654
	Percent	0.1	0.5	1.4	3.4	5.0	0.0	89.3	0.0	0.2	0.1	

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Table 27. (page 2 of 2)

Statistical Week		Age Class 0.2	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Other	Total
34	Number	193	406	803	5,834	7,015	0	111,777	0	251	193	126,472
	Percent	0.2	0.3	0.6	4.6	5.5	0.0	88.4	0.0	0.2	0.2	
35	Number	4	8	880	2,038	6,688	0	59,479	0	680	4	69,781
	Percent	0.0	0.0	1.3	2.9	9.6	0.0	85.2	0.0	1.0	0.0	
36	Number	0	0	744	1,946	8,653	0	49,197	0	998	0	61,538
	Percent	0.0	0.0	1.2	3.2	14.1	0.0	79.9	0.0	1.6	0.0	
37	Number	0	0	385	1,028	4,686	0	25,448	0	546	0	32,093
	Percent	0.0	0.0	1.2	3.2	14.6	0.0	79.3	0.0	1.7	0.0	
38	Number	0	0	172	457	2,089	0	11,343	0	243	0	14,304
	Percent	0.0	0.0	1.2	3.2	14.6	0.0	79.3	0.0	1.7	0.0	
39	Number	0	0	82	220	1,005	0	5,454	0	116	0	6,877
	Percent	0.0	0.0	1.2	3.2	14.6	0.0	79.3	0.0	1.7	0.0	
40	Number	0	0	4	26	106	0	578	0	13	0	727
	Percent	0.0	0.0	0.6	3.6	14.6	0.0	79.5	0.0	1.8	0.0	
Total	Number	5,389	11,709	136,178	129,828	139,492	1,996	1,417,662	1,367	10,289	1272	1,855,182
	Percent	0.3	0.6	7.3	7.0	7.5	0.1	76.4	0.1	0.6	0.1	

Table 28. Total estimated escapement, commercial catch, and run by stock and age class for the Chignik sockeye run, estimated by scale pattern analysis, 1990.

	Age Class										
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Other	Total
Black Lake											
Escapment	536	1,760	134,873	187,977	20,597	951	85,079	336	868	1,566	434,543
Percent	0.1	0.4	31.0	43.3	4.7	0.2	19.6	0.1	0.2	0.4	
Catch	1,789	4,624	207,184	188,225	52,971	1,654	125,829	880	2,728	1,934	587,818
Percent	0.3	0.8	35.2	32.0	9.0	0.3	21.4	0.1	0.5	0.3	
Chignik Lake											
Escapment	864	1,351	42,926	44,455	22,474	484	221,197	376	1,332	408	335,867
Percent	0.3	0.4	12.8	13.2	6.7	0.1	65.9	0.1	0.4	0.1	
Catch	5,389	11,709	136,178	129,828	139,492	1,996	1,417,662	1,367	10,289	1,272	1,855,182
Percent	0.3	0.6	7.3	7.0	7.5	0.1	76.4	0.1	0.6	0.1	
Total											
Escapement	1,400	3,111	177,799	232,432	43,071	1,435	306,276	712	2,200	1,974	770,410
Catch	7,178	16,333	343,362	318,053	192,463	3,650	1,543,491	2,247	13,017	3,206	2,443,000
Run	8,578	19,444	521,161	550,485	235,534	5,085	1,849,767	2,959	15,217	5,180	3,213,410
Percent	0.3	0.6	16.2	17.1	7.3	0.2	57.5	0.1	0.5	0.2	

Table 29. Catch and escapement of Chignik Lakes system sockeye salmon for Black Lake, Chignik Lake, and combined total runs, 1954 - 1990.

	Black Lake			Chignik Lake			Combined		
Year	Catch	Escapement	Total	Catch	Escapement	Total	Catch	Escapement	Run
1954	72,334	184,953	257,287	19,232	277,912	297,144	91,566	462,865	554,431
1955	179,539	256,757	436,296	168,987	201,409	370,396	348,526	458,166	806,692
1956	246,442	289,096	535,538	421,251	483,024	904,275	667,693	772,120	1,439,813
1957	77,423	192,479	269,902	224,757	328,779	553,536	302,180	521,258	823,438
1958	141,180	120,862	262,042	179,949	212,594	392,543	321,129	333,456	654,585
1959	165,000	112,226	277,226	251,547	308,645	560,192	416,547	420,871	837,418
1960	274,048	251,567	525,615	418,356	357,230	775,586	692,404	608,797	1,301,201
1961	53,852	140,714	194,566	278,609	254,970	533,579	332,461	395,684	728,145
1962	71,562	167,602	239,164	292,528	324,860	617,388	364,090	492,462	856,552
1963	80,258	332,536	412,794	323,080	200,314	523,394	403,338	532,850	936,188
1964	142,380	137,073	279,453	472,510	166,625	639,135	614,890	303,698	918,588
1965	497,018	307,192	804,210	169,576	163,151	332,727	666,594	470,343	1,136,937
1966	87,169	383,545	470,714	162,638	183,525	346,163	249,807	567,070	816,877
1967	154,134	328,000	482,134	350,901	189,000	539,901	505,035	517,000	1,022,035
1968	542,598	342,343	884,941	641,693	244,836	886,529	1,184,291	587,179	1,771,470
1969	263,170	366,589	629,759	235,960	132,055	368,015	499,130	498,644	997,774
1970	1,566,065	536,257	2,102,322	255,338	119,952	375,290	1,821,403	656,209	2,477,612
1971	555,832	671,668	1,227,500	764,300	232,501	996,801	1,320,132	904,169	2,224,301
1972	43,220	326,320	369,540	395,461	231,270	626,731	438,681	557,590	996,271
1973	569,854	533,047	1,102,901	395,862	247,144	643,006	965,716	780,191	1,745,907
1974	174,883	351,701	526,584	674,138	364,612	1,038,750	849,021	716,313	1,565,334
1975	4,019	308,914	312,933	421,414	314,084	735,498	425,433	622,998	1,048,431
1976	548,107	551,254	1,099,361	778,380	341,828	1,120,208	1,326,487	893,082	2,219,569
1977	439,693	482,247	921,940	1,696,767	463,561	2,160,328	2,136,460	945,808	3,082,268
1978	1,070,487	458,660	1,529,147	754,903	263,009	1,017,912	1,825,390	721,669	2,547,059
1979	207,122	385,694	592,816	944,964	317,889	1,262,853	1,152,086	703,583	1,855,669
1980	170,629	311,332	481,961	778,014	279,729	1,057,743	948,643	591,061	1,539,704
1981	779,755	438,540	1,218,295	1,509,574	301,092	1,810,666	2,289,329	739,632	3,028,961
1982	1,325,041	616,117	1,941,158	450,778	305,193	755,971	1,775,819	921,310	2,697,129
1983	977,548	426,177	1,403,725	1,467,060	441,561	1,908,621	2,444,608	867,738	3,312,346
1984	3,245,482	597,712	3,843,194	352,988	268,496	621,484	3,598,470	866,208	4,464,678

-Continued-

Table 29. (page 2 of 2)

	Black Lake			Chignik Lake			Combined		
Year	Catch	Escapement	Total	Catch	Escapement	Total	Catch	Escapement	Run
1985	650,340	377,516	1,027,856	490,151	369,262	859,413	1,140,491	746,778	1,887,269
1986	1,371,935	566,088	1,938,023	609,081	207,231	816,312	1,981,016	773,319	2,754,335
1987	1,949,867	589,291	2,539,158	481,376	214,452	695,828	2,431,243	803,743	3,234,986
1988	272,553	420,577	693,131	630,070	255,180	885,250	902,623	675,757	1,578,380
1989	234,839	384,004	618,843	1,063,015	557,171	1,620,186	1,297,854	941,175	2,239,029
1990	587,818	434,543	1,022,361	1,855,182	335,867	2,191,049	2,443,000	770,410	3,213,410
Average 1981-1990.									
	1,139,518	485,057	1,624,574	890,928	325,551	1,216,478	2,030,445	810,607	2,841,052

Table 30. Peak aerial survey estimates of sockeye salmon in the Black Lake and Black River tributaries, 1960-1990

	Black Lake							Black River			
Year	Fan	Milk	Boulevard	Alec River	Conglomerate	Broad	Total	Bearskin	West Fork	Chiaktuak	Total
1960	38,500	8,000	40,000	30,000	3,000	30,000	149,500	11,600	23,000	19,000	53,600
1961	27,000	5,000	28,700	25,000	800	17,000	103,500	2,500	17,100	20,700	40,300
1962	18,000	7,000	13,000	60,000	200	15,000	113,200	3,000	13,000	24,000	40,000
1963	39,000	-	36,000	85,000	1,000	61,000	222,000	900	5,000	9,000	14,900
1964	19,500	3,050	23,850	17,900	9,300	9,500	83,100	500	4,500	7,000	12,000
1967	20,000	1,000	9,000	156,000	10,000	10,000	206,000	10,000	25,000	31,000	66,000
1968	32,000	2,400	20,000	60,000	2,000	4,100	120,500	1,200	10,500	10,000	21,700
1969	103,000	2,100	33,000	50,000	4,000	5,000	197,100	50	800	1,500	2,350
1970	146,000	9,000	55,500	198,000	5,000	-[a]	413,500	450	4,000	4,000	8,450
1971	105,000	14,000	85,000	158,000	0	-	362,000	3,500	5,500	47,000	56,000
1972	18,000	3,500	19,000	74,000	400	-	114,900	1,400	4,300	23,000	28,700
1973	115,000	4,000	76,000	74,000	5,000	-	274,000	13	4,100	1,500	5,613
1974	90,000	5,000	50,000	93,000	5,000	-	243,000	450	8,000	7,000	15,450
1975	40,000	4,500	25,000	87,000	0	-	156,500	65	2,500	2,500	5,065
1976	78,000	8,900	100,000	119,000	2,000	-	307,900	2,650	23,700	7,700	34,050
1977	88,000	20,000	127,000	133,000	1,000	-	369,000	200	13,600	6,900	20,700
1978	114,000	3,300	74,000	83,300	500	-	275,100	410	9,600	8,500	18,510
1979	37,000	11,800	32,000	105,100	400	26,100	212,400	918	7,610	29,000	37,528
1980	127,000	16,000	75,000	70,500	1,500	68,000	358,000	3,600	33,000	40,400	77,000
1981	93,000	4,700	59,000	76,500	20,000	27,000	280,200	950	1,500	18,700	21,150
1982	50,000	5,500	60,000	43,000	20,000	32,000	210,500	1,066	10,791	5,000	16,857
1983	-	-	-	-	-	-	-	-	-	6,000	6,000
1984	50,000	22,200	70,000	30,500	31,000	36,000	239,700	-	-	8,200	8,200
1985	28,000	5,500	36,000	65,000	5,500	17,000	157,000	350	450	1,200	2,000
1986	60,000	15,300	47,000	76,000	39,000	27,000	264,300	-	-	8,300	8,300
1987	52,000	12,200	133,000	88,400	45,900	32,500	364,000	-	-	1,000	1,000
1988	54,000	71,000	83,700	106,500	2,300	26,500	344,000	-	-	4,600	4,600
1989	19,300	21,000	64,000	133,000	1,000	7,500	245,800	-	-	2,100	2,100
1990	32,600	7,400	35,900	49,800	2,200	18,000	145,900	300	0	50	350

[a]Dashes represent no surveys taken or survey results not adequate to make stream estimate.

Table 31. Chignik Bay District pink salmon catch, escapement, and run numbers, in thousands of fish, 1962-1990.[a]

Year	Catch	Escapement[b]	Run	Year	Catch	Escapement	Run
1962	36.7	30.0	66.7	1977	60.9	3.0	63.9
1963	63.7	20.7	84.4	1978	137.1	10.7	147.8
1964	123.6	20.0	143.6	1979	312.6	1.2	313.8
1965	31.5	11.0	42.5	1980	180.6	3.0	183.6
1966	18.3	71.3	89.6	1981	121.4	1.4	122.8
1967	27.4	5.7	33.1	1982	83.0	2.4	85.4
1968	230.2	81.4	311.6	1983	27.3	1.0	28.3
1969	29.5	11.7	41.2	1984	165.2	123.2	288.4
1970	46.3	43.6	89.9	1985	16.0	0.0	16.0
1971	65.3	5.5	70.8	1986	191.3	0.0	191.3
1972	31.6	5.8	37.4	1987	13.9	0.0	13.9
1973	22.7	2.2	24.9	1988	119.8	22.4	142.2
1974	33.8	4.0	37.8	1989	27.7	13.5	41.2
1975	27.4	1.2	28.6	1990	94.5	6.0	100.5
1976	104.3	12.3	116.6				

[b]Chignik Bay District escapements are not completely monitored.

Table 32. Central District pink salmon catch, escapement, and run numbers, in thousands of fish, 1962-1990.[a]

Year	Catch	Escapement	Run	Year	Catch	Escapement	Run
1962	84.3	83.9	168.2	1977	120.0	199.9	319.9
1963	121.3	92.6	213.9	1978	61.3	101.2	162.5
1964	71.9	131.1	203.0	1979	277.3	297.0	574.3
1965	69.5	65.8	135.3	1980	96.9	99.4	196.3
1966	17.4	62.6	80.0	1981	255.1	76.5	331.6
1967	26.0	18.5	44.5	1982	80.6	26.1	106.7
1968	45.4	66.1	111.5	1983	7.8	11.0	18.8
1969	1.4	69.6	71.0	1984	48.6	94.0	142.6
1970	28.1	60.7	88.8	1985	19.6	7.4	27.0
1971	20.5	74.8	95.3	1986	44.1	121.9	166.0
1972	0.8	3.1	3.9	1987	7.8	65.7	73.5
1973	2.8	50.2	53.0	1988	318.4	216.4	534.8
1974	21.7	9.8	31.5	1989	0.0	215.0	215.0
1975	31.4	26.4	57.8	1990	233.7	131.9	365.6
1976	16.4	66.0	82.4				

[a]Post 1984 escapement estimates computed by area-under-the-curve methodology using a 15.0 day average stream life (Johnson and Barrett 1988).

Table 33. Eastern District pink salmon catch, escapement, and run numbers, in thousands of fish, 1962-1990.[a]

Year	Catch	Escapement	Run	Year	Catch	Escapement	Run
1962	1,109.9	401.7	1,511.6	1977	0.2	76.0	76.2
1963	26.9	126.2	153.1	1978	86.7	309.3	396.0
1964	1,251.5	605.7	1,857.2	1979	271.3	194.3	465.6
1965	25.7	64.8	90.5	1980	514.8	425.5	940.3
1966	386.2	302.2	688.4	1981	128.2	154.7	282.9
1967	22.6	56.1	78.7	1982	89.1	301.5	390.6
1968	523.4	390.3	913.7	1983	7.8	46.3	54.1
1969	1.7	46.0	47.7	1984	57.7	486.5	544.2
1970	399.3	201.7	601.0	1985	6.9	212.1	219.0
1971	29.0	23.0	52.0	1986	49.6	580.7	630.3
1972	13.0	15.9	28.9	1987	2.1	215.6	217.7
1973	0.0	12.8	12.8	1988	1,006.4	1,005.4	2,011.8
1974	1.1	76.2	77.3	1989	0.0	881.0	881.0
1975	0.0	23.5	23.5	1990	40.6	811.4	852.0
1976	28.8	228.8	257.6				

Table 34. Western District pink salmon catch, escapement, and run numbers, in thousands of fish, 1962-1990.[a]

Year	Catch	Escapement	Run	Year	Catch	Escapement	Run
1962	81.0	242.0	323.0	1977	379.0	355.5	734.5
1963	516.9	305.0	821.9	1978	419.3	333.4	752.7
1964	112.9	165.0	277.9	1979	746.0	185.0	931.0
1965	345.6	152.0	497.6	1980	215.6	139.5	355.1
1966	173.2	179.3	352.5	1981	433.6	249.3	682.9
1967	27.1	104.4	131.5	1982	602.4	45.9	648.3
1968	295.6	151.3	446.9	1983	164.3	36.0	200.3
1969	485.0	422.0	907.0	1984	173.8	188.0	361.8
1970	442.7	202.0	644.7	1985	89.3	67.5	156.8
1971	285.4	268.8	554.2	1986	200.8	43.8	244.6
1972	14.9	8.6	23.5	1987	187.7	38.3	226.0
1973	0.0	62.4	62.4	1988	1,141.4	232.4	1,373.8
1974	13.3	77.4	90.7	1989	0.0	57.9	57.9
1975	7.4	141.7	149.1	1990	135.8	44.3	180.1
1976	134.8	114.2	249.0				

[a]Post 1984 escapement estimates computed by area-under-the-curve methodology using a 15.0 day average stream life (Johnson and Barrett 1988)

Table 35. Perryville District pink salmon catch, escapement, and run numbers, in thousands of fish, 1962-1990.[a]

Year	Catch	Escapement	Run	Year	Catch	Escapement	Run
1962	207.4	155.5	362.9	1977	44.6	115.4	160.0
1963	933.6	162.0	1,095.6	1978	280.7	157.5	438.2
1964	122.6	72.0	194.6	1979	269.4	181.3	450.7
1965	644.8	82.0	726.8	1980	107.9	74.8	182.7
1966	88.2	90.0	178.2	1981	224.3	116.0	340.3
1967	5.2	155.3	160.5	1982	18.3	13.4	31.7
1968	196.1	128.7	324.8	1983	113.9	64.5	178.4
1969	1,262.2	218.6	1,480.8	1984	0.8	109.8	110.6
1970	371.4	72.6	444.0	1985	43.2	235.2	278.4
1971	212.1	45.0	257.1	1986	161.3	180.5	341.8
1972	12.0	7.8	19.8	1987	35.4	65.7	101.1
1973	0.0	31.5	31.5	1988	411.2	181.3	592.5
1974	0.0	60.2	60.2	1989	0.0	267.4	267.4
1975	0.0	45.3	45.3	1990	45.4	88.4	133.8
1976	104.7	89.3	194.0				

Table 36. Total Chignik Area pink salmon catch, escapement, and run numbers, in thousands of fish, 1962-1990.[a]

Year	Catch	Escapement	Run	Year	Catch	Escapement	Run
1962	1,519.3	913.1	2,432.4	1977	604.7	749.8	1,354.5
1963	1,662.4	706.5	2,368.9	1978	985.1	912.1	1,897.2
1964	1,682.5	993.8	2,676.3	1979	1,876.6	858.8	2,735.4
1965	1,117.1	375.6	1,492.7	1980	1,115.8	742.2	1,858.0
1966	683.3	705.4	1,388.7	1981	1,162.6	597.9	1,760.5
1967	108.3	340.0	448.3	1982	873.4	389.3	1,262.7
1968	1,290.7	817.8	2,108.5	1983	321.1	158.8	479.9
1969	1,779.8	767.9	2,547.7	1984	446.1	1,001.5	1,447.6
1970	1,287.8	580.6	1,868.4	1985	175.0	522.2	697.2
1971	612.3	417.1	1,029.4	1986	647.1	926.9	1574.0
1972	72.3	41.2	113.5	1987	246.8	385.3	632.1
1973	25.5	159.1	184.6	1988	2,997.2	1,657.9	4,655.1
1974	69.9	227.6	297.5	1989	27.7	1,434.8	1,462.5
1975	66.2	238.1	304.3	1990	550.0	1,082.0	1,632.0
1976	389.0	510.6	899.6				

[a]Post 1984 escapement estimates computed by area-under-the-curve methodology using a 15.0 day average stream life (Johnson and Barrett 1988).

Table 37. Chignik Bay District chum salmon catch, escapement, and run numbers, in thousands of fish, 1962-1990.[a]

Year	Catch	Escapement	Run	Year	Catch	Escapement	Run
1962	5.2	6.7	11.9	1977	8.6	2.0	10.6
1963	5.3	0.8	6.1	1978	15.0	2.1	17.1
1964	8.5	2.5	11.0	1979	31.3	1.6	32.9
1965	1.2	3.0	4.2	1980	27.2	0.3	27.5
1966	6.6	4.5	11.1	1981	38.1	0.5	38.6
1967	5.9	4.0	9.9	1982	16.0	1.4	17.4
1968	5.4	1.0	6.4	1983	16.7	0.1	16.8
1969	2.9	1.5	4.4	1984	8.2	0.3	8.5
1970	1.7	21.0	22.7	1985	5.4	0.0	5.4
1971	19.4	7.1	26.5	1986	18.2	0.0	18.2
1972	18.2	3.3	21.5	1987	5.2	0.1	5.3
1973	7.3	0.7	8.0	1988	7.0	15.3	22.3
1974	17.5	2.1	19.6	1989	15.9	4.2	20.1
1975	21.2	2.1	23.3	1990	11.5	1.5	13.0
1976	18.2	2.4	20.6				

Table 38. Central District chum salmon catch, escapement, and run numbers, in thousands of fish, 1962-1990.[a]

Year	Catch	Escapement	Run	Year	Catch	Escapement	Run
1962	132.0	40.4	172.4	1977	8.9	9.3	18.2
1963	23.1	34.0	57.1	1978	10.3	13.8	24.1
1964	50.3	24.2	74.5	1979	11.2	44.8	56.0
1965	37.8	19.2	57.0	1980	94.1	34.2	128.3
1966	20.9	10.0	30.9	1981	175.0	26.1	201.1
1967	9.9	17.2	27.1	1982	33.7	49.4	83.1
1968	4.2	14.5	18.7	1983	9.8	17.0	26.8
1969	3.2	6.5	9.7	1984	8.3	35.4	43.7
1970	28.6	23.4	52.0	1985	6.2	9.6	15.8
1971	13.8	29.1	42.9	1986	29.5	31.0	60.5
1972	1.5	14.2	15.7	1987	9.4	17.5	26.9
1973	1.4	12.2	13.6	1988	39.3	55.8	95.1
1974	13.9	18.1	32.0	1989	0.0	34.7	34.7
1975	3.2	18.8	22.0	1990	113.7	28.0	141.7
1976	3.4	17.8	21.2				

[a]Post 1984 escapement estimates computed by area-under-the-curve methodology using a 15.0 day average stream life (Johnson and Barrett 1988)

Table 39. Eastern District chum salmon catch, escapement, and run numbers, in thousands of fish, 1962-1990.[a]

Year	Catch	Escapement	Run	Year	Catch	Escapement	Run
1962	74.7	79.6	154.3	1977	1.5	54.5	56.0
1963	20.5	55.2	75.7	1978	17.4	55.8	73.2
1964	242.7	165.4	408.1	1979	32.6	79.5	112.1
1965	32.4	58.0	90.4	1980	56.8	107.0	163.8
1966	130.1	58.0	188.1	1981	94.4	126.0	220.4
1967	24.4	89.8	114.2	1982	64.5	145.4	209.9
1968	110.1	63.0	173.1	1983	8.2	50.2	58.4
1969	3.7	66.5	70.2	1984	21.1	214.7	235.8
1970	268.5	126.0	394.5	1985	1.0	4.9	5.9
1971	102.3	219.2	321.5	1986	17.9	8.5	26.4
1972	27.8	107.4	135.2	1987	8.9	38.3	47.2
1973	0.0	59.1	59.1	1988	77.5	221.9	99.4
1974	0.4	76.3	76.7	1989	0.0	74.3	74.3
1975	0.0	41.3	41.3	1990	27.5	139.7	167.2
1976	10.0	122.3	132.3				

Table 40. Western District chum salmon catch, escapement, and run numbers, in thousands of fish, 1962-1990.[a]

Year	Catch	Escapement	Run	Year	Catch	Escapement	Run
1962	134.4	83.1	217.5	1977	88.0	70.4	158.4
1963	44.7	10.0	54.7	1978	45.9	27.3	73.2
1964	21.2	37.0	58.2	1979	83.2	42.5	125.7
1965	36.4	25.0	61.4	1980	92.0	56.5	148.5
1966	73.8	12.0	85.8	1981	221.6	70.3	291.9
1967	33.6	24.0	57.6	1982	253.3	35.4	288.7
1968	90.1	9.6	99.7	1983	101.9	20.1	122.0
1969	36.8	27.6	64.4	1984	25.3	73.8	99.1
1970	139.6	49.7	189.3	1985	12.4	34.6	47.0
1971	177.5	184.1	361.6	1986	74.1	5.3	79.4
1972	18.5	59.0	77.5	1987	86.9	19.7	106.6
1973	0.0	35.6	35.6	1988	102.1	27.4	129.5
1974	3.2	39.4	42.6	1989	0.0	7.4	7.4
1975	0.8	43.4	44.2	1990	91.6	28.8	120.4
1976	33.0	55.0	88.0				

[a]Post 1984 escapement estimates computed by area-under-the-curve methodology using a 15.0 day average stream life (Johnson and Barrett).

Table 41. Perryville District chum salmon catch, escapement, and run numbers, in thousands of fish, 1962-1990.[a]

Year	Catch	Escapement	Run	Year	Catch	Escapement	Run
1962	17.9	10.5	28.4	1977	3.4	15.4	18.8
1963	19.1	7.0	26.1	1978	32.1	5.3	37.4
1964	10.6	26.0	36.6	1979	26.1	12.8	38.9
1965	12.8	7.0	19.8	1980	41.3	29.1	70.4
1966	7.9	20.4	28.3	1981	51.3	19.3	70.6
1967	1.7	5.7	7.4	1982	22.6	23.6	46.2
1968	14.0	1.8	15.8	1983	22.6	8.2	30.8
1969	21.1	1.0	22.1	1984	0.5	46.0	46.5
1970	26.3	13.0	39.3	1985	1.1	12.9	14.0
1971	40.9	30.0	70.9	1986	37.0	7.7	44.7
1972	12.3	11.5	23.8	1987	16.9	9.8	26.7
1973	0.0	9.3	9.3	1988	41.2	41.4	82.6
1974	0.0	12.5	12.5	1989	0.0	15.9	15.9
1975	0.0	20.5	20.5	1990	25.7	55.8	81.5
1976	15.6	8.9	24.5				

Table 42. Total Chignik Area chum salmon catch, escapement, and run numbers, in thousands of fish, 1962-1990.[a]

Year	Catch	Escapement	Run	Year	Catch	Escapement	Run
1962	364.2	220.3	584.5	1977	110.4	151.6	262.0
1963	112.7	107.0	219.7	1978	120.7	104.3	225.0
1964	333.3	255.1	588.4	1979	184.4	181.2	365.6
1965	120.6	112.2	232.8	1980	311.4	227.1	538.5
1966	239.3	104.9	344.2	1981	580.4	242.2	822.6
1967	75.5	140.7	216.2	1982	390.1	255.2	645.3
1968	223.8	89.9	313.7	1983	159.2	95.6	254.8
1969	67.7	103.1	170.8	1984	63.4	370.2	433.6
1970	464.7	233.1	697.8	1985	26.1	62.0	88.1
1971	353.9	469.5	823.4	1986	176.7	52.5	229.2
1972	78.3	195.4	273.7	1987	127.3	85.4	212.7
1973	8.7	116.9	125.6	1988	267.1	361.7	628.8
1974	35.0	148.4	183.4	1989	1.6	136.4	138.0
1975	25.2	126.1	151.3	1990	270.0	253.8	523.8
1976	80.2	206.4	286.6				

[a]Post 1984 escapement estimates computed by area-under-the-curve methodology using a 15.0 day average stream life (Johnson and Barrett 1988)

Table 43. Pink salmon return per spawner in the Central and Eastern Districts, 1962-1990.[a]

Even Year Cycle				Odd Year Cycle			
Brood Year	Pink Escapement	Return 2-yrs Later	Return/ Spawner	Brood Year	Pink Escapement	Return 2-yrs Later	Return/ Spawner
1962	485,600	2,060,200	4.2	1963	218,800	225,800	1.0
1964	736,800	768,400	1.0	1965	130,600	123,200	0.9
1966	364,800	1,025,200	2.8	1967	74,600	118,700	1.6
1968	456,400	689,800	1.5	1969	115,600	147,300	1.3
1970	262,400	32,800	0.1	1971	97,800	65,800	0.7
1972	19,000	108,800	5.7	1973	63,000	81,300	1.3
1974	86,000	340,000	4.0	1975	49,900	396,100	7.9
1976	294,800	586,500	2.0	1977	275,900	1,039,800	3.8
1978	439,300	1,136,600	2.6	1979	491,300	737,300	1.5
1980	524,900	497,300	1.0	1981	232,700	115,500	0.5
1982	327,700	686,900	2.1	1983	58,400	262,000	4.4
1984	580,600	796,400	1.4	1985	219,500	291,200	1.3
1986	702,600	2,546,500	3.6	1987	281,300	1,096,000	3.9
1988	1,221,800	1,217,600	1.0	1989	1,096,000		
1990	943,300						

Table 44. Pink salmon return per spawner in the Western and Perryville Districts, 1962-1990.[a]

Even Year Cycle				Odd Year Cycle			
Brood Year	Pink Escapement	Return 2-yrs Later	Return/ Spawner	Brood Year	Pink Escapement	Return 2-yrs Later	Return/ Spawner
1962	397,500	472,500	1.2	1963	467,000	1,225,400	2.6
1964	237,000	530,700	2.2	1965	234,000	292,000	1.3
1966	269,300	771,700	2.9	1967	259,700	2,387,800	9.2
1968	280,000	1,088,700	3.9	1969	640,600	811,300	1.3
1970	274,600	43,300	0.2	1971	313,000	93,900	0.3
1972	16,400	150,900	9.2	1973	93,900	194,400	2.1
1974	137,600	443,000	3.2	1975	187,000	894,500	4.8
1976	203,500	1,188,000	5.8	1977	470,900	1,381,700	2.9
1978	492,000	537,800	1.1	1979	366,300	1,023,300	2.8
1980	214,300	680,071	3.2	1981	365,400	378,700	1.0
1982	59,300	472,461	8.0	1983	100,500	435,100	4.3
1984	297,800	586,413	2.0	1985	302,600	327,000	1.1
1986	224,300	1,966,300	8.8	1987	104,000	325,300	3.1
1988	413,400	313,900	0.8	1989	325,300		
1990	132,700						

[a]Post 1984 escapement estimates computed by area-under-the-curve methodology using a 15.0 day average stream life (Johnson and Barrett 1988).

Table 45. Chum salmon return per spawner in the Central and Eastern Districts, 1962-1990.[a]

Brood Year	Chum Escapement	Return 4-yrs Later	Return/ Spawner	Brood Year	Chum Escapement	Return 4-yrs Later	Return/ Spawner
1962	120,000	219,000	1.8	1977	63,800	460,000	7.2
1963	89,200	141,300	1.6	1978	69,600	293,000	4.2
1964	189,600	191,800	1.0	1979	124,300	85,200	0.7
1965	77,200	79,900	1.0	1980	141,200	279,500	2.0
1966	68,000	149,400	2.2	1981	152,600	21,700	0.1
1967	107,000	364,400	3.4	1982	194,800	86,800	0.5
1968	77,500	150,900	2.0	1983	67,200	74,100	1.1
1969	73,000	72,700	1.0	1984	250,100	394,500	1.6
1970	149,400	108,700	0.3	1985	14,500	109,000	7.5
1971	248,300	63,300	0.3	1986	39,500	308,861	7.8
1972	121,600	153,500	1.3	1987	55,800		
1973	71,300	74,200	1.0	1988	277,700		
1974	94,400	100,600	1.1	1989	109,000		
1975	60,000	168,100	2.8	1990	167,657		
1976	140,100	292,100	2.1				

Table 46. Chum salmon return per spawner in the Western and Perryville Districts, 1962-1990.[a]

Brood Year	Chum Escapement	Return 4-yrs Later	Return/ Spawner	Brood Year	Chum Escapement	Return 4-yrs Later	Return/ Spawner
1962	93,600	114,100	1.2	1977	85,800	362,400	4.2
1963	17,000	65,000	3.8	1978	38,800	334,800	8.6
1964	63,000	115,500	1.8	1979	55,300	153,000	2.8
1965	32,000	86,500	2.7	1980	85,600	145,700	1.7
1966	32,400	228,600	7.1	1981	89,600	61,100	0.7
1967	29,700	432,500	14.6	1982	58,900	124,100	2.1
1968	11,400	101,300	8.9	1983	28,400	133,300	4.7
1969	28,600	44,900	1.6	1984	119,800	212,100	1.8
1970	62,700	55,100	0.9	1985	47,500	23,300	0.5
1971	214,100	64,700	0.3	1986	13,000	201,900	15.5
1972	70,500	112,500	1.6	1987	29,500		
1973	44,900	177,200	4.0	1988	68,800		
1974	51,900	116,600	2.3	1989	23,300		
1975	63,900	116,600	2.3	1990	84,600		
1976	63,900	218,900	3.4				

[a]Post 1984 escapement estimates computed by area-under-the-curve methodology using a 15.0 day average stream life (Johnson and Barrett 1988).

Table 47. Chignik Area pink, chum, and coho stream surveys, 1990.[a]

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Lake Bay												
271-101B	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
271-101B	7-25	Owen	E	E	E	0	0	0	0	750P	-	-
271-101B	8-15	Thompson	G	E	E	0	0	0	100	300P	-	-
271-101B	8-23	Bulla	G	E	E	0	0	750	0	-	3000P	Three Schools of Fish in Bay
271-101B	8-31	Thompson	G	E	E	0	0	200	1500	100P	-	-
Marshinlak Creek												
271-102	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
271-102	7-25	Owen	E	E	E	0	0	0	0	-	-	-
Mud Bay												
271-102c	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
271-102c	7-25	Owen	E	E	E	0	0	0	0	-	-	-
271-102c	8-15	Thompson	G	E	E	0	0	0	0	-	-	-
271-102c	8-23	Bulla	G	E	E	0	0	150	0	-	-	-
Alfred Creek												
271-104	7-16	Owen	E	E	E	0	0	0	0	-	-	-
271-104	8-15	Thompson	F	E	E	0	0	100	0	-	-	-
271-104	8-23	Bulla	G	E	E	0	0	300	0	200P	-	-
271-104	8-31	Bulla	G	E	E	0	0	150	0	100P	-	-
Chignik Bay												
271-105	7-16	Owen	E	E	E	0	0	0	0	-	-	-
271-105	8-15	Thompson	F	E	E	0	0	0	0	-	-	-
271-105	8-23	Bulla	F	E	E	0	0	0	0	-	-	-
271-105	8-31	Bulla	F	E	E	0	0	0	0	-	-	-
Through Creek												
271-106	7-16	Owen	E	E	E	0	0	0	0	-	-	-
271-106	8-15	Thompson	F	E	E	0	0	0	0	-	-	-
271-106	8-23	Bulla	G	E	E	0	0	150	0	-	-	-
271-106	8-31	Bulla	G	E	E	0	0	600	0	-	-	-

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Table 47. (page 2 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Chignik Bay												
271-201	7-16	Owen	E	E	E	0	0	0	0	-	-	-
271-201	8-15	Thompson	G	E	E	0	0	250	40	-	-	-
271-201	8-23	Bulla	G	E	E	0	0	0	0	-	-	-
271-201	8-31	Bulla	G	E	E	0	0	25	0	-	-	-
Chignik Bay												
271-202A	8-15	Thompson	F	E	E	0	0	100	0	-	-	-
271-202A	8-31	Bulla	G	E	E	0	0	200	0	100P	-	-
Neketa Creek												
271-202B	7-16	Owen	E	E	E	0	0	0	0	-	-	-
271-202B	8-15	Thompson	F	E	E	0	0	1600	0	-	-	-
271-202B	8-23	Bulla	E	E	E	0	0	0	0	-	-	-
271-202B	8-31	Bulla	F	E	E	0	0	50	0	-	-	-
Chignik Bay												
272-202A	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-202A	8-23	Bulla	G	E	E	0	0	550	0	-	-	-
Thompson Valley												
272-204	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-204	8-15	Thompson	F	E	E	0	0	0	0	-	-	-
272-204	8-23	Bulla	E	E	E	0	0	2050	0	-	-	-
272-204	8-31	Bulla	E	E	E	0	0	4800	0	-	-	-
McKinsey Valley												
272-205	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-205	8-15	Thompson	F	E	E	0	0	800	0	-	-	-
272-205	8-23	Bulla	F	E	E	0	0	0	0	-	-	-
Dry Creek												
272-206	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-206	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-206	8-23	Bulla	G	E	E	0	0	75	0	-	-	-

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Table 47. (page 3 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Dry Creek												
272-206	8-31	Bulla	E	E	E	0	0	500	0	-	-	-
Hook Creek												
272-302	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-302	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-302	8- 1	Thompson	F	E	E	0	0	0	0	-	-	-
272-302	8-13	Owen	E	E	E	0	0	500	0	1000P	-	-
272-302	8-23	Bulla	E	E	E	0	0	7000	100	100Ch	-	-
272-302	8-31	Bulla	G	E	E	4	0	14200	0	300P	-	-
272-302	9- 6	Thompson	E	E	E	0	0	0	0	-	-	-
Kumliun Creek												
272-501	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-501	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-501	8- 1	Thompson	E	E	E	0	0	30	0	-	-	-
272-501	8-13	Owen	E	E	E	0	0	700	0	350P	-	-
272-501	8-23	Bulla	G	E	E	0	0	2500	0	-	-	-
272-501	8-31	Bulla	G	E	E	0	0	1600	0	100P	-	-
Cape Kumliun												
272-502	8-13	Owen	E	E	E	0	0	0	0	-	-	-
272-502	8-13	Owen	E	E	E	0	0	2000	0	500P	-	-
272-502	8-23	Bulla	G	E	E	0	0	750	0	100P	-	-
272-502	8-31	Bulla	G	E	E	0	0	2000	0	-	-	-
Cape Kumliun												
272-502A	7-24	Owen	E	E	E	0	0	0	50	-	-	
272-502A	8-13	Owen	E	E	E	0	0	0	0	-	-	-
Kujulik Bay												
272-503	8-13	Owen	E	E	E	0	0	0	0	-	-	-

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Table 47. (page 4 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Kujulik Bay												
272-504	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-504	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-504	8- 9	Thompson	G	E	E	0	0	2500	0	-	1000P	-
272-504	8-23	Bulla	F	E	E	0	0	0	0	-	-	-
Bear Creek												
272-505	7-16	Owen	E	E	E	0	0	0	0	-	1500Ch	Jumpers
272-505	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-505	8-13	Owen	E	E	E	0	0	0	0	-	-	-
272-505	8-23	Bulla	G	E	E	0	0	100	10	-	-	-
272-505	8-31	Bulla	G	E	E	0	0	300	0	-	-	-
Kujulik Bay												
272-506	7-16	Owen	E	E	E	0	0	0	0	-	1000Ch	Jumpers
272-506	7-24	Owen	E	E	E	0	0	0	0	2500Ch	-	-
272-506	8- 1	Thompson	F	E	E	0	0	0	300	-	-	-
272-506	8-13	Owen	P	E	E	0	0	0	1200	-	-	Rapid Water, Cloudy
272-506	8-23	Bulla	G	E	E	0	0	0	0	-	-	-
272-506	8-31	Bulla	G	E	E	0	0	0	0	-	-	-
Kujulik Bay												
272-507	7-16	Owen	G	E	E	0	0	0	0	-	1000Ch	Jumpers
272-507	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-507	8- 1	Thompson	F	E	E	0	0	0	10	-	-	-
272-507	8-13	Owen	P	E	E	0	0	0	400	-	-	Rapid Water, Cloudy
272-507	8-23	Bulla	G	E	E	0	0	150	0	-	-	-
272-507	8-31	Bulla	G	E	E	0	0	200	0	-	-	-
Kujulik Bay												
272-508	7-16	Owen	G	E	E	0	0	0	0	-	500Ch	Jumpers
272-508	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-508	8- 1	Thompson	F	E	E	0	0	0	300	1500Ch	-	-
272-508	8-13	Owen	P	E	E	0	0	0	500	-	-	Rapid Water, Cloudy

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Table 47. (page 5 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Kujulik Bay												
272-508	8-23	Bulla	G	E	E	0	0	1100	0	-	-	-
272-508	8-31	Bulla	G	E	E	0	0	150	0	-	-	-
Rudy Creek												
272-509	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-509	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-509	8- 1	Thompson	F	E	E	0	0	0	70	-	-	-
272-509	8-13	Owen	E	E	E	0	0	0	1300	600P	-	-
272-509	8-23	Bulla	E	E	E	0	0	8000	0	1000P	-	-
272-509	8-31	Bulla	E	E	E	0	0	4500	0	-	-	-
Kujulik Bay												
272-510	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-510	7-24	Owen	E	E	E	0	0	0	0	-	500Ch	Ocean Jumpers
272-510	8- 1	Thompson	F	E	E	0	0	1000	3900	-	-	-
272-510	8-13	Owen	E	E	E	0	0	0	5700	600P	-	-
272-510	8-23	Bulla	G	E	E	0	0	4400	0	-	1000P	-
272-510	8-31	Bulla	E	E	E	0	0	2300	0	-	-	-
Kujulik Bay												
272-511A	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-511A	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-511A	8- 1	Thompson	F	E	E	0	0	0	2100	-	-	-
272-511A	8-13	Owen	E	E	E	0	0	0	8800	-	-	-
272-511A	8-23	Bulla	G	E	E	0	0	5200	0	-	-	-
272-511A	8-31	Bulla	G	E	E	0	0	1000	0	-	-	-
Kujulik Bay												
272-511B	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-511B	8- 1	Thompson	F	E	E	0	0	0	7700	-	-	-
272-511B	8-13	Owen	F	E	E	0	0	0	3000	-	-	Rapid Turbid Water, Cloudy Skies
272-511B	8-23	Bulla	P	E	E	0	0	0	0	-	-	-

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Table 47. (page 6 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Kujulik Bay												
272-512	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-512	7-24	Owen	E	E	E	0	0	0	0	-	-	
272-512	8- 1	Thompson	F	E	E	0	0	0	0	-	-	-
272-512	8-13	Owen	P	E	E	0	0	0	0	-	-	Rapid Water, Cloudy
272-512	8-23	Bulla	G	E	E	0	0	500	0	-	-	-
272-512	8-31	Bulla	G	E	E	0	0	0	0	-	-	-
Kujulik Bay												
272-512	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-512	7-24	Owen	E	E	E	0	0	0	0	-	-	
272-512	8- 1	Thompson	F	E	E	0	0	0	0	-	-	-
272-512	8-13	Owen	P	E	E	0	0	0	0	-	-	Rapid Water, Cloudy
272-512	8-23	Bulla	G	E	E	0	0	500	0	-	-	-
272-512	8-31	Bulla	G	E	E	0	0	0	0	-	-	-
North Fork River												
272-514	7-16	Owen	F	G	G	0	0	0	0	-	1000Ch	Jumpers, Wave Chop
272-514	7-24	Owen	E	E	E	0	0	0	700	500Ch	-	Many Jumpers, Chums
272-514	8- 1	Thompson	F	E	E	0	0	21000	550	-	-	-
272-514	8-13	Owen	E	E	E	0	0	10000	0	1000P	-	-
272-514	8-23	Bulla	G	E	E	0	0	17000	0	-	-	-
272-514	8-31	Bulla	E	E	E	0	0	12200	0	400P	-	Many Carcasses
272-514	9- 6	Thompson	E	E	E	0	3400	0	0	-	-	-
Cape Kumlik												
272-516	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-516	7-24	Owen	E	E	E	0	0	0	150	-	-	-
272-516	8-13	Owen	E	E	E	0	0	5800	0	-	-	-
272-516	8-23	Bulla	G	E	E	0	0	12600	0	500P	-	-
272-516	8-31	Bulla	G	E	E	0	0	15700	100	500P	-	Many Carcasses
Wolverine Creek												
272-602	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-602	7-24	Owen	E	E	E	0	0	0	0	-	-	-

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Table 47. (page 7 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Wolverine Creek												
272-602	8-24	Thompson	F	E	E	0	0	14000	0	-	-	-
272-602	9- 1	Owen	G	E	E	0	0	0	7500	2000Co	-	Low Stream Water
Village Creek												
272-603	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-603	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-603	8-13	Owen	E	E	E	0	0	2500	0	-	-	-
Black Creek												
272-604	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-604	7-24	Owen	E	E	E	0	0	0	0	-	-	
272-604	8-13	Owen	E	E	E	0	0	1500	0	-	-	-
272-604	8-24	Thompson	F	E	E	0	0	0	800	-	-	-
272-604	9- 1	Owen	G	E	E	0	0	2000	0	-	-	Low Water, Many Carcusses
272-604	9- 6	Thompson	E	E	E	0	1300	0	0	-	-	-
Aniakchak River												
272-605	7-16	Owen	P	P	E	0	0	0	0	-	-	Turbid Stream Water (Glacial)
272-605	7-24	Owen	G	E	E	0	0	0	1500	-	-	Turbid Stream Water
272-605	8- 1	Thompson	F	E	E	0	0	0	700	-	-	Survey of Mystery Creek
272-605	8- 1	Thompson	P	E	E	0	0	0	250	-	-	Survey of Alfred Johnson Creek
272-605	8-13	Owen	E	E	E	0	0	15000	2100	-	-	-
272-605	8-24	Thompson	F	E	E	0	0	3700	1200	-	-	-
272-605	9- 1	Owen	E	E	E	0	0	8000	8000	-	-	Low Stream Flow, Many Carcasses
Cape Ayutka												
272-606	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-606	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-606	8- 1	Thompson	F	E	E	0	0	700	0	-	-	Jumpers at Mouth
272-606	8-13	Owen	E	E	E	0	0	15000	0	-	-	-

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Table 47. (page 8 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Cape Ayutka												
272-606	8-15	Thompson	F	E	E	0	0	36000	0	-	-	-
272-606	8-24	Thompson	G	E	E	0	0	33300	0	-	-	-
272-606	9- 1	Owen	E	E	E	0	0	15000	0	-	-	Low Stream Water, Many Carcasses
West Creek												
272-701	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-701	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-701	8-13	Owen	E	E	E	0	0	1500	0	-	-	-
272-701	8-15	Thompson	E	E	E	0	0	5600	0	-	-	-
272-701	8-24	Thompson	F	E	E	0	0	4200	0	-	-	-
272-701	9- 1	Owen	E	E	E	0	10000	45000	0	2000P	-	Low Stream Water
Main Creek												
272-702	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-702	7-24	Owen	E	E	E	0	0	75	0	-	-	-
272-702	8- 1	Thompson	F	E	E	0	0	23000	0	-	-	Jumpers at Mouth
272-702	8-13	Owen	E	E	E	0	0	8000	2300	-	-	-
272-702	8-15	Thompson	E	E	E	0	0	48000	5700	-	-	-
272-702	8-24	Thompson	G	E	E	0	0	13500	2700	-	-	-
272-702	9- 1	Owen	E	E	E	0	0	13000	0	-	-	Low Stream Water
272-702	9- 6	Thompson	E	E	E	0	10600	0	0	-	-	-
Northeast Creek												
272-703	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-703	7-24	Owen	F	E	E	0	0	0	0	-	-	
272-703	8- 1	Thompson	P	E	E	0	0	600	0	-	-	-
272-703	8-13	Owen	E	E	E	0	0	8300	0	2000Ch	-	-
272-703	8-15	Thompson	E	E	E	0	0	38000	13300	-	-	-
272-703	8-24	Thompson	G	E	E	0	0	18000	1700	-	-	-
272-703	9- 1	Owen	E	E	E	0	0	44000	0	-	-	Low Stream Water
272-703	9- 6	Thompson	E	E	E	0	6400	0	0	-	-	-
Cape Kunmik												
272-704	7-16	Owen	E	E	E	0	0	0	0	-	-	-

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Table 47. (page 9 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Cape Kunmik												
272-704	7-24	Owen	E	E	E	0	0	0	0	-	-	
Yantarni Bay												
272-720	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-720	7-24	Owen	F	E	E	0	0	0	0	-	-	Turbid Stream Water
272-720	8-13	Owen	E	E	E	0	0	0	500	-	-	-
Yantarni Creek												
272-721	7-16	Owen	P	E	E	0	0	0	0	-	200Ch	Turbid Stream Water, Bay Jumpers
272-721	7-24	Owen	F	E	E	0	0	0	0	-	-	Turbid Stream Water
272-721	8- 1	Thompson	P	E	E	5	0	1500	0	-	-	Turbid Stream Water, Jumpers in Bay
272-721	8-13	Owen	E	E	E	0	0	0	6000	-	-	-
272-721	8-15	Thompson	F	E	E	0	0	10800	8400	-	-	-
272-721	8-24	Thompson	F	E	E	10	0	5000	4800	-	-	Turbid Steam Water
272-721	9- 1	Owen	P	E	E	0	1000	15000	2000	-	-	Low Stream Water
272-721	9- 6	Thompson	F	E	E	0	0	0	0	-	-	Coho Jumpers at Mouth
Ocean Beach												
272-801	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-801	7-24	Owen	E	E	E	0	0	0	0	-	-	Turbid Stream Water
272-801	8- 1	Thompson	P	E	E	0	0	50	450	-	-	Turbid Stream Water
272-801	8-13	Owen	P	E	E	0	1000	4000	0	-	-	-
272-801	8-24	Thompson	P	E	E	0	0	3700	1600	200Co	-	Turbid Steam Water
272-801	9- 1	Owen	E	E	E	0	4000	45000	0	-	-	Low Stream Water
272-801	9- 6	Thompson	E	E	E	0	1500	0	0	-	-	-
Ocean Beach												
272-802	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-802	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-802	8- 1	Thompson	F	E	E	75	0	0	0	-	-	-
272-802	8-13	Owen	E	E	E	0	0	1500	0	5000P	-	-
272-802	8-15	Thompson	E	E	E	0	0	6000	1000	-	-	-

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Table 47. (page 10 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Ocean Beach												
272-802	8-24	Thompson	F	E	E	0	0	700	9800	-	-	-
272-802	9- 1	Owen	E	E	E	0	1000	1100	0	3000Co	-	Low Stream Water, Many Carcasses
272-802	9- 6	Thompson	E	E	E	0	4300	0	0	-	-	-
Nakalilok Bay												
272-803	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-803	8- 1	Thompson	F	E	E	0	0	0	0	-	-	-
272-803	8-15	Thompson	E	E	E	0	0	1000	11400	2000P	-	-
										6500Ch	-	-
272-803	8-24	Thompson	G	E	E	0	0	0	900	-	-	-
272-803	9- 1	Owen	E	E	E	0	0	0	500	-	-	Low Stream Water
272-803	9- 6	Thompson	E	E	E	0	4200	0	0	-	-	-
Nakalilok River												
272-804	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-804	8- 1	Thompson	F	E	E	0	0	0	150	-	-	-
272-804	8-13	Owen	E	E	E	0	0	500	0	400P	-	-
272-804	8-24	Thompson	E	E	E	0	0	400	9800	500Ch	-	-
272-804	9- 1	Owen	E	E	E	0	0	47000	0	-	-	Low Stream Water
Nakalilok Bay												
272-805	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-805	8- 1	Thompson	G	E	E	0	0	0	0	-	-	Jumpers at Mouth
272-805	8-13	Owen	E	E	E	0	0	4000	0	-	-	-
272-805	8-15	Thompson	E	E	E	0	0	3000	1000	-	-	-
272-805	8-24	Thompson	E	E	E	0	0	5800	0	1800P	-	-
272-805	9- 1	Owen	E	E	E	0	0	12000	0	3000P	-	Low Stream Water
Cape Kuyuyukak												
272-900	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-900	7-24	Owen	G	E	E	0	0	0	0	-	-	-
272-900	8- 2	Bulla	G	E	E	0	0	0	0	4000P	-	-

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Table 47. (page 11 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Cape Kuyuyukak												
272-900	8-13	Owen	E	E	E	0	0	2000	0	2000P	-	-
272-900	8-24	Thompson	E	E	E	0	0	3200	0	-	-	-
Cape Kuyuyukak												
272-901	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-901	7-24	Owen	F	F	F	0	0	0	0	-	-	Dark, Cloudy Skies
272-901	8-13	Owen	E	E	E	0	0	2000	0	5000P	-	-
272-901	8-24	Thompson	E	E	E	0	0	5600	0	-	-	-
Chiginagak Bay												
272-902	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-902	7-24	Owen	E	E	E	0	0	200	0	-	-	-
272-902	8- 2	Bulla	G	E	E	0	0	1000	0	-	-	-
272-902	8-13	Owen	E	E	E	0	0	12000	0	5000P	-	-
272-902	8-24	Thompson	E	E	E	0	0	13500	0	-	-	-
272-902	9- 1	Owen	E	E	E	0	0	3000	0	-	-	Low Stream Water, Many Carcasses
Chiginagak River												
272-903	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-903	8- 2	Bulla	G	E	E	0	0	0	0	500Ch	-	-
272-903	8-13	Owen	E	E	E	0	0	600	0	5000P	-	-
272-903	9- 1	Owen	E	E	E	0	0	0	4000	-	-	Low Stream Water
272-903	9- 6	Thompson	E	E	E	0	70	0	0	-	-	-
Chiginagak River												
272-903A	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-903A	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-903A	8- 2	Bulla	G	E	E	0	0	200	600	500Ch	-	-
272-903A	8-13	Owen	E	E	E	0	500	6000	1000	-	2500Ch	-
272-903A	8-15	Thompson	E	E	E	0	500	4600	7800	1000Co 12000Ch	-	-
272-903A	8-24	Thompson	G	E	E	0	0	1100	6050	150Ch	-	-
272-903A	9- 1	Owen	E	E	E	0	0	63000	0	-	-	Low Stream Water

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Table 47. (page 12 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Chiginagak Bay												
272-903B	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-903B	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-903B	8- 2	Bulla	G	E	E	0	0	0	0	500Ch	-	-
272-903B	8-13	Owen	E	E	E	0	0	1000	0	-	5000P	-
272-903B	8-24	Thompson	G	E	E	0	0	1100	6050	150Ch	-	-
272-903B	9- 1	Owen	E	E	E	0	0	44000	0	-	-	Low Stream Water
Chiginagak Bay												
272-904	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-904	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-904	8- 2	Bulla	G	E	E	0	0	500	0	1000P	-	-
272-904	8-15	Thompson	E	E	E	0	0	2000	2000	16000P	-	-
272-904	8-24	Thompson	G	E	E	0	0	7000	5000	-	-	-
272-904	9- 1	Owen	E	E	E	0	0	12000	0	5000Co	-	Low Stream Water
Chiginagak Bay												
272-905	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-905	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-905	8- 2	Bulla	E	E	E	0	0	2000	0	-	-	-
272-905	8-13	Owen	E	E	E	0	0	800	0	5000P	-	-
272-905	8-15	Thompson	E	E	E	0	100	22000	300	20000P	-	-
272-905	8-24	Thompson	G	E	E	0	0	34000	2400	-	-	-
272-905	9- 1	Owen	E	E	E	0	0	47000	0	-	-	Low Stream Water
Chiginagak Bay												
272-906	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-906	8- 2	Bulla	E	E	E	0	0	6000	0	2000P	-	Pinks in Two Schools
272-906	8-13	Owen	E	E	E	0	0	2400	500	-	-	-
272-906	8-15	Thompson	E	E	E	0	0	300	0	4000P	-	-
272-906	8-24	Thompson	G	E	E	0	0	4000	0	-	-	-
Chiginagak Bay												
272-907	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-907	7-24	Owen	E	E	E	0	0	0	0	-	-	-

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Table 47. (page 13 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Chiginagak Bay												
272-907	8- 2	Bulla	G	E	E	0	0	0	0	1000P	1000P	-
272-907	8-13	Owen	E	E	E	0	0	1000	0	2000P	-	-
272-907	8-24	Thompson	G	E	E	0	0	4200	0	-	-	-
272-907	9- 1	Owen	E	E	E	0	0	2000	0	-	-	Low Stream Water, Many Carcasses
Port Wrangell Bay												
272-921	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-921	7-24	Owen	P	E	E	0	0	0	0	-	-	-
272-921	8- 2	Bulla	P	E	E	0	0	0	0	-	-	Turbulent Flying Conditions
272-921	8-13	Owen	E	E	E	0	0	0	500	-	-	-
272-921	8-24	Thompson	P	E	E	0	0	2800	0	-	-	-
272-921	9- 1	Owen	E	E	E	0	0	0	25000	-	-	Low Stream Water
Port Wrangell Bay												
272-922	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-922	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-922	8- 2	Bulla	F	F	F	0	0	0	0	-	-	Turbulent Flying Conditions
272-922	8-13	Owen	E	E	E	0	0	800	0	-	-	-
272-922	8-15	Thompson	E	E	E	0	0	3000	0	3000P	-	-
272-922	8-24	Thompson	F	E	E	0	0	800	0	1500P	-	-
272-922	9- 1	Owen	E	E	E	0	0	0	0	-	-	Low Stream Water
Cape Providence												
272-923	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-923	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-923	8- 2	Bulla	G	F	F	0	0	0	0	-	-	Turbulent Flying Conditions
272-923	8-13	Owen	E	E	E	0	0	300	0	3000P	-	-
272-923	8-24	Thompson	F	E	E	0	0	1200	0	-	-	-
272-923	9- 1	Owen	E	E	E	0	0	0	0	-	-	Low Stream Water

-Continued-

Table 47. (page 14 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Agripina River												
272-961A	7-16	Owen	E	E	E	0	0	0	0	-	-	
272-961A	8- 2	Bulla	E	E	E	0	0	1500	0	1000P	-	Pinks in Four Large Schools
272-961A	8-13	Owen	E	E	E	0	0	2500	0	-	-	-
272-961A	8-15	Thompson	E	E	E	0	0	16000	0	-	8000P	-
272-961A	8-24	Thompson	G	E	E	0	0	21000	300	3500P	-	-
272-961A	9- 1	Owen	E	E	E	0	0	17000	0	-	-	Low Stream Water
Agripina Bay												
272-961B	7-16	Owen	E	E	E	0	0	0	0	-	-	
272-961B	7-24	Owen	E	E	E	0	0	100	0	-	-	
272-961B	8- 2	Bulla	F	E	E	0	0	0	0	-	-	Pinks in Lake
272-961B	8-13	Owen	E	E	E	0	0	2300	0	400P	-	-
272-961B	8-24	Thompson	G	E	E	0	0	9300	0	500P	-	
272-961B	9- 1	Owen	P	E	E	0	0	0	0	-	-	Low Stream Water, Many Carcasses
Glacier Creek												
272-962	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-962	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-962	8- 2	Bulla	P	E	E	0	0	0	0	-	-	Turbid Stream Water
272-962	8-13	Owen	E	E	E	0	0	400	0	200Ch	-	-
272-962	8-24	Thompson	P	E	E	0	0	870	0	-	-	Turbid Stream Water
Agripina Bay												
272-962A	7-16	Owen	E	E	E	0	0	0	0	-	-	-
272-962A	7-24	Owen	E	E	E	0	0	0	0	-	-	-
272-962A	8-13	Owen	E	E	E	0	0	0	0	-	-	-
272-962A	8-24	Thompson	E	E	E	0	0	8500	0	-	-	-
272-962A	9- 1	Owen	E	E	E	0	0	1500	0	-	-	Low Stream Water
Kilokak Creek												
272-963	7-16	Owen	E	E	E	0	0	0	0	-	-	Low Stream Flow
272-963	7-24	Owen	E	E	E	0	0	25	0	-	-	-

-Continued-

Table 47. (page 15 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Kilokak Creek												
272-963	8- 2	Bulla	G	E	E	0	0	50	0	-	-	-
272-963	8-13	Owen	E	E	E	0	0	10000	0	15000P	-	-
272-963	8-15	Thompson	E	E	E	0	0	18000	0	15000P	-	-
272-963	8-24	Thompson	E	E	E	0	0	54000	0	15000P	-	-
272-963	9- 1	Owen	E	E	E	0	0	53000	0	-	-	Low Stream Water, a Few Carcasses
Jack Bay												
273-100	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
273-100	7-25	Owen	E	E	E	0	0	0	0	-	-	-
273-100	8-15	Thompson	G	E	E	0	0	0	0	-	-	-
273-100	8-23	Bulla	G	E	E	0	0	200	0	150P	-	-
273-100	8-31	Thompson	G	E	E	0	0	70	0	-	-	-
Kametolook River												
273-601	8- 2	Owen	E	E	E	0	0	0	50	-	-	Subsistence Fishermen Twenty Fish on Bank
Red Bluff Creek												
273-702	7-19	Thompson	E	E	E	0	0	800	0	-	-	-
273-702	7-25	Owen	E	E	E	0	0	500	0	-	-	-
273-702	8- 2	Owen	E	E	E	0	0	0	300	-	-	Turbid Stream Water
273-702	8- 9	Thompson	F	E	E	0	0	5400	800	-	-	Jumpers in Ocean
273-702	8-14	Thompson	P	E	E	0	0	5000	0	-	-	-
273-702	8-23	Owen	F	E	E	0	0	600	0	-	-	-
273-702	8-31	Thompson	G	E	E	0	0	2200	0	-	-	-
273-702	9- 6	Owen	E	E	E	0	5000	0	0	-	-	-
Mitrofania Bay												
273-720	9- 6	Owen	E	E	E	0	0	0	0	-	-	-
Ivan River												
273-722	7-19	Thompson	E	E	E	0	0	0	2400	-	-	-
273-722	7-25	Owen	E	E	E	0	0	0	200	-	-	Ocean Jumpers
273-722	8- 2	Owen	E	E	E	0	0	0	500	-	2000Ch	-

-Continued-

Table 47. (page 16 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Ivan River												
273-722	8- 9	Thompson	G	E	E	0	0	2200	0	-	-	Visability at Mouth Poor
273-722	8-14	Thompson	G	E	E	0	0	9000	510	-	-	-
273-722	8-23	Owen	E	E	E	0	0	2500	500	-	-	-
273-722	8-31	Thompson	E	E	E	0	300	12800	600	-	-	-
273-722	9- 6	Owen	E	E	E	0	0	300	500	-	-	-
Fishrack Bay												
273-723	7-19	Thompson	E	E	E	0	0	0	0	-	30P	-
273-723	7-25	Owen	E	E	E	0	0	0	0	-	-	Low Stream Water
273-723	8- 2	Owen	E	E	E	0	0	0	0	-	-	-
273-723	8-14	Thompson	E	E	E	0	200	0		300P	-	-
273-723	8-23	Owen	E	E	E	0	0	2000	0	-	-	-
273-723	8-31	Thompson	E	E	E	0	0	800	0	-	-	-
Foot Bay												
273-802	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
273-802	7-25	Owen	E	E	E	0	0	0	0	-	-	-
273-802	8- 2	Owen	E	E	E	0	0	0	0	200Ch	-	-
273-802	8- 9	Thompson	F	E	E	0	0	850	0	-	-	-
273-802	8-14	Thompson	G	E	E	0	0	2300	0	-	-	-
273-802	8-23	Owen	E	E	E	0	0	7000	0	-	-	-
273-802	8-31	Thompson	E	E	E	0	0	4200	0	-	-	-
Windy Bay												
273-821	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
273-821	8-14	Thompson	E	E	E	0	0	0	0	80P	-	-
273-821	8-31	Thompson	F	E	E	0	0	300	0	-	-	-
Windy Bay												
273-822	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
273-822	7-25	Owen	E	E	E	0	0	0	0	-	-	-
273-822	8-14	Thompson	E	E	E	0	0	0	0	50P	-	-
273-822	8-23	Owen	E	E	E	0	0	0	0	2000P	-	-
273-822	8-31	Thompson	F	E	E	0	0	0	0	-	-	Turbulent Stream

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Table 47. (page 17 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Spoon Creek												Water
273-823	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
273-823	7-25	Owen	E	E	E	0	0	0	0	-	-	-
273-823	8- 1	Owen	E	E	E	0	0	0	0	-	-	-
273-823	8- 9	Thompson	G	E	E	0	0	400	0	-	150Ch	-
273-823	8-14	Thompson	E	E	E	0	0	150	0	1200P	-	-
273-823	8-23	Owen	E	E	E	0	0	0	2000	5000P	-	-
273-823	8-31	Thompson	F	E	E	0	0	500	0	-	-	Turbulent Stream Water
Portage Bay												
273-842	7-19	Thompson	E	E	E	0	0	0	0	-	10Ch	-
273-842	7-25	Owen	E	E	E	0	0	0	50	-	2000Ch	-
273-842	8- 1	Owen	E	E	E	0	0	0	50	-	-	-
273-842	8- 9	Thompson	G	E	E	0	0	0	4200	-	-	-
273-842	8-14	Thompson	E	E	E	0	0	300	4800	2000P	-	-
273-842	8-23	Owen	E	E	E	0	0	0	6100	15000Ch	500Ch	-
273-842	8-31	Thompson	G	E	E	0	0	900	2800	-	-	-
Seal Bay												
273-843	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
273-843	7-25	Owen	E	E	E	0	0	0	0	-	-	-
273-843	8- 1	Owen	E	E	E	0	0	0	0	-	-	-
273-843	8-14	Thompson	E	E	E	0	0	0	60	-	-	-
273-843	8-23	Owen	E	E	E	0	0	0	2200	-	-	-
273-843	8-31	Thompson	F	E	E	0	0	0	700	-	-	-
Seal Bay												
273-844	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
273-844	7-25	Owen	E	E	E	0	0	0	0	-	-	-
273-844	8-14	Thompson	E	E	E	0	0	0	0	-	-	-
273-844	8-23	Owen	E	E	E	0	0	0	0	-	-	-
273-844	8-31	Thompson	F	E	E	0	0	0	0	-	-	-
Dog Bay												
273-845	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
273-845	7-25	Owen	E	E	E	0	0	0	0	-	-	-

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Table 47. (page 18 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Dog Bay												
273-845	8- 1	Owen	E	E	E	0	0	0	0	-	-	-
273-845	8-14	Thompson	G	E	E	0	0	0	10	-	-	-
273-845	8-23	Owen	E	E	E	0	0	0	300	-	-	-
273-845	8-31	Thompson	G	E	E	0	0	0	0	-	-	Turbulent Stream
Castle Bay												
273-941	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
273-941	7-25	Owen	E	E	E	0	0	0	0	-	-	-
273-941	8-15	Thompson	G	E	E	0	0	300	0	1500P	-	-
273-941	8-23	Bulla	G	E	E	0	0	150	50	-	5000P	Four Schools of Pinks in Bay
273-941	8-31	Thompson	E	E	E	0	0	1200	0	4000P	-	-
Kupreanof Peninsula												
275-401	8-23	Owen	E	E	E	0	0	5000	0	-	-	-
275-401	8-31	Thompson	E	E	E	0	0	10900	0	-	-	-
Smokey Hollow Creek												
275-402	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
275-402	7-25	Owen	E	E	E	0	0	1300	1000	-	-	-
275-402	8-14	Thompson	F	E	E	0	0	0	10	-	-	-
275-402	8-23	Owen	E	E	E	0	0	0	50	-	-	-
275-402	8-31	Thompson	E	E	E	0	0	0	800	500Co	-	-
Ivanof Bay												
275-403	7-19	Thompson	E	E	E	0	0	0	440	-	-	-
275-403	8-14	Thompson	F	E	E	0	0	0	0	-	-	-
275-403	8-31	Thompson	G	E	E	0	0	0	100	-	-	-
275-403	9- 6	Owen	E	E	E	0	1300	0	0	-	200Co	-
Wasco's Creek												
275-404	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
275-404	8- 2	Owen	E	E	E	0	0	0	750	500Ch	-	-
275-404	8-14	Thompson	P	E	E	0	0	0	0	-	-	-

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Table 47. (page 19 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Wasco's Creek												
275-404	8-23	Owen	F	E	E	0	0	500	0	-	-	-
275-404	8-31	Thompson	E	E	E	0	0	0	4400	50Ch	-	-
275-404	9- 6	Owen	E	E	E	0	400	0	0	-	3000Co	-
Sunnyside Creek												
275-405	7-25	Owen	E	E	E	0	0	0	0	-	-	Turbid Water, Dark (Cloudy Skies)
275-405	8- 2	Owen	E	E	E	0	0	0	0	-	-	-
275-405	8-23	Owen	F	E	E	0	0	2000	0	-	-	-
Ivanof River												
275-406	7-19	Thompson	E	E	E	0	0	0	11600	14000Ch	-	-
275-406	7-25	Owen	E	E	E	0	0	0	15000	-	-	Spawning Chum Salmon
275-406	8- 2	Owen	E	E	E	0	0	0	20000	-	10000P 5000Ch	-
275-406	8-14	Thompson	G	E	E	0	0	2000	12500	-	-	-
275-406	8-23	Owen	E	E	E	0	0	35000	0	-	-	-
275-406	8-31	Thompson	E	E	E	0	0	34000	4000	2500Co 600Ch	-	-
275-406	9- 6	Owen	E	E	E	0	0	0	0	15000Ch	1000Ch	-
Alexander Point												
275-408	8-23	Owen	E	E	E	0	0	600	0	-	-	-
275-408	8-31	Thompson	E	E	E	0	0	300	0	500P	-	-
Humpback Creek												
275-502	7-25	Owen	E	E	E	0	0	0	0	-	-	-
275-502	8- 2	Owen	E	E	E	0	0	200	0	-	-	-
275-502	8-23	Owen	G	E	E	0	0	5000	0	500Ch	-	-
Humpback Bay												
275-503	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
275-503	7-25	Owen	E	E	E	0	0	0	0	-	-	-
275-503	8- 2	Owen	E	E	E	0	0	0	0	-	-	-

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Table 47. (page 20 of 20)

Stream	Date MM-DD	Observer	Visibility Str	Visibility Mou	Visibility Bay	Fish in Stream Reds	Fish in Stream Coho	Fish in Stream Pink	Fish in Stream Chum	Build Up Fish Mouth	Build Up Fish Bay	Remarks
Humpback Creek												
275-504	7-19	Thompson	E	E	E	0	0	80	0	-	-	-
275-504	7-25	Owen	E	E	E	0	0	0	0	-	-	-
275-504	8- 2	Owen	E	E	E	0	0	0	0	-	-	-
275-504	8-14	Thompson	F	E	E	0	0	2100	0	-	-	-
275-504	8-31	Thompson	E	E	E	0	250	3900	0	-	-	-
275-504	9- 6	Owen	E	E	E	0	700	0	0	-	-	-
Humpback Bay												
275-505	7-19	Thompson	E	E	E	0	0	0	0	-	-	-
275-505	7-25	Owen	E	E	E	0	0	0	0	-	-	-
275-505	8-14	Thompson	F	E	E	0	0	400	0	-	-	-
275-505	8-31	Thompson	E	E	E	0	0	3500	0	-	-	-
Kametolook River												
275-600	7-19	Thompson	E	E	E	0	0	0	0	-	-	Turbid Glacial Str.
275-600	8- 2	Owen	E	E	E	0	0	0	25	-	-	Turbid Glacial Str.
275-600	8-23	Owen	G	E	E	0	0	2000	0	-	-	Turbid Glacial Str.
275-600	8-31	Thompson	P	E	E	0	0	800	0	-	-	Turbid Glacial Str.
Kametolook River												
275-601	7-19	Thompson	E	E	E	0	0	0	0	-	-	Turbid Glacial Str.
275-601	7-25	Owen	P	E	E	0	0	0	0	-	-	Turbid Glacial Str.
275-601	8-14	Thompson	P	E	E	0	0	0	0	-	-	Turbid Glacial Str.
275-601	8-15	Thompson	P	E	E	0	0	1000	0	-	-	Turbid Glacial Str.
275-601	8-23	Owen	P	E	E	0	0	1000	0	-	-	Turbid Glacial Str.
275-601	8-31	Thompson	P	E	E	0	50	0	250	-	-	Turbid Glacial Str.
275-601	9- 6	Owen	E	E	E	0	0	0	0	-	-	Turbid Glacial Str.

[a]The survey conducted 9/6 was only for coho.

Table 48. Pink and chum salmon escapement estimates for select Chignik Area streams, 1953-1990 (in thousands of fish).[a]

Year	Thompson Valley 272- 204		Hook Bay 272- 302		Cape Kumlik 272- 501		Bear Cr. 272- 505	
	Pink	Chum	Pink	Chum	Pink	Chum	Pink	Chum
1953	25.3	0.0	13.0	6.3			0.0	0.7
1954	28.2	4.5	14.3	5.3			0.2	0.2
1955	115.0	3.0	78.0	0.0			1.0	0.0
1956								
1957								
1958								
1959								
1960								
1961								
1962	7.0	0.0	18.9	4.1	7.0	0.0	0.0	12.4
1963	23.3	0.0	33.0	7.5	23.0	0.0	0.0	9.5
1964	4.1	0.0	42.0	1.2	8.7	0.0	0.0	8.8
1965	9.4	0.0	23.3	2.1	13.7	0.0	0.0	8.5
1966	4.1	0.0	10.0	0.5	3.8	0.0	0.0	4.3
1967	2.0	0.4	7.3	2.5	5.2	0.0	0.0	8.0
1968			5.0	0.0			0.0	2.7
1969	19.0	0.0	30.0	0.0			0.0	4.5
1970	12.0	0.0	11.0	1.0	5.0	0.0	0.0	10.0
1971	7.5	0.0	13.0	8.0	51.0	0.0	0.0	10.0
1972	0.2	0.0	0.4	1.1	0.2	0.0	0.0	2.5
1973	2.3	0.2	4.9	4.7	40.0	0.0	0.0	4.0
1974	1.6	0.1	3.8	0.8	0.6	0.0	0.0	2.3
1975	10.2	0.0	1.3	6.0	17.8	0.0	0.0	1.5
1976	5.5	0.2	8.0	2.5	2.6	0.0	0.0	1.4
1977	29.4	0.0	22.6	2.0	124.0	0.0	0.5	2.6
1978	14.0	0.0	14.5	2.8	6.1	0.0	0.1	1.5
1979	35.5	1.0	42.7	11.0	153.0	0.0	0.0	5.0
1980	0.7	0.0	24.5	4.2	2.6	0.0	0.2	0.0
1981	6.5	0.5	13.9	9.0	36.2	0.0	0.1	0.0
1982	1.2	0.0	7.3	10.0	0.9	0.0	0.0	2.5
1983	2.3	0.0	0.2	0.3	0.0	0.0	2.0	7.9
1984	14.0	0.0	16.2	0.1	3.7	0.0	0.3	2.3
1985	0.0	0.0	2.0	0.0			0.0	7.2
1986	0.3	0.0	66.9	0.0	38.2	0.0	0.0	7.5
1987			9.5	0.3	46.9	0.3	0.0	12.0
1988	9.6	3.3	26.4	0.7	18.0	0.0	0.0	0.7
1989	16.6	3.7	45.5	10.2	63.0	0.0	0.0	3.6
1990	4.8	0.0	16.7	0.2	3.2	0.0	0.3	T

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Table 48. (page 2 of 8)

Year	Rudys Cr. 272- 509		North Fork 272- 514		Aniakchak R. 272- 605		Cape Agutka 272- 606	
	Pink	Chum	Pink	Chum	Pink	Chum	Pink	Chum
1953	0.7	0.2	1.3	3.5	0.0	35.0	0.2	0.7
1954			55.0	4.6	100.0	37.2	3.9	1.5
1955	15.0	4.0	13.5	1.0	16.0	0.0	1.2	0.0
1956								
1957								
1958								
1959								
1960								
1961								
1962	4.5	5.2	34.0	0.8	126.0	25.0	17.6	0.5
1963	0.0	12.0	9.7	1.8	6.0	14.6	0.4	0.0
1964	0.5	5.0	68.0	3.0	175.0	82.5	11.0	1.1
1965	0.0	1.1	8.7	2.0	10.8	4.0	5.1	0.1
1966	2.0	3.0	2.0		90.8	9.0	7.7	0.2
1967	1.0	3.0	20.0	1.1	2.0	10.5	1.1	0.1
1968	2.0	7.0	26.0	0.0	85.0	10.0	22.3	0.0
1969	0.2	1.0	5.2	4.0	0.1	0.5	4.6	2.0
1970	0.0	3.0	24.0	8.0	40.0	30.5	10.0	2.0
1971	0.0	1.3	0.0	4.5	0.0	11.5	2.0	3.0
1972	0.2	1.7	1.7	6.9	1.8	7.1	2.5	1.5
1973	0.0	1.2	2.8	1.5	2.7	4.0	1.5	1.8
1974	0.8	4.2	2.5	4.2	29.8	25.7	1.6	0.0
1975	0.0	1.8	0.4	3.7	2.4	5.5	1.9	0.2
1976	6.2	3.7	17.5	7.9	165.0	34.0	5.9	0.8
1977	6.3	0.9	6.6	2.3	3.0	14.8	1.0	0.1
1978	4.0	2.2	46.0	6.9	215.5	23.2	8.0	0.2
1979	12.0	7.7	12.7	5.6	0.0	0.2	13.0	1.5
1980	9.3	0.0	38.5	29.5	40.0	43.0	20.0	5.5
1981	0.7	0.1	15.8	16.5	2.7	32.0	5.8	0.0
1982	0.2	8.7	19.0	3.5	130.0	47.0	21.0	0.0
1983	0.0	1.3	4.1	1.3	1.0	3.1	0.1	0.0
1984	4.5	5.0	32.4	17.4	56.4	47.0	17.2	1.2
1985	0.0	0.0	4.7	1.3	0.0	0.0	0.0	0.0
1986	38.0	10.9	34.3	5.0	1.5	0.5	65.0	0.4
1987	0.0	0.0	8.8	4.0	2.5	0.3	4.2	0.3
1988	34.9	16.6	48.5	17.0	95.1	17.4	84.4	0.0
1989	7.3	0.4	23.0	1.2	5.0	2.5	1.8	0.0
1990	8.0	1.3	40.9	.7	19.7	11.6	46.5	0.0

-Continued-

Table 48. (page 3 of 8)

Year	Main Cr. 272- 702		Northeast Cr. 272- 703		Yantarni Cr. 272- 721		Ocean Beach 272- 801	
	Pink	Chum	Pink	Chum	Pink	Chum	Pink	Chum
1953	0.2	17.0	3.5	2.0				
1954	6.9	21.5	1.1	0.8				
1955	25.2	0.8			7.5	7.0	8.0	3.0
1956								
1957								
1958								
1959								
1960								
1961								
1962	33.0	3.6	1.6	2.5	52.5	0.1	45.0	2.0
1963	16.0	5.8	5.0	0.9	16.0	0.3	3.4	0.0
1964	40.5		2.3	3.0	42.0	21.0	34.6	10.1
1965	5.0	4.8	2.3	6.0	4.0	7.6	0.4	1.0
1966	3.0	0.0	1.3	0.2	18.5	5.0	11.0	3.3
1967	16.5	2.0	2.0	0.2				
1968	28.0	8.0	7.7	1.0	25.0	6.5	26.5	0.0
1969	3.0	15.0	7.0	4.5	1.5	11.0	6.0	3.5
1970	13.0	7.0	7.0	6.0	1.5	11.5	7.5	5.0
1971	1.0	20.0	2.0	5.5	0.0	18.0	0.0	3.5
1972	2.0	8.0	1.7	0.5	2.1	21.0	0.5	4.6
1973	1.0	7.0	1.1	3.1	0.3	6.5	0.6	1.7
1974	6.6	6.3	3.0	2.0	3.7	3.8	2.3	2.2
1975	4.7	8.0	0.4	0.7	0.3	1.6	0.8	0.2
1976	5.5	8.5	3.8	2.0	5.8	12.5	4.2	3.0
1977	4.5	3.5	10.0	0.8	1.9	3.5	1.1	0.4
1978	5.6	7.6	4.4	4.6	7.9	3.3	7.1	0.5
1979	13.5	14.0	7.0	7.5	14.0	9.5	1.5	0.0
1980	53.5	17.0	4.8	3.0	60.0	11.0	27.6	0.0
1981	6.3	16.3	5.9	2.5	13.5	18.2	10.5	5.5
1982	36.0	12.3	6.2	3.7	8.5	25.5	0.0	14.5
1983	9.2	6.7	3.2	4.7	3.6	13.4	3.1	1.5
1984	15.7	14.5	7.0	4.3	26.5	18.7	19.0	13.2
1985	13.7	4.0	9.0	0.0	67.8	0.7	9.9	0.0
1986	85.0	0.0	13.6	0.0	3.1	0.3	1.8	0.2
1987	14.3	1.5	7.5	0.4	18.0	3.0	13.0	2.7
1988	43.6	5.5	41.4	10.6	33.7	30.3	32.8	12.8
1989	53.0	3.2	17.0	4.0	10.9	3.4	10.9	4.8
1990	54.3	5.7	80.3	13.3	23.6	9.3	45.0	1.3

-Continued-

Table 48. (page 4 of 8)

Year	Nakalilok R. 272- 804		Chiginagak 272- 902		Chiginagak R. 272- 903		Chiginagak 272- 904	
	Pink	Chum	Pink	Chum	Pink	Chum	Pink	Chum
1953								
1954								
1955	3.0	0.5			0.0	15.9		
1956								
1957								
1958								
1959								
1960								
1961								
1962	22.0	0.1	16.0	0.0	0.3	34.3	20.1	0.0
1963	10.4	0.1	1.2	0.0	0.0	15.0	43.0	0.0
1964	89.0	3.0	20.0	0.0	6.0	24.4	41.4	0.0
1965	0.5	9.0	0.4	0.0	0.0	13.8	12.4	0.1
1966	12.5	0.0	5.8	0.0	0.0	33.2	16.0	0.0
1967	3.5	18.5	0.5	0.1	0.0	27.0	12.4	0.0
1968	7.4	2.0	21.0	0.0	2.0	29.5	20.0	0.0
1969	8.0	3.5	1.3	0.0		20.0	6.0	0.0
1970	10.0	6.5	11.0	0.0	0.0	31.0	4.0	0.0
1971	1.0	44.0	2.8	0.0	0.0	86.0	1.1	0.0
1972	0.0	6.0	0.1	0.3	1.0	33.0	0.1	0.1
1973	0.5	5.2	0.3	0.0	0.2	28.3	0.5	0.0
1974	2.2	4.8	0.2	0.2	8.5	28.5	0.9	0.0
1975	3.0	4.8	0.5	0.5	2.9	20.3	0.8	0.0
1976	2.4	14.2	0.7	0.0	0.7	35.0	2.2	0.0
1977	3.8	4.9	2.7	0.0	1.8	19.4	3.8	0.0
1978	8.1	4.2	4.4	0.4	1.3	9.1	3.5	0.0
1979	12.0	2.9	11.0	15.0	0.4	24.3	7.2	0.0
1980	25.6	14.0	17.9	0.0	16.3	5.7	14.5	0.0
1981	6.5	8.0	5.0	0.0	6.0	23.4	6.9	0.0
1982	4.0	12.3	2.2	0.0	2.0	18.5	1.7	0.4
1983	4.8	4.2	0.7	0.0	1.8	9.6	1.9	0.0
1984	15.0	36.5	16.6	0.0	6.9	53.8	19.5	3.0
1985	27.0	0.0	0.0	0.0	1.0	0.0	5.0	0.0
1986	12.7	1.0	42.3	0.0	21.1	3.3	8.9	0.0
1987	1.4	3.8	3.2	0.4	67.5	15.7	11.0	3.3
1988	16.8	8.0	33.7	0.0	12.6	13.2	40.0	30.0
1989	10.6	4.1	22.0	0.0	70.4	4.2	32.0	11.5
1990	47.0	6.3	19.2	0.0	63.0	9.8	18.7	5.0

-Continued-

Table 48. (page 5 of 8)

Year	Chiginagak 272- 905		Agripina R. 272- 961		Glacier Cr. 272- 962		Kilokak 272- 963	
	Pink	Chum	Pink	Chum	Pink	Chum	Pink	Chum
1953								
1954								
1955					0.0	0.0		
1956								
1957								
1958								
1959								
1960								
1961								
1962	17.1	0.0	12.0	3.0	0.5	3.0	16.2	0.0
1963	1.0	0.0	19.2	0.1	0.0	10.0	0.8	0.0
1964	100.0	0.3	8.5	0.0	0.5	6.0	14.2	0.0
1965	1.2	0.0	20.1	0.0	0.0	1.3	0.1	0.0
1966	90.5	0.0					24.5	0.0
1967	5.8	1.8	7.3	0.5	0.0	5.6	0.3	0.0
1968	53.0	0.0	12.0	0.0	0.0	0.2	65.6	0.0
1969	2.4	0.0	2.5	0.0	0.0	2.0	0.2	0.0
1970	24.0	0.0	15.5	0.0	0.0	5.0	55.0	0.0
1971	4.3	2.0	6.6	0.0	0.0	6.0	0.0	0.0
1972	2.4	0.0	1.6	0.0	0.0	4.6	2.1	0.0
1973	1.0	0.0	4.2	0.5	0.0	3.0	0.1	0.0
1974	1.9	0.0	1.2	0.2	0.0	0.9	0.3	0.0
1975	2.1	0.2	2.7	0.0	0.2	0.5	0.6	0.0
1976	20.1	0.4	4.9	0.0	0.0	1.8	4.9	0.0
1977	22.0	1.3	4.3	0.0	0.0	1.0	0.5	0.0
1978	41.0	0.4	7.4	0.1	0.6	1.1	5.9	0.0
1979	61.1	0.0	23.5	0.0	0.0	1.6	1.1	0.0
1980	38.5	0.0	14.3	0.0	5.2	0.7	61.0	0.0
1981	48.0	0.1	13.4	0.0	0.0	0.6	0.3	0.0
1982	34.1	0.0	33.0	0.0	0.0	1.1	20.0	0.0
1983	3.6	5.0	5.0	0.0	1.3	0.2	0.3	0.0
1984	117.2	0.2	39.8	0.0	1.0	3.2	75.8	0.0
1985	17.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0
1986	85.0	0.1	0.0	0.0	0.0	0.0	175.0	0.0
1987	20.0	0.3	1.0	0.0	6.2	0.0	0.0	0.0
1988	52.9	14.4	78.0	20.6	0.3	0.0	137.8	0.0
1989	89.0	4.0	53.0	0.0	0.3	0.1	10.5	0.0
1990	84.8	2.4	33.3	0.0	1.1	0.2	83.4	0.0

-Continued-

Table 48. (page 6 of 8)

Year	Coal Cape 273- 702		Ivan River 273- 722		Foot Bay 273- 802		Spoon Cr. 273- 823	
	Pink	Chum	Pink	Chum	Pink	Chum	Pink	Chum
1953							1.0	1.5
1954								
1955							15.0	0.0
1956								
1957								
1958								
1959								
1960								
1961								
1962	129.0	12.0	85.0	36.0	13.3	1.0	10.6	2.0
1963	127.5	0.0	124.0	4.5	11.0	1.0	3.5	0.0
1964	60.0	10.0	65.5		12.0	0.9	13.2	0.0
1965	48.0	5.9	89.1	0.0	5.3	0.0	1.4	0.0
1966	9.7	2.0	94.5	1.0	18.4	0.2	15.5	0.0
1967	9.0	1.0	35.0	7.0	4.7	0.0	2.4	0.0
1968	39.0		85.0	0.0	14.2	0.0	7.8	0.0
1969	77.0	0.0	302.0	0.0	14.2	0.1	6.5	0.0
1970	69.0	0.0	103.0	17.0	14.5	3.0	10.5	0.0
1971	8.0	0.0	205.0	90.0	30.0	5.2	7.0	0.0
1972	2.5	4.5	4.4	13.0	0.6	0.6	0.2	0.0
1973	1.6	1.0	43.8	17.2	7.5	0.3	0.8	0.2
1974	62.8	5.1	3.9	22.3	2.1	0.3	1.7	0.0
1975	21.0	4.5	96.0	24.5	9.8	0.0	4.5	0.0
1976	70.3	13.4	17.3	22.1	7.0	1.1	9.3	1.9
1977	78.5	0.0	236.0	36.0	18.3	0.8	5.7	0.1
1978	218.5	0.1	73.7	0.8	16.6	2.0	7.5	0.1
1979	50.2	2.0	90.0	32.0	9.6	0.4	7.1	1.0
1980	53.0	12.5	51.0	22.1	3.5	1.0	4.5	0.9
1981	84.9	3.0	117.0	28.0	10.0	4.6	6.7	0.8
1982	30.5	3.3	21.0	16.3	1.4	2.8	0.1	0.4
1983	17.8	0.5	12.2	7.2	1.2	1.1	0.8	0.0
1984	60.2	6.5	103.0	40.0	6.0	1.8	0.3	0.1
1985	3.5	0.5	49.6	23.3	5.9	1.7	0.3	0.0
1986	22.0	0.0	10.1	0.0	4.9	0.0	0.5	0.0
1987	13.4	0.4	14.8	2.4	6.6	1.0	0.0	0.0
1988	135.6	10.6	57.0	5.6	13.0	0.9	3.1	0.3
1989	2.9	1.5	32.0	0.8	10.8	0.6	1.7	0.1
1990	7.5	0.8	23.1	14.3	8.2	0.2	0.8	2.0

-Continued-

Table 48. (page 7 of 8)

Year	Portage 273- 842		Seal Bay 273- 843		Kupreanof 275- 401		Smokey Hollow 275- 402	
	Pink	Chum	Pink	Chum	Pink	Chum	Pink	Chum
1953	5.3	0.5	2.0	2.0				
1954								
1955	0.0	20.0	0.0	0.6				
1956								
1957								
1958								
1959								
1960								
1961								
1962	0.0	23.8	0.0	1.8	12.2	0.0	3.6	3.9
1963	27.0	4.4	6.0	0.0	3.5	0.0	1.5	2.0
1964	0.0	20.4	1.3	0.0	13.0	1.1	0.8	17.0
1965	1.7	8.3	3.3	0.0	3.0	0.0	0.0	0.5
1966	24.4	8.9	4.0	0.0			0.0	7.4
1967	28.5	15.0	6.0	0.5	6.7	0.0	0.0	0.3
1968	3.3	5.0	2.5	0.0	14.0	0.0	0.0	0.9
1969	0.1	27.5	7.5	0.0	6.8	0.2	0.0	0.2
1970	9.0	27.6	5.2	0.0	11.0	0.0	0.0	2.5
1971	10.2	60.1	5.0	10.1	3.5	0.0	0.0	1.5
1972	0.1	21.4	0.0	11.1	1.0	0.5	0.0	2.0
1973	2.9	18.1	2.0	0.1	0.2	0.5	0.2	0.6
1974	0.0	8.7	1.2	1.0	1.2	0.5	0.4	0.8
1975	0.4	9.2	5.3	2.3	1.0	0.1	0.1	0.1
1976	0.9	8.5	0.6	4.6	4.0	0.0	0.6	0.8
1977	5.0	20.5	3.1	5.2	5.1	0.0	2.3	1.6
1978	4.1	19.0	1.5	1.4	16.1	0.0	0.5	0.5
1979	17.7	4.5	0.2	0.6	28.0	0.0	0.6	0.4
1980	10.2	18.5	1.0	0.5	11.6	0.0	0.5	0.3
1981	6.5	33.3	9.0	0.0	22.5	0.1	1.5	0.0
1982	0.0	6.3	0.0	3.5	5.5	0.0	0.0	0.0
1983	0.3	7.3	0.8	0.0	3.5	0.0	0.2	2.6
1984	1.0	14.6	4.6	5.5	5.2	0.0	0.3	1.4
1985	0.0	9.1	7.3	0.0			0.2	0.0
1986	0.7	5.0	0.0	0.1			0.5	0.1
1987	0.0	10.2	0.5	3.9			1.4	0.1
1988	4.0	6.1	0.0	0.8	5.1	0.0	0.9	1.0
1989	1.2	1.6	1.7	0.8	4.2	0.1	9.4	0.1
1990	0.9	8.9	0.0	2.2	13.5	0.0	1.3	1.5

-Continued-

Table 48. (page 8 of 8)

Year	Wasco's Creek 275- 404		Ivanof River 275- 406		Humpback Cr. 275- 502	
	Pink	Chum	Pink	Chum	Pink	Chum
1953						
1954						
1955						
1956						
1957						
1958						
1959						
1960						
1961						
1962	23.0	0.0	48.5	2.5	64.5	3.0
1963	1.0	0.0	128.0	4.0	26.4	0.4
1964	0.0	6.5	15.0	0.8	40.7	0.2
1965	2.0	0.0	61.4	5.5	13.8	0.0
1966	10.5	0.0	39.5	9.0	30.0	0.0
1967	2.0	0.0	98.5	3.0	36.7	0.0
1968	0.3	0.0	60.0	0.5	52.3	0.0
1969	4.0	0.0	122.4	0.5	75.0	0.0
1970	2.5	0.0	51.0	10.0	31.0	0.0
1971	3.0	4.0	25.0	21.0	13.4	1.5
1972	0.3	0.0	6.3	7.8	0.5	1.0
1973	0.0	0.0	24.7	8.2	6.1	0.6
1974	6.3	1.9	41.9	8.1	10.2	0.7
1975	0.9	0.0	33.4	15.0	9.2	3.5
1976	6.2	0.2	55.0	6.8	20.3	0.7
1977	1.6	0.5	51.8	9.0	48.2	1.2
1978	9.7	0.0	71.5	4.2	51.0	0.2
1979	2.0	0.1	89.0	7.1	59.0	5.0
1980	0.0	3.0	40.5	22.7	18.7	3.1
1981	0.0	0.2	39.9	17.0	46.5	2.0
1982	0.1	2.3	2.7	9.4	4.8	11.0
1983	2.0	0.0	34.3	5.6	17.8	0.0
1984	14.6	1.4	61.0	42.5	18.3	0.7
1985	0.3	0.0	181.6	10.6	36.8	0.3
1986	10.0	0.0	150.0	7.6	12.0	0.0
1987	11.9	0.1	24.7	6.9	15.5	0.8
1988	14.0	1.1	126.0	30.6	30.8	0.4
1989	3.8	0.3	161.0	4.0	51.0	0.5
1990	0.5	4.4	47.3	33.7	7.4	0.5

[a]Escapements from 1953-1984 are based on index estimates described by Shaul and Schwarz (1989) and from 1985-1990 estimates are based on area-under-the-curve methodology described by Johnson and Barrett (1988).

Table 49. Age composition of the coho salmon catch for combined sexes by statistical area, in percent, 1990.

Statistical Area	Sample (n)	Age Classes 1.1	2.1	3.1
271-10	258	38.8	59.3	1.9
273-74	263	22.4	73.4	4.2
272-30	267	14.6	80.5	4.9

Table 50. Subsistence harvest of salmon in the Chignik Management Area, 1976-1990.[a]

Year	Catch Numbers by Species					
	Chinook	Sockeye	Coho	Pink	Chum	Total
1976	100	6,000	1,500	500	150	8,250
1977	50	9,700	2,400	1,800	600	14,550
1978	50	6,000	500	2,100	600	9,250
1979	14	7,750	34	262	0	8,060
1980	9	7,831	27	400	141	8,408
1981	100	5,840	0	0	0	5,940
1982	2	2,320	8	1	0	2,331
1983	0	3,438	1,880	1,680	1,136	8,134
1984	26	8,222	553	403	247	9,451
1985	1	7,615	60	32	0	7,708
1986	6	10,356	261	121	95	10,839
1987	10	7,021	278	204	261	7,774
1988	3	8,848	1,817	79	158	10,905
1989	20	12,325	1,200	150	148	13,843
1990	112	9,733	566	1,332	295	12,038
Average	34	7,533	739	604	255	9,165

[a]Subsistence harvests are estimated by expanding results of returned permits to total number of permits issued.

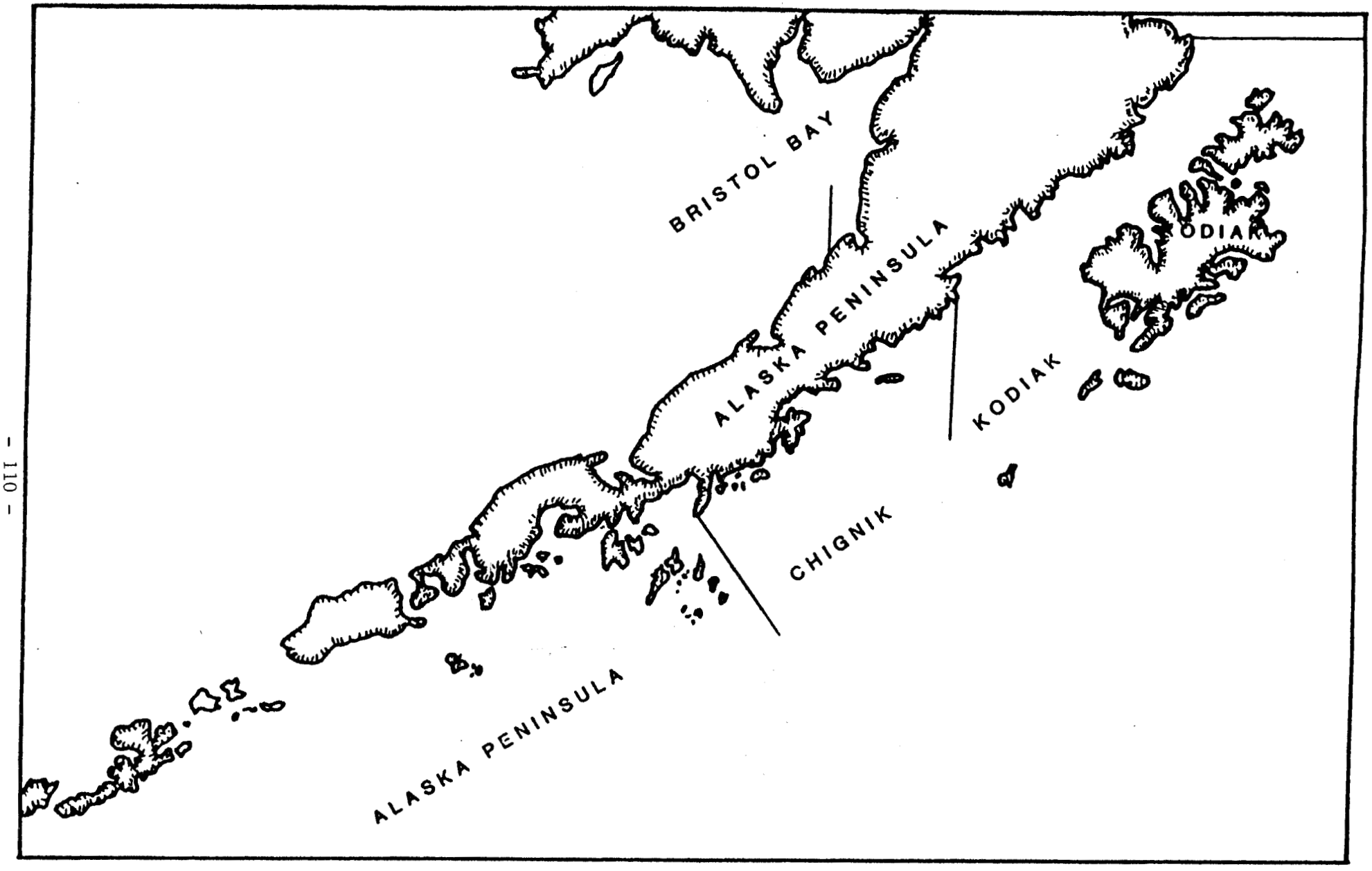

Figure 1. Map of the Alaska Peninsula illustrating the relative location of the Chignik Management Area, 1990.

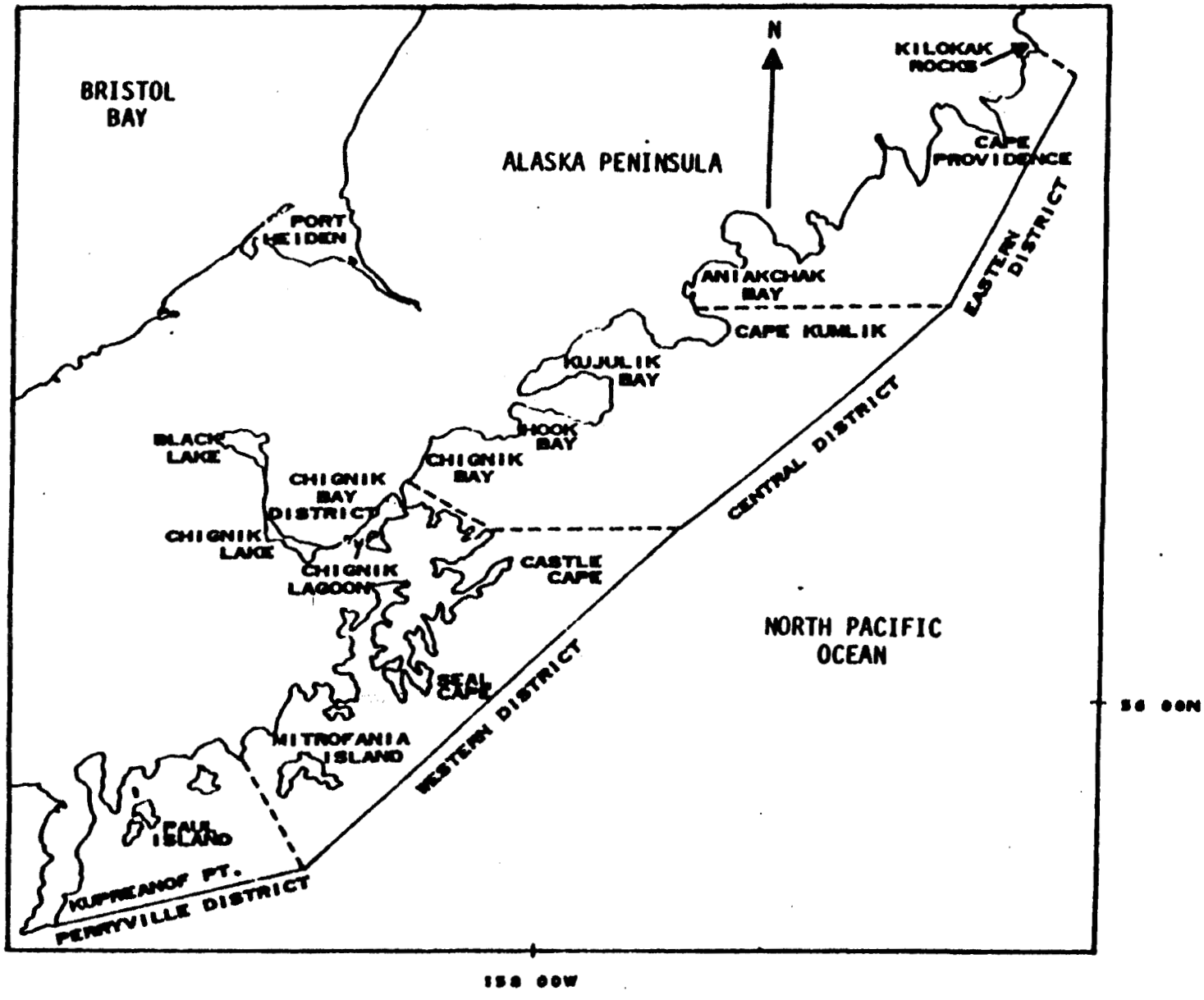

Figure 2. Map of the Chignik Management Area with the statistical fishing districts and some prominent locations identified.

CHIGNIK LAKES WATERSHED

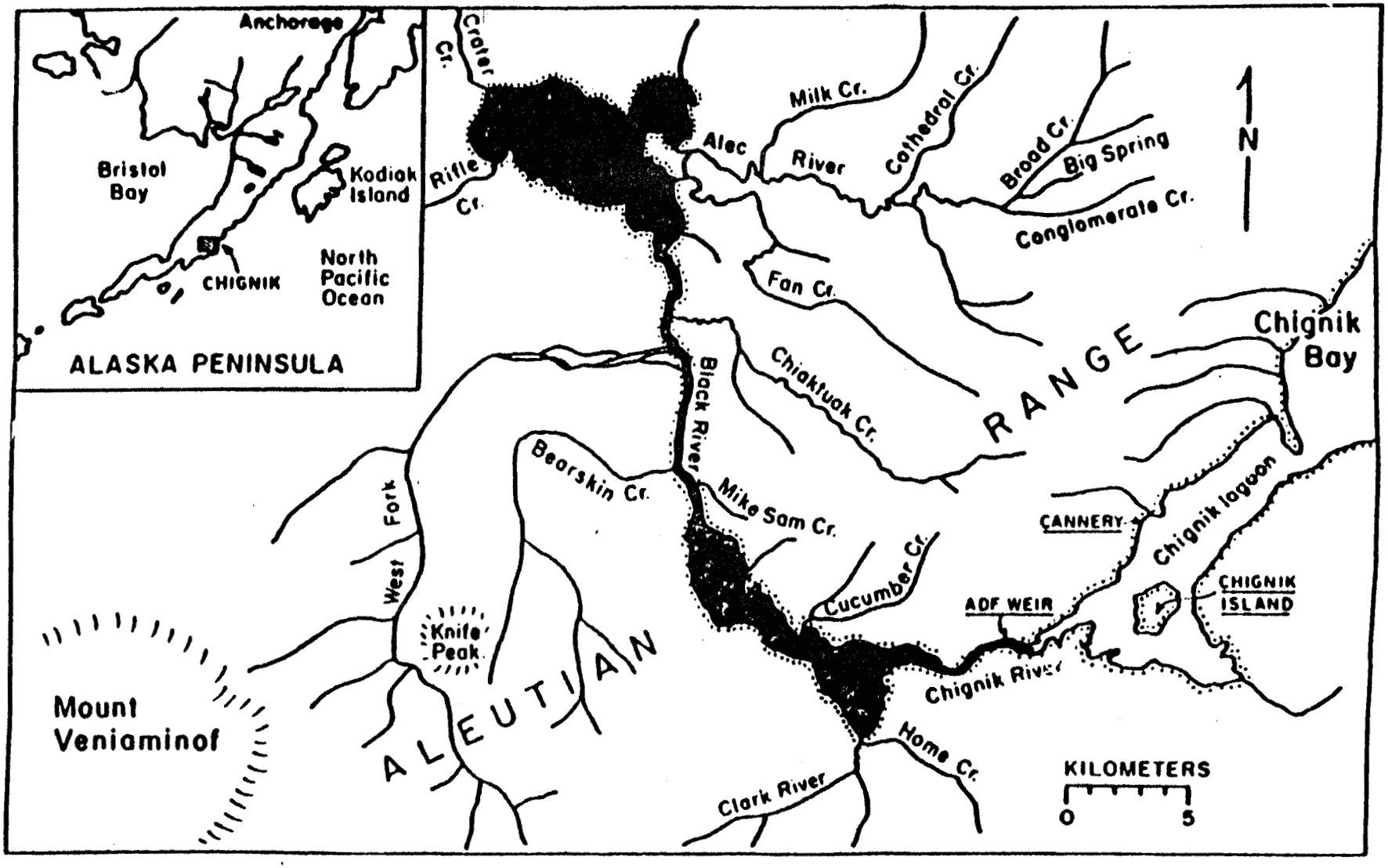

Figure 3. Map of the Chignik Management Area illustrating major sockeye spawning areas, 1990.

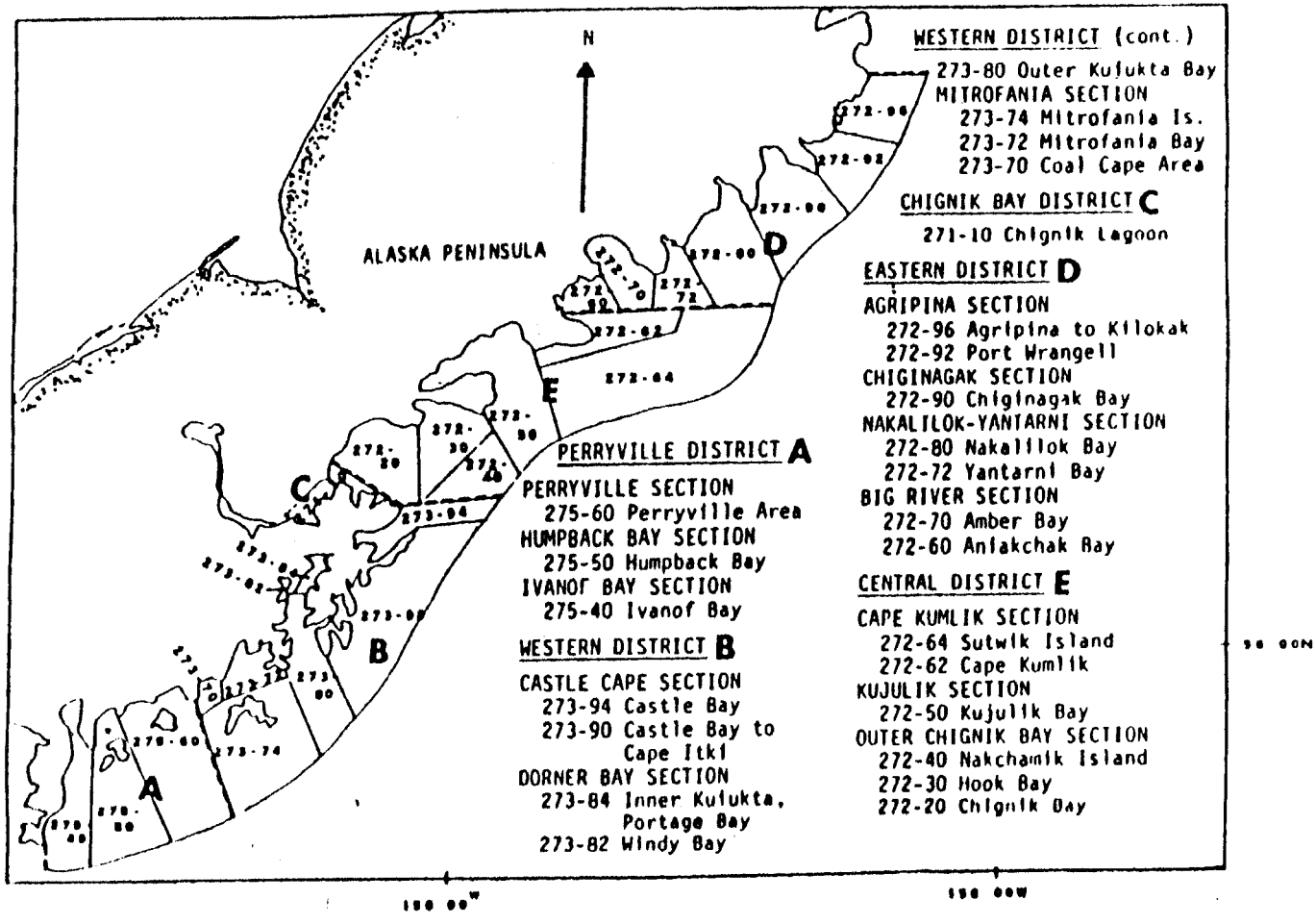

Figure 4. Map of the Chignik Management Area illustrating statistical areas, 1990

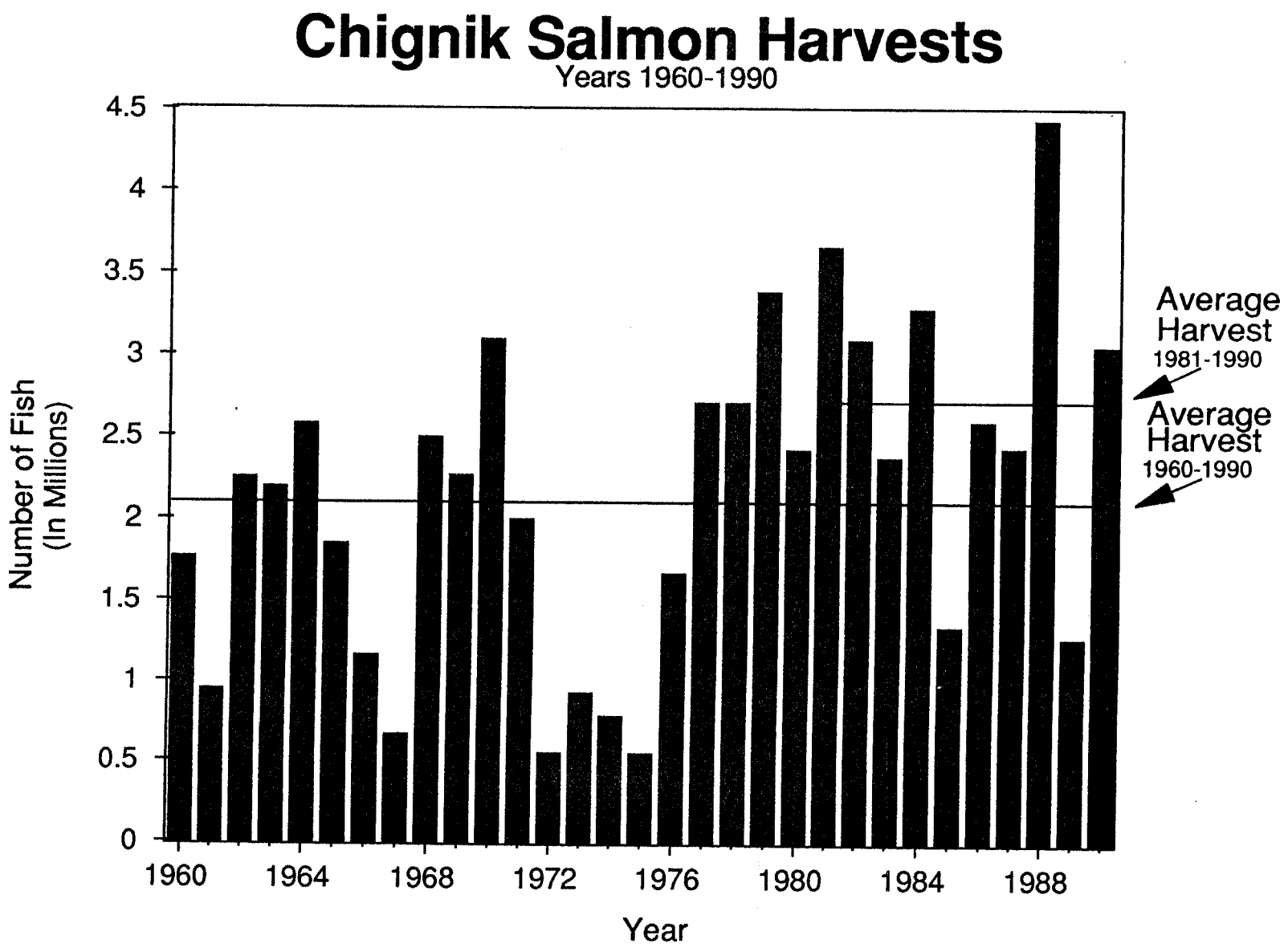

Figure 5. Chignik Management Area total salmon harvests, 1960 - 1990.

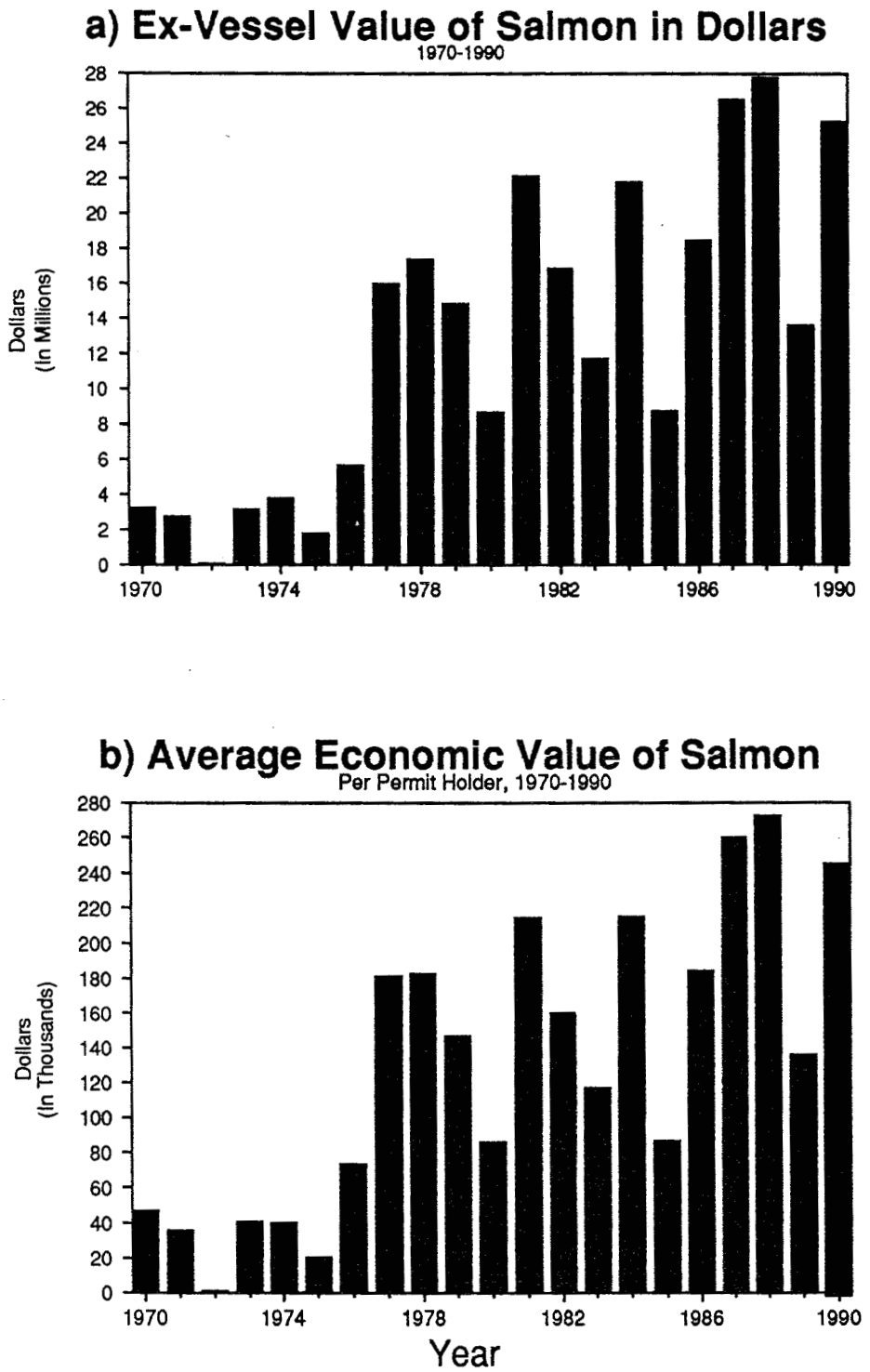

Figure 6. Ex-vessel value of Chignik salmon harvests from 1970-1990.
a) total annual value and b) average value per permit holder.

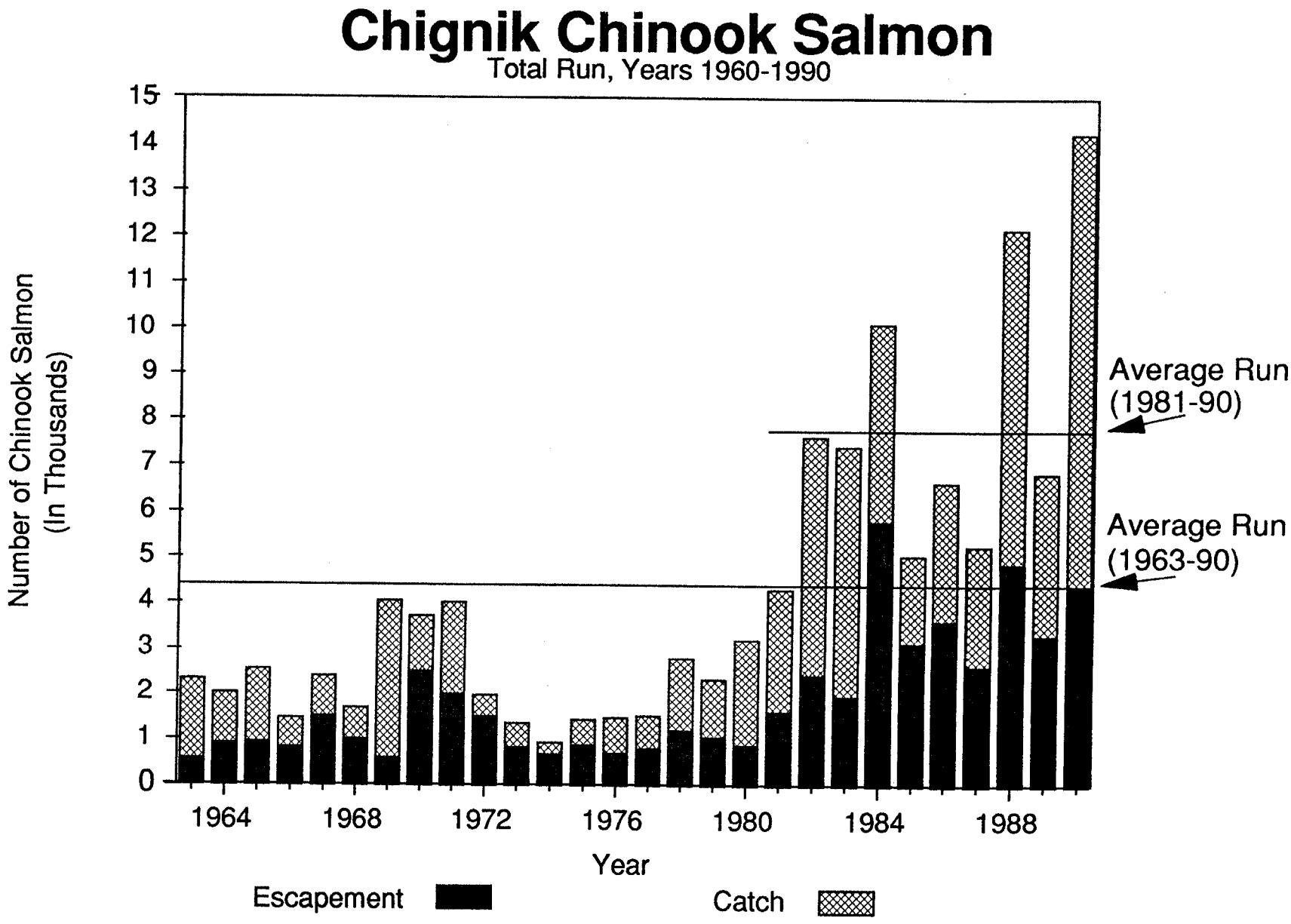

Figure 7. Chignik Management Area chinook salmon catch and escapement, 1963-90.

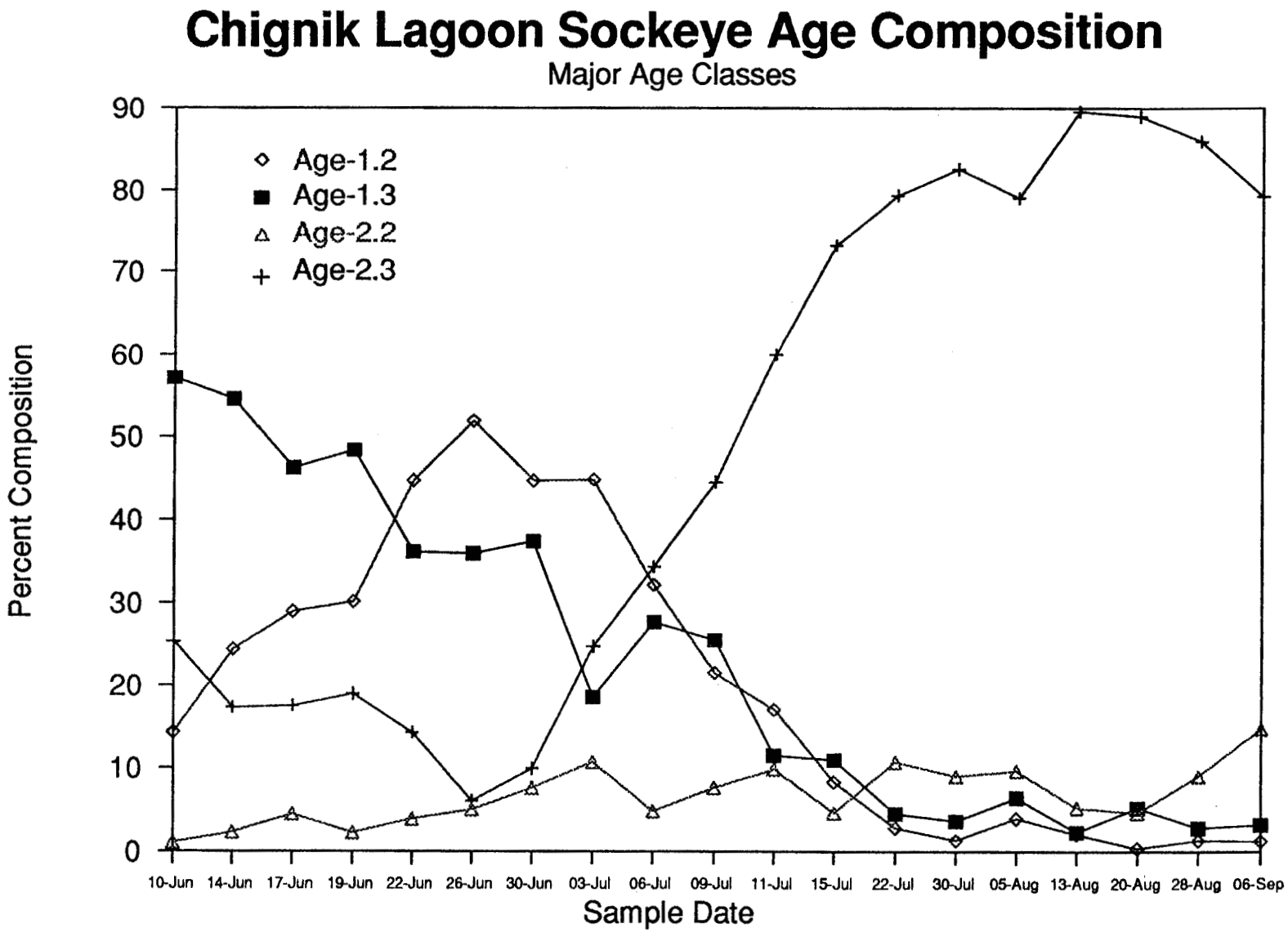

Figure 8. Age composition of sockeye salmon sampled in the Chignik Lagoon commercial Fishery, 1990.

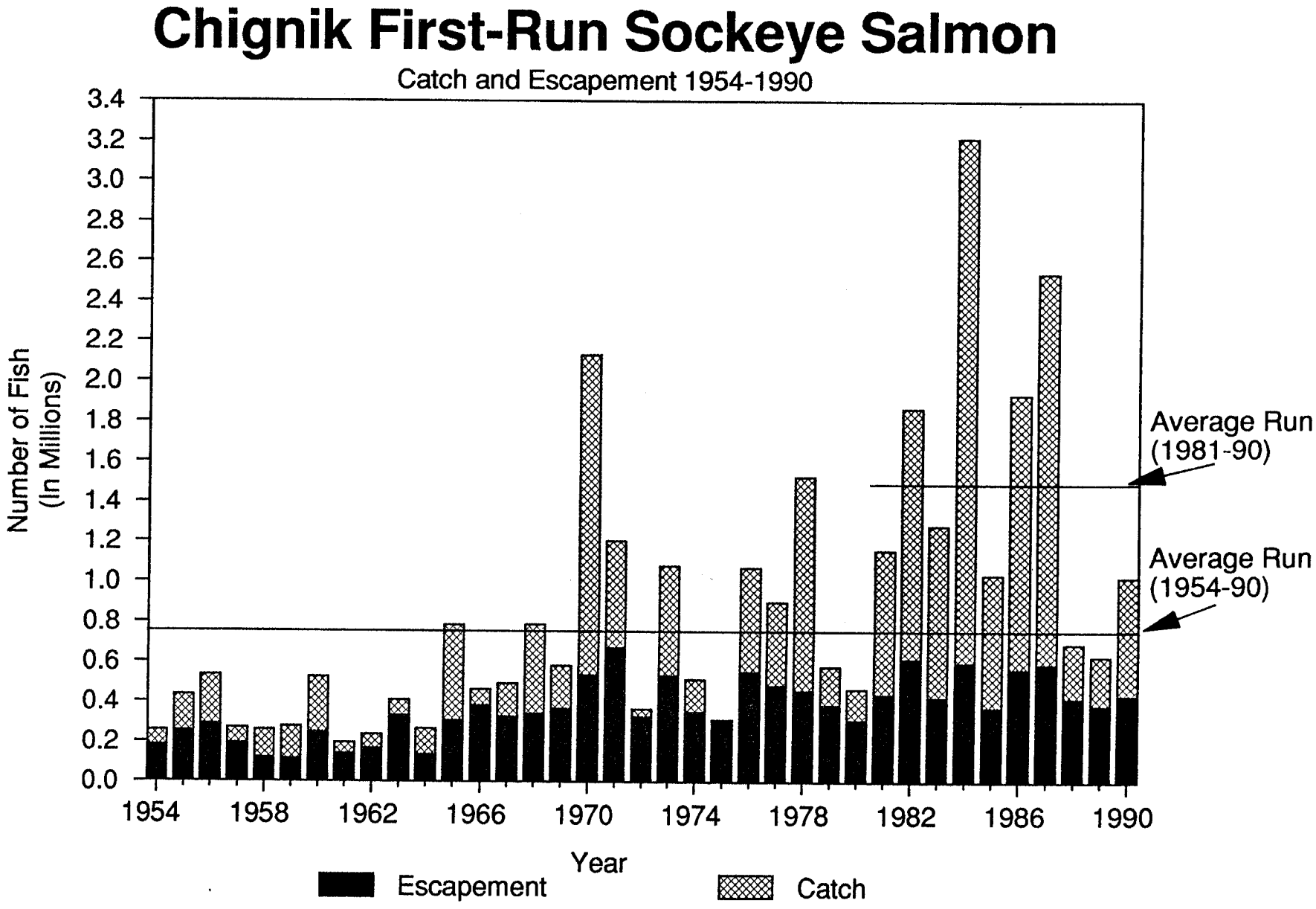

Figure 9. Chignik first-run sockeye salmon catch and escapement, 1954 - 1990.

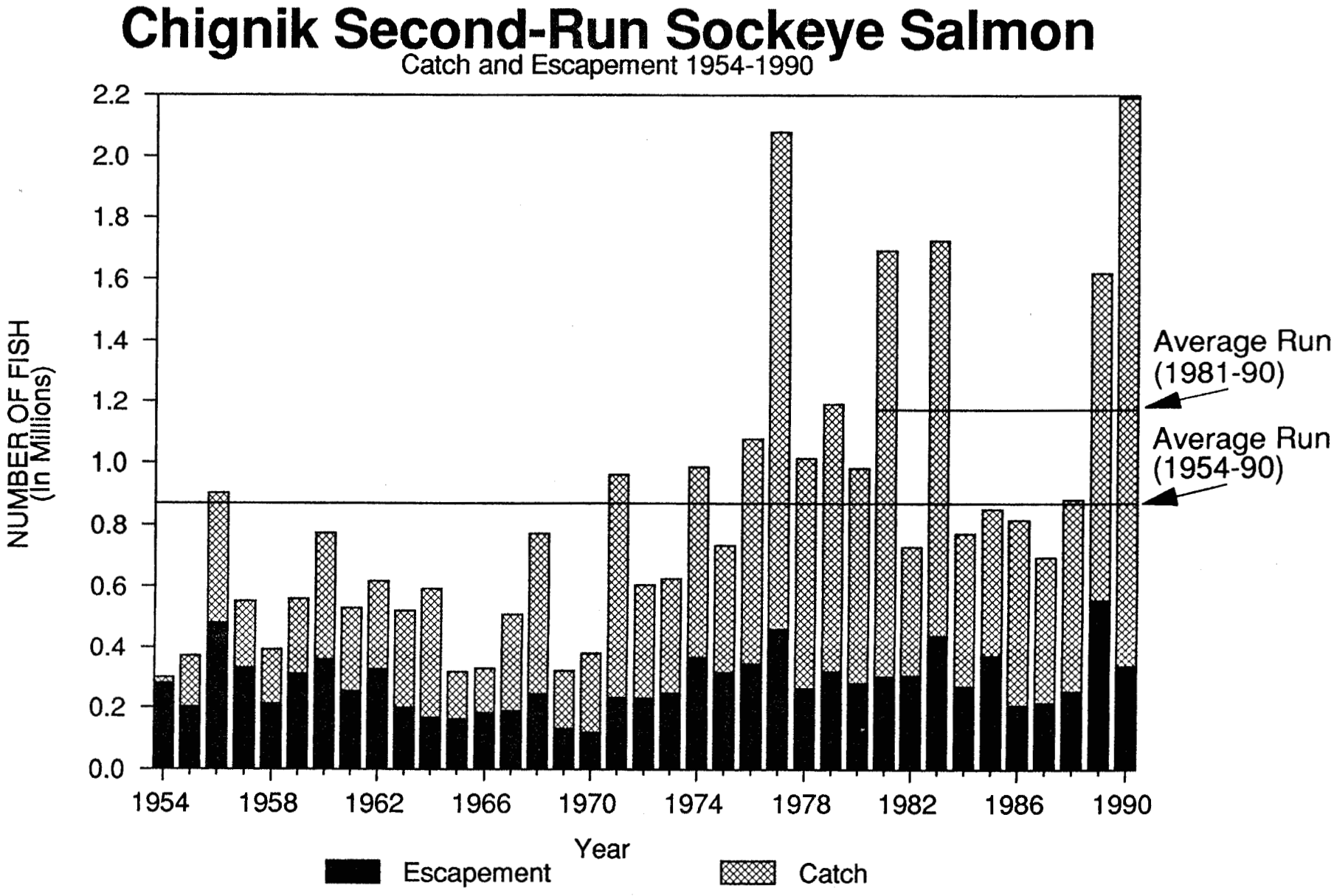

Figure 10. Chignik second-run sockeye salmon catch and escapement, 1954 - 1990.

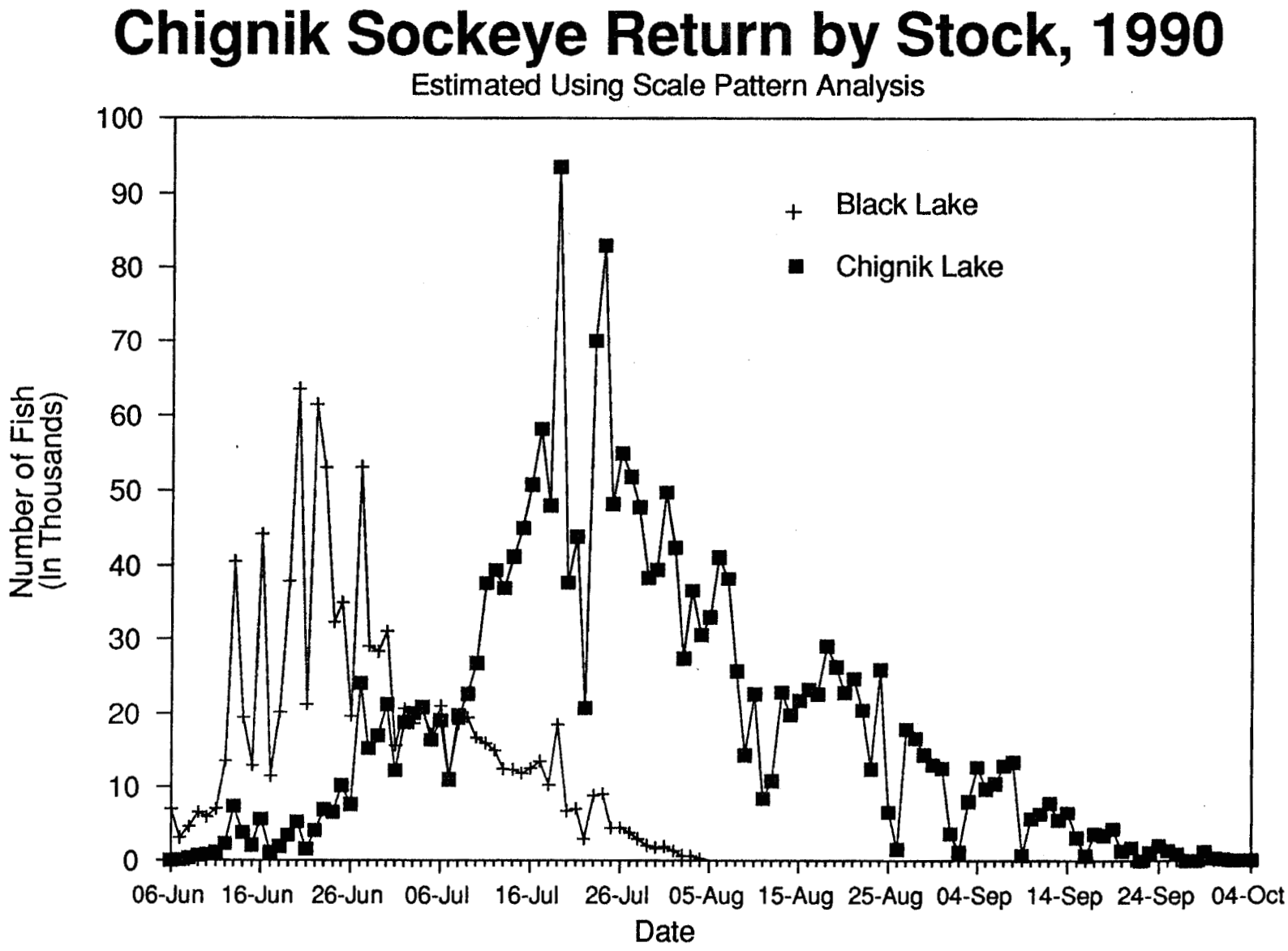

Figure 11. Daily sockeye return by stock to the Chignik Lake system estimated from scale pattern analysis, 1990.

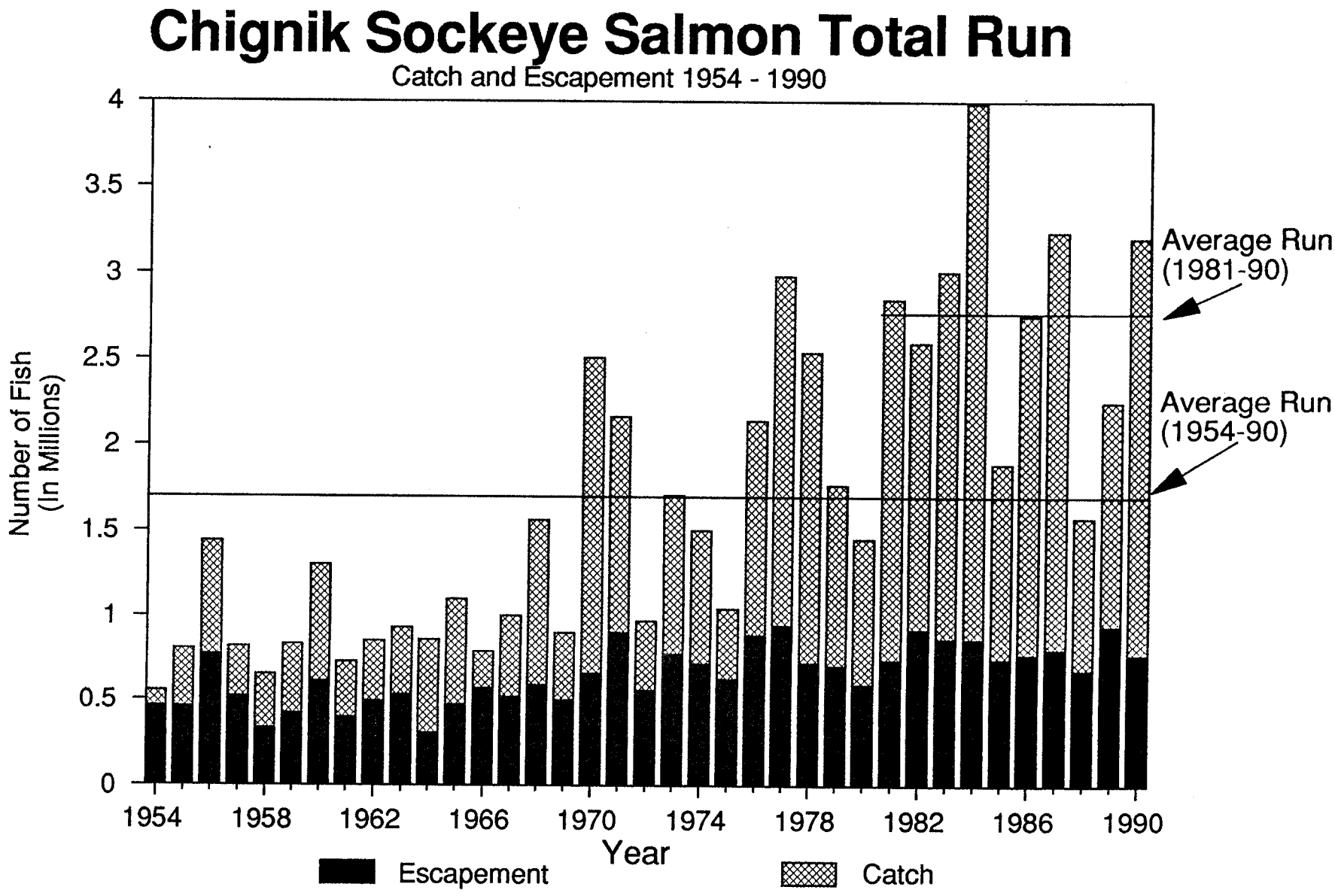

Figure 12. Chignik Management Area sockeye salmon catch and escapement, 1954 - 1990.

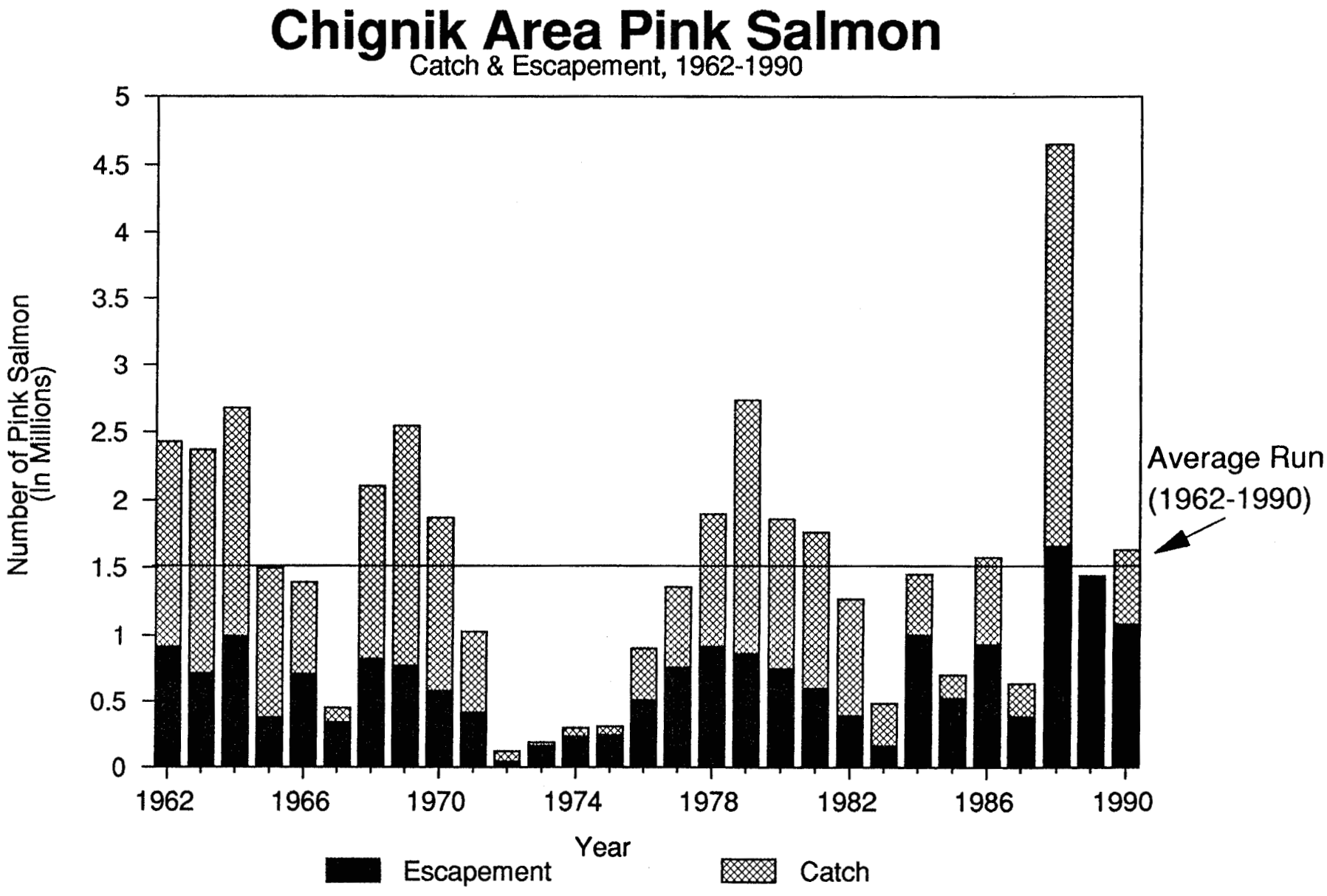

Figure 13. Chignik Management Area pink salmon catch and escapement, 1962 - 90.

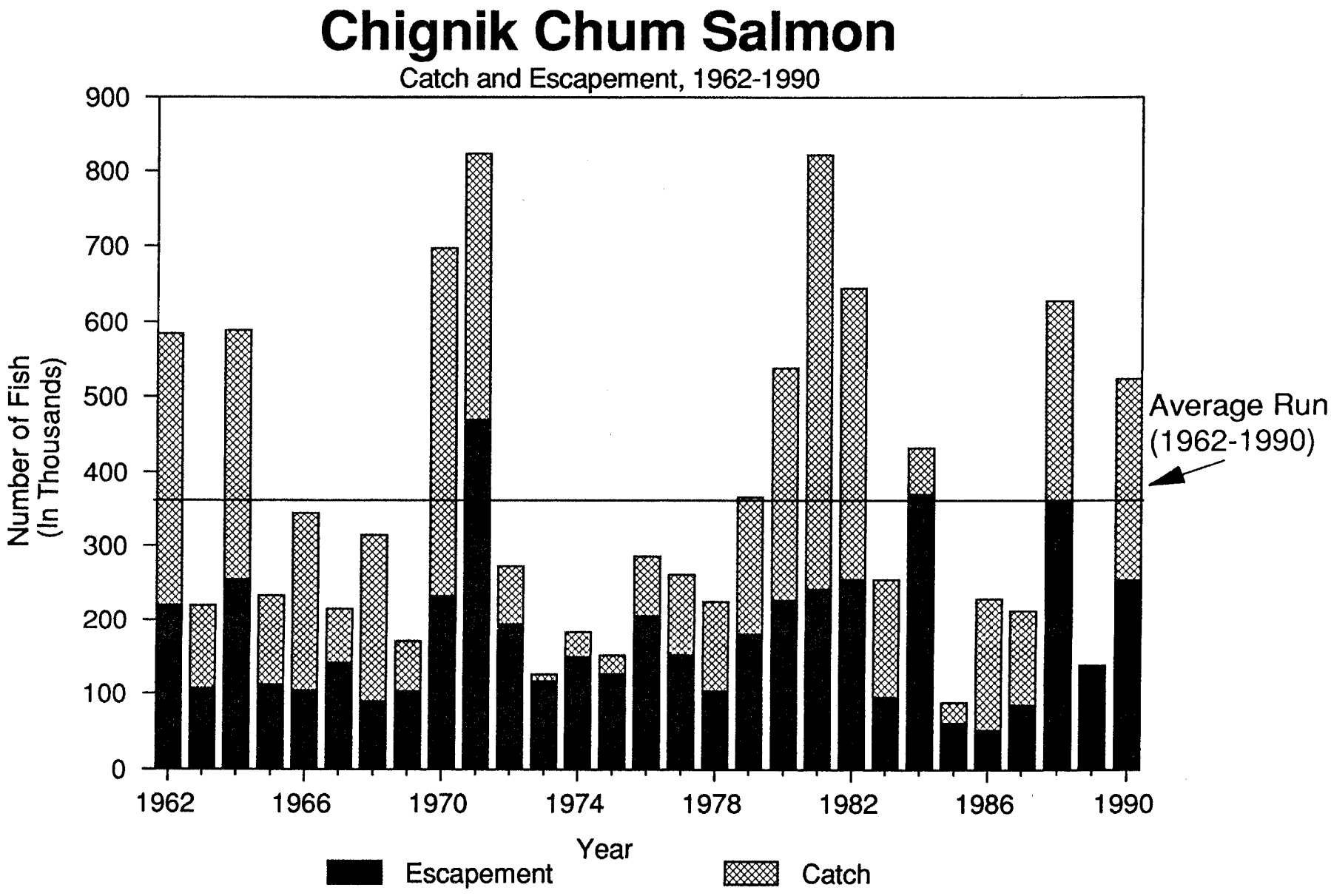

Figure 14. Chignik Management Area chum salmon catch and escapement, 1962-1990.

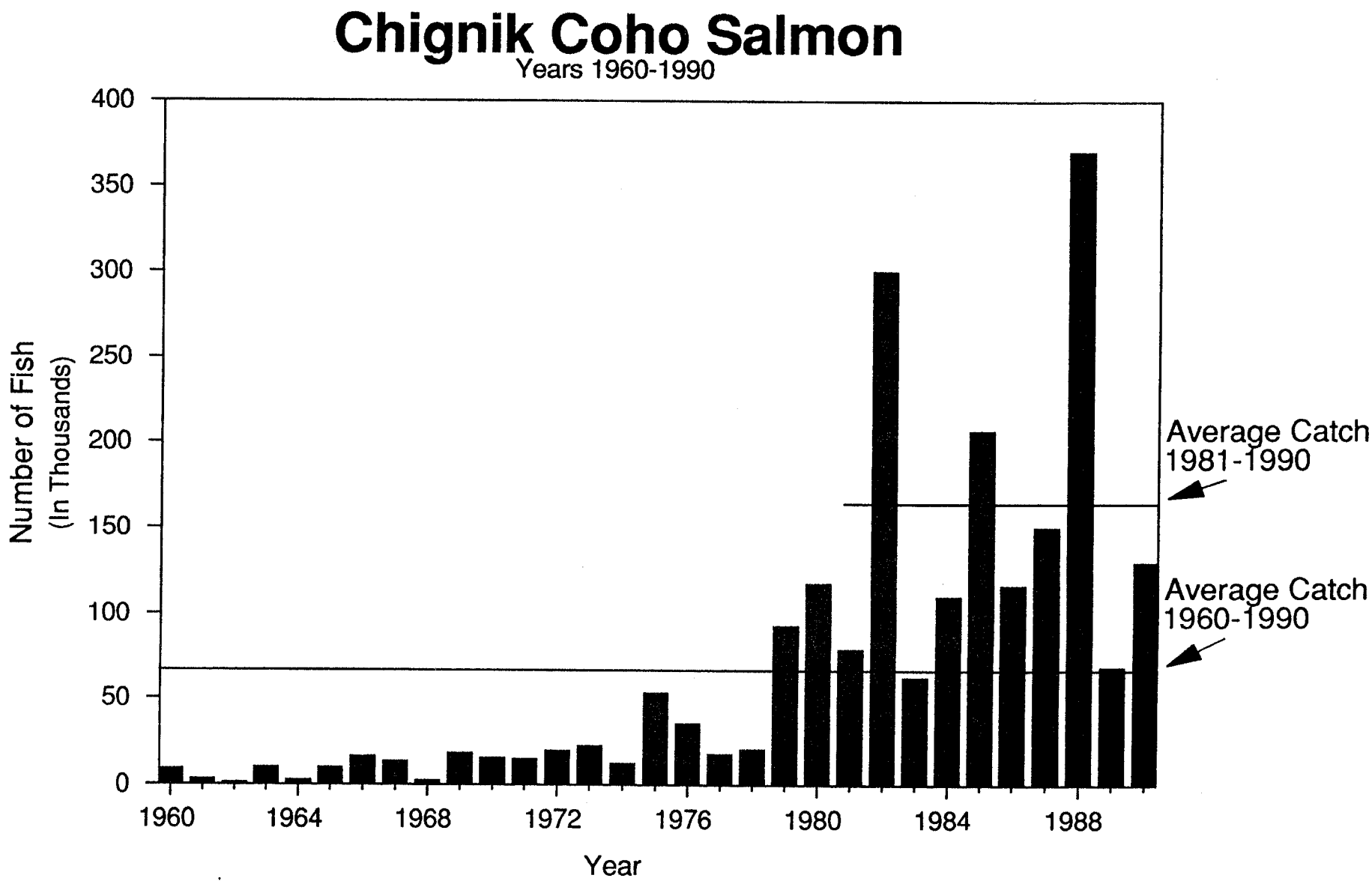

Figure 15. Chignik Management Area coho salmon catch, 1960-1990.

APPENDIX A

FORECAST AREA: Chignik Management Area

PRELIMINARY 1989 SEASON SUMMARY

Total Escapement: 774,971[1] + 166,200[2] = 941,171
Chignik Harvest: 1,156,690
Igvak Harvest (Chignik origin): 0
Stepovak Harvest (Chignik origin): 137,100

Total Return: 2,234,961

---

1 Weir counts
2 Estimated escapement after weir was removed

PRELIMINARY FORECAST OF THE 1990 RETURN

Early Run (Black Lake stocks)	Point	80% Prediction Range
Escapement Goal:	400,000	
Harvest Estimate:	447,000	
Return Estimate:	847,000	645,200 to 1.05 million

Late Run (Chignik Lake stocks)	Point	80% Prediction Range
Escapement Goal:	250,000	
Harvest Estimate:	727,000	
Return Estimate:	977,000	781,600 to 1.17 million

Total Chignik Run	Point	80% Prediction Range
Escapement Goal:	650,000	
Harvest Estimate:	1.17 million	
Return Estimate:	1.82 million	1.46 to 2.18 million

FORECAST METHODS:

The estimated return to Black Lake provided above is the summation of the predicted returns of two and three ocean sockeye while the Chignik Lake returns are calculated using all contributing age classes.

CHIGNIK 1990 SALMON HARVEST PROJECTIONS

Chinook[1]	Sockeye[2]	Coho[3]	Pink[4]	Chum	Total
3,700	1.17 million	160,000	1.96 million	152,000	3.45 million

1 The 1990 harvest is dependent upon the amount of fishing time allowed for sockeye salmon in July.

2 Total sockeye harvest including fish allocated to the Cape Igvak and Balboa/Stepovak intercept fisheries.

3 The harvest of coho salmon is related to the Chignik Lake sockeye salmon run strength.

4 The pink salmon forecast is driven by the escapements to the Central and Eastern districts (69 percent). Unstable stream conditions in these districts have resulted in poor returns from excellent parent year escapements.

APPENDIX B

1990

MANAGEMENT PLAN

FOR THE

CHIGNIK MANAGEMENT AREA

COMMERCIAL SALMON FISHERY

By: MIKE THOMPSON AND JEFF FOX

Regional Information Report[1] No. 4K90-15

Alaska Department of Fish and Game
Division of Commercial Fisheries, Westward Region
211 Mission Road
Kodiak, Alaska 99615

April 1990

[1]The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data; this information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Division of Commercial Fisheries.

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1990 CHIGNIK AREA
SALMON MANAGEMENT PLAN

INTRODUCTION

The Chignik commercial salmon management area encompasses all coastal waters and inland drainages of the northwest Gulf of Alaska between Kilokak Rocks and Kupreanof Point (Figure 1). The area includes the Chignik River system and approximately 100 other salmon producing streams.

The management area is divided into five districts which are, from east to west, the Eastern, Central, Chignik Bay, Western and Perryville Districts (Figure 2). The Alaska Department of Fish and Game manages all districts to achieve escapement goals for anadromous salmon species while allowing for the orderly harvest of fish surplus to spawning requirements.

For 1990, waters closed to salmon fishing will be as described in the 1990-91 commercial finfish regulation booklet. Please be aware of three closed water changes made by the Board of Fisheries in 1987 and a boundry change made in 1989. These changes increased the closed water areas in Ivanoff Bay, Portage Bay, Kujulik Bay and changed the district boundry line between the Western and Central Districts.

Purse and hand seines are the only legal gear types for the Chignik Area commercial salmon fishery. In the Eastern, Central, Western and Perryville Districts, no seine less than 100 fathoms or more than 225 fathoms in length may be used. In the Chignik Bay District seines may not be less than 100 fathoms or more than 125 fathoms in length.

This document provides the rationale for management of the 1990 Chignik salmon fisheries. In-season fishing time will be

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established by emergency order as relative run strength of salmon stocks are assessed.

The contents of this document are intended to be informative in nature.

SOCKEYE SALMON

The total sockeye salmon run is forecast to be approximately 1.82 million fish. The early run is projected to be smaller with a 847,000 fish return. The escapement goal for the early run is 400,000 fish, resulting in a forecasted harvest of 447,000 sockeye. The late run return is expected to be 977,000 fish. The late run escapement goal is 250,000 which should allow a commercial harvest of approximately 727,000 fish. Total estimated harvest for both runs is projected to be 1.17 million fish, including fish intercepted outside the Chignik Area.

The first fishing period can occur on June 1 by regulation, however based on historical opening times, this would be highly unlikely, and only considered if a minimum of 40,000 sockeye salmon have passed the weir and test fishing indicates a strong buildup of fish in the lagoon. The average date for the initial fishing period, based on the last 10 years, is June 11. Additional openings will be determined from several factors including escapement counts, commercial catches and test fishing results (Table 1).

During the month of June, commercial fishing will be allowed only in the Chignik Bay, Central, and Eastern Districts. The Eastern District will open and close to commercial salmon fishing simultaneously with the Chignik Bay and Central Districts, as outlined by the Board of Fisheries. In late June and early July the Eastern District may close to commercial salmon fishing until the run strength of the Chignik Lake stocks can be determined.

On July 15 the Eastern District will close to commercial salmon fishing. This closure is mandated by the Board of Fisheries to evaluate local pink and chum salmon run strength.

If it is determined that stocks being harvested within the Eastern District are not primarily Chignik stocks, the fishery in this district will be closed by emergency order as directed by the Board of Fisheries in the Eastern District Management Plan.

The fisheries in the Cape Igvak Section of the Kodiak Management Area and the Southeastern District of the Alaska Peninsula Management Area intercept Chignik sockeye salmon. The Cape Igvak Management Plan and the Southeastern District Management Plan as adopted by the Alaska Board of Fisheries will be used to manage those fisheries (Attachments 1 and 2).

PINK AND CHUM SALMON

For the 1990 season a total pink salmon return of 2.66 million fish is forecast. The pink salmon escapement goal for the entire Chignik Management Area is 700,000 which could provide a commercial harvest of approximately 1.96 million fish. This projected harvest is based on the average return per spawner for even years from 1966 to 1988 and the level of the 1988 escapements.

The first opening in the westward districts is tenatively scheduled for July 6 and will coincide with openings in both the Kodiak and Alaska Peninsula Management Areas.

Pink and chum management in the Eastern District will be based on the following management plan:

5 AAC 15.360. EASTERN DISTRICT SALMON MANAGEMENT PLAN. (a) The department shall open and close the Eastern District for commercial

salmon fishing concurrently with the Chignik Bay and Central Districts. The department may close the Eastern District for the period between the first (Black Lake) and second (Chignik Lake) sockeye salmon runs.

(b) The department shall close the Eastern District on July 15 to allow evaluation of the strength of the pink and chum salmon runs.

(c) The department shall close the Eastern District if it is determined that the salmon being harvested in that district are from stocks that do not originate from spawning areas located in the Chignik Area.

The projected chum salmon harvest for Chignik waters is an estimated 152 thousand fish. Aerial surveys will be conducted to monitor the progress of chum salmon escapements in order to provide sufficient opportunity to harvest the surplus when the fish are in their best marketable condition. Area specific openings are possible and a 24 hour notice will be given prior to a commercial opening. Openings and closures will be broadcast over 4125 SSB and CH 6 VHF.

Processors within the Chignik Area process fish primarily for the fresh frozen market. Due to the higher quality standards for the frozen market there will be greater demands placed on management to harvest these fish in optimum condition. Management strategies will be adjusted to harvest fish as they migrate to their home streams, i.e. increased early fishing effort when a harvestable surplus is available.

This is consistent with salmon management strategies for the remainder of the region.

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Due to the economic and commercial importance of the Chignik sockeye salmon, the corresponding run timing and strength of the two sockeye salmon runs bound to the Chignik River systems, i.e. Black Lake (Early Run) and Chignik Lake (Late Run) will directly impact commercial fishing time in the Eastern, Western and Perryville Districts.

If the strength of the early run (Black Lake) sockeye is weaker than forecast and the escapement goal of 400,000 through the Chignik River weir is not achieved, then the early July openings in all waters where sockeye would be intercepted may be curtailed. Commercial openings during the transition period between the two sockeye salmon runs (June 26 to July 9) will also be closely monitored to allow an adequate evaluation of the second run (Chignik Lake) strength to assure the escapement goal of 250,000.

COHO SALMON

Fall fisheries for late run sockeye and coho salmon will begin in mid August through mid September provided there is no conflict in achieving escapement goals for the late sockeye run to Chignik Lake. The coho salmon harvest in 1990 is projected to be 160,000 fish. The majority of this harvest should come from Chignik Lagoon. The average coho harvest for the last 10 years is 158,000 fish.

Management of Chignik Bay District coho stocks will be similar to recent years. Management of smaller systems, particularly those in the Eastern District, will continue to be conservative to prevent overharvest during the initial openings of the Chignik Bay commercial coho fisheries.

TENDER AND PROCESSOR REPORTING REQUIREMENTS

a. 5AAC 15.355. The operator of a floating salmon processing vessel or tender, or a shorebased processing operation, and a company employing aircraft used for

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transportating salmon, shall report in person, or by radio or telephone, to a local represenative of the department located in the management area of intended operation before the start of processing or buying operations. The report must include the location and the date of intended operation, and identify and describe each vessel or other method of transport employed in hauling or processing salmon.

b. All processors and tender operators will be required to report daily catch information to ADF&G. This can be accomplished either by radio (SSB) or telephone. The Chignik ADF&G office will stand by on 4125 SSB and VHF CH6 frequencies, between 0800 and 1000 hours and 2000 and 2200 hours. The call sign for Chignik is KGB 76 "Chignik Weir" and the telephone number is 845-2243. If unable to contact ADF&G Chignik, your catch information should be given to ADF&G Sandpoint or Kodiak via telephone or 4125SSB. The call signs for Kodiak and Sandpoint are WHM 20 and WIM 77, respectively. Failure to report is a violation of commercial fishing regulations (5 AAC 27.590 (2)); vigorous enforcement of this regulation should be expected.

c. Individual code sheets will be given to each tender/processor for the purpose of reporting catch and statisticaql area of catch.

Table 1. Chignik River System sockeye salmon escapement goals for Black Lake (early) and Chignik Lake (late runs), by time period.

The numbers of fish presented in the escapement tables below were derived from averages over several years of escapements of various timing and magnitude. It should be noted that daily escapement levels will fluctuate considerably throughout the run. THE TABLES LISTED SERVE ONLY AS A GUIDE FOR ACHIEVING THE TOTAL ESCAPEMENT FOR EACH RUN. In-season variations from the figures listed may be due to variations in actual run timing and/or strength of the run.

EARLY RUN - 400,000 ESCAPEMENT

June 12	40,000
June 14	50 - 65,000
June 16	75 - 100,000
June 18	125 - 150,000
June 20	175 - 200,000
June 22	225 - 250,000
June 25	275 - 325,000
June 30	350 - 400,000

LATE RUN - 250,000 ESCAPEMENT

	EARLY ESCAPEMENT IS ACHIEVED	EARLY ESCAPEMENT IS NOT ACHIEVED
July 6	-	40,000
July 8	-	45 - 50,000
July 10	40,000	55 - 65,000
July 12	50 - 60,000	70 - 75,000
July 14	65 - 75,000	75 - 80,000
July 16	80 - 90,000	80 - 90,000
July 19	100 - 115,000	100 - 115,000
July 21	125 - 135,000	125 - 135,000
July 23	145 - 160,000	150 - 160,000
July 26	170 - 180,000	170 - 180,000
July 29	185 - 195,000	190 - 195,000
July 31	195 - 200,000	195 - 200,000

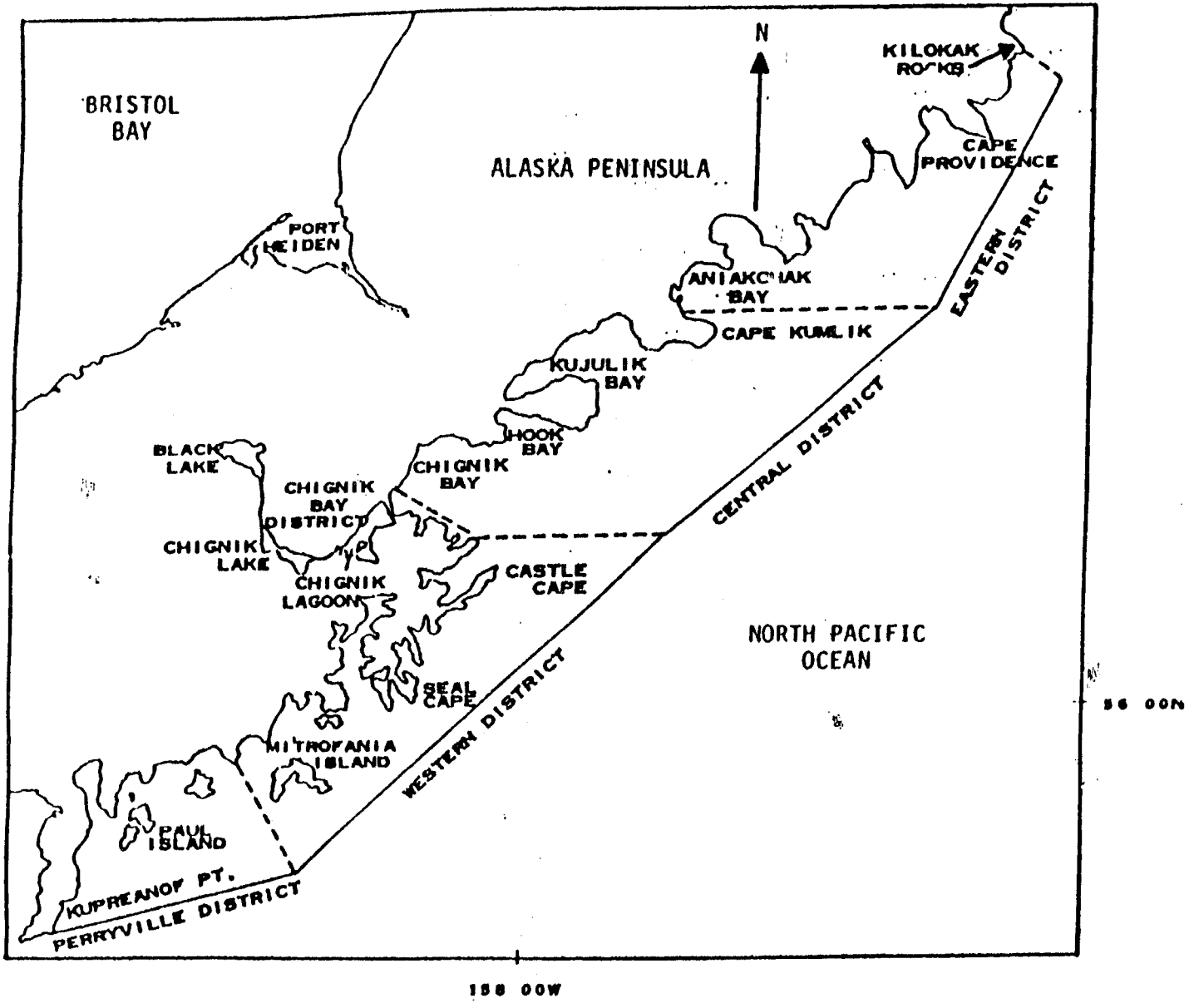

Figure 1. Map of the Chignik Management Area illustrating district boundaries, 1990.

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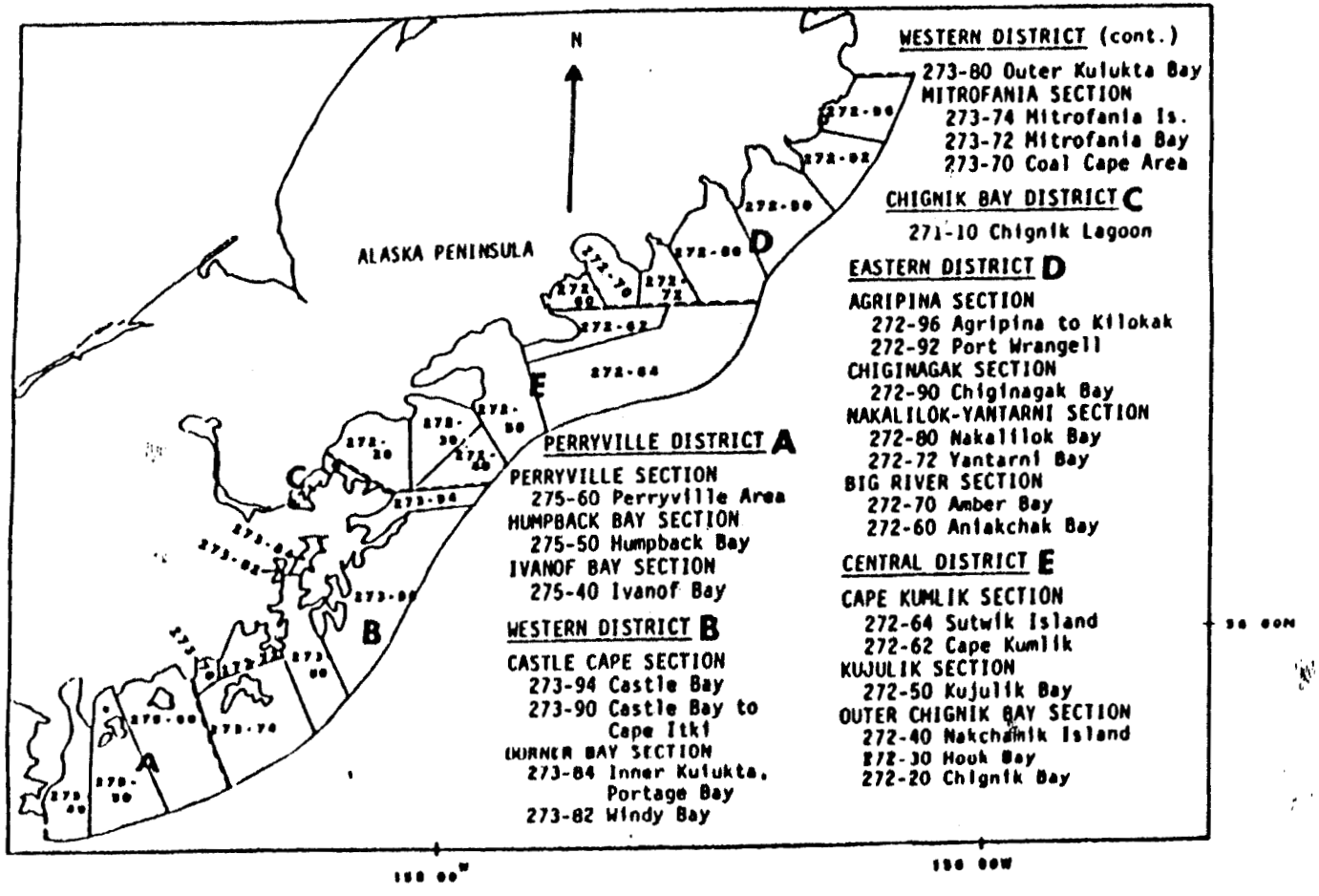

Figure 2. Map of the Chignik Management Area illustrating statistical areas, 1990.

ICE 9122158

Attachment 1.

MANAGEMENT GUIDE FOR THE
1990
CAPE IGVAK FISHERY

The midpoint harvest figures for the 1990 Chignik sockeye runs are forecast to be 447,000 for the first run and 727,000 fish for the second run, or a projected total harvest of 1.17 million Chignik bound sockeye.

The department will manage the Cape Igvak fishery according to the plan adopted by the Board of Fisheries. Since the harvestable surplus is expected to be more than 600,000, the fishery at Cape Igvak can open when the fishery opens at Chignik, and it is possible that the first opening could be as early as June 5. Approximately 48 hours notice will be given prior to the first Cape Igvak opening. At least a 24 hour notice will be given prior to the opening of any other fishing period, unless it is an extension of a fishing period in progress. Fishing periods will normally be at least 24 hours long and will begin at 12:01 A.M. If the first run fails, the Cape Igvak fishery will be curtailed in order to allow a minimum harvest in the Chignik Area of at least 300,000 sockeye through July if that many are surplus beyond escapement needs.

During the period from approximately June 26 to July 9, the strength of the second run of Chignik River system sockeye salmon cannot be evaluated at Chignik Lagoon. In order to prevent overharvest of the second run, commercial salmon fishing in the Cape Igvak Section will, at the department's discretion , be disallowed or severely restricted during this period.

Fishing time at Cape Igvak after July 8 will be dependent on the strength of the second run and on the Chignik Area catch during the first run.

When the second run appears strong enough for a fishery at Chignik, Cape Igvak could be opened only if at least 300,000 were harvested from the first run in the Chignik Area. The Department will then manage the fishery so that the number of sockeye salmon harvested in the Chignik Area for both runs combined will be at least 600,000 and the harvest in the Cape Igvak Section will approach as near as possible 15 percent of the total catch of Chignik bound sockeye, if that many fish are available surplus to the escapement needs.

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Attachment 2.

1990

SOUTHEASTERN DISTRICT MAINLAND (ALASKA PENINSULA AREA) MANAGEMENT PLAN

By: ARNIE SHAUL

Regional Information Report[1] No. 4K90-4

Alaska Department of Fish and Game
Division of Commercial Fisheries
211 Mission Road
Kodiak, Alaska 99615

February 1990

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[1]The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data; this information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Division of Commercial Fisheries.

1990
SOUTHEASTERN DISTRICT MAINLAND MANAGEMENT PLAN
ALASKA PENINSULA AREA

The Department will manage the Southeastern District Mainland fishery according to the Southeastern District Management Plan adopted by the Alaska Board of Fisheries. See attached map.)

The Northwest Stepovak and Stepovak Flats Sections will be managed on a local stock basis. When possible, fishing time in these sections will coincide with other nearby fisheries to avoid concentrating fishing gear.

Set gillnets are the only legal gear allowed in the Beaver Bay, Balboa Bay, Southwest Stepovak, Northwest Stepovak, East Stepovak, and Stepovak Flats Sections through July 10. After July 10, set gillnets, purse seines, and hand purse seines are legal.

The Beaver Bay, Balboa Bay, Southwest Stepovak, and East Stepovak Section will be managed on the basis of Chignik sockeye stocks through July 25. After July 25, the whole area will be managed for local stocks.

The forecasted midpoint harvest for the Chignik sockeye returns during 1990 are 447,000 fish for the early return and 727,000 for the second return. If the return comes in as expected and the goals of the plan are achieved, approximately 70,000 estimated Chignik destined sockeye will be harvested prior to July 26. This compares to a recent 5 and 10 year average of 68,000 and 118,000 respectively.

Since the harvestable surplus is expected to exceed 600,000 sockeye, the Southeastern District Mainland fishery may open when the fishery opens at Chignik. Based on the 447,000 harvest forecast, it is possible (but unlikely) that the first opening could be as early as June 8. At least 36 hours notice will be given prior to the first commercial fishing period in the

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Southeastern District Mainland fishery. At least an 18 hour notice will be given prior to the opening of any other fishing period, unless it is an extension of a fishing period in progress. If the first run fails to develop as expected, the Southeastern District Mainland fishery will be curtailed in order to allow a minimum harvest in the Chignik Area of at least 300,000 sockeye through July 8 if that many are surplus to the escapement needs.

During the period from approximately June 26 to approximately July 9, the strength of the second run of Chignik River system sockeye salmon cannot be evaluated at Chignik Lagoon. To prevent overharvest of the second run, commercial salmon fishing in the Southeastern District Mainland will, in the Department's discretion, be disallowed or severely restricted during this period.

Fishing time in the Southeastern District Mainland after July 8 will be dependent upon the strength of the second run and on the Chignik Area catch during the first run. When the second run appears strong enough for a fishery at Chignik, the Southeastern District Mainland will be opened if at least 300,000 were harvested from the first run in the Chignik Area. The Department will then manage the fishery whereby the number of sockeye salmon harvested in the Chignik Area from both runs combined will be at least 600,000 and the harvest in the Southeastern District Mainland will approach as near as possible 6 percent of the total Chignik bound sockeye salmon catch[1], if that many fish are available surplus to the escapement needs.

At the December 1982 meeting, the Board of Fisheries adopted the following regulation pertaining to fishery management plans:

---

[1]The total Chignik sockeye salmon catch constitutes those sockeye salmon caught within the Chignik Area plus 80 percent of the sockeye salmon caught in the Cape Igvak Section of the Kodiak Area plus 80 percent of the sockeye caught in the Southeastern District Mainland fishery outside of the Suzy Creek to Dent Point portion.

5 AAC 39.200 APPLICATION OF FISHERY MANAGEMENT PLANS

(b) In some fishery management plans, the distribution of harvestable fish between various users is determined by the harvest that occurs during a specific time period, at a specific location or by a specific group or groups of users. At times fishermen, due to circumstances that are beyond the control of the Department, such as weather or price disputes, will not harvest fish. When this happens in a fishery governed by a management plan the goals of that plan may not be achieved. Therefore, when a fishery is open to the taking of fish and the group or groups of users whose catch determines the distribution of the harvest as set out in the applicable management plan is not taking the harvestable fish available to them, the Department shall manage the fishery as if the available harvest is being taken. When determining the available harvest, the Department shall consider the number of fish needed to meet spawning requirements, the number of fish present in the fishery and in spawning areas that are in excess to spawning requirements and the estimated harvesting capacity of the group or groups os users that would normally participate in the fishery.

The fishery shall be managed according to the plan as stated in the 1990 regulation book. No attempt will be made to allow equal fishing time with Chignik, as had been done at one time, but rather the end goal will be to meet the 6 percent allocation levels after the conditions[2] of the plan have been satisfied. To meet the goal of 6 percent by July 25, the percentage may fluctuate above or below 6 percent prior to July 25.

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[2]Conditions include daily escapement goals at Chignik, a minimum Chignik sockeye harvest for each run, and restrictive fishing time in the Cape Igvak section and Southeastern District Mainland during the June 26 to July 9 overlap period. The total minimum harvest for Chignik is listed under 5 AAC 09.360 on pages 36 and 37 in the 1988-89 Commercial Finfish Regulation booklet.

When the second run appears strong enough for a fishery at Chignik, Cape Igvak could be opened only if at least 300,000 were harvested from the first run in the Chignik Area. The Department will then manage the fishery so that the number of sockeye salmon harvested in the Chignik Area for both runs combined will be at least 600,000 and the harvest in the Cape Igvak Section will approach as near as possible 15 percent of the total catch of Chignik bound sockeye, if that many fish are available surplus to the escapement needs.

Because of the many restrictions placed upon the Southeastern District Mainland fishery to protect the Chignik runs, it may not be possible to achieve a 6 percent allocation level even though the minimum catch level of 600,000 at Chignik is exceeded.

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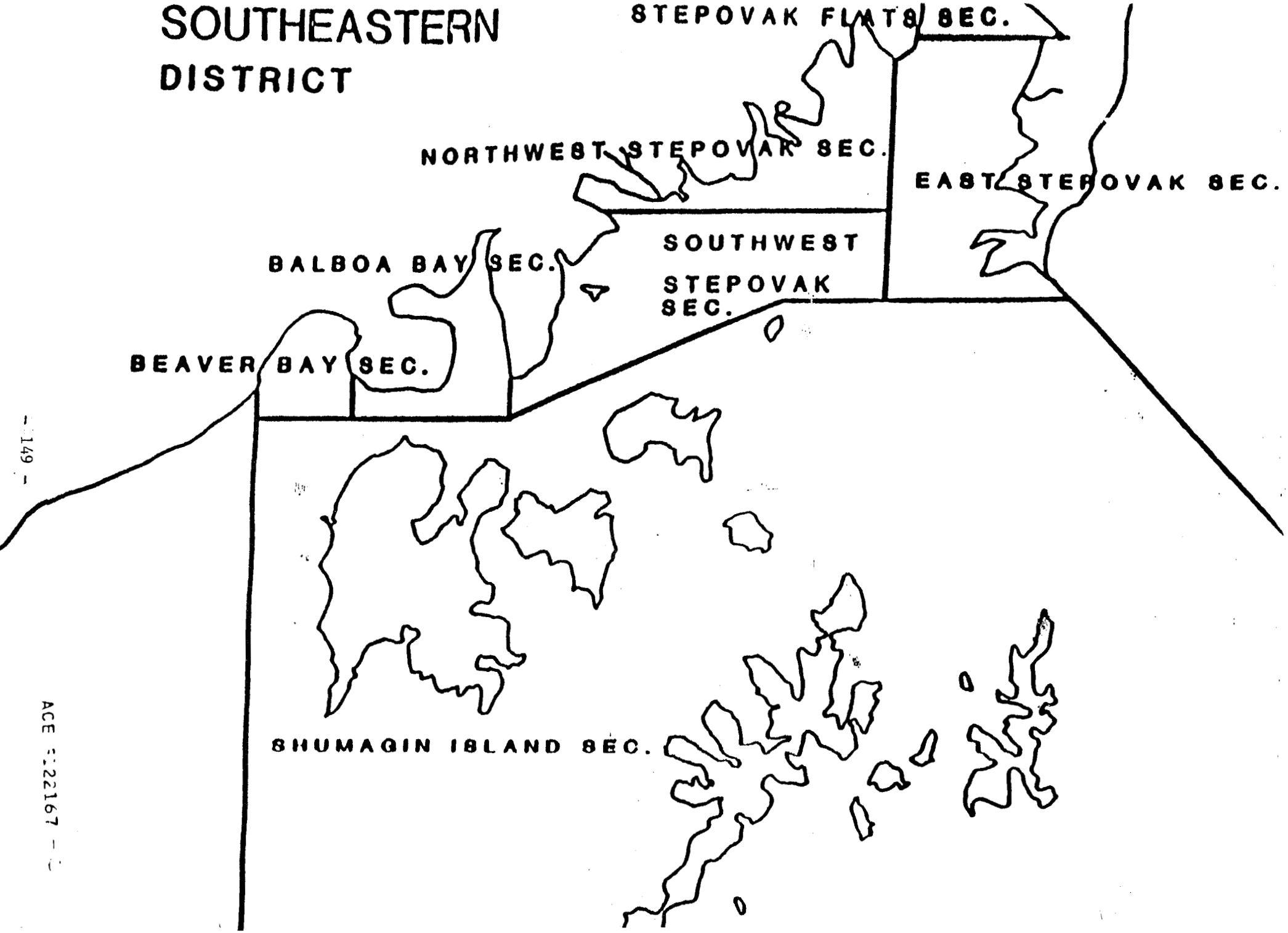
SOUTHEASTERN DISTRICT



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1989

MANAGEMENT PLAN

FOR THE

CHIGNIK MANAGEMENT AREA

COMMERCIAL SALMON FISHERY

By: MIKE THOMPSON AND JEFF FOX

Regional Information Report[1] No. 4K89-15

Alaska Department of Fish and Game
Division of Commercial Fisheries, Westward Region
211 Mission Road
Kodiak, Alaska 99615

April 1989

[1]The Regional Information Report Series was established in 198 to provide an informational access system for all unpublishe divisional reports. These reports frequently serve diverse ad ho informational purposes or archive basic uninterpreted data. T accommodate needs for up-to-date information, reports in thi series may contain preliminary data.

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CHIGNIK AREA
SALMON MANAGEMENT PLAN

INTRODUCTION

The Chignik commercial salmon management area encompasses all coastal waters and inland drainages of the northwest Gulf of Alaska between Kilokak Rocks and Kupreanof Point (Figure 1). The area includes the Chignik River system and approximately 90 other salmon producing streams.

The management area is divided into five districts which are, from east to west, the Eastern, Central, Chignik Bay, Western and Perryville Districts (Figure 2). The Alaska Department of Fish and Game manages all districts to achieve escapement goals for anadromous salmon species while allowing for the orderly harvest of fish surplus to spawning requirements.

For 1989, waters closed to salmon fishing will be as desribed in the 1988-89 commercial finfish regulation booklet. Please be aware of three closed water changes made by the Board of Fisheries in 1987. These changes increased the closed water areas in Ivanoff Bay, Portage Bay and Kujulik Bay.

Purse and hand seines are the only legal gear types for the Chignik Area commercial salmon fishery. In the Eastern, Central, Western and Perryville Districts, no seine less than 100 fathoms or more than 225 fathoms in length may be used. In the Chignik Bay District seines may not be less than 100 fathoms or more than 125 fathoms in length.

This document provides the rationale for management of the 1989 Chignik salmon fisheries. In-season fishing time will be established by emergency order as relative run strength of salmon stocks are assessed.

ACE 9279838

The contents of this document are intended to be informative in nature.

SOCKEYE SALMON

The total sockeye salmon run is forecast to be approximately 2.10 million fish. The early run is expected to be larger with an projected 1.15 million return. The escapement goal for the early run is 400,000 fish, resulting in an anticipated harvest of 750,000 sockeye. The late run return is expected to be 954,000 fish. The late run escapement goal is 250,000 which should allow a commercial harvest of approximately 704,000 fish. Total estimated harvest for both runs is projected to be 1.45 million fish, including fish intercepted outside the Chignik Area.

The first fishing period can occur on June 1 by regulation, however based on historical opening times, this would be highly unlikely, and only considered if a minimum of 40,000 sockeye salmon have passed the weir and test fishing indicates a strong buildup of fish in the lagoon. The average date for the initial fishing period, based on the last 10 years, is June 10. Additional openings will be determined from several factors including escapement counts, commercial catches and test fishing results (Table 1).

During the month of June, commercial fishing will be allowed only in the Chignik Bay, Central, and Eastern Districts. The Eastern District will open and close to commercial salmon fishing simultaneously with the Chignik Bay and Central Districts, as outlined by the Board of Fisheries. In late June and early July the Eastern District may close to commercial salmon fishing until the run strength of the Chignik Lake stocks can be determined.

On July 15 the Eastern District will close to commercial salmon fishing.

ACE 9279839

This closure is mandated by the Board of Fisheries to evaluate local pink and chum salmon run strength.

If it is determined that stocks being harvested within the Eastern District are not primarily Chignik stocks, the fishery in this district will be closed by emergency order as directed by the Board of Fisheries in the Eastern District Management Plan.

The fisheries in the Cape Igvak Section of the Kodiak Area and the Southeastern District of the Alaska Peninsula intercept Chignik sockeye salmon. The Cape Igvak Management Plan and the Southeastern District Management Plan as adopted by the Alaska Board of Fisheries will be used to manage those fisheries (Attachments 1 and 2).

PINK AND CHUM SALMON

For the 1989 season a total pink salmon return of 1.18 million fish is forecast. The pink salmon escapement goal for the entire Chignik Management Area is 700,000 which could provide a commercial harvest of approximately 448,000 fish. This projected harvest is based on the average return per spawner for odd years from 1965 to 1987 and the level of the 1987 escapements.

The first opening in the westward districts will coincide with the first July sockeye opening targeting on the late sockeye (Chignik Lake stock) run bound for the Chignik system. Pink and chum management in the Eastern District will be based on the following management plan:

5 AAC 15.360. EASTERN DISTRICT SALMON MANAGEMENT PLAN. (a) The department shall open and close the Eastern District for commercial salmon fishing concurrently with the Chignik Bay and Central Districts. The department may close the Eastern District for the period between the first (Black Lake) and second (Chignik Lake) sockeye salmon runs.

ACE 9279840

(b) The department shall close the Eastern District on July 15 to allow evaluation of the strength of the pink and chum salmon runs.

(c) The department shall close the Eastern District if it is determined that the salmon being harvested in that district are from stocks that do not originate from spawning areas located in the Chignik Area.

The projected chum salmon harvest for Chignik waters is an estimated 120 thousand fish. Aerial surveys will be conducted to monitor the progress of chum salmon escapements in order to provide sufficient opportunity to harvest the surplus when the fish are in their best marketable condition. Area specific openings are possible and a 24 hour notice will be given prior to a commercial opening. Openings and closures will be broadcast over 4125 SSB and CH 6 VHF.

Processors within the Chignik Area and Kodiak based tenders that purchase fish from the Chignik salmon fleet, process these fish primarily for the fresh frozen market. Due to the higher quality standards for the frozen market there will be greater demands placed on management to harvest these fish in optimum condition. Management strategies will be adjusted to harvest fish as they migrate to their home streams, i.e. increased early fishing effort when a harvestable surplus is available. This is consistent with salmon management strategies for the remainder of the region.

Due to the economic and commercial importance of the Chignik sockeye salmon, the corresponding run timing and strength of the two sockeye salmon runs bound to the Chignik River systems, i.e.

ACE 9279841

Black Lake (Early Run) and Chignik Lake (Late Run) will directly impact commercial fishing time in the Eastern, Western and Perryville Districts.

If the strength of the early run (Black Lake) sockeye is weaker than forecast and the escapement goal of 400,000 through the Chignik River weir is not achieved, then the early July openings in all waters where sockeye would be intercepted will be curtailed. Commercial openings during the transition period between the two sockeye salmon runs (June 26 to July 9) will also be closely monitored to allow an adequate evaluation of the second run (Chignik Lake) strength to assure the escapement goal of 250,000.

COHO SALMON

Fall fisheries for late run sockeye and coho salmon will begin in mid August through mid September provided there is no conflict in achieving escapement goals for the late sockeye run to Chignik Lake. The coho salmon harvest in 1989 is projected to be 100,000. The majority of this harvest should come from Chignik Lagoon. The average coho harvest for the last 10 years is 160,000 fish.

Management of Chignik Bay District coho stocks will be similar to recent years. Management of smaller systems, particularly those in the Eastern District, will continue to be conservative to prevent overharvest during the initial openings of the Chignik Bay commercial coho fisheries.

TENDER AND PROCESSOR REPORTING REQUIREMENTS

a. 5AAC 15.355. The operator of a floating salmon processing vessel or tender, or a shorebased processing operation, and a company employing aircraft used for transporting salmon, shall report in person, or by radio or telephone, to a local represenative of the

ACE 9279842

department located in the management area of intended operation before the start of processing or buying operations. The report must include the location and the date of intended operation, and identify and describe each vessel or other method of transport employed in hauling or processing salmon.

b. All processors and tender operators will be required to report daily catch information to ADF&G. This can be accomplished either by radio (SSB) or telephone. The Chignik ADF&G office will stand by on 4125 SSB and VHF CH6 frequencies, between 0800 and 1000 hours and 2000 and 2200 hours. The call sign for Chignik is KGB 76 "Chignik Weir" and the telephone number is 845-2243. If unable to contact ADF&G Chignik, your catch information should be given to ADF&G Sandpoint or Kodiak via telephone or 4125 SSB. The call signs for Kodiak and Sandpoint are WHM 20 and WIM 77, respectively. Failure to report is a violation of commercial fishing regulation (5 AAC 27.590 (2)); vigorous enforcement of this regulation should be expected.

c. Individual code sheets will be given to each tender/processor for the purpose of reporting catch and statistical area of catch.

ACE 9279843

Table 1. Chignik River System sockeye salmon escapement goals for Black Lake (early) and Chignik Lake (late runs), by time period.

The numbers of fish presented in the escapement tables below were derived from averages over several years of escapements of various timing and magnitude. It should be noted that daily escapement levels will fluctuate considerably throughout the run. THE TABLES LISTED SERVE ONLY AS A GUIDE FOR ACHIEVING THE TOTAL ESCAPEMENT FOR EACH RUN. In-season variations from the figures listed may be due to variations in actual run timing and/or strength of the run.

EARLY RUN - 400,000 ESCAPEMENT

June 12	40,000
June 14	50 - 65,000
June 16	75 - 100,000
June 18	125 - 150,000
June 20	175 - 200,000
June 22	225 - 250,000
June 25	275 - 325,000
June 30	350 - 400,000

LATE RUN - 250,000 ESCAPEMENT

	EARLY ESCAPEMENT IS ACHIEVED	EARLY ESCAPEMENT IS NOT ACHIEVED
July 6	-	40,000
July 8	-	45 - 50,000
July 10	40,000	55 - 65,000
July 12	50 - 60,000	70 - 75,000
July 14	65 - 75,000	75 - 80,000
July 16	80 - 90,000	80 - 90,000
July 19	100 - 115,000	100 - 115,000
July 21	125 - 135,000	125 - 135,000
July 23	145 - 160,000	150 - 160,000
July 26	170 - 180,000	170 - 180,000
July 29	185 - 195,000	190 - 195,000
July 31	195 - 200,000	195 - 200,000

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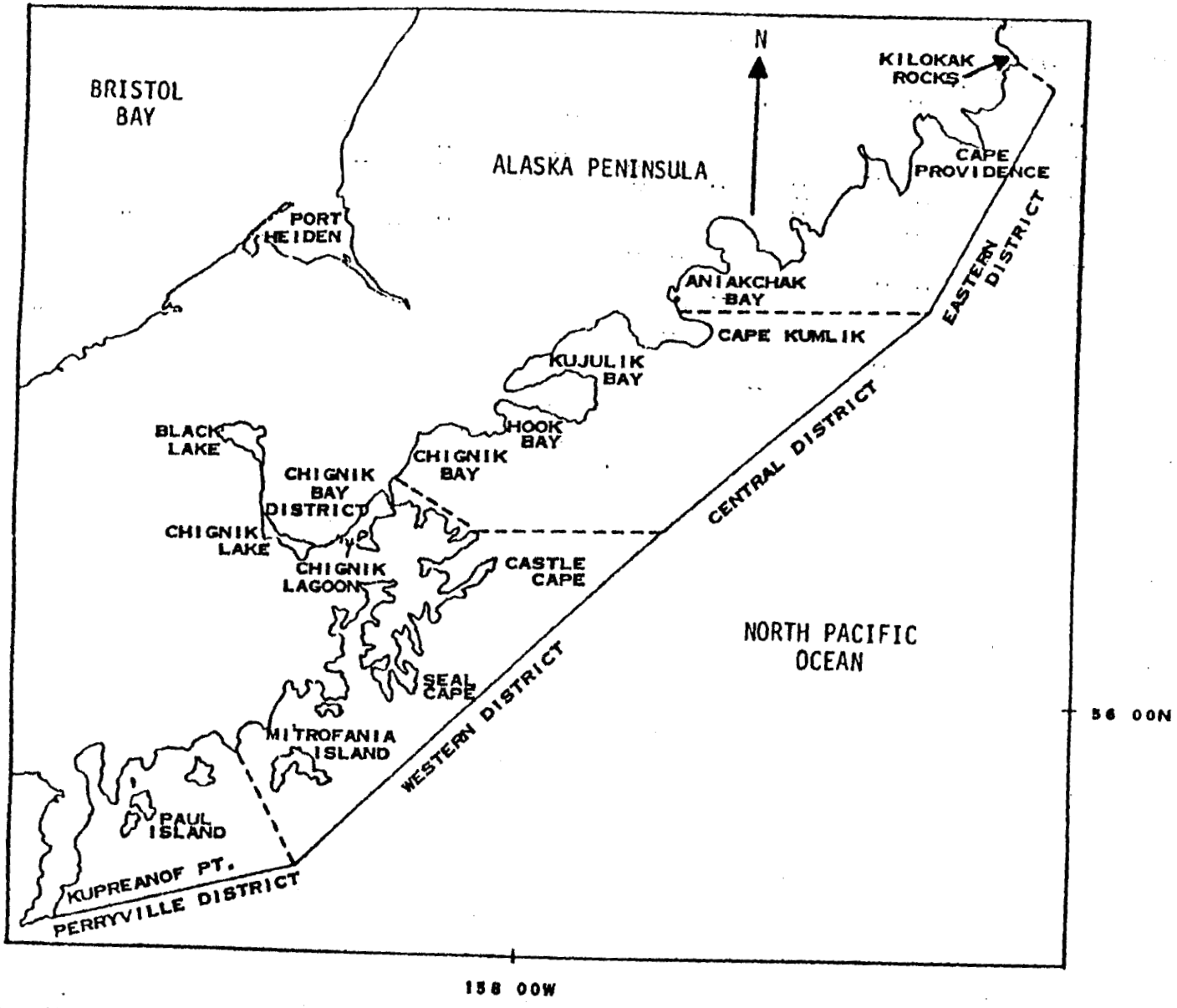

Figure 1. Map of the Chignik Management Area illustrating district boundaries, 1988.

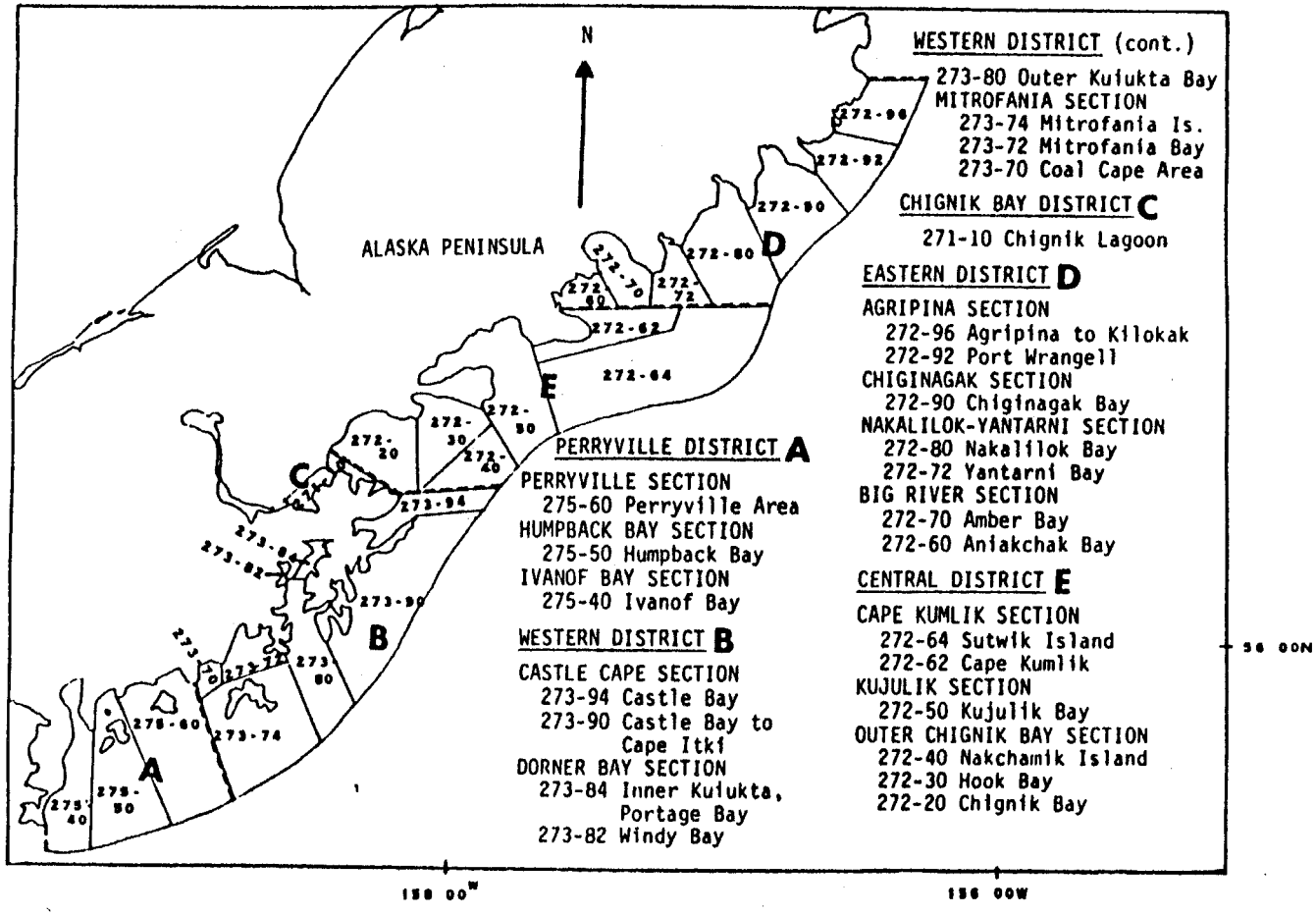

Figure 2. Map of the Chignik Management Area illustrating statistical areas, 1988.

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APPENDIX C

Emergency Order No 4-F-L-02-90

Effective Date: June 16, 1990

EXPLANATION:

The Eastern, Central and Chignik Bay Districts will be open to commercial salmon fishing from 9:00 A.M. Saturday June 16 until 9:00 A.M. Sunday June 17.

JUSTIFICATION:

The cumulative escapement through Chignik weir as of 8:00 A.M. June 15 was 109,658 sockeye salmon The escapement schedule calls for between 75 and 100 thousand sockeye salmon by June 16. The escapement requirements have been achieved and a commercial fishery to harvest fish surplus to spawning needs is warranted.

Emergency Order No. 4-F-L-03-90

Effective Date: June 22, 1990

EXPLANATION:

The Eastern, Central and Chignik Bay Districts will be open to commercial salmon fishing from 5:00 A.M. Friday June 22 until 5:00 A.M. Saturday June 23.

JUSTIFICATION:

The cumulative escapement through Chignik weir at 4:00 P.M. June 21 was 255,310 sockeye salmon. The escapement schedule for June calls between 225 and 250 thousand sockeye by June 22. Additionally, early results of a test fishery in progress indicate a moderate buildup in Chignik Lagoon. Therefore, a commercial fishery to harvest fish surplus to spawning requirement is warranted.

Emergency Order No. 4-F-L-04-90

Effective Date: June 22, 1990

EXPLANATION:

The Eastern, Central and Chignik Bay Districts will be open to commercial salmon fishing for an additional 24 hours until 5:00 A.M. Sunday June 24.

JUSTIFICATION:

The daily weir count for june 22 and 23 totaled 24,500 fish bringing the cumulative escapement to 298,294 sockeye salmon The

Emergency Order No. 4-F-L-07-90

Effective Date: July 6, 1990

EXPLANATION:

The Central and Chignik Bay Districts will close to commercial salmon fishing at 11:00 P.M. Friday July 6.

The Eastern, Western, and Perryville Districts will be open to commercial salmon fishing for 33 hours from 9:00 A.M. Friday July 6 until 6:00 P.M. Saturday July 7.

JUSTIFICATION:

The Central and Chignik Bay Districts were to remain open to commercial salmon fishing until further notice per E.O. 4-F-L-06-90 issued Thursday June 28, 1990. The first run escapement goal of 400,000 fish by June 30 has been achieved and scale data indicated catches were predominantly first run fish. In order to harvest sockeye first run surplus, the fishery was opened until further notice until intensive scale sampling ensured than an increase in the percentage of second run fish would be identified in time to respond to the July 10 interim escapement goal of 40,000 fish. A July 2 news release announcing the closure of the fishery at 11:00 P.M. Tuesday July 3 was cancelled due to an increase in catches on July 2. By July 5, average weights and age class composition indicated that the second run was comprising a much greater percentage of the run resulting in closure of the fishery at 11:00 P.M. Friday July 6.

The Eastern, Western and Perryville Districts will be opened for 33 hours beginning at 9:00 A.M. Friday July 6. This fishing period is scheduled to provide an early run strength assessment of local pink and chum salmon stocks. Pre-season harvest projections predict a greater than average pink salmon return and an average chum salmon return. Early catches indicate that the return of chum salmon may be greater than anticipated.

Emergency Order No. 4-F-L-08-90

Effective Date: July 11, 1990

EXPLANATION:

The Central and Chignik Bay Districts will be open to commercial salmon fishing for 48 hours from 6:00 A.M. Wednesday July 11 until 6:00 A.M. Friday July 13.

The Eastern, Western and Perryville Districts will be open to commercial salmon fishing for 72 hours from 12:01 a.M. Friday July 13 until 12:01 A.M. Monday July 16.

harvest of fish surplus to escapement requirements.

Emergency Order No. 4-F-L-11-90

Effective Date: July 16, 1990

EXPLANATION:

The Central and Chignik Bay Districts of the Chignik Management Area will remain open to commercial salmon fishing until 9:00 P.M. Wednesday July 18, 1990. The Western and Perryville Districts will remain open an additional 24 hours until 12:01 A.M. Tuesday July 17.

JUSTIFICATION:

The daily sockeye salmon harvest rate for July 12, 13, and 14 averaged 43,700 fish indicating a steady influx into the fishery. The second run sockeye escapement through July 14 was 100,300 fish. The interim escapement goal for July 19 is between 100 and 115 thousand fish. Since escapement requirements have been met and the catches indicate a steady influx of fish an extension to harvest fish surplus to spawning needs is necessary. Waters of Kujulik Bay will be closed until aerial surveys indicate that the chum salmon escapements are progressing as anticipated. Current surveys revealed an unknown number of chum salmon in Kujulik Bay but no fish in the streams.

The western and Perryville Districts will be extended an additional 24 hours to provide a more accurate assessment of pink and chum salmon run strength. The current fishing has been hampered by poor weather conditions and low levels of effort. An additional day may provide better information with which to evaluate local salmon run strength.

Emergency Order No. 4-F-L-12-90

Effective Date: July 21, 1990

EXPLANATION:

The Western and Perryville Districts will open to commercial salmon fishing from 6:00 A.M. Saturday July 21 until 10:00 P.M. Monday July 23.

JUSTIFICATION:

A fishery is necessary in the Western and Perryville Districts to assess pink and chum salmon run strength. Aerial surveys revealed a moderate buildup of chum salmon in Ivanof Bay with 11,000 in Ivanof River. Fish were beginning to show in other Western and Perryville District streams although not in the numbers observed

EXPLANATION:

The current fishing period i' the Central and Chignik Bay Districts will be extended until further notice.

Closed waters for this period will remain the same as previously described.

JUSTIFICATION:

The second run sockeye escapement for the month of July is 200,000 fish. Through July 22 the escapement was 193,600 fish and it appears that by the end of today (July 23) the 200,000 fish escapement goal will be achieved. Therefore, in order to harvest fish surplus to escapement needs, the commercial fishery will be open until further notice.

Aerial surveys of Kujulik Bay streams indicate that chum salmon escapements may be lagging behind schedule. Closed water adjustment in Kujulik Bay is necessary to protect chum salmon stocks while allowing harvest of sockeye in the remainder of the Central District.

Emergency Order No. 4-F-L-16-90

Effective Date: August 4, 1990

EXPLANATION:

The Eastern, Western and Perryville Districts will be open to commercial salmon fishing from 6:00 A.M. Saturday August 4 until 10:00 P.M. Sunday August 5.

The closed waters for Kujulik Bay will be reduced to waters described in the 1990 commercial finfish regulation book.

JUSTIFICATION:

The preseason forecast for pink and chum salmon stocks in the Eastern, Western and Perryville Districts indicated a strong return. To date, harvests in these districts have been low which suggests a late run timing or a return of much less volume than predicted. Aerial surveys indicate that some systems are at or above escapement levels desired for this time while others are lagging behind expected escapement schedules. It is necessary to have a short commercial fishery to provide further insight into the timing and run strength of the local pink and chum stocks.

Emergency Order No. 4-F-L-17-90

Effective Date: August 10, 1990

EXPLANATION:

The Eastern District will be open to commercial salmon fishing from 8:00 A.M. Monday September 3 until 8:00 P.M. Wednesday September 5.

JUSTIFICATION:

Pink and chum salmon escapements for the Eastern, Western and Perryville Districts have, for the most part, entered their natal streams and are not vulnerable to a commercial fishery. The scheduled three day fishing period per week is justified to allow harvest of local coho salmon stocks while also allowing for escapement.

Emergency Order No. 4-F-L-20-90

Effective Date: September 10, 1990

EXPLANATION:

The Western, Perryville and Eastern Districts will be open to commercial salmon fishing from 8:00 A.M. Monday until 8:00 P.M. Wednesday.

JUSTIFICATION:

Pink and chum salmon escapements have, for the most part, entered their natal streams and are not available for commercial harvest. The catches in the Central District reflect an increase in the coho salmon harvest. To provide commercial fishermen an opportunity to harvest coho salmon in Eastern District waters it is necessary for a commercial opening at this time.

APPENDIX D

Appendix D.1. 1990 salmon regulations.

CHIGNIK AREA

CHAPTER 15.—CHIGNIK AREA

ARTICLE 1.—DESCRIPTION OF AREA

5 AAC 15.001. APPLICATION OF THIS CHAPTER. Requirements set forth in this chapter apply to commercial fishing only, unless otherwise specified. Subsistence fishing regulations affecting commercial fishing vessels or affecting any other commercial fishing activity are set forth in the subsistence fishing regulations in 5 AAC 01 and 5 AAC 02.

5 AAC 15.100. DESCRIPTION OF AREA. The Chignik Area includes all waters of Alaska on the south side of the Alaska Peninsula enclosed by 156°20'13" W.long., (the longitude of the southern entrance to Imuya Bay near Kilokak Rocks) and a line extending 135° southeast from Kupreanof Point.

ARTICLE 2.—FISHING DISTRICTS

5 AAC 15.200. FISHING DISTRICTS. (a) The Eastern District includes all waters from the southernmost marker 500 yards from the mouth of Aniakchak Lagoon to the eastern boundary of the Chignik area

(1) Agripina Section: all waters between Kilokak Rocks at 57°11'22" N.lat., 156°20'13" W.long., and Cape Providence at 56°58'40" N.lat., 156°33'28" W.long.;

(2) Chiginagak Section: all waters between Cape Providence at 56°58'40" N.lat., 156°33'28" W.long., and Cape Kuyuyukak at 56°53'54" N.lat., 156°49'43" W.long.;

(3) Nakalilok-Yantarni Section: all waters between Cape Kuyuyukak at 56°53'54" N.lat., 156°49'43" W.long., and Cape Kunmik at 56°45'53" N.lat., 157°11'53" W.long.;

(4) Big River Section: all waters of Amber and Aniakchak Bays bounded by 157°11'53" W.long., and the latitude of the southernmost marker 500 yards from the mouth of Aniakchak Lagoon;

(b) The Chignik Bay District includes all waters of Chignik Bay and Lagoon west of a line from a point near Jack Bay at 56°18'17" N. lat., 158°14'54" W. long., to Neketa Creek at 56°24'10" N.lat., 158°27'37" W.long.

(c) The Western District includes all waters south and west of Jack point at 56°17'32" N.lat., 158°11'56" W.long., excluding the waters of Chignik Lagoon, to Coal Cape at 55°53'28" N.lat., 159°00'20" W.long.

(1) Castle Cape Section: all waters between Jack Point at 56°17'32" N.lat., 158°11'56" W.long. and Cape Ikti at 55°58'45" N.lat., 158°30' W.long.;

(2) Dorner Bay Section: all waters between Cape Ikti at 55°58'45" N.lat., 158°30' W.long., and a point on the west side of Dorner (Kuiukta) Bay's entrance at 55°57' N.lat., 158°40' W.long.;

CHIGNIK AREA

5 AAC 15.332. SEINE SPECIFICATIONS AND OPERATION. (a) In the Eastern, Central, Western and Perryville Districts, no purse seine less than 100 fathoms or more than 225 fathoms in length may be used.

(b) In the Eastern, Central, Western and Perryville Districts, hand purse seines may not be less than 100 fathoms or more than 225 fathoms in length.

(c) In the Chignik Bay District, purse seines and hand purse seines may not be less than 100 fathoms or more than 125 fathoms in length.

(d) No seine may be less than three fathoms in depth.

(e) No lead may be more than 75 fathoms in length. The aggregate length of seine and lead may not be more than 225 fathoms in the Eastern, Central, Western and Perryville Districts.

(f) When a purse seine or hand purse seine is in the water for the purpose of taking fish, the seine shall be attached to the licensed vessel operating the gear.

5 AAC 15.350. CLOSED WATERS. Salmon may not be taken in the following waters:

(1) Chignik Lagoon

(A) southwest of a line from the tip of Hume Point to the north side of Chignik Island (56°17'25" N.lat., 158°35'30" W.long.);

(B) Mallard Duck Bay: southwest of a line from the tip of Green Point to Chignik Island (56°16'38" N.lat., 158°34'54" W.long.);

(2) Kilokak Rocks Bay: northwest of a line from the southern entrance of the bay at 57°09'50" N.lat., 156°20'40" W.long., then to the opposite shore 500 yards northeast of the mouth of Kilokak Rocks Creek at 57°10'07" N.lat., 156°20'40" W.long.;

(3) Agripina River: west of a line from 57°06'46" N.lat., 156°28' W.long., to 57°06'35" N.lat., 156°28'30" W.long.;

(4) Chiginagak Bay: north of a line from 57°00'33" N.lat., 156°45'38" W.long., to 57°01'48" N.lat., 156°41'51" W.long.;

(5) Nakalilok Lagoon: the lagoon and within 500 yards of the entrance;

(6) Yantarni Lagoon: the lagoon and within 500 yards of the entrance;

(7) Aniakchak River: northwest of a line from approximately 500 yards northeast of the mouth at 56°45'43" N.lat., 157°28'46" W.long., to a marker on the southern tip of the island directly off the mouth and then to approximately 1,000 yards southwest of the mouth at 56°45'20" N.lat., 157°31' W.long.;

(8) Aniakchak Lagoon: the lagoon and within 500 yards of the entrance;

CHIGNIK AREA

currently with the Chignik Bay and Central Districts. The department may close the Eastern District for the period between the first (Black Lake) and second (Chignik Lake) sockeye salmon runs.

(b) The department shall close the Eastern District on July 15 to allow evaluation of the strength of the pink and chum salmon runs.

(c) The department shall close the Eastern district when it determines that the salmon being harvested in that district are from stocks that do not originate from spawning areas located in the Chignik Area.

APPENDIX E

FORECAST AREA: Chignik Management Area

PRELIMINARY 1990 SEASON SUMMARY

Sockeye Return

Total Escapement: 712,638[1] + 57,772[2] = 770,410
Chignik Harvest: 2,093,650
Igvak Harvest (Chignik origin): 132,404[3]
Stepovak Harvest (Chignik origin): 216,946[3]

Total Return: 3,213,410

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1 Weir counts
2 Estimated escapement after weir was removed
3 Catches for entire season

PRLIMINARY FORECAST OF THE 1991 RETURN

Early Run (Black Lake stocks)	Point	80% Prediction Range
Escapement Goal:	400,000	
Harvest Estimate:	2,363,300	
Return Estimate:	2,763,300	2.34 to 3.18 million

Late Run (Chignik Lake stocks)	Point	80% Prediction Range
Escapement Goal:	250,000	
Harvest Estimate:	890,000	
Return Estimate:	1,140,000	0.91 to 1.37 million

Total Chignik Run	Point	80% Prediction Range
Escapement Goal:	650,000	
Harvest Estimate:	3.25 million	
Return Estimate:	3.90 million	3.12 to 4.68 million

FORECAST METHODS:

The estimated return to Black Lake provided above is the summation of the predicted returns of two and three ocean sockeye while the Chignik Lake returns are calculated using all contributing age classes.

CHIGNIK 1991 SALMON HARVEST PROJECTIONS

Chinook[1]	Sockeye[2]	Coho[3]	Pink[4]	Chum	Total
3,500	3.25 million	125,000	1.20 million	90,000	4.66 million

1 The 1991 harvest is dependent upon the amount of fishing time allowed for sockeye salmon in July.

2 Total sockeye harvest including fish allocated to the Cape Igvak and Balboa/Stepovak intercept fisheries.

3 The harvest of coho salmon is related to the Chignik Lake sockeye salmon run strength.

4 The pink salmon forecast is driven by the escapements to the Central and Eastern districts (69 percent). Unstable stream conditions in these districts have resulted in poor returns from excellent parent year escapements. Results of pre-emergent studies indicate that survival in Western District streams was below historical averages.

APPENDIX F

Appendix F.1. Total sockeye salmon return to Black Lake by brood year and age, 1915 - 1990.

		Age Class														
Year	Parent Escapement	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Other	Total	Return Per Spawner
1915											1,202	1,202			2,404	
1916									9,315	68,559	37	15	0		77,926	
1917							318,491	20,666	576	18,747	0	0	0	0	358,480	
1918				0	12,960	0	43,803	6,984	0	49,097	0	0	138	0	112,982	
1919		0	0	0	15,073	0	92,073	28,499	16	74,062	30	0	324	0	210,077	
1920		0	0	0	63,251	0	422,288	28,279	0	111,422	6,511	0	273	0	632,024	
1921		0	0	0	122,550	0	258,628	113,493	5,873	255,927	0	0	0	0	756,471	
1922	86,421	0	0	0	40,685	0	659,040	56,121	0	202,612	2,465	1,222	1,669	0	963,81[illegible]	11.2
1923	4,642	0	0	0	18,213	0	172,343	53,445	2,677	132,776	410	436	59	0	380,35[illegible]	81.9
1924	121,983	0	0	0	85,083	0	1,206,555	8,855	426	19,931	939	384	384	0	1,322,557	10.8
1925	386,364	0	0	0	1,529	0	54,164	9,924	384	50,707	937	17	0	0	117,662	0.3
1926	289,009	0	0	0	7,544	420	104,094	45,572	11,714	352,025	7,117	0	1,708	0	530,194	1.8
1927	857,881	0	0	0	99,929	66	2,375,878	85,253	721	107,239	165	3,699	4,234	0	2,677,184	3.1
1928	507,353	0	0	0	23,860	0	304,338	49,284	9,848	428,369	2,755	409	2,118	0	820,981	1.6
1929	995,832	0	0	0	9,910	0	918,487	58,777	5,626	60,214	865	144	144	0	1,054,167	1.1
1930	92,955	0	0	0	23,769	0	286,339	13,886	6,663	43,297	3,527	4	0	0	377,485	4.1
1931	96,201	0	0	0	33,685	943	923,763	46,710	28	122,389	0	655	58	0	1,128,231	11.7
1932	2,151,734	0	0	0	50,602	0	191,354	36,823	10,350	43,060	291	8,584	234	0	341,298	0.2
1933	223,913	0	0	0	62,079	0	247,818	7,609	138,675	164,540	0	625	54	0	621,400	2.8
1934	866,890	0	0	0	16,228	4	1,583,632	6,057	9,886	40,971	276	1,299	113	0	1,658,466	1.9
1935	194,636	0	10	0	68,710	0	235,971	7,188	20,562	85,058	572	1,508	130	0	419,709	2.2
1936	548,039	0	0	0	15,422	3	490,061	14,873	23,865	98,553	661	2,346	201	0	645,985	1.2
1937	205,613	0	9	0	32,001	7	567,984	17,179	37,146	153,156	1,026	960	82	0	809,550	3.9
1938	175,972	0	19	0	37,059	7	882,938	26,618	15,193	62,552	418	706	60	0	1,025,570	5.8
1939	1,142,852	0	22	0	57,563	12	360,712	10,840	11,171	45,926	307	2,470	209	0	489,232	0.4
1940	176,307	0	35	0	23,499	5	264,904	7,938	39,130	160,651	1,070	7,513	634	0	505,379	2.9
1941	374,420	0	14	0	17,246	3	926,890	27,697	119,048	488,137	3,247	1,196	101	0	1,583,579	4.2
1942	442,981	0	11	0	60,302	12	2,817,023	83,954	18,948	77,598	515	684	58	0	3,059,105	6.9
1943	701,859	0	36	0	183,156	37	447,919	13,315	10,839	44,522	297	499	38	0	700,658	1.0
1944	291,844	0	111	0	29,106	6	256,848	7,683	7,947	31,664	203	482	43	0	334,093	1.1
1945	217,882	0	18	0	16,715	3	183,734	5,143	7,619	31,784	216	275	27	0	245,534	1.1
1946	774,130	0	10	0	11,775	2	182,835	5,644	4,307	18,686	133	707	64	0	224,163	0.3
1947	2,386,733	0	7	0	11,988	2	106,718	3,550	11,150	46,809	320	525	43	0	181,112	0.1
1948	384,637	0	7	0	7,129	1	268,953	8,407	8,346	33,877	223	352	0	0	327,295	0.9
1949	213,269	0	4	0	17,688	4	195,878	5,713	0	89,095	0	0	152	0	308,534	1.4
1950	206,270	0	11	0	12,671	3	287,407	12,644	1,862	76,722	648	373	286	0	392,627	1.9
1951	125,126	0	8	0	46,798	0	448,360	3,404	2,319	124,345	0	455	0	0	625,689	5.0
1952	34,155	0	0	0	4,390	0	137,957	3,423	208	81,691	0	639	2,512	0	230,820	6.8
1953	168,375	0	0	0	1,024	32	154,589	17,848	1,625	180,887	252	0	1,350	0	357,607	2.1
1954	184,953	0	143	0	6,468	0	50,272	10,720	515	72,973	9	312	1,009	0	142,421	0.8
1955	256,757	0	783	0	30,302	0	430,793	3,476	339	88,693	109	0	0	0	554,495	2.2
1956	289,096	0	17	0	16,499	0	81,569	14,910	9	90,001	0	196	4,967	0	208,168	0.7

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Appendix F.1. (page 2 of 2)

Year	Parent Escapement	Age Class 0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Other	Total	Return Per Spawner
1957	192,479	0	0	0	6,559	161	117,979	10,507	52	210,686	3,641	21	906	0	350,5[illegible]	1.8
1958	120,862	0	905	0	19,146	0	79,955	81,992	0	60,132	77	61	103	0	242,370	2.0
1959	112,226	0	1,522	0	31,039	142	148,403	13,872	402	144,581	874	58	54	0	340,947	3.0
1960	251,567	0	124	0	55,546	221	610,592	32,598	6,221	65,418	49	606	3,383	0	774,756	3.1
1961	140,714	0	276	0	14,301	1	387,053	3,483	536	164,278	486	1,020	209	0	571,645	4.1
1962	167,602	0	698	0	8,379	0	257,371	25,726	3,194	395,626	1,524	954	0	0	693,473	4.1
1963	332,536	0	0	0	29,538	173	448,298	17,628	905	199,104	0	2,506	551	0	698,703	2.1
1964	137,073	0	37	0	13,311	3,735	190,972	133,203	3,809	409,973	414	0	271	0	755,726	5.5
1965	307,192	0	394	0	102,570	421	1,535,858	80,851	3,332	201,220	271	497	22,731	0	1,948,144	6.3
1966	383,545	0	1,631	0	65,254	378	990,567	15,248	2,193	225,660	28	0	2,504	0	1,303,463	3.4
1967	328,000	0	2,728	0	16,157	163	99,357	6,078	13,406	96,629	1,537	0	0	0	236,054	0.7
1968	342,343	0	271	0	12,997	0	971,408	4,519	2,163	161,664	1,960	0	1,663	0	1,156,644	3.4
1969	366,589	0	0	0	12,747	153	279,429	63,258	1,313	84,120	486	0	2,251	0	443,757	1.2
1970	536,257	0	0	0	17,281	261	195,050	8,163	4,614	192,247	621	0	3,698	0	421,934	0.8
1971	671,668	0	569	0	22,138	0	800,515	67,483	3,873	454,039	385	264	6,763	0	1,356,029	2.0
1972	326,320	0	0	0	31,630	0	423,794	16,474	3,195	587,997	4,596	831	2,564	0	1,071,082	3.3
1973	533,047	0	0	0	19,627	0	753,970	121,231	0	324,538	1,425	511	1,812	0	1,223,113	2.3
1974	351,701	0	51	0	50,797	334	123,590	117,544	116	305,094	551	452	2,727	0	601,256	1.7
1975	308,914	0	0	0	19,977	1,826	71,732	55,434	1,010	447,233	1,057	396	34	2,437	601,137	1.9
1976	551,254	0	520	0	44,085	88	669,395	24,810	816	135,036	0	0	334	11,778	886,860	1.6
1977	482,247	0	102	0	59,211	389	1,687,898	12,701	6,990	337,281	0	3,492	1,655	44,852	2,154,571	4.5
1978	458,660	0	235	0	55,123	3,060	448,274	61,734	6,664	354,902	0	0	210	15,138	945,339	2.1
1979	385,694	0	1,241	0	533,050	671	3,195,846	57,155	4,133	68,046	223	422	805	1,350	3,862,941	10.0
1980	311,332	0	255	120,421	99,989	1,187	641,668	151,574	1,503	741,614	2,098	943	1,113	4,847	1,767,213	5.7
1981	438,540	0	532	0	155,923	1,112	938,072	75,567	4,289	664,383	510	1,112	259	2,819	1,844,578	4.2
1982	616,117	0	121	0	172,993	2,021	1,627,753	134,483	2,133	391,690	0	394	0	194	2,331,780	3.8
1983	426,177	0	0	19,136	79,674	3,905	209,772	37,475	285	211,457	2	3,596	586	466	565,767	1.3
1984	597,712	478	2,279	1,225	46,148	2,194	324,901	42,078	2,605	210,908	1,216			0		
1985	377,516	156	501	510	36,677	638	376,202	73,568						700		
1986	566,088	384	1,517	6,384	342,057											
1987	589,291	2,325	2,214													
1988	420,577															
1989	384,004															
1990	434,543															

Appendix F.2. Total sockeye salmon return to Chignik Lake by brood year and age class, 1915 - 1990.

Year	Parent Escapement	Age Class 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	Other	Total Return	Return Per Spawner
1915													4,514	4,514		9,028	
1916										11,874	690,450	9,120	2,007	0	0	713,451	
1917							339,637	149,163	0	296	274,036	0	0	0	0	763,132	
1918				0	44,358	0	201,318	195,611	0	0	999,888	0	2,948	2,966	0	1,447,089	
1919		0	0	0	100,404	2,425	243,024	286,119	0	2,492	423,094	8,270	0	5,828	0	1,071,656	
1920		0	0	0	148,914	0	435,826	137,704	0	2,509	300,319	20,713	0	1,567	0	1,047,552	
1921		0	0	0	101,251	0	216,728	278,711	0	4,085	193,620	2,245	955	3,396	0	800,991	
1922	352,807	0	0	0	43,667	0	382,956	73,351	0	0	991,979	14,972	2,886	4,175	0	1,513,986	4.29
1923	213,781	0	0	0	74,884	218	410,194	245,187	0	2,360	577,390	1,111	1,647	2,376	0	1,315,367	6.15
1924	910,521	0	0	0	126,685	1,819	1,003,422	8,350	0	1,115	102,217	5,830	425	55	0	1,249,918	1.37
1925	677,566	0	0	0	3,736	0	51,222	195,414	0	332	427,580	7,817	5,367	456	0	691,924	1.02
1926	695,314	0	0	0	25,764	919	279,018	304,619	273	3,461	879,220	3,821	55	2,246	0	1,499,396	2.16
1927	429,525	0	207	0	113,952	1,499	951,950	100,633	0	744	203,942	1,586	1,225	5,557	0	1,381,295	3.22
1928	1,020,520	0	0	0	40,063	0	353,506	77,224	0	12,047	300,603	3,129	1,042	1,618	0	789,232	0.77
1929	914,307	0	0	0	16,254	0	584,561	38,873	253	5,675	361,557	1,165	2,192	1,251	0	1,011,781	1.11
1930	359,405	0	0	0	26,688	0	426,128	41,867	0	6,177	344,419	16,565	2,065	0	0	863,909	2.40
1931	631,986	0	0	0	30,856	2,454	296,899	138,440	0	3,747	264,858	0	2,678	635	0	740,567	1.17
1932	1,113,859	0	0	0	24,809	0	475,759	46,764	0	8,530	185,288	2,049	13,674	1,502	0	758,375	0.68
1933	310,088	0	0	0	35,679	0	311,946	35,705	0	48,795	321,467	0	1,267	301	0	755,160	2.44
1934	447,642	0	0	0	19,716	90	708,212	33,934	0	4,066	88,027	969	4,299	1,026	0	860,339	1.92
1935	462,469	0	69	0	37,642	308	148,352	16,893	0	13,842	299,288	3,284	4,082	976	0	524,736	1.13
1936	376,838	0	0	0	9,342	43	504,624	57,326	0	13,186	284,707	3,117	9,326	2,233	0	883,904	2.35
1937	406,618	0	33	0	31,723	145	480,250	54,435	0	30,220	651,642	7,116	2,664	639	0	1,258,867	3.10
1938	305,827	0	111	0	30,143	137	1,099,657	124,382	0	8,660	186,504	2,032	1,128	270	0	1,453,024	4.75
1939	512,754	0	106	0	68,919	315	314,851	35,542	0	3,674	79,035	859	5,420	1,305	0	510,026	0.99
1940	152,957	0	244	0	19,705	90	133,474	15,039	0	17,705	380,481	4,130	10,049	2,422	0	583,339	3.81
1941	531,904	0	70	0	8,342	38	642,782	72,293	0	32,912	706,532	7,654	2,225	537	0	1,473,385	2.77
1942	516,621	0	30	0	40,124	183	1,194,007	134,060	0	7,305	156,659	1,695	4,662	1,112	0	1,539,837	2.98
1943	1,205,418	0	143	0	74,442	340	264,830	29,686	0	15,007	324,527	3,562	5,405	1,321	0	719,263	0.60
1944	351,212	0	266	0	16,492	75	547,139	62,179	0	18,110	385,087	4,101	2,886	711	0	1,037,046	2.95
1945	151,326	0	59	0	34,405	157	652,782	72,138	0	9,784	207,054	2,186	1,246	315	0	980,126	6.48
1946	739,884	0	121	0	40,246	183	351,541	38,531	0	4,401	91,579	937	1,531	371	0	529,441	0.72
1947	1,393,990	0	147	0	21,549	98	156,343	16,644	0	5,048	108,068	1,165	1,316	333	0	310,711	0.22
1948	313,319	0	80	0	9,390	42	182,792	20,430	0	4,658	96,858	989	826	0	0	316,065	1.01
1949	574,715	0	36	0	11,360	52	165,402	17,581	0	1,766	103,345	0	496	650	0	300,688	0.52
1950	861,070	0	41	0	9,924	45	199,966	31,411	0	2,206	245,826	407	2,903	1,820	0	494,549	0.57
1951	490,899	0	38	0	33,082	0	618,729	13,748	0	7,046	242,042	0	1,028	0	0	915,713	1.87
1952	260,540	0	0	0	22,213	0	258,747	30,836	0	986	229,563	0	3,932	8,403	0	554,680	2.13
1953	221,408	0	0	0	9,167	428	125,399	32,350	0	470	396,916	1,935	934	5,424	0	573,023	2.59
1954	277,912	0	547	0	2,848	0	39,658	75,361	0	771	418,442	804	1,661	5,069	0	545,161	1.96
1955	201,409	0	369	0	32,187	0	303,988	32,708	0	168	363,162	1,252	0	0	0	7[illegible]834	3.64
1956	483,024	0	1,330	0	12,515	0	106,327	36,113	0	435	221,169	0	1,349	4,781	0	384,019	0.80
1957	328,779	0	0	0	17,746	622	232,393	109,475	0	351	332,661	2,104	1,189	1,319	0	697,860	2.12

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Apppendix F.2. (page 2 of 2)

Year	Parent Escapment	Age Class 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	Other	Total Return	Return Per Spawner
1958	212,594	0	1,459	0	50,630	0	23,204	139,797	0	0	418,960	980	93	432	0	635,555	2.99
1959	308,645	0	3,286	0	18,094	907	109,165	81,640	227	117	197,975	738	689	187	0	413,023	1.34
1960	357,230	0	146	0	24,446	491	122,278	8,273	0	1,314	210,884	141	1,618	12,824	0	382,415	1.07
1961	254,970	0	718	0	1,899	799	109,935	18,702	0	220	401,733	2,698	5,335	2,420	0	544,458	2.14
1962	324,860	0	123	0	4,312	0	44,074	69,811	0	998	692,188	1,074	1,109	0	0	813,689	2.50
1963	200,314	0	0	0	5,536	1,300	103,116	68,605	0	29	243,939	0	1,501	867	0	424,894	2.12
1964	166,625	0	88	0	6,607	4,550	24,880	65,639	0	700	138,282	943	205	6,114	0	248,007	1.49
1965	163,151	0	1,636	0	25,157	5,547	159,113	57,942	0	382	650,181	1,028	716	104,407	0	1,006,110	6.17
1966	183,525	0	1,715	0	14,517	925	300,759	30,263	0	501	449,527	2,665	0	18,073	0	818,944	4.46
1967	189,000	0	501	0	6,187	768	85,067	33,781	0	701	482,538	2,780	1,409	0	0	613,732	3.25
1968	244,836	0	914	0	4,166	0	115,840	20,435	339	668	612,758	16,385	2,691	30,092	0	804,287	3.29
1969	132,055	0	0	0	1,239	1,062	89,327	284,545	297	818	487,805	7,288	0	16,722	0	889,104	6.73
1970	119,952	0	0	0	19,148	12,638	27,646	151,089	0	1,318	461,271	12,205	0	19,870	0	705,186	5.88
1971	232,501	0	1,575	0	15,448	12,620	185,532	410,628	0	236	1,898,372	4,096	2,842	13,887	0	2,545,236	10.95
1972	231,270	0	0	0	30,087	2,445	120,639	96,178	0	98	718,493	30,779	267	3,698	0	1,002,684	4.34
1973	247,144	0	0	0	5,778	10,740	56,736	173,028	0	0	919,784	3,852	1,248	4,756	0	1,175,921	4.76
1974	364,612	0	4,420	0	19,284	2,764	105,493	196,981	0	51	677,611	2,036	2,316	9,262	2,703	1,022,922	2.81
1975	314,084	0	0	0	24,550	7,125	123,634	185,390	0	914	859,629	3,573	6,449	2,334	7,609	1,221,206	3.89
1976	341,828	0	1,103	0	59,255	807	775,826	94,346	0	2,484	499,554	0	3,117	10	5,083	1,441,585	4.22
1977	463,561	0	252	0	52,795	3,975	155,472	59,987	0	1,958	1,207,619	0	2,034	789	7,477	1,492,357	3.22
1978	263,009	0	422	0	16,755	5,822	259,993	318,606	0	686	278,532	490	1,752	176	239	883,474	3.36
1979	317,889	0	2,029	0	102,991	5,057	281,909	28,124	0	1,235	278,237	388	1,469	784	3,223	705,446	2.22
1980	279,729	0	1,794	8,287	13,217	6,060	156,838	320,949	0	632	448,135	3,096	830	1,070	1,189	962,098	3.44
1981	301,092	0	1,116	0	88,980	5,093	232,004	74,324	0	664	370,421	151	649	74	35	773,511	2.57
1982	305,193	0	2,542	0	51,480	3,199	194,469	108,490	0	740	582,904	160	1,383	0	301	945,668	3.10
1983	441,561	0	0	2,715	12,125	3,824	148,143	109,807	0	208	1,105,502	807	11,621	76	0	1,394,829	3.16
1984	268,496	120	914	552	30,409	10,724	150,188	324,007	0	2,480	1,638,859	1,743			597		
1985	369,262	98	689	207	18,638	16,398	174,283	161,966	0								
1986	207,231	104	2,743	13,060	179,104	321											
1987	214,452	6,253	686														
1988	255,180																
1989	557,171																
1990	335,867																

APPENDIX G

Appendix G.1. 1990 herring regulations.

ARTICLE 9.—STATISTICAL AREA L

CHIGNIK AREA.

5 AAC 27.550. DESCRIPTION OF AREA. Statistical Area L includes all waters on the south side of the Alaska Peninsula enclosed by 156°20'13" W. long. (the longitude of the southern entrance to Imuya Bay near Kilokak Rocks) and a line extending southeast (135°)from the southernmost tip of Kupreanof Point.

5 AAC 27.555. DESCRIPTION OF DISTRICTS. Districts are as described in 5 AAC 15.200.

5 AAC 27.560. FISHING SEASONS AND WEEKLY FISHING PERIODS. (a) Herring may be taken from April 15 through June 30 (sac roe season) and from August 15 through February 28 (food and bait season).

(b) Herring may be taken only during periods established by emergency order.

5 AAC 27.565. GEAR. (a) Herring may be taken only by purse seines.

(b) A herring fishing vessel may operate or assist in operating only one legal limit of herring fishing gear in the aggregate.

(c) Unhung gear sufficient for mending purposes may be carried aboard fishing vessels.

(d) Herring fishing nets shall be measured, either wet or dry, by determining the maximum length of cork line when the net is fully extended with traction applied at one end only.

(e) The interim-use or entry permit holder is responsible for operation of the net.

(f) The use of leads with any net gear used for commercial herring fishing is prohibited during the herring sac roe season.

5 AAC 27.575. SEINE SPECIFICATIONS AND OPERATIONS. No purse seine may be more than 1,000 meshes in depth or more than 100 fathoms in length.

5 AAC 27.580. WATERS CLOSED TO HERRING FISHING. During the period June 12 through October 31, herring may not be taken in waters described in 5 AAC 15.350 and 5 AAC 39.290.

5 AAC 27.590. BUYER AND TENDER REPORTING REQUIREMENTS. In addition to the requirements of 5 AAC 39.130(f) each tender operator and each buyer or his agents shall report in person to and register with a local representative of the department upon arrival in the statistical area before commencing operations and before changing location of the operation. Each buyer shall:

(1) identify all vessels to be employed in transporting or processing herring and shall register such vessels with a local representative of the department located in the statistical area before transporting or processing herring;

(2) make daily reports of all herring purchased from fishermen, and other processing records as specified by a local representative of the department, and

(3) submit fish tickets before departure from the area and no later than 10 days after termination of buying operations in the area, or as otherwise specified by a local representative of the department.

APPENDIX H

CHIGNIK MANAGEMENT AREA
HERRING SAC-ROE FISHERY
MANAGEMENT PLAN 1990

By: Mike Thompson and Jeff Fox

REGIONAL INFORMATION REPORT[1] NO. 4K90-16

Alaska Department of Fish and Game
Division of Commercial Fisheries, Westward Region
211 Mission Road
Kodiak, AK 99615

April 1990

[1] The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate needs for up-to-date information reports in this series may contain preliminary data.

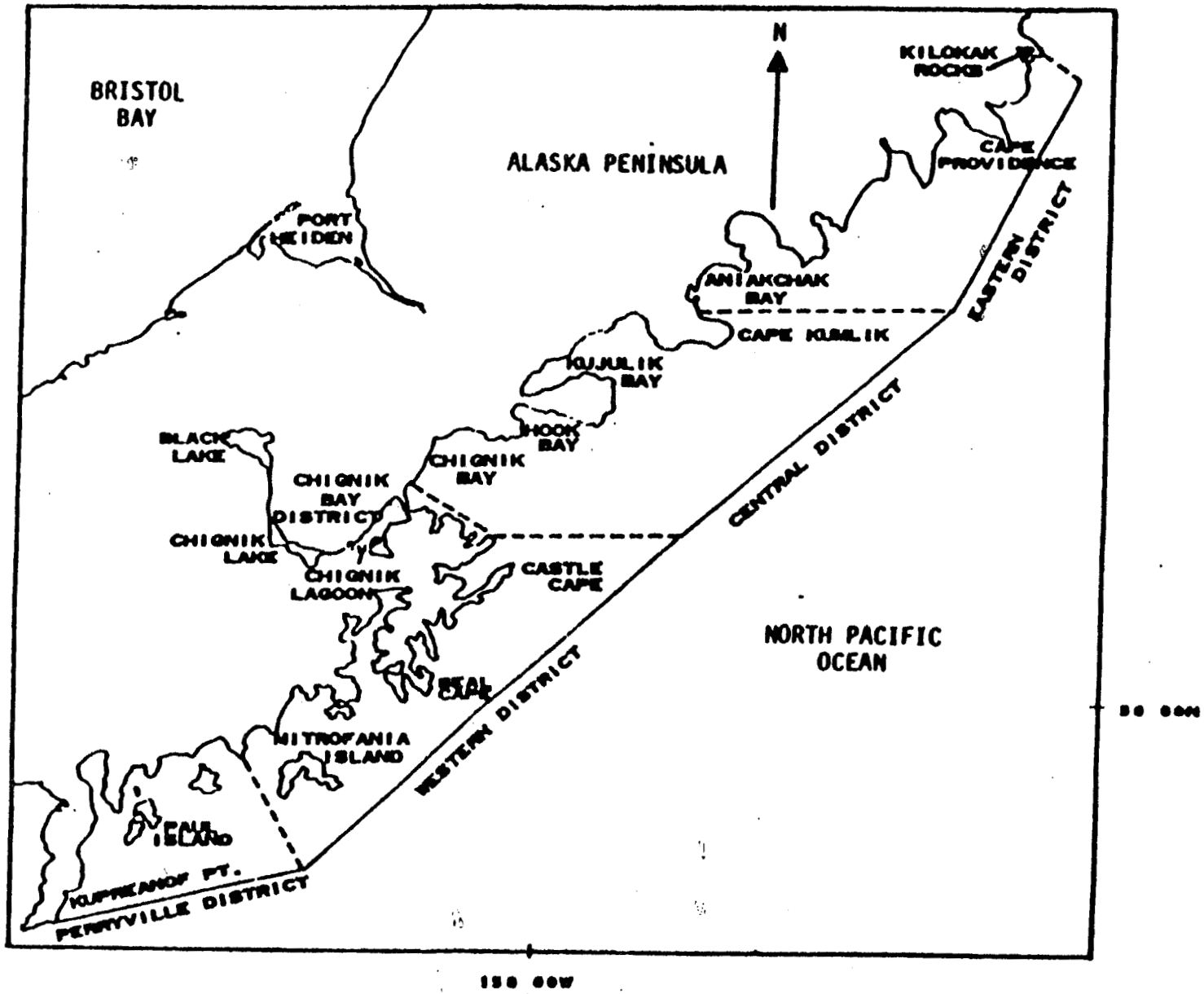


Figure 1. Map of the Chignik Management Area with the statistical fishing districts and some prominent locations identified.

The fishery is monitored through contact with fishermen and aerial observations of the herring biomass, as well as daily contact with local processors.

An important element in the management of the Chignik herring fishery comes from the information collected by fishermen and commercial spotters. This cooperation is definitely encouraged and all exchange of information will be confidential.

The actual 1990 harvest will depend upon the biological condition of the stock, the amount of effort actively exploring throughout the area, and by the availability of local processing. However, it is not expected that the 1990 harvest will reach the nine year average harvest of 184 tons.

IV. **Fishing Season:**

a. Herring may be taken from 15 April through 30 June.

b. Herring may be taken only during periods established by emergency order.

V. **Fishing Periods:**

Initially, fishing periods will be 24 hours long beginning at 1200 hours (12:00 noon) on all odd numbered days and ending at 1200 hours (12:00 noon) on all even numbered days. The schedule will begin at 1200 hours (12:00 noon) 15 April. Any changes in this fishing schedule will be announced by emergency order.

VI. **Airplanes:**

There is no restriction on the use of airplanes in the sac-roe herring fishery.

VII. **Legal Herring Gear:**

a. 5 AAC 27.565. (a) Herring may be taken only by purse seines.

b. 5 AAC 27.575. **SEINE SPECIFICATIONS AND OPERATIONS.** No purse seine may be more than 1,000 meshes in depth or more than 100 fathoms in length.

VIII. **Tender and Processors Reporting Requirements:**

a. All processors and tender operators will be required to report daily catch information to ADF&G. This can be accomplished either by radio (SSB) or telephone. The Chignik ADF&G office will stand by on **4125** SSB and VHF CH6 frequencies, between 0800 hours - 1000 hours

The Big River Section has not received any appreciable recruitment of herring into that fishery since 1980.

The trend in this stock's age composition has regressed from a healthy 1980 biomass dominated by 4 and 5 year old fish to a diminished biomass in 1986 dominated by 8 and 9 year old fish. No significant recruitment has occurred in recent years. Consequently the Big River Section (272-70 Amber Bay and 272-60 Aniakchak Bay) will <u>remain closed in 1990</u>.

Lake Bay 271-10 in the Chignik Bay District and Castle Bay 273-94 in the Castle Cape Section of the Western District will be very closely monitored in 1990.

Table 1. Guideline harvest levels (in tons) for the Chignik Management Area, 1990[a].

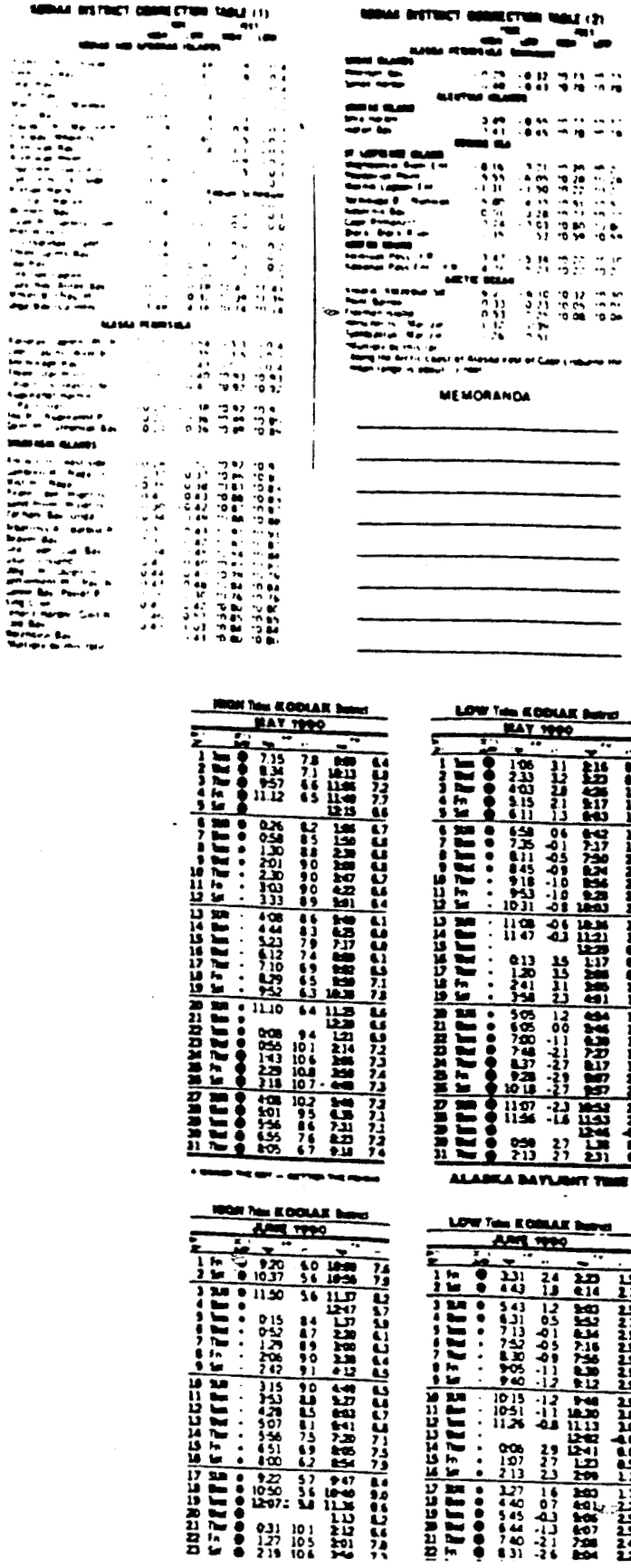
Stat. Area	Guideline Management Unit	Harvest Levels	Required Spawning Biomass @20%	@10%
272-20	Amber Bay[a]	0	0	0
272-60	Aniakchak Bay	0	0	0
271-10	Anchorage Bay	100	500	1,000
273-94	Castle Bay	10	50	100
271-10	Chignik Lagoon	10	50	100
272-30	Hook Bay	10	50	100
275-50	Humpback Bay	20	100	200
275-40	Ivanof Bay	10	50	100
272-50	Kujulik Bay	10	50	100
271-10	Lake Bay	10	50	100
272-92	Port Wrangall	0	0	0
272-96	Agripina Bay	20	100	200
TOTAL		200	1,000	2,000

[a]The specific statistical areas listed above are those that have a historical sac-roe harvest. The remainder of the Chignik Management Area is open for exploration and will be regulated within the statewide herring harvest policy of 0% to 20% of the available spawning biomass.

[b]The Big River Section (272-70 Amber Bay and 272-60 Aniakchak Bay) will remain closed in 1990.

APPENDIX I

Appendix I. Tide tables, 1990.



APPENDIX J

Appendix J.1. Statistical weeks and corresponding calendar dates for 1990.

Statistical Week	Calendar Dates	Statistical Week	Calendar Dates
1	01-Jan to 06-Jan	28	08-Jul to 14-Jul
2	07-Jan to 13-Jan	29	15-Jul to 21-Jul
3	14-Jan to 20-Jan	30	22-Jul to 28-Jul
4	21-Jan to 27-Jan	31	29-Jul to 04-Aug
5	28-Jan to 03-Feb	32	05-Aug to 11-Aug
6	04-Feb to 10-Feb	33	12-Aug to 18-Aug
7	11-Feb to 17-Feb	34	19-Aug to 25-Aug
8	18-Feb to 24-Feb	35	26-Aug to 01-Sep
9	25-Feb to 03-Mar	36	02-Sep to 08-Sep
10	04-Mar to 10-Mar	37	09-Sep to 15-Sep
11	11-Mar to 17-Mar	38	16-Sep to 22-Sep
12	18-Mar to 24-Mar	39	23-Sep to 29-Sep
13	25-Mar to 31-Mar	40	30-Sep to 06-Oct
14	01-Apr to 07-Apr	41	07-Oct to 13-Oct
15	08-Apr to 14-Apr	42	14-Oct to 20-Oct
16	15-Apr to 21-Apr	43	21-Oct to 27-Oct
17	22-Apr to 28-Apr	44	28-Oct to 03-Nov
18	29-Apr to 05-May	45	04-Nov to 10-Nov
19	06-May to 12-May	46	11-Nov to 17-Nov
20	13-May to 19-May	47	18-Nov to 24-Nov
21	20-May to 26-May	48	25-Nov to 01-Dec
22	27-May to 02-Jun	49	02-Dec to 08-Dec
23	03-Jun to 09-Jun	50	09-Dec to 15-Dec
24	10-Jun to 16-Jun	51	16-Dec to 22-Dec
25	17-Jun to 23-Jun	52	23-Dec to 29-Dec
26	24-Jun to 30-Jun	53	30-Dec to 31-Dec
27	01-Jul to 07-Jul		

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