

CHIGNIK MANAGEMENT AREA COMMERCIAL SALMON FISHERY,
STOCK STATUS, AND PURSE SEINE COOPERATIVE FISHERY REPORT

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By

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ABSTRACT

The 2002 Chignik commercial salmon fishery began on June 3; the last reported landing was on September 5. A total of 41 Commercial Fisheries Entry Commission (CFEC) seine permits were fished in 2002 (19 cooperative fleet, and 22 competitive fleet). The total salmon commercial harvest for the Chignik Management Area (CMA) included 1,521 chinook *Oncorhynchus tshawytscha*, 1,050,553 sockeye *O. nerka*, 49,372 coho *O. kisutch*, 66,050 pink *O. gorbuscha*, and 54,559 chum salmon *O. keta*. Of this total harvest, 3 chinook, 9,101 sockeye, 66 pink, and 46 chum salmon were harvested to meet the department's test fishery requirements and 77 chinook, 1,371 sockeye, and 164 coho salmon were harvested for personal use. The 2002 sockeye salmon harvest was below forecast. Sockeye and chinook salmon escapement goals were met for the Chignik River system. The pink and chum salmon escapement goals for the CMA were met in 2002. Results from coho salmon escapement surveys to all districts of the CMA are not conclusive for 2002. The exvessel value for all species of salmon harvested in the CMA was about \$4.7 million.

This was the first season of the CMA purse seine cooperative fishery management plan (5 AAC 15.359). A cooperative fleet of 77 CMA CFEC permit holders formed to harvest salmon during the 2002 salmon season. Twenty-four CMA CFEC permit holders who chose not to join the cooperative fleet were identified as the competitive fleet; two of these permit holders chose not to join the cooperative and did not participate in the 2002 CMA salmon fishery. The cooperative fleet harvested 721,428 (69.27%; allocation 69.3%) sockeye salmon and the competitive fleet harvested 320,024 (30.73%; allocation 30.7%).

The newly adopted CMA cooperative purse seine management plan impacted many aspects of the Chignik salmon fishery. The department launched a new salmon management task force in response to the increased need for communication between the ADF&G, salmon fishermen, processors, and local subsistence users. The Chignik Area Salmon Management (CHASM) task force provided a forum for the discussion and exchange of ideas on the harvest and management strategies both prior to and during the salmon season.

The 2002 season provided 72.5 days of fishing opportunity for the cooperative fleet and 16.8 days of fishing opportunity for the competitive fleet to target sockeye salmon in the CMA. An additional seven days of fishing opportunity was available during the June 3-9 commercial test fishery in the Chignik Lagoon, though deliveries were made on two days due to bad weather conditions. The 2002 season also provided both fleets the opportunity to target pink and chum salmon in the Western and Perryville Districts of the CMA for a total of eight days during three fishing periods. In 2002, the CMA was open to commercial fishing for a total of 98 days. This compares to 55 days in 1985, 72 days in 1992, and 69 days in 1998 (recent years with comparable run strength). A total of 2,432 deliveries (including four department test fishery deliveries) were made during 90 days of commercial fishing activity during 2002.

On a daily basis a maximum of 22 vessels fished at any particular time (19 for the cooperative fleet; 22 for the competitive fleet), compared to 80-99 vessels which typically fished during open periods in previous years. Though both fleets fished on the same date at times, the fleets were kept separate by

fishery opening and closure times. In 2002, fishing effort was almost entirely expended inside Chignik Lagoon, in the Chignik Bay District, whereas in prior years fishing pressure was usually more widely spread throughout the Chignik Bay District and also into the Central and outside districts.

Management for specific sockeye salmon escapement goals, and interim inseason objectives, was more accurately attained in 2002 than in previous years, largely due to the ability to control daily harvests of the cooperative fleet. Moreover, volumes of fish delivered to processors on a daily basis throughout the 2002 season were more evenly distributed, rather than the boom-and-bust pattern typical of previous years. Fishing opportunities for the competitive fleet, however, were reduced from prior years, as was their consequent ability to buffer events such as poor weather or mechanical breakdowns.

Imposition of the cooperative fishery plan also affected subsistence salmon harvest opportunities during 2002. In response, ADF&G provided additional harvest opportunities as requested by local subsistence fishers.

INTRODUCTION

The Chignik commercial salmon management area (CMA; Area L) 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 110 other salmon producing streams.

The CMA is divided into five fishing districts: Eastern, Central, Chignik Bay, Western, and Perryville Districts (Figure 2). These districts are further broken down into sections and statistical reporting areas (Figure 3). The Alaska Department of Fish and Game (ADF&G) manages commercial salmon fisheries within the CMA to achieve escapement goals while allowing the harvest of fish that are surplus to spawning requirements.

Within the CMA commercial salmon fishing is the economic mainstay for five villages: Chignik (Anchorage Bay), Chignik Lagoon, Chignik Lake, Perryville, and Ivanof Bay (Figure 2). Although shoreside processing capacity is centered in Anchorage Bay, permit holders or crew members reside in all four villages. At present, these villages derive very little commerce from any sport fishery and sport fish harvests are relatively low.

A cooperative salmon fishery was proposed by several Chignik Commercial Fisheries Entry Commission (CFEC) salmon permit holders, and adopted by the Alaska Board of Fisheries (BOF) in January, 2002. Proponents of the cooperative fishery maintained that a cooperative-style fishery would reduce overhead, increase product quality, and allow commercial salmon fishermen to compete in a global market dominated by farmed salmon products. The bylaws and articles of incorporation for the Chignik Seafood Producers Alliance (CSPA) were approved by the Alaska Department of Law in March, 2002. Seventy-seven Chignik CFEC permit holders registered with the cooperative fishery for the 2002 season; 27 of those permit holders were registered with the cooperative as potential harvesting vessels.

Closed water areas applicable to this year's commercial salmon fishing season are described in the Chignik Regulatory Section of the 2002-2005 Chignik, Kodiak, and Cook Inlet Areas Commercial Fishing Regulations booklet (ADF&G 2002).

Fishery Description

Five species of Pacific salmon are commercially harvested in the CMA: chinook *Oncorhynchus tshawytscha*, sockeye *O. nerka*, coho *O. kisutch*, pink *O. gorbuscha*, and chum *O. keta* salmon. Purse seines and hand purse seines are the only legal commercial gear allowed to harvest salmon within the CMA. However, legal seine gear length varies from 100-125 fathoms in the Chignik Bay District to 100-225 fathoms in all other districts; leads are rarely used within the CMA. Up to 102 permits have been fished within the last 10 years (Table 1).

Chinook Salmon

Although there is no directed fishery within the CMA, chinook salmon are harvested incidentally during the directed sockeye fishery. The chinook harvest and escapement occurs primarily during July and August, peaking in mid-July. From 1963-2002, chinook runs (catch and escapement) have ranged from a low of 927 fish in 1974 to a high of 21,461 fish in 1993 (Table 2; Figure 4). The recent 10-year average run is 9,328 fish (1992-2001).

Sockeye Salmon

Economically, sockeye salmon are the most important commercial salmon species in the CMA. The commercial salmon fishery targets two runs of sockeye salmon returning to the Chignik River system: the Black Lake early run and the Chignik Lake late run. Aerial surveys indicate sockeye salmon are present in other CMA streams, but in low numbers.

Sockeye salmon destined for the Chignik River system are also harvested outside the CMA in two historic fisheries. The fishery east of the CMA takes place in the Cape Igvak Section of the Kodiak Management Area; (15% allocation through July 25; 5 AAC 18.360; Figure 1). The fishery west of the CMA takes place in the Southeastern District Mainland of the Alaska Peninsula Management Area (6% allocation through July 25; 5 AAC 09.360; Figure 1). Ninety percent of the sockeye salmon harvested in the Cape Igvak Section of the Kodiak Management Area (changed from 80% to 90% at the January 2002 BOF meeting), and 80% of the sockeye salmon harvested in most of the Southeastern District Mainland of the Alaska Peninsula Management Area are considered by regulation to be Chignik-bound from the beginning of each fishery through July 25.

Commercial fishing time for sockeye salmon has been regulated based on achieving interim escapement objectives by specific dates for each run (Table 3). Achieving these objectives is complicated by the run timing overlap of the two sockeye runs which generally occurs during late June to early July (the transition period). This is a critical time for management and research staff who must assess the runs using age composition and scale measurement data to determine the stock composition of the catch and escapement.

Scale pattern analysis (SPA) is currently used inseason and postseason for apportioning sockeye salmon to the stock of origin, Black Lake or Chignik Lake. During the transition period, the scale sampling effort is increased from once a week to every third day to assess the changing stock composition. Subsequently, fishing opportunity may be increased to harvest early run fish or may be decreased to allow time for evaluating the late run strength.

Since 1954, the sockeye runs (including catch in the CMA, Cape Igvak, and Southeastern District Mainland through July 25, and escapement) have ranged from a low of 554,431 fish in 1954 to a high of 4,462,235 fish in 1999 (Table 4; Figure 5). The 1992-2001 average run (Chignik and Black Lake) of 2,766,508 fish has shown a slight decrease in production from the previous 10 years (1982-1991; Table 4). Comparing runs based on postseason SPA, the Black Lake sockeye run has decreased by about 200,000 salmon from the 1982-1991 average of 1,720,168 to the 1992-2001 average of

1,520,279 fish (Table 4). The Chignik Lake run increased by about 150,000 salmon from the 1982-1991 average of 1,097,806 to the 1992-2001 average of 1,246,229 (Table 4).

Coho Salmon

The Chignik Bay District commercial coho salmon harvest begins in late August to early September. Coho salmon are also harvested incidentally in the directed sockeye, pink, and chum commercial salmon fisheries throughout the season. Coho catches begin as early as June and have continued until the fishery closes, which ends by regulation on October 31. The catch makes a definite shift from the outside districts to the Chignik Bay District in late August to early September. The highest coho salmon catches, for most years, are from the Western and the Chignik Bay Districts (Table 5).

Since 1997, to facilitate coho salmon restoration efforts in the Kametlook River, fishing has been closed post August 20 in both the Western and Perryville Districts. This closure may reduce the commercial coho catch by 20% as predicted from the average daily catch in the Western District from 1987-1996. Future Perryville District coho catches are expected to remain at below historic levels because Kupreanof Point has been closed to commercial salmon fishing since 1998. Total coho salmon catches for the years 1976-2002 have ranged from 17,430 fish in 1977, to 370,420 fish in 1988 with an overall trend of increasing catches since 1960; however, catches since 1997 are below the recent 10-year average (Table 6; Figure 6). In January 2002, the BOF capped the coho harvest in the Western and Perryville Districts in non-terminal areas at 60,000 salmon between July 22 and July 31.

The Chignik River system coho run is the largest within the CMA. Since 1996, coho salmon escapement has been estimated by weir counts prior to weir removal and the relationship of coho catch and escapement has been used to estimate coho escapement after the weir is removed. Other areas of high coho salmon escapement are in Ivanof Bay of the Perryville District and several streams in the Eastern District. Overall, coho salmon escapement monitoring and aerial surveying in the CMA is sporadic because of the late timing of the runs, logistics involved in monitoring the many streams in the area, and deteriorating weather conditions associated with the fall season in the CMA.

Pink and Chum Salmon

Pink and chum salmon production in the CMA is characterized by variable escapements and catches and an overall trend of increasing runs (Tables 7 and 8; Figures 7 and 8). The variability in the escapements can be attributed to the physical morphology of the river and stream systems, which are characterized by unconsolidated substrates and steep gradients. These systems are impacted by fall, winter, and spring floods that may cause streambed scouring, and can result in high egg and fry mortality. The variability in the catches can also be greatly effected by market conditions.

Management of the CMA pink and chum salmon fisheries is based on inseason aerial assessment of escapement (conducted annually since 1953), and catch per unit effort (CPUE) data. Aerial surveys of approximately 110 salmon streams, adjacent bays, and stream mouths are taken periodically throughout the season to provide inseason escapement estimates. Pink and chum salmon escapement goals are derived by average run timing curves with the aerial survey peak district counts as the seasonal CMA

goal (Nelson and Lloyd 2002). Commercial test fisheries have been used to assess stock strength prior to the entry of pink and chum salmon into bays or streams.

Currently, all salmon processed locally are for the fresh frozen and canned salmon market. To ensure the quality of harvested pink and chum salmon, the fisheries are managed to harvest migrating fish before, or just as, they reach terminal waters.

June commercial fisheries in the Chignik Bay, Central, and Eastern Districts are based primarily on sockeye salmon bound for the Chignik River system. Pink and chum salmon are caught incidentally and in low numbers. The commercial salmon fisheries in the Western and Perryville Districts are closed by regulation during the month of June.

During July, August, and September in the Chignik Bay and Central Districts, commercial fishing periods are based primarily on Chignik Lake sockeye salmon. Fishing periods from early July through August in the Eastern, Western, and Perryville Districts depend primarily on the abundance of pink and chum salmon but also on Chignik Lake sockeye run strength. The largest pink and chum harvests, come primarily from the Central, Western, and Perryville Districts (Table 5). Typically by August 20, over 98% of the pink and 94% of the chum salmon have been harvested (Owen and Sarafin 1998).

Since 1962, pink salmon catches have ranged from 25,472 in 1973 to 2,997,159 in 1988 (Table 7). Average pink catch and escapement has generally increased since the 1970s (Table 7; Figure 7).

Since 1962 chum salmon catches have ranged from 8,717 in 1973 to 580,332 in 1981 (Table 8). Average chum catch and escapement has also generally increased since the 1970s (Table 8; Figure 8; excluding 1989 oil spill year).

Management Overview

The Chignik Salmon Management Plan is reprinted in Appendix A (5 AAC 15.357; ADF&G 2002).

In June, salmon management is based on the run strength of sockeye salmon returning to the Chignik River system. Openings in districts outside of the Chignik Bay District during July, August, and early September depend not only on the run strength of pink, chum, and coho salmon but also on the run strength of sockeye salmon to the Chignik River system.

Historically, the first opening in the Chignik Bay and Central Districts may occur when the June 12 interim escapement objective (40,000 sockeye salmon) or a subsequent escapement objective is met or exceeded and accompanied by a significant sockeye salmon buildup within the Chignik Lagoon (Table 3; ADF&G 2002). In 2002, for the first time in the CMA, a limited commercial test fishery was conducted in the Chignik Bay and Central Districts before the initial 40,000 escapement objective was achieved.

Historically, all following openings occurred when interim sockeye salmon escapement objectives were achieved or surpassed. During the 2002 season, the Chignik Bay and Central Districts of the CMA were open to commercial salmon fishing almost continuously throughout the entire season because the cooperative purse seine management plan allowed for more flexible management of salmon harvests, and

subsequent escapement, into the Chignik River system. The annual sockeye salmon biological escapement goal (BEG) for Black Lake is 350,000-400,000 and for Chignik Lake is 200,000-250,000 through August 31 (Table 3; Nelson and Lloyd 2001). The September 1-15 Chignik Lake sockeye salmon escapement objective is an additional 25,000 fish (Table 3).

In the Eastern District, the commercial salmon fishery opens concurrently with the Chignik Bay and Central Districts. These fishing periods are based on achieving the Black Lake sockeye salmon escapement objectives. During the transition period, the Eastern District is usually closed while the strength of the Chignik Lake run is assessed. Following the transition period until the end of the season, the Eastern District is managed on the evaluation of local pink, chum, and coho salmon runs in addition to the escapement objectives of the Chignik Lake sockeye salmon.

In the Western and Perryville Districts, the earliest an opening may occur is on July 6 and only on a commercial test fishery basis until aerial survey estimates indicate an excess of local pink and chum salmon above escapement objectives. The only exception is within Ivanof Bay of the Perryville District where, during late June, any surplus chum salmon beyond escapement requirements may be harvested during a normal commercial fishery. During most of the season, fishing is allowed only seaward of a line drawn from Cape Ikti to Coal Cape to Cape Alexander. This allows for an aggressive harvest strategy, promotes quality, and prevents overexploitation of any particular stock.

If a July 22-31 coho salmon harvest cap of 60,000 fish is exceeded, regulations adopted at the January 2002 BOF meetings provide the opportunity to fish in the terminal harvest areas in the Western and Perryville Districts inside of the line drawn from Cape Ikti to Coal Cape to Cape Alexander (Appendix A). All coho salmon harvested from the terminal areas are not counted against the coho salmon harvest cap. A fishery in the terminal areas will only occur if the local runs are on track to achieve their escapement objectives as determined by aerial surveys.

To increase coho salmon escapement and subsistence catches for Perryville residents in the Kametlook River, the Western and Perryville Districts close to commercial salmon fishing on or about August 20. The exact closure date, and any future openings in these districts, depends primarily on coho salmon abundance as measured relative to historical coho catches and aerial surveys.

After September 15, the management emphasis shifts from the commercial fishery to the needs of subsistence users. Chignik River system subsistence users primarily utilize sockeye salmon "redfish" returning to the Clark River (a tributary of Chignik Lake) and Hatchery Beach (a segment of the western shore of Chignik Lake). Late sockeye salmon run strength is assessed by aerial surveys, catch/escapement ratios, and a comparison of current harvests with historical catches. Beginning September 15, management options include fishing periods that may be no longer than 48 hours per week.

Chignik Area Cooperative Purse Seine Salmon Fishery Management Plan

During the January 2002 BOF meeting, a new sockeye salmon cooperative fishery plan was adopted into regulation (5 AAC 15.359; Appendix A). This new fishery plan allows for the formation of a cooperative fishing fleet if at least 51 Chignik CFEC salmon permit holders agree to the concept. The intent of a cooperative fleet is to reduce of the number of actively participating CFEC permit holders and their vessels and crews to decrease overhead expenses associated with commercial fishing and to control the harvest to achieve a higher quality product. If the cooperative fleet contains less than 85% of the total CMA CFEC permit holders, 0.9% of the total sockeye salmon harvest would be allocated to

each CMA CFEC purse seine salmon permit holder who joined the cooperative fleet. If more than 85% of the permit holders joined the cooperative, 1% of the total sockeye salmon harvest would be allocated to the cooperative fleet for each purse seine salmon permit holder. The CFEC permit holders that did not join the cooperative fleet would be identified as the "competitive fleet" and would be allocated the remaining sockeye salmon harvest. In accordance to the criteria established by the BOF, in 2002 the 77 member cooperative fleet was allocated 69.3% of the total sockeye salmon harvest and the 24 member competitive fleet (two members of which did not participate in the fishery) was allocated 30.7%.

Chignik Area Salmon Management Task Force

The department launched a new salmon management task force in response to the increased needs for communication between the ADF&G, salmon fishermen, processors, and local subsistence users. The Chignik Area Salmon Management (CHASM) task force provided a forum for the discussion and exchange of ideas on harvest and management strategies both prior to and during the salmon season (Appendix B). The CHASM task force was formed on June 4, with five industry and one subsistence positions plus two co-chairs (one co-chair from ADF&G and one from the Chignik Seiners Association). The six positions were elected at the beginning of the meeting by the attendees. There was one position for each of the three local salmon processors, one for the cooperative fleet, one for the competitive fleet, and one seat reserved for local subsistence users. Each position was shared between three people. The appointed co-chairs were the CMA salmon area management biologist and the president of the Chignik Seiners Association.

Because of the complexity of the developing fisheries management options associated with the new cooperative management plan, two CHASM meetings took place in Chignik Bay during the 2002 season. The meetings took place on June 4 and July 18. Department staff recorded notes of the proceedings during the meetings (Appendix B).

In addition to the meetings, the elected CHASM representatives were contacted during the season to discuss management options and challenges as the need arose. Management staff contacted all available CHASM representatives (or alternates) when members of the fishing fleet expressed concerns for subsistence harvest opportunities. Management staff again contacted CHASM members to discuss the movement of the closed waters regulatory markers in the Chignik Lagoon. The July 25, competitive fleet fishery opening, with a voluntary 5,000 sockeye salmon harvest limit, was conducted through the assistance of CHASM. Discussions with CHASM representatives were a valuable resource to the fisheries management decision making process.

Industry Formation of a Cooperative Fleet

One step in the formation of the cooperative began with coordinating at least 51 CMA CFEC permit holders to apply for a permit from the commissioner of ADF&G (Appendix C). This process involved a recruiting campaign by proponents of the cooperative to convince at least 51 CMA CFEC permit holders to join a cooperative fleet. The process of organizing the minimum 51 permit holders to join a cooperative took place without participation from the ADF&G. The organization of the cooperative was facilitated by the cooperative bylaws and articles of incorporation as reference materials in their

decision-making process (Appendices D and E). The forming cooperative met the minimum enrollment requirements by the April 1, 2002 regulatory deadline.

Department Requirements for the Formation of a Cooperative Fleet

After the BOF adopted the new Chignik Area Cooperative Purse Seine Fishery Management Plan into regulation, several conditions had to be met during the formation of the CMA cooperative purse seine salmon fleet. These conditions required the CMA CFEC permit holders interested in forming a cooperative fleet to receive a permit issued by ADF&G to form an annual cooperative fishery. In order to receive a permit authorizing the formation of a cooperative fleet, ADF&G required the submittal of an annual application for the permit (Appendix C). The application required the CFEC permit number and name for each applicant and a copy of the cooperative fishery agreement containing the contractual terms of the cooperative operations including cooperative by-laws and articles of incorporation (Appendices D and E). The permit to form an annual cooperative fishery also required each CFEC CMA salmon permit holder who planned to participate in the fishery as an operator of a catcher or tender vessel to register for the 2002 CMA cooperative purse seine salmon fishery (Appendix F).

Cooperative Corporate Bylaws. The cooperative was required to submit a copy of their corporate bylaws to ADF&G as part of the application process. The State of Alaska Department of Law (DOL) assisted with the development of the bylaws through reviewing draft copies. The submitted 16 page cooperative corporate bylaws included articles addressing the following topics: intent of the cooperative, membership requirements, membership meetings, board of directors, patronage refunds, actions by consent, officers, membership identification cards, books and records, member consent, corporate seal, amendment procedures, fiscal year, rules of order, and registered office and agent (Appendix D). The bylaws were submitted and approved by the DOL prior to the required April 1, 2002 deadline.

Cooperative Articles of Incorporation. The cooperative was also required to submit a copy of their articles of incorporation to the State of Alaska's Attorney General as a part of the application process. The document included articles addressing the following topics: the name of the cooperative, duration, purpose and powers, nonstock membership cooperative corporation, directors, distribution upon dissolution, registered agent and office, initial board of directors, limited liabilities for members, limitation upon business with non-members, and other matters (Appendix E). The articles of incorporation were submitted and approved by the State Attorney General's Office.

Permit for an Annual Cooperative Fishery. Following the January 2002 BOF meetings, the ADF&G was required to develop a permit for an annual cooperative fishery (Appendix C). The permit was approved by the DOL and released to representatives of the cooperative. The terms and conditions of the permit included: dates of validation, definition of exclusivity for the CMA CFEC permit holders who joined the cooperative, catch reporting requirements, requirement of the presence of one CFEC permit holder on board each purse seine vessel while fishing and delivering fish who has registered with the department to operate on behalf of the cooperative, definition of allocated harvest opportunity, and notification from ADF&G that allocation of fishing opportunity will be at the discretion of the department and will depend on salmon escapements and conservation concerns. The permit also required a list of all CMA CFEC salmon purse seine permit holders approved to actively participate in

the purse seine salmon cooperative fishery. The permit application submission deadline to ADF&G was April 1, 2002. The application was accepted and the permit was issued to the CSPA purse seine cooperative.

Cooperative Fleet Vessel Registration. Each CFEC CMA salmon permit holder who joined the cooperative fleet and planned to operate a vessel to either harvest or tender salmon during the 2002 salmon season was required to register with the ADF&G. Chignik management staff drafted a vessel registration form (Appendix F). The vessel registration form contained terms and conditions which included: dates of validation, catch reporting requirements, fishery limitations, requirement of the presence of one Chignik CFEC permit holder on board each purse seine vessel while fishing and delivering fish, and notification from the ADF&G that allocation of fishing opportunity will be at the discretion of the department depending on salmon escapements and conservation concerns. The vessel registration form required: the name and mailing address of the permit holder, the name and ADF&G number of the vessel to be operated for the cooperative, the CFEC permit number fished, and the permit holders signature. As of the deadline of June 4, 37 CFEC CMA salmon permit holders registered intent to operate vessels as members of the cooperative fleet for the 2002 salmon season. Registration of intent to tender salmon required the vessel operator to contact ADF&G prior to tendering salmon and provide: the name of the vessel to be operated, the name of the operator, the total tendering capacity of the vessel, and the dates of planned operation within the CMA.

DESCRIPTION OF THE 2002 CMA COMMERCIAL SALMON FISHERIES

The following is a general summary of the 2002 CMA salmon season. Harvest and exvessel value data are from the department's fish ticket database system and are considered preliminary. Minor revisions are anticipated and final values will be available in the 2002 Chignik Annual Management Report (AMR).

The 2002 CMA sockeye salmon fishing season was characterized by a below average early run of sockeye salmon to the Black Lake system as well as a below average run to the Chignik Lake system. The first commercial salmon fishery opened on June 3 (first delivery occurred on June 5) as a commercial test fishery (Table 9). The harvest data, by fleet, are included in Tables 10 and 11.

In 2002, the total chinook salmon harvest of 1,521 salmon (including 3 fish caught in the department test fishery and 77 fish kept for personal use) was below the 1992-2001 10-year average of 5,880 fish and was the lowest since 1979 (Table 6). Commercial catches have increased from an average of 1,269 fish (1972-1981) to 5,880 (1992-2001), although the average is heavily influenced by large runs in 1992 and 1993 (Table 6 and Figure 4).

The total number of sockeye salmon commercially harvested in the CMA during the 2002 season was 1,050,553 (including 9,101 fish caught in the department test fishery and 1,371 fish retained for personal use; Tables 6 and 9). The cooperative fleet harvested 721,428 (69.3%) sockeye salmon and

the competitive fleet harvested 320,024 (30.7%; Table 10) fish. The 2002 CMA sockeye salmon harvest was below the 1992-2001 10-year average of 1,650,312 fish (Table 6).

The total coho harvest of 49,372 (including 164 fish kept for personal use) was below the 1992-2001 10-year average of 181,593 fish and was the lowest since 1978 (Table 6). The below average coho salmon harvest was due in part to the curtailed fishing activities late in the season because of the loss of markets and the lack of fishing opportunities in the Western and Perryville Districts. A total pink salmon harvest of 66,050 fish (including 66 fish caught in the department test fishery) was a fraction of the 1992-2001 10-year average catch of 1,090,521 fish and was the lowest since 1973 (excluding 1989 when all outside district fishing was restricted because of the *Exxon Valdez* oil spill; Tables 6 and 9). The low harvest was the result of poor returns of pink salmon to the CMA in 2002. The total chum salmon harvest of 54,559 fish (including 46 fish caught in the department test fishery) during 2002 was also below the 1992-2001 10-year catch average of 179,768 fish and was the lowest since 1985 (excluding 1989 when all outside district fishing was restricted because of the *Exxon Valdez* oil spill; Tables 6 and 9).

The 2002 total exvessel value of the salmon harvested in the CMA was \$4,654,812, which is the lowest value since 1975; 61% below the 1992-2001 10-year average of \$12,075,594 (Table 1). The total value of the harvested salmon was worth \$47,018 per active CMA permit holder (Table 1; Figure 9). Ninety-nine CMA permits were either fished competitively or earned income from the cooperative, and two permits were not used during the 2002 season (Table 1).

The 2002 season provided 1,739 hours (72.5 days) of fishing opportunity for the cooperative fleet and 404 hours (16.8 days) of fishing opportunity for the competitive fleet to target sockeye salmon (Figure 10; Appendix G). An additional seven days of fishing opportunity was available during the June 3-9 commercial test fishery in the Chignik Lagoon though deliveries were made on two days due to bad weather conditions. The 2002 season also provided both fleets with the opportunity to target pink and chum salmon in the Western and Perryville Districts of the CMA for a total of 192 hours (8 days) during three separate openings (Appendix G). The CMA was open to commercial fishing for 98 days during the 2002 salmon season. Fishing activity took place on 90 of those days (Figure 10 and 11). Fifty percent of the CMA sockeye salmon harvest occurred from June 9 through July 7.

Because of deteriorating market conditions and the weak strength of the second run, local processors stopped purchasing salmon during the last week of August (Trident closed on August 23, and Norquest on August 31). One floating processor in the CMA purchased salmon until September 5, when the cooperative fleet ceased all commercial fishing activities. Although salmon surplus to the September 1-15 escapement objective were available for harvest, neither fleet fished after September 5 (Table 9). This was due primarily to the lack of a salmon market.

Cooperative Fleet

This was the first year of the BOF approved Chignik Area Cooperative Purse Seine Salmon Fishery Management Plan (Appendix A). The cooperative fishery provided the department with new

management tools for the CMA salmon fishery. The cooperative fleet agreed to daily harvest limits when requested by ADF&G. The harvest limits, smaller fishing fleet, and the small run size realized in 2002, allowed the department to accurately maintain escapement within interim escapement objectives during most of the season (Tables 3 and 12; Figure 12). This in turn allowed a controlled harvest of sockeye salmon surplus to escapement needs on a near daily basis. Escapement and harvest levels were maintained at a near constant level, unlike the historic pulses of large numbers of sockeye salmon that escaped through the weir during extended closures or that were harvested during commercial fishing periods. These daily harvest limits were on occasion increased, lowered, or removed as escapement needs were determined. The harvest limits ranged from 1,000 – 15,000 sockeye salmon per day. The cooperative fleet was placed on such harvest limits a total of 16 days during the 2002 season (Table 13).

The CSPA deployed two to 19 catcher vessels per day depending upon harvest limits imposed by the department and the number of salmon estimated to be entering the Chignik Lagoon (Table 11). On days when the harvest limit was less than 5,000 sockeye salmon, the fleet deployed fewer vessels, and fished at stages of the tide that produced the best harvest results. The fleet appeared to work as a unit coordinating fishing and catch delivery activities through a coordinator appointed by the CSPA. Occasionally, late in the season when the number of fish caught per set decreased, the cooperative fleet chose to release fish from small sets rather than expend the effort needed for a tender to hold and deliver those fish.

The cooperative fleet coordinator made contact with the Chignik management staff several times each day to report harvest progress, relay run strength observations, check on salmon escapement levels at the weir, and request the most current fisheries management decisions. On days when escapement through the weir was higher than anticipated, the cooperative fleet coordinator was contacted and the fleet's harvesting activities were sometimes modified to better control the harvest and thus the number of fish passing through the weir. Modifications to harvesting activities ranged from removing vessels from productive fishing stations on the upper end of the Chignik Lagoon thus allowing for more salmon to escape into the Chignik River, to increasing the number of vessels actively fishing or the number of sets made per day. If the coordinator was not available, the deployed cooperative fleet vessel captains readily provided current harvest information and fleet activity. This level of communication with the industry proved to be a valuable asset to ADF&G for making fishery management decisions and for controlling the number of salmon transiting the Chignik Lagoon.

The cooperative fleet fishing activities targeted optimum fishing conditions to maximize harvest potential while reducing costs of operation. The fleet was observed deploying vessels to follow the stages of the tide throughout the Chignik Lagoon focusing on optimum fishing conditions at each traditional productive fishing station. The fleet also coordinated fishing efforts by deploying fishing vessels to specific areas of the Chignik Lagoon depending upon the capability of each specific vessel, the vessel's fishing gear, and the crew's abilities.

The cooperative fleet's captains appeared to work as a coordinated team throughout the season. The captains provided support to each other sharing fisheries related information, supplies, and equipment to more effectively harvest salmon while minimizing effort and down time. Each evening the cooperative

fleet discussed with ADF&G their plan of action for the following day. The plan of action included how many vessels were to fish at specific times and fishing stations in the Chignik Lagoon and whether or not a daily harvest limit was in effect. The action plan also included coordinating tender service and estimating general delivery schedules to processors.

The cooperative-style fishery complicated daily catch reporting. Fish were transferred from harvest to tender vessels by either brailing or pumping harvested salmon directly from the catcher vessel's seine into the tender's refrigerated saltwater hold. Therefore, catcher vessels never held harvested salmon on board, and no firm count or weight of fish harvested was generated. The tender offloading the salmon generated estimated harvest numbers; however, tender operators did not estimate average weight data for each delivery. The visually estimated fish numbers were recorded on fish tickets. Harvested salmon were delivered to either a shore-based or floating processor in Anchorage Bay. The shore-based processor accurately recorded total landed pounds, average weights, and species compositions for each tender delivery and made corresponding corrections to the fish tickets containing visual estimates. The floating processor took only live fish for their specialized processing; only those tender vessels with fish pumps capable of transferring live fish delivered to this processor. Live fish were held in floating fish pens attached to the floating processor vessel until processed. An accurate accounting of the landed pounds, average weights, and species composition was generated by the processor when the salmon were processed, generally one to three days after being harvested. Fish tickets containing visual estimates were then corrected by the processor.

Minor catch report revisions were common during the season. Current fish ticket data indicates that the cooperative fleet under-reported approximately 12,000 sockeye salmon (1.7%) of their season harvest while the competitive fleet under-reported 3,800 sockeye salmon (1.2%) of their season harvest. Although there is no historical data with which to compare in-season catch reports and the ADF&G fish ticket database, this season's catch reports were considered accurate enough for in-season management of the allocation plans.

At times, the cooperative fleet required encouragement from the department to increase harvest effectiveness, to prevent surpassing escapement objectives and to keep pace with harvest allocation objectives. This encouragement was verbally expressed to officers of the cooperative fleet and later in a news release.

A total of 19 vessels were operated as catcher vessels for the cooperative fleet. The cooperative fleet registered a total of six tenders, and made 1,954 deliveries to three processors during the 2002 season. The cooperative fleet daily harvest is presented in Table 11.

Competitive Fleet

The competitive fleet, comprising 24 CFEC permit holders (22 of which fished; two CMA CFEC salmon permits were not used in 2002), was managed similar to historic methods. One minor deviation from past management was that the competitive fleet agreed to a harvest limit of 5,000 sockeye salmon on July 25 and deployed four vessels to harvest the salmon (Tables 11 and 13). The CHASM task

force members were contacted prior to this limited fishery and the majority of the members favored, or at least did not oppose, this limited fishery.

The first traditional commercial fishery in the Chignik Bay and Central Districts began at 4:00 PM June 10. Only the competitive fleet (22 permit holders) was deployed during this 48-hour fishing period (Appendix G).

The Chignik Lagoon and Central Districts of the CMA were open for the competitive fleet for one 24-hour, four 48-hour, one 72-hour, and one 116-hour fishing period (Appendix G). The competitive fleet experienced lengthy closures while the cooperative fleet achieved their harvest allocation. The extended closures were due in part to harvest limits placed on the cooperative fleet to maintain escapement objectives.

The competitive fleet participated in two commercial test fisheries for pink and chum salmon in the Western and Perryville Districts and one commercial test fishery for pink and chum salmon in the Western District (Appendix G). Commercial test fisheries in the Western and Perryville Districts of the CMA were conducted to evaluate local pink and chum salmon runs. These fishing periods were plagued with dangerous weather conditions and poor returns of pink and chum salmon. Fishery extensions were granted for two of the three fishing periods because poor weather prevented vessels from fishing.

The reduced total fishing time for the competitive fleet changed historic fishing patterns (Figures 10 and 11). With the majority of the competitive fishing periods averaging 48 hours, many competitive fishermen elected not to fish in the outside CMA districts. Competitive fishermen stated that the risk of "missing the fish" was too great with the limited amount of fishing time allocated to their fleet. With very limited harvest data from traditional fisheries outside of the Chignik Bay District, the department lacked the usual run strength indicators of fish moving through distant parts of the CMA bound for Chignik Lagoon. If a similar style of commercial fishing in the outside districts continues in future years, the absence of the sockeye salmon run strength indicators may limit the department's ability to make timely fishery management decisions prior to large numbers of salmon entering Chignik Lagoon. Some circumstances may require that the department deploy test fishery vessels to the outside districts, or have the cooperative fleet deploy vessels to similar locations, in order to test the run strength.

All but two of the 24 permit holders in the competitive fleet made at least one delivery and sold their salmon to one of the two shore-based processors. The competitive fleet made a total of 474 deliveries during the 2002 season; daily harvests are listed in Table 11.

Chignik Bay and Central Districts Commercial Test Fishery

The 2002 season began with a commercial test fishery opening in the Chignik Bay and Central Districts of the CMA on June 3, though the first fish were landed on June 5 (Table 9; Appendix G). The first commercial test fishery was delayed until June 5 in response to the industry's request to discuss the management of the new cooperative fishery at the CHASM meeting on June 4 (Appendix B). The commercial test fishery was formed in response to a request from the cooperative fleet to prevent large numbers of sockeye salmon from building up in the Chignik Lagoon prior to the first regular commercial

fishery (commercial fishery without vessel or harvest limits). The department agreed to start the 2002 fishing season with a Chignik Lagoon commercial test fishery because of concern for potential over-escapement to the Chignik River system early in the season as a result of the reduced number of fishing vessels participating in the fishery. The formation and operation of the new commercial test fishery in Chignik Lagoon was not in regulation and was implemented by emergency order. Harvested fish were scheduled to be delivered to alternating local processors. The competitive fleet was scheduled to fish one day for every two days the cooperative fleet fished in the commercial test fishery. The cooperative fleet fished two days (June 5 and 9) before the first traditional (without vessel or harvest limits) Chignik Bay and Central District commercial fishery (Tables 10 and 11). Adverse weather conditions and minimal salmon presence prevented commercial test fishing activity on June 6-8. Although the competitive fleet was scheduled for a June 10 commercial test fishery, they did not have an opportunity prior to the first traditional Chignik Bay and Central Districts commercial fishery opening.

The new commercial test fishery deployed a limited number of fishing vessels to fish the traditional ADF&G test fishery locations in the Chignik Lagoon to allow for comparisons. Each vessel was assigned a harvest limit of 1,000 to 1,500 sockeye salmon per day and was required to carry a department biologist to direct the test fishery, record data, and report harvests. The harvested sockeye salmon from the commercial test fishery counted toward the allocation. The harvest during the two commercial test fisheries was 1,370 sockeye salmon; proceeds went to the cooperative fleet.

ADF&G compared the commercial test fishery (limited vessels and harvests) results to historic department test fisheries (department-chartered vessels) data to estimate the sockeye salmon buildup in the Chignik Lagoon. By regulation, the first commercial fishery takes place when the department test fishery indicates a strong buildup of sockeye salmon in the Chignik Lagoon and 40,000 sockeye salmon have passed through the weir. Large numbers (100,000 to 250,000) of sockeye salmon can buildup in the Chignik Lagoon prior to 40,000 sockeye salmon having passed through the weir. Having a department biologist on board the commercial test fish vessel effectively replaced the need for early-season department test fisheries. Information regarding the buildup of sockeye salmon in the Chignik Lagoon was generated from the commercial test fishery without charge to ADF&G.

Chignik Bay Commercial Salmon Fishery

The Chignik Bay District commercial salmon fishery opened June 10 (June 3–9 fishing was on a commercial test fishing basis) and the fishery continued to be open daily until September 8. The Chignik Bay District was managed to allow only one fleet (cooperative or competitive) to fish at a time (Appendix G). Separation of the fleets was necessary to eliminate the “race for the fish”. To keep the fleets separate, ADF&G closed the CMA to commercial salmon fishing for one hour between fishing periods when the fishery switched between fleets. The cooperative fleet harvested salmon only in the Chignik Bay District during the entire season. About 94.5% of the sockeye salmon harvested by both fleets during 2002 came from the Chignik Bay District (Table 5).

Central District Commercial Salmon Fishery

In 2002, there were only six permit holders (64 deliveries) who fished the Central District of the CMA (Table 14). Historically, 55 permit holders made 970 salmon deliveries from the Central District per year (1993-2001 average; Table 5). The reduction in fishing effort in the Central District during the 2002 season makes the historic harvest data incomparable. Even in 1995 when few pink and chum salmon were

harvested, 55 permit holders made 1,254 salmon deliveries. With the reduction of fishing effort in this district, the total number of salmon harvested was severely reduced during 2002. The total number of pink and chum salmon harvested in this district were approximately 5% and 15%, respectively, of historic averages (Table 5). The reduction of fishing effort also diminished the department's ability to gauge run strength of the sockeye salmon returning to the Chignik River system; harvest data from the Hook Bay area have traditionally been valuable sockeye salmon run strength indicators because of the close proximity to the Chignik Lagoon. The reduction of fishing effort in the Central District may have reduced the harvest of salmon migrating through the district to systems outside of the CMA. Only 4.3% of the total CMA sockeye salmon harvest came from the Central District during 2002. Historically, 28% of the sockeye salmon harvested in the CMA is caught in the Central District (Table 5).

Eastern District Commercial Salmon Fishery

Historically, the Eastern District of the CMA produces an early season sockeye salmon harvest average of 70,198 fish. The Eastern District is open and closed concurrently with the Chignik Bay District and the fishery is management based upon the sockeye salmon escapement needs of the Chignik River system. Historically, approximately 22 vessels would make an average of 74 deliveries per year from the Eastern District (1993-2001 average; Table 5). Harvests in the Eastern District have provided ADF&G with early season run strength indicators of the sockeye salmon returning to Black Lake. The cooperative fleet elected not to fish outside of the Chignik Bay District and the majority of the competitive fleet elected not to fish in the Eastern District. Less than one percent of the total CMA sockeye salmon harvest came from the Eastern District during 2002 (less than three permits fished). The reduction of fishing effort in the Eastern District may have reduced the harvest of salmon migrating through the district to systems outside of the CMA. Aerial surveys indicated poor pink and chum salmon escapement into the rivers and streams in the Eastern District during 2002, which prevented any directed commercial fisheries targeting these species.

Western and Perryville Districts Commercial Salmon Fishery

The Western and Perryville Districts of the CMA are managed for local pink, chum, and coho salmon stocks and for the Chignik River system sockeye salmon. Three pink and chum commercial test fisheries took place in these districts during 2002 (Appendix G). The cooperative fleet elected not to participate in those fisheries, thus the fisheries were managed for the competitive fleet (Appendix B).

The Chignik Salmon Management Plan requires evaluation of the Chignik River system sockeye run strength in order for the Western and Perryville District to open to commercial fishing. In 2002, the openings in the Western and Perryville Districts were not restricted because of sockeye salmon concerns. The timing of the Western and Perryville District openings provided the competitive fleet the opportunity to participate in both the pink and chum salmon commercial fisheries in the Western and Perryville Districts and the sockeye salmon fishery in the Chignik Bay District.

The first two pink and chum salmon commercial test fishery openings in the Western and Perryville Districts were extended from 48 to 72 hours because of inclement weather conditions. Harvest during

these openings was poor. Nine permit holders made a total of 27 deliveries during the first fishery and 10 permit holders made 26 deliveries during the second fishery opening (Table 14).

The third pink and chum salmon commercial fishery opening occurred only in the Western District. The Perryville District was not opened because aerial surveys indicated the run strengths of the pink and chum salmon in the district was below escapement objectives. Eight permit holders made a total of 15 deliveries during the fishery (Table 14). The beginning of the 48-hour fishing period was postponed because of poor weather conditions; when the fishery did open, it occurred in fair weather conditions and no extension was granted. As with the first two fisheries, catches were poor. Some fishermen ceased fishing activities before the end of the fishing period because the catches were so poor. Additional commercial fishing openings in these districts were not granted because of the weak salmon runs.

The combined Western and Perryville District pink salmon harvest of all three openings was considerably lower than the historic average (1993-2001 average; Table 5). The combined chum salmon harvest for all three openings was 70% of the historical average harvest (1993-2001 average; Table 5). An in-depth historic comparison of fishing efforts in the Western and Perryville Districts is difficult because of the weak pink and chum salmon runs in the CMA during 2002.

DEPARTMENT TEST FISHERIES

The department has historically conducted test fisheries in Chignik Lagoon for multiple purposes. Early season test fisheries are utilized to determine a buildup of salmon prior to the first commercial fishery, collect sockeye salmon scale samples for early season scale pattern analysis for run partitioning, and to generate revenue to pay for the vessels chartered to conduct the test fisheries. Mid to late-season department test fisheries are conducted to collect sockeye salmon scale samples during fishery closures and to generate revenue to conduct the test fisheries and offset operational costs associated with the scale sampling program.

Sockeye salmon scale samples and Chignik Lagoon harvest data were available every day for the entire 2002 commercial fishing season because sockeye salmon were harvested daily from June 9 until September 5. Because of the lack of closures in the Chignik Bay District, the department did not require a test fishery to collect sockeye scale samples or to gather sockeye salmon run data.

The revenue generated from department test fisheries is utilized to offset costs of weir sampling operations. All of the department's test fishery needs were met with cooperative-style fishery with the exception of the generation of revenue. This issue was addressed at the June 4, CHASM meeting. The cooperative fleet volunteered to harvest salmon in Chignik Lagoon to meet department revenue requirements without charge. The cooperative fleet delivered 9,101 sockeye salmon weighing 61,656 pounds. Salmon deliveries were divided among the shore-based processors based on an agreement reached at the June 4 CHASM meeting; the floating processor expressed no interest in receiving department test fishery deliveries during 2002 but is expected to express interest in receiving deliveries

in future seasons. The department was not required to charter and pay vessels (approximately \$8,000-12,000 per season) to conduct test fisheries. This reduced the total number of salmon required to be harvested to meet annual revenue needs. In the past, all processors operating in the CMA have indicated an interest in the salmon harvested during the department test fisheries and it has been the practice of ADF&G to alternate the deliveries between processors.

SUBSISTENCE SALMON FISHERIES

Early season subsistence opportunities were reduced by the slow movement of fish, adverse weather conditions, and the early start of the commercial fishery. Current CMA regulations state that commercial fishing license holders may not fish for subsistence salmon from 48-hours prior to the first commercial fishery through September 31. To provide opportunity for commercial fishing license holders to harvest subsistence salmon, the CMA opened subsistence salmon fishing for commercial fishing license holders from 8:00 AM until 8:00 PM from June 26 to June 29 through emergency order authority. All license holders who participated in the subsistence salmon fishery were required to register with the ADF&G Chignik staff. This mid-season subsistence fishery period was established based on the recommendations and requests of local subsistence users. A total of 11 permit holders registered to participate and harvested 2,050 sockeye salmon.

Near the end of August, members of the competitive fleet speculated that additional competitive fleet fisheries would not occur in 2002. The speculation was based on the weak strength of the August portion of the late sockeye salmon run and the amount of sockeye salmon the cooperative fleet needed to harvest to achieve their allocation prior to a competitive fleet fishing period. Members of the competitive fleet contacted the department and requested additional subsistence fishing opportunities. Because the competitive fleet could not secure a commercial salmon market after August 31, and rather than waiting for the regulatory subsistence fishery to open on October 1, commercial fishing license holders requested that subsistence salmon fishing open in September. Commercial fishing license holders from the competitive fleet stated they would incur additional costs associated with insurance payments, vessel operations, supplies, and crewmember wages if they were required to wait until October to harvest subsistence salmon. The department accommodated this request by moving the start date of the subsistence CMA fall fishery for all commercial fishing license holders to September 2, and required subsistence fishers to contact the department through the month of September to register prior to beginning subsistence fishing. Historically, the department has similarly changed the CMA subsistence fishery season regulations by emergency order authority to meet the needs of the subsistence fishery at the conclusion of the season when all commercial fishing operations cease prior to October 1.

Phone interviews of Chignik area residents indicated an average return of sockeye and coho salmon in mid September to mid October. At the time of this publication, subsistence harvest efforts in Chignik Lagoon have been reported to be minimal during the month of September and October; reports of fisheries in Perryville targeting coho salmon are incomplete. Some Perryville fishers have reported mixed success because of poor weather conditions and very high water levels.

2002 CMA SALMON ESCAPEMENT

Escapements were estimated by video weir counts on the Chignik River and by aerial surveys for all other streams. The Chignik River weir was moved upriver about 12 feet in 2002 to avoid broken off pilings and scoured river bottom resulting from recent years' weir washouts. The weir remained intact throughout the 2002 season in part because of favorable water levels and light debris loads. High water conditions at the end of May delayed the installation of the weir, thus it was operational from June 2 until September 4.

The 2002 CMA chinook and sockeye salmon escapements met established goals. The 2002 CMA pink and chum salmon escapement goals were not met in many of the CMA districts. The pink salmon district escapement goals were met in the Chignik Bay, Eastern, and Western Districts of the CMA during 2002. The chum salmon district escapement goals were met in the Eastern and Western Districts of the CMA during 2002. Final aerial survey results will be published in the 2002 CMA Annual Finfish Management Report.

Aerial stream surveys of the CMA indicated that the chum and pink salmon escapements were below average through late August. Commercial test fisheries in the Western and Perryville Districts also indicated that the pink and chum runs were weak. The timing of the 2002 pink and chum salmon runs appear similar to historical averages. During the 2002 season, daily local weather patterns produced 25-35 mile per hour winds which periodically restricted aerial surveys. Inclement weather prevented aerial surveying altogether at the end of the season. Stream conditions were optimal for surveying throughout the season because of a lack of rain, even though high winds occasionally prevented small fixed wing airplane access. As a result of the lack of rain, most streams experienced low water conditions in August and into September. The low water conditions significantly reduced salmon spawning habitat in many streams surveyed. All species were adequately surveyed except coho salmon.

Chinook Salmon

Daily monitored chinook salmon escapement is limited to the Chignik River system, the largest chinook system on the south side of the Alaska Peninsula (Figure 2). The 2002 chinook salmon escapement to the Chignik River system was 3,541 salmon (Table 2). The chinook salmon minimum escapement goal of 1,450 spawners above subsistence and sport fishing removals was achieved. The 1992-2001 CMA average chinook salmon escapement through the Chignik weir was 3,443 salmon (Table 2). Although the 2002 CMA chinook salmon escapement through the weir (3,541) was slightly above average, the 2002 commercial harvest was the lowest since 1979 (Table 2). It appears the reduced amount of fishing gear in Chignik Lagoon as a result of the 2002 cooperative fishery management plan may have allowed more chinook salmon escapement to the Chignik River system.

Sockeye Salmon

Sockeye salmon escapement to the Chignik River system from June 2 through September 4 was 669,620 with postseason SPA analysis apportioning 380,701 to the Black Lake run (goal = 350,000-400,000 through August 31) and 288,919 to the Chignik Lake run (goal = 225,000-275,000 through September 15; Tables 3 and 12). Time series analysis was used to estimate sockeye salmon escaped into the Chignik River after the weir was removed on September 4. The total sockeye salmon escapement into the Chignik Lakes system from September 1-15 was an estimated 53,825 salmon (September 1-15 goal = 25,000; personal communication, Ivan Vining). The total 2002 sockeye salmon escapement through September 15 to the Chignik River system including the postweir estimate was 725,203 salmon. The escapement was approximately 80,000 sockeye salmon below the most recent 10-year average of 805,263 (Table 4). The lack of late season historic markets and the cooperative's desire to fish slowly reduced the late season harvest and thus added some additional salmon to the escapement.

During 2002, ADF&G targeted the lower sockeye salmon interim escapement objectives for the Chignik River system (Table 3). This was done because sockeye salmon escapements have been in excess of escapement goals since 1980 (Table 4). Preliminary limnology data from both Black Lake and Chignik Lake in 2000 and 2001 indicate that the forage base for sockeye salmon rearing in the lakes was taxed (Finkle and Bouwens 2001, Bouwens and Finkle *in press*).

The postseason age 1.3 model produced an 89.0% classification accuracy for Black Lake and 78.8% for Chignik Lake while the postseason 2.3 SPA model produced an 83.7% classification accuracy Black Lake and 89.0% for Chignik Lake (Witteveen and Botz *in press*). The inseason sockeye SPA indicated that the transition from Black Lake to Chignik Lake (50/50 composition) occurred on July 15, which was similar to the historic transition date (Witteveen and Botz *in press*). After the run transition, management emphasis shifted primarily from attaining Black Lake sockeye escapement objectives to attaining Chignik Lake escapement objectives.

Coho Salmon

Coho salmon escapement past the weir totaled 9,487 fish while the weir was operational (Table 15). Historically, the majority of coho salmon pass through the weir during the last week of August and the first four days of September. Because of the lack of commercial harvests following the removal of the weir on September 4, a postweir estimate for coho salmon escapement into the Chignik River system was not generated in 2002. A total of 28,697 coho salmon were documented in CMA streams during 2002 (Table 16). The lack of aerial escapement data was due to the department's inability to conduct thorough surveys in September as the result of inclement weather conditions. Postseason reports indicated a moderate increase in numbers of coho salmon returning to the rivers around Perryville and a large run into the Ivanof River. Phone interviews of Chignik area residents indicate above average numbers of coho salmon returned to the Chignik River system through the end of October.

Pink Salmon

Pink salmon escapement into the Chignik River was small with 3,417 fish enumerated through the weir (Table 15). This year's pink salmon escapement was 75% of the average escapement (4,543) since ADF&G began to count pink salmon through the weir in 1996 (McCullough 2002). Aerial surveys of other CMA salmon streams indicated that the local pink salmon runs were weak. The total pink salmon escapement for the CMA was estimated to be 1,028,053 fish (Table 16, Figure 7). This area wide escapement was well below the 10-year average (1992-2001) of 1,905,260 fish but above the overall CMA escapement goal of 780,000 fish (Table 7, Figure 7). The timing of the 2002 pink salmon runs appeared to have been similar to historical averages. Although the overall CMA pink salmon escapement goals were met, some individual stream objectives were not met. The poor pink salmon harvests in the commercial test fisheries in the Western and Perryville Districts supported survey results. If the cooperative purse seine management plan is in effect for the 2003 season, effort in the outside districts fisheries targeting pink salmon may increase if markets are available and runs are larger.

Chum Salmon

Escapement in the Chignik River totaled only 67 chum salmon through the weir while it was operational (Table 15). This year's enumerated escapement was less than 43% of the average escapement (156) since ADF&G began to count chum salmon through the weir in 1996 (McCullough 2002). Aerial surveys of other CMA salmon streams indicated that local chum salmon runs were weak. Total chum salmon escapement for the CMA was estimated to be 235,634 fish (Table 16). This area-wide escapement was well below 10-year average (1992-2001) of 408,430 fish and slightly above the overall CMA escapement goal of 207,000 fish (Table 8; Figure 8). Some chum salmon systems had less than 50% of the chum salmon escapement objectives. The poor chum salmon harvest in the commercial test fisheries in the Western and Perryville Districts supported aerial survey results. If the cooperative purse seine management plan is in effect for the 2003 season, effort in the outside districts fisheries targeting chum salmon may increase if markets are available and runs improve.

COMPARISON OF THE 2002 SEASON TO HISTORIC SEASONS

Management in the CMA during 2002 was significantly affected by the cooperative fishery, because of the lack of historical knowledge or experience and conflicts with existing regulations. New management challenges arose frequently prior to and throughout the season. The majority of the CMA management staff's efforts focused on the inseason unknowns of managing a new type of fishery and communicating with both fleets, industry, and local communities answering questions regarding management options, concerns, and department requirements (50-100 phone calls per day at times). Additional ADF&G responsibilities as a result of the cooperative management plan included CHASM meetings, preparation for out-of-cycle BOF meetings, and media interviews. ADF&G also had to work out challenges with the Cape Igvak and SEDM allocative plans.

Daily fishing activity prevented a significant buildup of salmon in Chignik Lagoon during the entire fishery season. Many fishery management decisions were somewhat simplified and made more predictable in that the industry was updated on daily weir escapement and commercial harvests by fleet. This in turn allowed the department to make many management decisions several days prior to subsequent management actions.

Drawing comparisons between the fishing activities that took place during the 2002 season to historic seasons are complicated. Nearly every aspect of the CMA commercial salmon fisheries was affected by the new management plan, which makes the 2002 season largely incomparable with most historic information. However, the specific years 1985, 1992, and 1998, as well as average conditions over the past seventeen years (1985-2001) were selected to make comparisons to the 2002 season because of similar run sizes (within 16%) of the total Chignik River system bound sockeye salmon (Table 4).

Fishing Patterns

Commercial fishing activity took place daily from June 9 to September 5 throughout the 2002 season (Figure 10). The fleets harvested salmon on 90 days during the 2002 season as compared to 55 days during 1985, 72 days in 1992, and 69 days in 1998 (Figure 11). Although the 1998 sockeye salmon total run was similar to 2002 (Figure 5), there was a price dispute during most of June. With the two fleets fishing at different times throughout the entire 2002 season, the highest number of vessels fishing at one time was 22 instead of the 80-99 vessels that have historically participated in the fishery (Table 1).

The number of permits fished daily in 2002 was consistently lower than the average number of permits fished daily from 1992-2001 (Figure 13). Though deliveries were made on 90 days during the 2002 season, the reduced number of permit holders fishing made fewer deliveries than any other year since at least 1981 (Figure 14). The 2002 season was the first time since the use of fish traps in the CMA (1949) that sockeye salmon were delivered on a daily basis for the entire fishery season.

Historic fishing patterns within the Chignik Bay District changed as the result of the new management plan. Historically, the majority of the fleet would begin fishing in Chignik Lagoon when the Chignik Bay District was opened. When fishing in the Lagoon became scratchy after the first few sets, many permit holders would travel to other fishing grounds outside of Chignik Lagoon until the fishery closed. The fishers who remained in Chignik Lagoon would form lines near productive fishing stations for their turn to set. These lines would consist of 5-10 vessels and fishermen would have to wait 2-4 hours for their turn, setting their nets for an agreed time limit (usually 20-30 minutes). The reduction of the number of permit holders fishing as a result of the new management plan reduced or eliminated the need to form lines and take turns at the productive fishing sites in 2002. Rather, the cooperative fleet spread their vessels out across Chignik Lagoon and fished the productive fishing sites concurrently, or fished side by side when more than one vessel was at a productive location. Conversely, the competitive fleet was still observed forming lines occasionally though the lines were generally reduced to two or three vessels and waiting times dropped to less than two hours.

A notable difference in fishing patterns which took place during the 2002 season was the reduced fishing effort and harvests outside of the Chignik Bay District (Figures 15 and 16). The cooperative fleet chose not to fish outside of the Chignik Bay District and the poor pink and chum runs and markets also limited interest by the competitive fleet.

By regulation, outside district fisheries are dependent on sockeye salmon escapements in the Chignik River system. During years when the Chignik River system sockeye salmon returns are weak, fishing openings in the outside districts can be foregone even if the run strength of other salmon species within the CMA can provide a harvestable surplus. When the run strength of the sockeye salmon returning to the Chignik River system is low, the commercial fishing periods in the Chignik Bay District are short and intermittent. Historically, because the outside districts were usually opened concurrently with the Chignik Bay District, fishers made a choice about which district to participate in. During recent years, the vast majority of the CMA fleet chose to target sockeye salmon in the Chignik Bay and Central Districts instead of pink and chum salmon in outside district fisheries because of the greater value of sockeye salmon. During 2002, the fleet was not forced to choose between these fisheries. The cooperative fleet chose not to participate in any outside fisheries and the 2002 outside fishery openings were scheduled to not conflict with competitive fleet openings in Chignik Bay.

Another notable change in fishing patterns took place during the latter part of the 2002 season. Historically, the number of participating permit holders declined during August and September (Figure 13). Many fishermen from outside of the local Chignik communities quit commercial fishing after the peak of the late sockeye salmon run. Supposedly, local permit holders would then have an opportunity to harvest, with reduced competition, the tail end of the late sockeye salmon run and most of the coho salmon run returning to the Chignik River system. Many permit holders who reside in the Chignik villages stated that they depend upon the late season salmon harvests as a large part of their annual income. Because the cooperative management plan allocates all sockeye salmon harvested in the CMA for the entire salmon season, much of the late season salmon historically harvested by a reduced number of local permit holders was, according to some opinions, allocated to the 77 permit holders of the cooperative fleet. The last fishing period in the Chignik Bay District for the competitive fleet occurred from August 19-23. The cooperative fleet fished in the Chignik Bay District from August 24 to September 5, when all commercial salmon fishing activity in the CMA ceased for the 2002 season.

The fall sockeye salmon harvests and number of permits fished in 2002 were compared with data from 1985, 1992, and 1998 (Figures 17 through 20). The pulses in harvest were dampened considerably in 2002 compared to the other years. Also, the daily number of permits fished in August and September 2002 never surpassed 30, while it was not unusual for more than 50 permits to be fished daily in other years. In fact, in 1985 and 1992, the number of permits fished daily in early August was about 90 (Figures 18 and 19). The differences in permits fished during these years does not appear to be related to the number of sockeye salmon available for harvest.

Salmon Escapement

Salmon escapement into the Chignik River systems was also affected by the cooperative management plan. Historically, salmon escapement through the Chignik weir has been managed through commercial fishery openings and closures. If salmon escapement levels through the weir were behind established objectives, ADF&G restricted or closed the commercial salmon fishery until the escapement levels are again ahead of escapement objectives. When escapement levels through the weir were ahead of

established objectives, ADF&G opened the commercial fishery to harvest surplus salmon. During commercial fishery closures, salmon could buildup in large numbers in the Chignik Lagoon. When the fishery was reopened, harvests would be initially good then they would drop as the buildup was harvested. Daily salmon harvests would form peaks and valleys based upon the fishery openings and closure schedules. This type of management would produce peaks and valleys from pulses of up to 60,000 salmon through the weir per day following closures and down to a couple hundred salmon on days following fishery openings (Figures 21 through 31).

The peaks and valleys of historic Chignik salmon escapement and harvests were reduced during the 2002 as a result of the cooperative management plan (Figure 32). This is because commercial fishing took place on a daily basis throughout the season. The department was able to determine the strength of the Chignik Lakes system salmon runs by constant catch reports and escapements at the weir. Harvesting of salmon took place daily throughout the season, effectively preventing salmon from building up in Chignik Lagoon. The department was able to roughly control escapement with the competitive fleet but was able to fine tune escapement with the cooperative fleet.

The 2002 Chignik River sockeye salmon escapement through the weir accurately met escapement objectives (Figure 12). Historically, the department has not had the ability to manage the Chignik River sockeye salmon escapement with the level of precision displayed in 2002 (Figures 33-42). This precision is a direct result of the cooperative fishery management plan.

Salmon escapement to CMA streams and rivers outside of the Chignik River system were also affected by the cooperative management plan. The decision of the cooperative fleet not to commercially fish outside of the Chignik Bay District increased salmon escapements in all outside districts. Though the overall escapements of pink and chum salmon to the CMA rivers and streams were considered weak, the effect of removing the majority of the fishing effort from the outside districts should be more apparent in future years with strong pink and chum salmon runs.

OTHER EVENTS AND SITUATIONS

Several noteworthy events occurred during the 2002 season in addition to the cooperative fishery. The most noteworthy was the fair weather that the Chignik Bay District experienced throughout the season. Minimal rain showers and unseasonably dry conditions caused low water conditions in the majority of streams and rivers in the CMA. The low water conditions restricted access to, and reduced the amount of salmon spawning habitat, in many of the streams and creeks in the CMA. Most fair weather conditions coincidentally happened during the time periods when the cooperative fleet was fishing.

The smooth flow of the sockeye salmon return to the Chignik River was also notable. The steady flow of the sockeye salmon catch and escapement throughout the season allowed for an orderly fishery. Because of the low and steady sockeye salmon escapement through the Chignik weir, the cooperative fleet was placed on limits from June 20 through June 29 and again on July 23 and 24. The competitive fleet voluntarily limited their harvest on July 25.

Following the first pink and chum commercial test fishery in the Western and Perryville Districts, the industry requested a department observer because immature salmon were present in those districts during the first pink and chum fishery. ADF&G staff was deployed aboard a tender for the second 72-hour commercial test fishery in the Western and Perryville Districts. Data indicated that immature salmon were no longer present during this fishing period.

Two new projects were evaluated at the Chignik weir this year. The department began a feasibility study of a weir fish trap to collect live adult sockeye salmon for the scale sampling program. Although there is no historical perspective to determine how this year's fishery may have affected the weir sampling efforts, the cooperative fishery did result in a more steady daily escapement through the weir. The steady daily escapement did not have the historical large peaks and valleys associated with typical fishery openings and closures. It is possible that the weir fish trap may have been more efficient at capturing salmon during days of high escapements similar to those observed in the past. This pilot project's objectives included testing different live fish trap designs, investigating possible bias associated with sampling at the weir in comparison to sampling salmon from the commercial catch, and to evaluate the utility of replacing commercial catch sampling with weir escapement samples for estimating age composition and in SPA. This pilot project will continue to be evaluated through the 2003 season.

The second new project based from the Chignik weir was a radio telemetry tagging study conducted by the United States Fish and Wildlife Service (FWS). The FWS stationed up to two biologists at the weir beginning on August 1. The project also utilized two local technicians as project assistants. Live sockeye salmon from the weir trap received esophageal implants that emitted a radio frequency for the purpose of studying salmon migration from the weir to the spawning grounds. The project goal was to determine the run timing of the late season sockeye salmon traditionally harvested in subsistence fisheries. The department assisted the FWS with many aspects of the project including the implanting of tags in the fish, transporting personnel, and conducting an aerial survey with telemetry receiving equipment. The project was ongoing when the weir facility was closed down for the winter and will continue by the FWS until December. The data from this project may prove useful in the understanding of the late season sockeye salmon migration patterns.

Fishing conditions in 2002 supported the new cooperative purse seine fishery. The weather in Chignik Lagoon and Chignik Bay was favorable, the sockeye salmon return to the Chignik Lakes system was below average and steady, and the integrity of the weir assisted in a successful season. It is not certain that management for escapement goals and fleet allocations would be as precise during seasons with large salmon runs and more inclement weather conditions.

2003 FORECAST

Chinook Salmon

The 2003 projected chinook harvest of approximately 4,950 fish is dependent upon the amount of fishing time allowed for harvesting sockeye salmon in July. This projection approximates the 10-year harvest average between 1993-2002. The Chignik River system's chinook salmon minimum escapement goal above the subsistence and sport fishing removals is 1,450 spawners. Although the 2002 CMA chinook salmon escapement through the weir (3,541) was slightly above the 1992-2001 average (3,443), the 2002 commercial harvest was the lowest since 1979 (Table 2). If escapement in early July is weak and escapement goals are not likely to be met, the Humes Point markers may be used to increase escapement by removing fishing pressure from areas where chinook salmon mill in the Chignik Lagoon before entering the Chignik River.

Sockeye Salmon

The 2003 Chignik Management Area sockeye salmon forecast has not been completed at the time of this publication. The 2003 CMA sockeye salmon forecast will be available in early 2003.

Coho Salmon

The 2003 projected commercial coho salmon harvest is approximately 155,000 fish. The Chignik Bay and the outside districts catch projections are based the 1993-2002 10-year harvest average. Ultimately, fishing time for coho salmon will be related to the strength of the Chignik Lake sockeye, local pink, and chum salmon runs, subsistence concerns in the Western and Perryville Districts, and market conditions.

Pink Salmon

The 2003 projected commercial pink salmon harvest is approximately 942,000 fish. The forecast is based on the average harvestable surplus over the most recent 10-year period 1993-2002. A slightly larger harvest is expected in the Western and Perryville Districts than the Central and Eastern Districts. If pink salmon runs are strong and the cooperative purse seine management plan is in effect for the 2003 season, efforts in the outside district fisheries targeting pink salmon may increase. However, if pink salmon runs are weak, there will likely be little effort targeting pink salmon. Market conditions for this species will also affect the harvest.

Chum Salmon

The 2002 projected commercial chum salmon harvest is approximately 178,000 fish. The chum salmon forecast is based on the average harvestable surplus over the most recent 10-year period 1993-2002. The Western and Perryville Districts should experience the largest proportion of the catch. If chum salmon runs are strong and the cooperative purse seine management plan is in effect for the 2003

season, efforts in the outside district fisheries targeting chum salmon may increase. However, if chum salmon runs are weak, there will likely be little effort targeting chum salmon. Market conditions for this species will also affect the harvest.

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Table 1. Economic value of salmon by species and average income per commercial salmon permit holder, in dollars, in the Chignik Management Area, 1970-2002.

Date	Chinook		Sockeye		Coho		Pink		Chum		Total Value	Number Of Permits Fished (Active)	Total Value Per Permit
	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average			
1970	6,129	89	2,190,272	31,743	18,397	267	635,673	9,213	376,025	5,450	3,226,496	69	46,761
1971	6,472	84	2,034,279	26,419	23,240	302	366,693	4,762	326,760	4,244	2,757,444	77	35,811
1972	2,028	28	825,498	11,308	35,699	489	48,401	663	87,759	1,202	999,385	79	12,650
1973	5,255	72	3,030,057	41,508	73,663	1,009	20,610	282	10,180	139	3,139,765	77	40,776
1974	2,941	32	3,618,781	39,767	31,933	351	64,069	704	51,125	562	3,768,849	94	40,094
1975	6,561	76	1,384,271	16,240	213,539	2,581	104,115	12,211	61,704	717	1,770,190	86	20,584
1976	13,800	179	4,751,000	61,701	138,000	1,792	568,300	7,381	183,600	2,384	5,654,700	77	73,438
1977	18,828	212	14,553,720	163,525	104,819	1,178	920,881	10,347	368,066	4,136	15,966,314	88	181,435
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	95	182,764
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	101	146,900
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	101	85,739
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	103	214,466
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	105	160,291
1983	96,159	962	10,728,088	107,281	219,650	2,197	240,171	2,402	421,713	4,217	11,705,781	100	117,058
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	101	215,381
1985	67,088	664	7,997,834	79,186	1,471,418	14,568	140,076	1,387	59,475	589	8,735,891	101	86,494
1986	84,800	848	16,882,290	168,823	667,740	6,677	356,147	3,562	456,546	4,565	18,447,523	100	184,475
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	102	259,810
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	102	272,069
1989 ^a	78,999	790	13,047,378	130,474	436,892	4,369	32,994	3,299	4,745	47	13,601,008	100	136,010
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	101	245,314
1991	50,027	486	11,002,784	106,823	650,626	6,317	402,916	3,912	502,860	4,882	12,609,213	101	124,844
1992	193,326	1,858	12,552,025	120,693	1,323,107	12,722	811,882	7,807	414,005	3,981	15,294,345	101	151,429
1993	175,690	1,722	8,210,106	80,491	730,622	7,163	637,666	6,252	184,012	1,804	9,938,096	102	97,432
1994	38,096	385	10,046,245	101,477	1,094,415	11,055	226,504	2,208	430,888	4,352	11,836,148	99	119,557

-Continued-

Table 1. (page 2 of 2)

Date	Chinook		Sockeye		Coho		Pink		Chum		Number Of Permits Fished (Active)	Total Value Per Permit
	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average		
1995	60,174	602	11,969,210	119,692	834,337	8,343	977,811	9,778	634,780	6,348	100	144,763
1996	25,041	250	12,640,560	126,406	447,228	4,472	24,827	248	32,279	323	100	131,699
1997	20,642	211	4,860,589	49,598	453,905	4,632	348,042	3,551	239,400	2,443	98	60,434
1998	31,934	376	6,631,192	78,014	397,413	4,675	310,323	3,651	137,647	1,619	85	88,335
1999	27,212	299	21,132,550	232,226	170,931	1,878	578,861	6,361	118,547	1,303	91	242,067
2000	16,336	165	11,812,368	119,317	283,061	2,859	106,470	1,075	93,030	940	99	124,356
2001	12,205	133	7,419,339	80,645	263,160	2,860	366,714	3,986	209,239	2,274	92	89,898
2002 ^b	3,516	36	4,564,214	46,103	36,078	364	10,333	104	40,671	411	99	47,018
Averages												
1972-81	28,105	291	7,795,674	83,352	238,480	2,508	883,854	10,235	478,718	4,877	90	99,885
1982-91	111,159	1,095	15,474,227	152,294	1,187,719	11,633	962,523	9,733	635,558	6,213	101	180,175
1992-01	60,066	600	10,727,418	110,856	599,818	6,066	438,910	4,492	249,383	2,539	97	124,997

^a Exxon Valdez Oil Spill

^b Includes active Chignik Management Area CFEC salmon permits, 22 competitive fleet CFEC Permits and 77 cooperative fleet CFEC permits. Two CFEC salmon permits were not fished during the 2002 season.

Table 2. Chignik River chinook salmon escapement, Chignik Management Area catch, and total run, 1960-2002.

Year	Escapement ^a	Catch ^b	Total Run
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	1,226	3,726
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	2,290	2,990
1977	798	710	1,508
1978	1,197	1,603	2,800
1979	1,050	1,253	2,303
1980	876	2,344	3,220
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	1,888	5,032
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
1991	4,531	3,157	7,702
1992	3,806	10,832	14,638
1993	1,946	19,515	21,461
1994	2,963	3,919	6,935
1995	4,288	5,261	9,549
1996	3,488	3,105	6,593
1997	3,824	3,032	6,856
1998	3,075	4,395	7,470
1999	3,728	3,296	7,024
2000	4,285	2,592	6,877
2001	3,028	2,849	5,877
2002	3,541	1,441 ^c	4,982
Avg. (1972-1981)	1,010	1,269	2,278
Avg. (1982-1991)	3,662	4,651	8,315
Avg. (1992-2001)	3,443	5,880	9,328

^a No escapement adjustments are made for chinook salmon that spawn below the weir, or those removed by the sport fishery.

^b Does not include chinook salmon utilized for personal or subsistence use.

^c Does not include catches from the department's test fishery.

Table 3. Chignik River system sockeye salmon escapement goals for the early run (primarily Black Lake) and the late run (primarily Chignik Lake) 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. Inseason variations from the figures listed may be due to variations in actual timing and/or strength of the run.

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

Late Run-250,000 Escapement Objectives to August 31		
Date	Early Escapement Is Achieved	Early Escapement Is Not Achieved
July 6		40,000
July 8		45,000 - 50,000
July 10	40,000	55,000 - 65,000
July 12	50,000 - 60,000	70,000 - 75,000
July 14	65,000 - 75,000	75,000 - 80,000
July 16	80,000 - 90,000	80,000 - 90,000
July 19	100,000 - 115,000	100,000 - 115,000
July 21	125,000 - 135,000	125,000 - 135,000
July 23	145,000 - 160,000	150,000 - 160,000
July 26	170,000 - 180,000	170,000 - 180,000
July 29	185,000 - 195,000	190,000 - 195,000
July 31	195,000 - 200,000	195,000 - 200,000
August 31	200,000 - 250,000	200,000 - 250,000

September 1 - 15 Escapement Objective		
Date	Objective	Season Total
September 1 - 15	25,000	225,000 - 275,000

Table 4. Sockeye salmon escapement, catch, and total run for Black Lake, Chignik Lake, and combined runs, based on postseason scale pattern analysis, 1954-2002.

Year	Escapement and Catch ^{a,b,c}								
	Black Lake			Chignik Lake			Combined		
	Escapement	Catch	Total	Escapement	Catch	Total	Escapement	Catch	Total
1954	184,953	72,334	257,287	277,912	19,232	297,144	462,865	91,566	554,431
1955	256,757	179,539	436,296	201,409	168,987	370,396	458,166	348,526	806,692
1956	289,096	246,442	535,538	483,024	421,251	904,275	772,120	667,693	1,439,813
1957	192,479	77,423	269,902	328,779	224,757	553,536	521,258	302,180	823,438
1958	120,862	141,180	262,042	212,594	179,949	392,543	333,456	321,129	654,585
1959	112,226	165,000	277,226	308,645	251,547	560,192	420,871	416,547	837,418
1960	251,567	274,048	525,615	357,230	418,356	775,586	608,797	692,404	1,301,201
1961	140,714	53,852	194,566	254,970	278,609	533,579	395,684	332,461	728,145
1962	167,602	71,562	239,164	324,860	292,528	617,388	492,462	364,090	856,552
1963	332,536	80,258	412,794	200,314	323,080	523,394	532,850	403,338	936,188
1964	137,073	142,380	279,453	166,625	472,510	639,135	303,698	614,890	918,588
1965	307,192	497,018	804,210	163,151	169,576	332,727	470,343	666,594	1,136,937
1966	383,545	87,169	470,714	183,525	162,638	346,163	567,070	249,807	816,877
1967	328,000	154,134	482,134	189,000	350,901	539,901	517,000	505,035	1,022,035
1968	342,343	542,598	884,941	244,836	641,693	886,529	587,179	1,184,291	1,771,470
1969	366,589	263,170	629,759	132,055	235,960	368,015	498,644	499,130	997,774
1970	536,257	1,566,065	2,102,322	119,952	262,244	382,196	656,209	1,828,309	2,484,518
1971	671,668	555,832	1,227,500	232,501	709,190	941,691	904,169	1,265,022	2,169,191
1972	326,320	43,220	369,540	231,270	386,615	617,885	557,590	429,835	987,425
1973 ^d	538,462	610,488	1,148,950	243,729	355,195	598,924	782,191	965,683	1,747,874
1974	364,603	204,722	569,325	313,343	648,283	961,626	677,946	853,005	1,530,951
1975	319,890	7,873	327,763	257,508	417,560	675,068	577,398	425,433	1,002,831
1976	548,953	599,341	1,148,293	281,810	727,043	1,008,854	830,763	1,326,384	2,157,147
1977	364,557	534,198	898,755	328,916	1,602,363	1,931,278	693,473	2,136,561	2,830,034
1978	419,732	940,188	1,359,919	262,815	885,173	1,147,988	682,547	1,825,361	2,507,908
1979	491,467	186,537	678,004	246,349	933,788	1,180,137	737,816	1,120,325	1,858,141
1980	369,580	73,742	443,322	294,481	849,980	1,144,461	664,061	923,722	1,587,783
1981	570,210	800,364	1,370,573	261,239	1,444,365	1,705,605	831,449	2,244,729	3,076,178
1982	616,117	1,325,041	1,941,158	305,193	451,789	756,982	921,310	1,776,830	2,698,140
1983	426,178	1,128,246	1,554,423	428,034	1,241,369	1,669,404	854,212	2,369,615	3,223,827
1984	597,713	2,919,984	3,517,697	267,861	613,075	880,936	865,574	3,533,059	4,398,633
1985	373,040	654,756	1,027,796	372,798	442,443	815,241	745,838	1,097,199	1,843,037
1986	557,772	1,364,295	1,922,067	215,547	587,561	803,108	773,319	1,951,856	2,725,175
1987	589,299	1,946,938	2,536,237	214,444	419,992	634,436	803,743	2,366,931	3,170,674
1988	420,580	272,074	692,654	255,177	554,304	809,481	675,757	826,379	1,502,136
1989	384,001	234,237	618,238	557,174	929,535	1,486,709	941,175	1,163,772	2,104,947
1990	434,550	582,520	1,017,070	335,860	1,747,435	2,083,295	770,410	2,329,955	3,100,365
1991	662,660	1,711,683	2,374,343	377,438	661,025	1,038,463	1,040,098	2,372,708	3,412,806
1992	360,681	746,341	1,107,022	403,755	777,311	1,181,066	764,436	1,523,652	2,288,088
1993	364,261	926,892	1,291,154	333,116	1,199,050	1,532,166	697,377	2,125,942	2,823,319
1994	769,465	1,595,176	2,364,641	197,444	416,377	613,821	966,909	2,011,553	2,978,462
1995	366,495	666,800	1,033,295	373,425	1,315,862	1,689,287	739,920	1,982,662	2,722,582
1996	464,748	1,688,224	2,152,972	284,389	705,657	990,046	749,137	2,393,881	3,143,018

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Table 4. (page 2 of 2)

Year	Escapement and Catch ^{a,b,c}								
	Black Lake			Chignik Lake			Combined		
	Escapement	Catch	Total	Escapement	Catch	Total	Escapement	Catch	Total
1997	396,668	234,492	631,160	378,950	535,191	914,141	775,618	769,683	1,545,301
1998	410,659	313,027	723,686	290,469	816,851	1,107,320	701,128	1,129,878	1,831,006
1999	457,424	2,022,354	2,479,777	258,542	1,723,915	1,982,458	715,966	3,746,269	4,462,235
2000 ^e	536,141	1,575,855	2,111,996	269,084	575,597	844,681	805,225	2,151,452	2,956,677
2001	744,013	563,076	1,307,089	392,905	1,214,403	1,607,308	1,136,918	1,777,479	2,914,397
2002	380,701	684,715	1,065,416	344,502	565,339	909,841	725,203	1,250,054	1,975,257
Average									
1972-1981	431,377	400,067	831,445	272,146	825,037	1,097,183	703,523	1,225,104	1,928,627
1982-1991	506,191	1,213,977	1,720,168	332,953	764,853	1,097,806	839,144	1,978,830	2,817,974
1992-2001	487,055	1,033,224	1,520,279	318,208	928,021	1,246,229	805,263	1,961,245	2,766,508

^aIncludes 80% of the catches for the entire season from Cape Igvak and SEDM for years between 1954-1972 and 1982. From 1973 to 2001, includes 80% of the catch from Cape Igvak and most of SEDM through July 25. In 2002 includes 90% of catch from Cape Igvak and 80% of most of the SEDM through July 25.

^bDoes not include personal use or subsistence fish.

^cIncludes catches from the Chignik Lagoon test fishery.

^dEscapement, catch, and total run for Black Lake and Chignik Lake were recalculated in 2001 for all years between 1973-1999, excluding 1982, where stock separation data were not available. The 2001 recalculations were done using stock separation percentages, daily weir counts, and updated fish ticket catch information, including 80% of the Cape Igvak and most of SEDM harvest through July 25. These numbers supersede any previously published numbers. Numbers could not be recalculated for years prior to 1973 because data were not available.

^eApproximately 200,000 additional sockeye salmon were observed during aerial surveys of Black Lake

Table 5. Commercial salmon catches by district in the Chignik Management Area, 1993-2002.

Year	Chinook		Sockeye		Coho		Pink		Chum		Total Salmon			
	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds		
Chignik Bay District														
1993	91	2,409	5,240	85,848	762,730	4,675,799	48,808	349,816	55,909	174,334	8,116	44,235	880,803	5,330,032
1994	88	2,334	1,808	36,773	908,042	5,696,656	70,541	669,451	59,425	261,622	25,250	174,189	1,065,066	6,838,691
1995	82	3,188	3,008	76,580	1,083,707	7,335,791	54,646	460,937	106,939	416,116	14,588	114,029	1,262,888	8,403,453
1996	84	2,975	1,579	38,326	1,003,683	7,915,161	45,361	416,985	1,523	5,861	639	5,140	1,052,785	8,381,473
1997	72	2,022	1,296	25,997	406,763	2,579,448	32,847	298,021	39,461	132,576	20,978	152,039	501,345	3,188,081
1998	67	2,090	1,721	31,397	621,868	3,751,669	23,063	223,668	26,054	100,971	7,352	55,053	680,058	4,162,758
1999	83	3,357	2,101	38,372	2,356,122	15,740,123	23,144	177,906	59,001	178,705	12,147	96,377	2,452,515	16,231,483
2000	91	2,359	581	12,762	1,327,249	10,363,643	11,620	99,559	28,067	97,256	8,389	66,917	1,375,906	10,640,137
2001	76	2,053	1,146	18,521	1,082,074	7,958,945	10,000	82,894	75,135	274,859	11,533	83,082	1,179,888	8,418,301
2002 ^a	40	2,295	917	9,888	984,655	6,797,969	8,461	66,176	10,187	32,159	3,903	29,642	1,008,123	6,935,834
1993-2001														
Average	82	2,532	2,053	40,508	1,061,360	7,335,248	35,559	308,804	50,168	182,478	12,110	87,896	1,161,250	7,954,934
Central District														
1993	73	961	6,865	70,435	557,020	3,371,664	36,421	215,825	205,037	620,946	43,306	260,713	848,649	4,539,583
1994	65	897	1,303	22,662	573,484	3,586,448	19,794	175,294	99,149	321,930	69,552	507,601	763,282	4,613,935
1995	60	1,300	831	15,364	415,436	2,728,432	46,975	345,558	469,745	1,784,645	107,061	813,357	1,040,048	5,687,356
1996	55	1,254	993	16,662	743,618	5,577,898	35,420	275,002	15,756	47,580	26,125	231,935	821,912	6,149,077
1997	61	1,196	1,609	19,513	295,084	1,871,331	45,878	366,556	603,575	1,982,755	104,259	805,999	1,050,405	5,046,154
1998	48	874	1,786	23,041	286,513	1,784,730	32,723	266,377	233,732	794,480	43,036	317,314	597,790	3,185,942
1999	41	799	818	13,195	612,587	3,915,453	24,308	165,713	664,208	1,927,674	75,495	573,780	1,377,416	6,595,815
2000	47	751	527	9,223	358,985	2,678,596	37,943	301,507	271,417	740,367	66,904	579,089	735,776	4,308,782
2001	43	694	769	14,275	382,172	2,777,945	31,062	244,648	641,438	2,075,115	84,004	686,495	1,139,445	5,798,478
2002 ^a	6	64	17	194	44,368	302,715	4,442	34,093	17,580	53,900	9,643	75,768	76,050	466,670
1993-2001														
Average	55	970	1,722	22,708	469,433	3,143,611	34,503	261,831	356,006	1,143,944	68,860	530,698	930,525	5,102,791
Eastern District														
1993	33	177	2,568	29,319	186,364	1,045,106	4,240	25,172	52,755	151,960	21,157	131,290	267,084	1,382,847
1994	20	27	43	827	20,041	120,797	176	1,680	12,952	46,055	4,333	30,180	37,545	199,539
1995	24	69	108	2,029	48,842	305,438	458	2,928	8,572	30,480	8,074	62,909	66,054	403,784
1996	25	93	263	4,297	145,668	992,367	33	201	7,181	16,673	19,748	161,759	172,893	1,175,297
1997	26	60	60	947	20,650	128,173	1,801	13,422	72,347	250,575	11,397	90,425	106,255	483,542

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Table 5. (page 2 of 2)

Year	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum		Total Salmon	
			Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1998	15	75	1,221	182,004	30,555	10,174	66,725	208,368	5,180	34,511	103,766	436,278		
1999	17	70	2,351	515,443	79,717	18,823	40,571	116,636	11,332	81,320	134,862	734,573		
2000	14	39	891	491,204	71,572	19,248	10,500	31,836	8,045	66,328	92,725	609,507		
2001	21	59	2,728	197,324	28,377	16,629	97,438	290,784	50,911	438,842	179,331	946,307		
2002 ^{a,b}														
1993-2001														
Average	22	74	4,957	441,984	70,198	12,031	41,005	127,041	15,575	121,952	128,946	707,964		
Western District														
1993	78	399	3,113	28,824	54,051	315,376	84,056	516,876	685,605	2,183,128	25,045	145,621	851,870	3,189,825
1994	66	323	452	6,659	64,325	401,035	110,476	890,333	174,641	586,191	94,116	665,538	444,010	2,549,756
1995	56	325	890	10,839	79,874	515,329	87,819	599,514	791,718	2,708,667	158,273	1,152,340	1,118,574	4,986,689
1996	29	168	162	2,146	47,529	304,887	91,587	652,534	100,871	292,562	36,303	252,031	276,452	1,504,160
1997	40	92	695	44,768	267,536	68,085	118,003	379,052	16,280	124,140	188,250	839,508		
1998	26	213	555	6,740	87,940	553,623	55,359	421,808	343,187	1,071,003	41,425	291,724	528,466	2,344,898
1999	25	130	208	2,482	57,859	339,917	36,205	237,498	771,411	2,163,226	37,089	278,831	902,772	3,021,954
2000	33	104	1,421	11,704	15,034	114,441	69,599	512,410	106,147	282,041	34,823	297,961	227,024	1,218,557
2001	21	87	627	3,755	17,673	128,198	86,580	656,790	424,537	1,299,911	37,466	282,539	566,883	2,371,193
2002*	13	67	538	3,643	9,425	61,559	36,283	239,241	36,918	115,582	40,337	295,884	123,501	735,909
1993-2001														
Average	42	205	832	8,205	52,117	326,705	70,091	506,205	390,680	1,218,420	53,424	387,858	567,145	2,447,393
Perryville District														
1993	45	295	1,729	19,827	137,186	854,687	55,934	353,555	649,071	2,183,429	24,736	154,188	868,656	3,565,686
1994	30	127	313	4,944	53,081	340,899	36,217	260,068	84,896	278,861	34,025	253,503	208,532	1,138,275
1995	25	230	424	6,375	96,186	637,331	90,707	653,149	681,024	2,410,478	92,953	672,352	961,294	4,379,685
1996	14	75	108	1,172	17,855	112,432	20,825	141,225	58,475	173,542	16,976	128,975	114,239	557,346
1997	11	17	7	72	2,418	14,101	1,243	10,425	11,045	39,375	2,991	24,396	17,704	88,369
1998	20	96	254	4,131	27,296	166,024	17,140	123,796	107,290	411,204	31,848	219,046	183,828	924,201
1999	7	26	22	306	10,216	59,117	2,658	17,380	163,460	459,194	4,531	34,125	180,887	570,122
2000	9	15	10	177	2,385	18,340	1,505	10,812	11,933	31,504	2,796	23,370	18,629	84,203
2001	11	12	5	93	1,074	8,019	1,496	11,192	43,212	137,145	14,960	118,575	60,747	275,024
2002 ^{a,b}														
1993-2001														
Average	19	99	319	4,122	38,633	245,661	25,303	175,734	201,156	680,526	25,091	180,948	290,502	1,286,990

^a Does not include personal use or subsistence fish. Does not include catches from the department's test fishery.

^b Fishing effort omitted when there are confidentiality concerns (less than three permits or landings)

Table 6. Commercial salmon catches in the Chignik Management Area by species and year, 1960-2002.

Year	Number of Fish ^{a,b,c,d}					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	1,226	1,325,734	15,348	1,157,172	437,252	2,936,732
1971	2,010	1,016,136	14,557	612,290	353,952	1,998,945
1972	464	378,218	19,615	72,161	78,298	548,756
1973	525	870,354	22,322	25,472	8,717	927,390
1974	255	662,905	12,245	69,515	34,312	779,232
1975	549	399,593	53,283	66,165	25,161	544,751
1976	2,290	1,163,728	35,167	395,287	81,403	1,677,875
1977	710	1,972,207	17,430	604,806	110,452	2,705,605
1978	1,603	1,576,283	20,212	985,114	120,889	2,704,101
1979	1,253	1,049,497	99,129	1,905,198	188,907	3,243,984
1980	2,344	859,966	119,573	1,093,184	252,521	2,327,588
1981	2,694	1,839,469	78,805	1,162,613	580,332	3,663,913
1982	5,236	1,521,686	300,273	873,384	390,096	3,090,675
1983	5,488	1,824,175	61,927	321,178	159,412	2,372,180
1984	4,318	2,660,619	110,128	444,804	63,303	3,283,172
1985	1,888	922,151	191,188	160,128	22,806	1,298,161
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	370,420	2,997,159	267,775	4,438,491
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
1991	3,157	1,895,665	165,625	1,169,248	261,096	3,494,791
1992	10,832	1,277,449	310,943	1,554,073	222,134	3,375,431
1993	19,515	1,697,351	229,459	1,648,377	122,360	3,717,062
1994	3,919	1,618,973	237,204	431,063	227,276	2,518,435
1995	5,261	1,724,045	280,605	2,057,998	380,949	4,448,858
1996	3,105	1,958,353	193,226	183,806	99,791	2,438,281
1997	3,032	769,683	90,908	844,431	155,905	1,863,959
1998	4,395	1,054,172	129,512	776,988	128,841	2,093,908
1999	3,296	3,116,501	89,410	1,698,651	140,594	5,048,452
2000	2,592	1,775,225	123,222	428,064	120,957	2,450,060
2001	2,849	1,511,370	131,441	1,281,760	198,874	3,126,294
2002 ^e	1,441	1,040,081	49,208	65,984	54,513	1,211,227

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Table 6. (page 2 of 2)

Year	Number of Fish ^{a,b,c,d}					Total
	Chinook	Sockeye	Coho	Pink	Chum	
Avg (1962-1971)	1,375	632,498	10,297	1,161,425	232,817	2,038,411
Avg (1972-1981)	1,269	1,077,222	47,778	637,952	148,099	1,912,320
Avg (1982-1991)	4,651	1,641,775	166,497	743,752	174,002	2,730,677
Avg (1992-2001)	5,880	1,650,312	181,593	1,090,521	179,768	3,108,074

^a Does not include salmon caught for personal use.

^b Does not include salmon caught for subsistence use.

^c Does not include salmon caught at Cape Igvak or Southeastern District Mainland destined to Chignik.

^d Includes the department's test fishery.

Table 7. Total pink salmon catch, escapement, and run numbers in the Chignik Management Area, 1962-2002.

Year	Catch ^{a,b}	Escapement ^c	Run	Year	Catch ^{a,b}	Escapement ^c	Run
1962	1,519,305	913,100	2,432,405	1982	873,384	389,300	1,262,684
1963	1,662,363	706,500	2,368,863	1983	321,178	158,800	479,978
1964	1,682,365	993,800	2,676,165	1984	444,804	1,001,500	1,446,304
1965	1,118,158	375,600	1,493,758	1985	160,128	522,200	682,328
1966	683,215	705,400	1,388,615	1986	647,125	926,900	1,574,025
1967	108,981	340,000	448,981	1987	246,775	385,300	632,075
1968	1,290,660	817,800	2,108,460	1988	2,997,159	1,657,900	4,655,059
1969	1,779,736	767,900	2,547,636	1989	27,712	1,434,800	1,462,512
1970	1,157,172	580,600	1,737,772	1990	550,008	1,082,000	1,632,008
1971	612,290	417,100	1,029,390	1991	1,169,248	778,600	1,947,848
1972	72,161	41,200	113,361	1992	1,554,073	1,826,900	3,380,973
1973	25,472	159,100	184,572	1993	1,648,377	1,181,800	2,830,177
1974	69,515	227,600	297,115	1994	431,063	1,383,500	1,814,563
1975	66,165	238,100	304,265	1995	2,057,998	3,432,000	5,489,998
1976	395,287	510,600	905,887	1996	183,806	1,956,400	2,140,206
1977	604,806	749,800	1,354,606	1997	844,431	2,469,500	3,313,931
1978	985,114	912,100	1,897,214	1998	776,988	1,881,800	2,658,788
1979	1,905,198	858,800	2,763,998	1999	1,698,651	1,344,200	3,042,851
1980	1,093,184	742,200	1,835,384	2000	428,064	1,213,000	1,641,064
1981	1,162,613	597,900	1,760,513	2001	1,281,760	2,363,500	3,645,260
				2002 ^d	65,984	1,090,500	1,156,484
				Average			
				1972-1981	637,952	503,740	1,141,692
				1982-1991	743,752	833,730	1,577,482
				1992-2001	1,090,521	1,905,260	2,995,781

^aCatches (1970-2002) were updated using historical electronic fish ticket databases.

^bPersonal use or other subsistence fish are not included.

^cPost 1984 escapement estimates computed by area-under-the-curve methodology using a 15.0 day average stream life (Johnson and Barrett 1988). September 15 was the assumed last day of stream entry.

^d Does not include catches from the department's test fisheries.

Table 8. Total chum salmon catch, escapement, and run numbers in the Chignik Management Area, 1962-2002.

Year	Catch ^{a,b}	Escapement ^c	Run	Year	Catch ^{a,b}	Escapement ^c	Run
1962	364,335	220,300	584,635	1982	390,096	255,200	645,296
1963	112,697	107,000	219,697	1983	159,412	95,600	255,012
1964	333,336	255,100	588,436	1984	63,303	370,200	433,503
1965	120,589	112,200	232,789	1985	22,806	62,000	84,806
1966	238,883	104,900	343,783	1986	176,640	52,500	229,140
1967	75,543	140,700	216,243	1987	127,261	85,400	212,661
1968	223,861	89,900	313,761	1988	267,775	361,800	629,575
1969	67,721	103,100	170,821	1989	1,624	136,500	138,124
1970	437,252	233,100	670,352	1990	270,004	253,800	523,804
1971	353,952	469,500	823,452	1991	261,096	469,700	730,796
1972	78,298	195,400	273,698	1992	222,134	573,700	795,834
1973	8,717	116,900	125,617	1993	122,360	255,700	378,060
1974	34,312	148,400	182,712	1994	227,276	382,400	609,676
1975	25,161	126,100	151,261	1995	380,949	347,800	728,749
1976	81,403	206,400	287,803	1996	99,791	368,500	468,291
1977	110,452	151,600	262,052	1997	155,905	587,400	743,305
1978	120,889	104,300	225,189	1998	128,841	379,200	508,041
1979	188,907	181,200	370,107	1999	140,594	335,400	475,994
1980	252,521	227,100	479,621	2000	120,957	303,400	424,357
1981	580,332	242,200	822,532	2001	198,874	550,800	749,674
				2002 ^d	54,513	235,600	290,113
				Average			
				1972-1981	148,099	169,960	318,059
				1982-1991	174,002	214,270	388,272
				1992-2001	179,768	408,430	588,198

^aCatches (1970-2002) were updated using historical electronic fish ticket databases.

^bPersonal use or other subsistence fish are not included.

^cPost 1984 escapement estimates computed by area-under-the-curve methodology using a 15.0 day average stream life (Johnson and Barrett 1988). September 15 was the assumed last day of stream entry.

^dDoes not include catches from the department's test fisheries.

Table 9. Commercial salmon fishing effort and catch by day in the Chignik Management Area, 2002.

Catch ^a Date	Fishing Effort		Chinook		Sockeye		Coho		Pink		Chum		Total	
	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
06/05/02	1	1	0	0	320	2,528	0	0	0	0	0	0	320	2,528
06/09/02	1	2	0	0	1,050	6,847	0	0	0	0	0	0	1,050	6,847
06/10/02	16	16	0	0	16,145	107,425	0	0	0	0	1	8	16,146	107,433
06/11/02	20	26	0	0	29,897	204,466	0	0	0	0	548	3,959	30,445	208,425
06/12/02	32	48	4	56	29,034	197,782	8	75	0	0	157	1,259	29,203	199,172
06/13/02	17	54	0	0	33,687	179,140	0	0	0	0	0	0	33,687	179,140
06/14/02	17	58	2	14	36,637	262,170	0	0	0	0	0	0	36,639	262,184
06/15/02	17	60	0	0	50,139	356,896	0	0	0	0	0	0	50,139	356,896
06/16/02	17	51	0	0	39,658	261,865	0	0	0	0	0	0	39,658	261,865
06/17/02	24	27	14	96	35,409	233,396	0	0	2	4	348	2,725	35,773	236,221
06/18/02	22	25	12	199	38,587	264,335	0	0	4	11	759	6,025	39,362	270,570
06/19/02	22	24	1	13	21,226	152,317	0	0	0	0	136	1,200	21,363	153,530
06/20/02	5	8	0	0	4,215	29,014	0	0	0	0	0	0	4,215	29,014
06/21/02	4	4	0	0	6,438	43,701	0	0	0	0	0	0	6,438	43,701
06/22/02	4	4	0	0	3,188	22,381	0	0	0	0	0	0	3,188	22,381
06/23/02	7	13	0	0	11,620	72,546	0	0	0	0	0	0	11,620	72,546
06/24/02	4	4	0	0	2,426	17,602	0	0	0	0	0	0	2,426	17,602
06/25/02	9	16	8	110	10,252	71,864	0	0	0	0	0	0	10,260	71,974
06/26/02	2	2	1	10	1,993	13,831	0	0	0	0	0	0	1,994	13,841
06/27/02	2	2	0	0	1,000	6,975	0	0	0	0	0	0	1,000	6,975
06/28/02	8	15	27	183	10,009	68,682	0	0	0	0	0	0	10,036	68,865
06/29/02	7	13	0	0	4,629	30,053	0	0	0	0	0	0	4,629	30,053
06/30/02	12	26	4	29	18,350	127,540	0	0	0	0	0	0	18,354	127,569
07/01/02	12	30	20	137	13,033	90,133	0	0	0	0	0	0	13,053	90,270
07/02/02	15	44	9	119	17,136	122,600	0	0	0	0	0	0	17,145	122,719
07/03/02	16	45	54	360	19,863	144,578	0	0	0	0	0	0	19,917	144,938
07/04/02	17	57	14	140	25,197	182,990	0	0	0	0	0	0	25,211	183,130
07/05/02	35	46	55	626	24,902	177,179	1	9	86	315	468	3,431	25,512	181,560
07/06/02	19	22	15	165	21,531	157,712	0	0	125	466	654	4,923	22,325	163,266

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Table 9. (page 2 of 4)

Catch ^a Date	Fishing Effort		Chinook		Sockeye		Coho		Pink		Chum		Total	
	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
07/07/02	33	41	46	564	24,637	179,959	3	21	182	702	389	2,811	25,257	184,057
07/08/02	15	46	73	679	14,828	106,534	0	0	0	0	0	0	14,901	107,213
07/09/02	13	45	78	891	14,824	110,255	0	0	0	0	0	0	14,902	111,146
07/10/02	12	30	19	231	13,173	99,277	0	0	0	0	57	448	13,249	99,956
07/11/02	15	35	4	105	18,816	141,374	0	0	0	0	1	10	18,821	141,489
07/12/02	21	37	122	1,080	17,599	126,195	3,044	21,694	2,062	7,155	5,561	41,025	28,388	197,149
07/13/02	25	46	136	1,244	21,225	152,122	3,296	24,537	3,747	12,115	9,392	64,917	37,796	254,935
07/14/02	23	37	117	1,129	16,600	119,227	5,727	41,703	6,158	19,725	11,139	82,276	39,741	264,060
07/15/02	16	46	32	302	21,090	151,224	0	0	2	10	17	130	21,141	151,666
07/16/02	15	58	59	786	22,839	163,816	0	0	0	0	2	13	22,900	164,615
07/17/02	15	44	31	312	22,054	159,772	0	0	0	0	0	0	22,085	160,084
07/18/02	16	46	14	212	19,361	136,602	0	0	0	0	0	0	19,375	136,814
07/19/02	33	45	53	676	29,754	209,407	283	2,036	855	2,801	990	7,399	31,935	222,319
07/20/02	21	24	13	160	19,108	133,786	241	1,738	1,504	4,570	1,404	10,907	22,270	151,161
07/21/02	33	39	7	113	17,702	124,519	108	897	270	846	214	1,565	18,301	127,940
07/22/02	14	30	5	82	14,075	95,275	0	0	0	0	0	0	14,080	95,357
07/23/02	5	7	3	64	5,370	36,083	0	0	0	0	0	0	5,373	36,147
07/24/02	8	10	1	11	8,498	59,121	0	0	39	154	39	278	8,577	59,564
07/25/02	4	4	2	23	5,722	38,627	0	0	66	177	18	155	5,808	38,982
07/26/02	20	38	71	545	16,459	107,348	5,758	39,156	8,767	26,381	3,964	30,356	35,019	203,786
07/27/02	22	40	237	1,018	10,441	67,990	7,500	53,727	5,932	17,847	4,699	33,263	28,809	173,845
07/28/02	22	40	46	333	11,393	74,432	4,067	29,542	6,085	18,219	2,398	19,423	23,989	141,949
07/29/02	11	16	12	208	9,726	64,222	186	1,271	1,326	4,866	124	1,040	11,374	71,607
07/30/02	14	26	39	384	9,129	57,875	2	17	199	615	230	1,933	9,599	60,824
07/31/02	13	25	0	0	7,880	50,639	0	0	12	37	29	204	7,921	50,880
08/01/02	13	27	5	86	6,757	44,730	0	0	377	990	125	934	7,264	46,740
08/02/02	24	26	26	257	8,317	56,149	308	2,311	1,871	5,997	957	7,937	11,479	72,651
08/03/02	18	19	1	6	10,006	66,906	1,115	7,843	8,129	25,192	2,264	18,909	21,515	118,856
08/04/02	19	21	6	74	8,768	58,223	249	1,844	3,914	12,497	663	5,414	13,600	78,052

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Table 9. (page 3 of 4)

Catch ^a Date	Fishing Effort		Chinook		Sockeye		Coho		Pink		Chum		Total	
	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
08/05/02	27	36	0	0	6,589	43,916	53	374	1,084	3,408	302	2,479	8,028	50,177
08/06/02	12	28	1	6	5,118	36,363	0	0	719	1,973	61	387	5,899	38,729
08/07/02	12	23	0	0	4,951	33,577	2	15	338	987	37	267	5,328	34,846
08/08/02	10	19	2	15	3,749	24,732	0	0	327	957	83	589	4,161	26,293
08/09/02	10	21	0	0	3,618	24,488	0	0	390	1,083	71	514	4,079	26,085
08/10/02	11	20	0	0	4,630	30,726	13	96	558	1,614	208	1,538	5,409	33,974
08/11/02	10	26	1	12	2,677	19,422	0	0	443	1,221	186	1,396	3,307	22,051
08/12/02	13	49	0	0	4,183	30,340	0	0	426	1,301	81	594	4,690	32,235
08/13/02	14	48	0	0	5,140	34,635	0	0	290	893	136	1,086	5,566	36,614
08/14/02	13	44	0	0	4,636	31,948	0	0	267	826	103	817	5,006	33,591
08/15/02	13	39	0	0	3,826	25,313	0	0	79	248	92	654	3,997	26,215
08/16/02	18	46	5	35	3,761	25,971	1,318	10,089	1,196	4,278	932	7,446	7,212	47,819
08/17/02	19	37	9	116	3,331	22,252	5,153	35,632	3,185	10,519	2,209	16,892	13,887	85,411
08/18/02	12	37	0	0	2,935	17,874	513	3,845	647	2,288	288	2,124	4,383	26,131
08/19/02	25	36	3	27	5,066	30,639	394	2,938	687	2,255	377	2,777	6,527	38,636
08/20/02	19	20	0	0	3,855	27,431	711	5,723	952	3,041	462	3,375	5,980	39,570
08/21/02	15	15	0	0	4,359	30,492	1,025	8,434	1,154	3,627	585	4,431	7,123	46,984
08/22/02	12	12	0	0	2,866	19,781	575	4,839	636	1,942	363	2,658	4,440	29,220
08/23/02	10	10	0	0	2,135	14,449	228	1,825	134	467	47	342	2,544	17,083
08/24/02	7	16	0	0	1,374	8,955	173	1,362	104	306	25	192	1,676	10,815
08/25/02	9	18	0	0	1,341	8,769	217	1,727	108	249	15	129	1,681	10,874
08/26/02	7	19	1	12	1,747	11,425	364	2,897	116	264	27	220	2,255	14,818
08/27/02	6	19	0	0	1,638	10,632	423	3,370	140	327	13	100	2,214	14,429
08/28/02	6	14	1	10	1,793	11,020	482	4,021	92	230	16	129	2,384	15,410
08/29/02	6	22	0	0	2,308	14,491	1,026	8,270	92	209	21	153	3,447	23,123
08/30/02	6	13	0	0	2,805	17,006	1,158	8,738	84	210	20	163	4,067	26,117
08/31/02	5	25	0	0	3,152	18,347	1,787	13,732	35	83	20	146	4,994	32,308
09/01/02	2	9	0	0	1,151	6,985	721	5,639	11	35	8	58	1,891	12,717
09/02/02	2	7	0	0	758	4,627	435	3,501	15	46	9	69	1,217	8,243
09/03/02	2	4	0	0	300	1,701	142	1,055	1	3	1	8	444	2,767

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Table 9. (page 4 of 4)

Catch ^a Date	Fishing Effort		Chinook		Sockeye		Coho		Pink		Chum		Total	
	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
09/04/02 ^b	2	6	0	0	759	4,486	296	2,129	20	60	13	99	1,088	6,774
09/05/02 ^b	2	3	0	0	280	1,755	267	2,109	6	19	1	7	554	3,890
Total	42	2,432	1,521	14,065	1,050,553	7,244,785	49,372	361,983	66,050	206,661	54,559	406,716	1,222,055	8,233,008
Average Weight				9.25		6.90		7.33		3.13		7.45		

^a Does not include salmon that were caught for subsistence use or salmon caught at Cape Igvak or Southeastern District Mainland destined for Chignik. Does include catches from the department's test fishery and salmon harvested for personal use.

^b The cooperative fleet and area processors agreed to allow the data to be published, regardless of confidentiality concerns.

Table 10. Chignik Management Area sockeye salmon allocation calculator by fleet, 2002.

Date	Daily Sockeye Salmon Catch By Fleet		Cumulative Sockeye Salmon Catch By Fleet		Daily Allocation Percentage	
	Coop	Competitive	Coop	Competitive	Coop	Competitive
06/05/02	320	0	320	0	100.0%	0.0%
06/06/02	0	0	320	0	100.0%	0.0%
06/07/02	0	0	320	0	100.0%	0.0%
06/08/02	0	0	320	0	100.0%	0.0%
06/09/02	1,050	0	1,370	0	100.0%	0.0%
06/10/02	0	16,145	1,370	16,145	7.8%	92.2%
06/11/02	0	29,897	1,370	46,042	2.9%	97.1%
06/12/02	6,065	22,969	7,435	69,011	9.7%	90.3%
06/13/02	33,687	0	41,122	69,011	37.3%	62.7%
06/14/02	36,637	0	77,759	69,011	53.0%	47.0%
06/15/02	50,139	0	127,898	69,011	65.0%	35.0%
06/16/02	39,658	0	167,556	69,011	70.8%	29.2%
06/17/02	1,152	34,257	168,708	103,268	62.0%	38.0%
06/18/02	0	38,587	168,708	141,855	54.3%	45.7%
06/19/02	4,553	16,673	173,261	158,528	52.2%	47.8%
06/20/02	4,215	0	177,476	158,528	52.8%	47.2%
06/21/02	6,438	0	183,914	158,528	53.7%	46.3%
06/22/02	3,188	0	187,102	158,528	54.1%	45.9%
06/23/02	11,620	0	198,722	158,528	55.6%	44.4%
06/24/02	2,426	0	201,148	158,528	55.9%	44.1%
06/25/02	10,252	0	211,400	158,528	57.1%	42.9%
06/26/02	1,993	0	213,393	158,528	57.4%	42.6%
06/27/02	1,000	0	214,393	158,528	57.5%	42.5%
06/28/02	10,009	0	224,402	158,528	58.6%	41.4%
06/29/02	4,629	0	229,031	158,528	59.1%	40.9%
06/30/02	18,350	0	247,381	158,528	60.9%	39.1%
07/01/02	13,033	0	260,414	158,528	62.2%	37.8%
07/02/02	17,136	0	277,550	158,528	63.6%	36.4%
07/03/02	19,863	0	297,413	158,528	65.2%	34.8%
07/04/02	25,197	0	322,610	158,528	67.1%	32.9%
07/05/02	9,944	14,958	332,554	173,486	65.7%	34.3%
07/06/02	0	21,531	332,554	195,017	63.0%	37.0%
07/07/02	7,138	17,499	339,692	212,516	61.5%	38.5%
07/08/02	14,828	0	354,520	212,516	62.5%	37.5%
07/09/02	14,824	0	369,344	212,516	63.5%	36.5%
07/10/02	13,173	0	382,517	212,516	64.3%	35.7%
07/11/02	18,816	0	401,333	212,516	65.4%	34.6%
07/12/02	16,273	1,326	417,606	213,842	66.1%	33.9%
07/13/02	19,378	1,847	436,984	215,689	67.0%	33.0%
07/14/02	13,266	3,334	450,250	219,023	67.3%	32.7%
07/15/02	21,090	0	471,340	219,023	68.3%	31.7%
07/16/02	22,839	0	494,179	219,023	69.3%	30.7%
07/17/02	22,054	0	516,233	219,023	70.2%	29.8%
07/18/02	19,361	0	535,594	219,023	71.0%	29.0%
07/19/02	11,701	18,053	547,295	237,076	69.8%	30.2%
07/20/02	0	19,108	547,295	256,184	68.1%	31.9%
07/21/02	7,613	10,089	554,908	266,273	67.6%	32.4%

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Table 10. (page 2 of 2)

Date	Daily Sockeye		Cumulative Sockeye		Daily Allocation Percentage	
	Salmon Catch By Fleet		Salmon Catch By Fleet		Coop	Competitive
	Coop	Competitive	Coop	Competitive		
07/22/02	14,075	0	568,983	266,273	68.1%	31.9%
07/23/02	5,370	0	574,353	266,273	68.3%	31.7%
07/24/02	4,683	0	579,036	266,273	68.5%	31.5%
07/25/02	0	5,722	579,036	271,995	68.0%	32.0%
07/26/02	15,711	748	594,747	272,743	68.6%	31.4%
07/27/02	9,687	754	604,434	273,497	68.8%	31.2%
07/28/02	10,972	590	615,406	274,087	69.2%	30.8%
07/29/02	4,271	0	619,677	274,087	69.3%	30.7%
07/30/02	9,129	0	628,806	274,087	69.6%	30.4%
07/31/02	7,880	0	636,686	274,087	69.9%	30.1%
08/01/02	6,757	0	643,443	274,087	70.1%	29.9%
08/02/02	1,289	7,028	644,732	281,115	69.6%	30.4%
08/03/02	0	10,006	644,732	291,121	68.9%	31.1%
08/04/02	0	8,768	644,732	299,889	68.3%	31.7%
08/05/02	3,376	3,213	648,108	303,102	68.1%	31.9%
08/06/02	5,118	0	653,226	303,102	68.3%	31.7%
08/07/02	4,951	0	658,177	303,102	68.5%	31.5%
08/08/02	3,749	0	661,926	303,102	68.6%	31.4%
08/09/02	3,618	0	665,544	303,102	68.7%	31.3%
08/10/02	4,630	0	670,174	303,102	68.9%	31.1%
08/11/02	2,677	0	672,851	303,102	68.9%	31.1%
08/12/02	4,183	0	677,034	303,102	69.1%	30.9%
08/13/02	5,140	0	682,174	303,102	69.2%	30.8%
08/14/02	4,636	0	686,810	303,102	69.4%	30.6%
08/15/02	3,826	0	690,636	303,102	69.5%	30.5%
08/16/02	3,540	221	694,176	303,323	69.6%	30.4%
08/17/02	2,632	774	696,808	304,097	69.6%	30.4%
08/18/02	2,860	0	699,668	304,097	69.7%	30.3%
08/19/02	2,354	2,712	702,022	306,809	69.6%	30.4%
08/20/02	0	3,855	702,022	310,664	69.3%	30.7%
08/21/02	0	4,359	702,022	315,023	69.0%	31.0%
08/22/02	0	2,866	702,022	317,889	68.8%	31.2%
08/23/02	0	2,135	702,022	320,024	68.7%	31.3%
08/24/02	1,374	0	703,396	320,024	68.7%	31.3%
08/25/02	1,341	0	704,737	320,024	68.8%	31.2%
08/26/02	1,747	0	706,484	320,024	68.8%	31.2%
08/27/02	1,638	0	708,122	320,024	68.9%	31.1%
08/28/02	1,793	0	709,915	320,024	68.9%	31.1%
08/29/02	2,308	0	712,223	320,024	69.0%	31.0%
08/30/02	2,805	0	715,028	320,024	69.1%	30.9%
08/31/02	3,152	0	718,180	320,024	69.2%	30.8%
09/01/02	1,151	0	719,331	320,024	69.2%	30.8%
09/02/02	758	0	720,089	320,024	69.2%	30.8%
09/03/02	300	0	720,389	320,024	69.2%	30.8%
09/04/02	759	0	721,148	320,024	69.3%	30.7%
09/05/02	280	0	721,428	320,024	69.3%	30.7%
Totals by Fleet			721,428	320,024	69.3%	30.7%
Total Harvest				1,041,452 ^a		

^a Does not include catch from the department's test fishery but does include all personal use fish.

Table 11. Commercial salmon fishing effort and catch by fleet and day in the Chignik Management Area, 2002.

Catch Date	Fishing Effort		Chinook		Sockeye		Coho		Pink		Chum		Total		
	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	
Cooperative Fleet															
06/05/02 c	1	1	0	0	320	2,528	0	0	0	0	0	0	0	320	2,528
06/09/02 c	1	2	0	0	1,050	6,847	0	0	0	0	0	0	0	1,050	6,847
06/12/02	12	28	0	0	6,065	37,637	0	0	0	0	0	0	0	6,065	37,637
06/13/02	17	54	0	0	33,687	179,140	0	0	0	0	0	0	0	33,687	179,140
06/14/02	17	58	2	14	36,637	262,170	0	0	0	0	0	0	0	36,639	262,184
06/15/02	17	60	0	0	50,139	356,896	0	0	0	0	0	0	0	50,139	356,896
06/16/02	17	51	0	0	39,658	261,865	0	0	0	0	0	0	0	39,658	261,865
06/17/02	4	4	0	0	1,152	7,981	0	0	0	0	0	0	0	1,152	7,981
06/19/02	6	8	1	13	4,553	34,313	0	0	0	0	0	0	0	4,554	34,326
06/20/02	5	8	0	0	4,215	29,014	0	0	0	0	0	0	0	4,215	29,014
06/21/02	4	4	0	0	6,438	43,701	0	0	0	0	0	0	0	6,438	43,701
06/22/02	4	4	0	0	3,188	22,381	0	0	0	0	0	0	0	3,188	22,381
06/23/02	7	13	0	0	11,620	72,546	0	0	0	0	0	0	0	11,620	72,546
06/24/02	4	4	0	0	2,426	17,602	0	0	0	0	0	0	0	2,426	17,602
06/25/02	9	16	8	110	10,252	71,864	0	0	0	0	0	0	0	10,260	71,974
06/26/02 c	2	2	1	10	1,993	13,831	0	0	0	0	0	0	0	1,994	13,841
06/27/02 c	2	2	0	0	1,000	6,975	0	0	0	0	0	0	0	1,000	6,975
06/28/02	8	15	27	183	10,009	68,682	0	0	0	0	0	0	0	10,036	68,865
06/29/02	7	13	0	0	4,629	30,053	0	0	0	0	0	0	0	4,629	30,053
06/30/02	12	26	4	29	18,350	127,540	0	0	0	0	0	0	0	18,354	127,569
07/01/02	12	30	20	137	13,033	90,133	0	0	0	0	0	0	0	13,053	90,270
07/02/02	15	44	9	119	17,136	122,600	0	0	0	0	0	0	0	17,145	122,719
07/03/02	16	45	54	360	19,863	144,578	0	0	0	0	0	0	0	19,917	144,938
07/04/02	17	57	14	140	25,197	182,990	0	0	0	0	0	0	0	25,211	183,130
07/05/02	13	24	29	221	9,944	71,163	0	0	0	0	0	0	0	9,973	71,384
07/07/02	14	22	25	255	7,138	51,728	0	0	0	0	0	0	0	7,163	51,983
07/08/02	15	46	73	679	14,828	106,534	0	0	0	0	0	0	0	14,901	107,213
07/09/02	13	45	78	891	14,824	110,255	0	0	0	0	0	0	0	14,902	111,146
07/10/02	12	30	19	231	13,173	99,277	0	0	0	0	0	0	0	13,249	99,956
07/11/02	15	35	4	105	18,816	141,374	0	0	0	0	0	0	0	18,821	141,489
07/12/02	13	29	50	434	16,273	117,983	0	0	0	0	0	0	0	16,325	118,434
07/13/02	16	37	66	593	19,378	140,134	0	0	0	0	0	0	0	19,444	140,727
07/14/02	14	28	18	214	13,266	96,581	0	0	0	0	0	0	0	13,287	96,818
07/15/02	16	46	32	302	21,090	151,224	0	0	0	0	0	0	0	21,141	151,666
07/16/02	15	58	59	786	22,839	163,816	0	0	0	0	0	0	0	22,900	164,615
07/17/02	15	44	31	312	22,054	159,772	0	0	0	0	0	0	0	22,085	160,084
07/18/02	16	46	14	212	19,361	136,602	0	0	0	0	0	0	0	19,375	136,814
07/19/02	13	24	47	602	11,701	81,841	0	0	0	0	0	0	0	11,748	82,443

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Table 11. (page 2 of 3)

Date	Fishing Effort		Chinook		Sockeye		Coho		Pink		Chum		Total	
	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Cooperative Fleet (cont.)														
07/21/02	12	18	7	113	7,613	50,268	0	0	0	0	0	0	0	7,620
07/22/02	14	30	5	82	14,075	95,275	0	0	0	0	0	0	0	14,080
07/23/02	5	7	3	64	5,370	36,083	0	0	0	0	0	0	0	5,373
07/24/02 d	7	9	1	11	4,683	31,159	0	0	0	0	0	0	0	4,684
07/26/02	13	31	13	125	15,711	102,895	0	0	152	717	6	44	0	15,882
07/27/02	13	31	8	132	9,687	63,273	0	0	49	149	94	749	0	9,838
07/28/02	12	30	1	22	10,972	71,693	0	0	95	297	0	0	0	11,068
07/29/02 d	9	12	9	183	4,271	29,489	0	0	0	0	0	0	0	4,280
07/30/02	14	26	39	384	9,129	57,875	2	17	199	615	230	1,933	0	9,599
07/31/02	13	25	0	0	7,880	50,639	0	0	12	37	29	204	0	50,880
08/01/02	13	27	5	86	6,757	44,730	0	0	377	990	125	934	0	7,264
08/02/02	4	5	22	211	1,289	9,109	0	0	199	572	0	0	0	1,510
08/05/02	11	20	0	0	3,376	22,085	0	0	411	1,067	144	1,108	0	9,892
08/06/02	12	28	1	6	5,118	36,363	0	0	719	1,973	61	387	0	3,931
08/07/02	12	23	0	0	4,951	33,577	2	15	338	987	37	267	0	5,899
08/08/02	10	19	2	15	3,749	24,732	0	0	327	957	83	589	0	5,328
08/09/02	10	21	0	0	3,618	24,488	0	0	390	1,083	71	514	0	4,161
08/10/02	11	20	0	0	4,630	30,726	13	96	558	1,614	208	1,538	0	4,079
08/11/02	10	26	1	12	2,677	19,422	0	0	443	1,221	186	1,396	0	5,409
08/12/02	13	49	0	0	4,183	30,340	0	0	426	1,301	81	594	0	3,307
08/13/02	14	48	0	0	5,140	34,635	0	0	290	893	136	1,086	0	4,690
08/14/02	13	44	0	0	4,636	31,948	0	0	267	826	103	817	0	5,566
08/15/02	13	39	0	0	3,826	25,313	0	0	79	248	92	654	0	3,997
08/16/02	12	40	2	16	3,540	24,417	16	115	165	545	24	172	0	3,747
08/17/02	11	29	1	6	2,632	17,608	29	207	210	615	70	526	0	25,265
08/18/02	11	36	0	0	2,860	17,268	48	362	189	617	47	312	0	2,942
08/19/02	12	23	1	13	2,354	11,521	35	279	76	254	80	641	0	3,144
08/24/02	7	16	0	0	1,374	8,955	173	1,362	104	306	25	192	0	18,559
08/25/02	9	18	0	0	1,341	8,769	217	1,727	108	249	15	129	0	12,708
08/26/02	7	19	1	12	1,747	11,425	364	2,897	116	264	27	220	0	10,815
08/27/02	6	19	0	0	1,638	10,632	423	3,370	140	327	13	100	0	14,818
08/28/02	6	14	1	10	1,793	11,020	482	4,021	92	230	16	129	0	14,829
08/29/02	6	22	0	0	2,308	14,491	1,026	8,270	92	209	21	153	0	15,410
08/30/02	6	13	0	0	2,805	17,006	1,158	8,738	84	210	20	163	0	23,123
08/31/02	5	25	0	0	3,152	18,347	1,787	13,732	35	83	20	146	0	26,117
09/01/02 c	2	9	0	0	1,151	6,985	721	5,639	11	35	8	58	0	32,308
09/02/02 c	2	7	0	0	758	4,627	435	3,501	15	46	9	69	0	12,717
09/03/02 c	2	4	0	0	300	1,701	142	1,055	1	3	1	8	0	8,243
09/04/02 c	2	6	0	0	759	4,486	296	2,129	20	60	13	99	0	2,767
09/05/02 c	2	3	0	0	280	1,755	267	2,109	6	19	1	7	0	6,774
Total	19	1,954	808	8,455	721,428	4,969,281	7,636	59,641	6,798	19,634	2,177	16,574	7	738,847
Average Weight				10.46		6.89	7.81		2.89		2.17	16.574		5,073,585

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Table 11. (page 3 of 3)

Catch Date	Fishing Effort		Chinook		Sockeye		Coho		Pink		Chum		Total	
	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
06/10/02	16	16	0	16,145	0	107,425	0	0	0	0	1	8	16,146	107,433
06/11/02	20	26	0	29,897	0	204,466	0	0	0	0	548	3,959	30,445	208,425
06/12/02	20	20	4	22,969	8	160,145	8	75	0	0	157	1,259	23,138	161,535
06/17/02	20	23	14	34,257	0	225,415	0	0	2	4	348	2,725	34,621	228,240
06/18/02	22	25	12	38,587	0	264,335	0	0	4	11	759	6,025	39,362	270,570
06/19/02	16	16	0	16,673	0	118,004	0	0	0	0	136	1,200	16,809	119,204
07/05/02	22	22	26	14,958	1	106,016	1	9	86	315	468	3,431	15,539	110,176
07/06/02	19	22	15	21,531	0	157,712	0	0	125	466	654	4,923	22,325	163,266
07/07/02	19	19	21	309	3	128,231	3	21	182	702	389	2,811	18,094	132,074
07/12/02	8	8	72	1,326	3,044	8,212	3,044	21,694	2,062	7,155	5,559	41,008	12,063	78,715
07/13/02	9	9	70	1,847	3,296	11,988	3,296	24,537	3,747	12,115	9,392	64,917	18,352	114,208
07/14/02	9	9	99	3,334	5,727	22,646	5,727	41,703	6,157	19,720	11,137	82,258	26,454	167,242
07/19/02	20	21	5	18,053	283	127,566	283	2,036	855	2,801	990	7,399	20,186	139,876
07/20/02	21	24	13	19,108	241	133,786	241	1,738	1,504	4,570	1,404	10,907	22,270	151,161
07/21/02	21	21	0	10,089	108	74,251	108	897	270	846	214	1,565	10,681	77,559
07/25/02	4	4	2	5,722	0	38,627	0	0	66	177	18	155	5,808	38,982
07/26/02	7	7	40	748	4,453	4,453	5,758	39,156	8,615	25,664	3,958	30,312	19,119	99,807
07/27/02	9	9	201	754	4,717	4,717	7,500	53,727	5,883	17,698	4,605	32,514	18,943	109,425
07/28/02	10	10	45	421	2,739	2,739	4,067	29,542	5,990	17,922	2,398	19,423	12,921	69,937
07/29/02 e														
08/02/02	20	21	4	7,028	308	47,040	308	2,311	1,672	5,425	957	7,937	9,969	62,759
08/03/02	18	19	1	10,006	1,115	66,906	1,115	7,843	8,129	25,192	2,264	18,909	21,515	118,856
08/04/02	19	21	6	8,768	249	58,223	249	1,844	3,914	12,497	663	5,414	13,600	78,052
08/05/02	16	16	0	3,213	53	21,831	53	374	673	2,341	158	1,371	4,097	25,917
08/16/02	6	6	3	221	1,554	1,554	1,302	9,974	1,031	3,733	908	7,274	3,465	22,554
08/17/02	8	8	8	699	4,644	4,644	5,124	35,425	2,975	9,904	2,139	16,366	10,945	66,449
08/18/02 e														
08/19/02	13	13	2	2,712	359	19,118	359	2,659	611	2,001	297	2,136	3,981	25,928
08/20/02	19	20	0	3,855	27,431	27,431	711	5,723	952	3,041	462	3,375	5,980	39,570
08/21/02	15	15	0	4,359	30,492	30,492	1,025	8,434	1,154	3,627	585	4,431	7,123	46,984
08/22/02	12	12	0	2,866	19,781	19,781	575	4,839	636	1,942	363	2,658	4,440	29,220
08/23/02	10	10	0	2,135	14,449	14,449	228	1,825	134	467	47	342	2,544	17,083
Total	22	474	663	320,024	41,736	2,213,848	41,736	301,140	59,186	186,751	52,336	389,808	473,945	3,096,817
Average Weight				7.95		6.92		7.22		3.16		7.45		

^a Does not include salmon that were caught for subsistence use but does include personal use fish.

^b Does not include salmon caught at Cape Igvak or Southeastern District Mainland destined for Chignik.

^c The cooperative fleet and area processors agreed to allow the data to be published, regardless of confidentiality concerns.

^d Does not include department's test fishery within Chignik Lagoon.

^e Data are confidential because there were less than three permits or deliveries.

Table 12. Estimated sockeye salmon escapement through the Chignik River weir bound for Chignik Lake and Black Lake using daily percentages attributable to Chignik Lake, derived from the postseason scale pattern analysis and time of entry curve, 2002.

Date	Total		Chignik Lake			Black Lake		
	Daily	Cumulative	Percent	Daily	Cumulative	Percent	Daily	Cumulative
06/02/02	335	335	4%	13	13	96%	322	322
06/03/02	430	765	4%	19	32	96%	411	733
06/04/02	1,661	2,426	5%	78	110	95%	1,583	2,316
06/05/02	1,204	3,630	5%	61	171	95%	1,143	3,459
06/06/02	2,457	6,087	5%	135	306	95%	2,322	5,781
06/07/02	1,019	7,106	6%	60	367	94%	959	6,739
06/08/02	22,642	29,748	6%	1,448	1,814	94%	21,194	27,934
06/09/02	13,181	42,929	7%	909	2,723	93%	12,272	40,206
06/10/02	17,865	60,794	7%	1,329	4,053	93%	16,536	56,741
06/11/02	13,955	74,749	8%	1,125	5,177	92%	12,830	69,572
06/12/02	8,014	82,763	9%	699	5,876	91%	7,315	76,887
06/13/02	5,153	87,916	9%	486	6,362	91%	4,667	81,554
06/14/02	7,346	95,262	10%	748	7,111	90%	6,598	88,151
06/15/02	11,384	106,646	11%	1,266	8,377	89%	10,118	98,269
06/16/02	9,760	116,406	12%	1,183	9,560	88%	8,577	106,846
06/17/02	8,079	124,485	13%	1,065	10,625	87%	7,014	113,860
06/18/02	7,677	132,162	14%	1,098	11,723	86%	6,579	120,439
06/19/02	11,061	143,223	16%	1,715	13,438	84%	9,346	129,785
06/20/02	22,782	166,005	17%	3,819	17,256	83%	18,963	148,749
06/21/02	27,394	193,399	18%	4,954	22,210	82%	22,440	171,189
06/22/02	30,769	224,168	19%	5,953	28,163	81%	24,816	196,005
06/23/02	8,933	233,101	21%	1,847	30,010	79%	7,086	203,091
06/24/02	22,132	255,233	22%	4,883	34,893	78%	17,249	220,340
06/25/02	12,653	267,886	24%	2,975	37,868	76%	9,678	230,018
06/26/02	15,975	283,861	25%	3,998	41,865	75%	11,977	241,996
06/27/02	27,232	311,093	26%	7,185	49,050	74%	20,047	262,043
06/28/02	17,118	328,211	28%	4,760	53,810	72%	12,358	274,401
06/29/02	16,822	345,033	29%	4,926	58,736	71%	11,896	286,297
06/30/02	12,553	357,586	31%	3,911	62,648	69%	8,642	294,938
07/01/02	13,597	371,183	33%	4,498	67,145	67%	9,099	304,038
07/02/02	9,613	380,796	35%	3,369	70,514	65%	6,244	310,282
07/03/02	6,808	387,604	37%	2,517	73,031	63%	4,291	314,573
07/04/02	4,774	392,378	39%	1,858	74,889	61%	2,916	317,489
07/05/02	4,640	397,018	41%	1,900	76,789	59%	2,740	320,229
07/06/02	2,175	399,193	43%	935	77,725	57%	1,240	321,468
07/07/02	1,999	401,192	45%	901	78,625	55%	1,098	322,567
07/08/02	3,433	404,625	47%	1,619	80,244	53%	1,814	324,381
07/09/02	2,927	407,552	49%	1,441	81,685	51%	1,486	325,867
07/10/02	5,885	413,437	51%	3,019	84,704	49%	2,866	328,733
07/11/02	7,164	420,601	53%	3,816	88,520	47%	3,348	332,081
07/12/02	7,949	428,550	55%	4,389	92,909	45%	3,560	335,641
07/13/02	4,293	432,843	57%	2,453	95,362	43%	1,840	337,481

-Continued-

Table 12. (page 2 of 3)

Date	Total ^a		Chignik Lake			Black Lake		
	Daily	Cumulative	Percent	Daily	Cumulative	Percent	Daily	Cumulative
07/14/02	7,893	440,736	59%	4,669	100,031	41%	3,224	340,705
07/15/02	10,656	451,392	61%	6,512	106,543	39%	4,144	344,849
07/16/02	5,787	457,179	63%	3,647	110,190	37%	2,140	346,989
07/17/02	9,071	466,250	65%	5,879	116,068	35%	3,192	350,182
07/18/02	8,007	474,257	67%	5,329	121,397	33%	2,678	352,860
07/19/02	7,251	481,508	68%	4,949	126,345	32%	2,302	355,163
07/20/02	3,140	484,648	70%	2,194	128,540	30%	946	356,108
07/21/02	3,642	488,290	71%	2,603	131,143	29%	1,039	357,147
07/22/02	5,656	493,946	73%	4,129	135,272	27%	1,527	358,674
07/23/02	9,789	503,735	74%	7,292	142,564	26%	2,497	361,171
07/24/02	22,373	526,108	76%	16,988	159,552	24%	5,385	366,556
07/25/02	10,804	536,912	77%	8,353	167,905	23%	2,451	369,007
07/26/02	13,202	550,114	79%	10,382	178,287	21%	2,820	371,827
07/27/02	5,031	555,145	80%	4,020	182,308	20%	1,011	372,837
07/28/02	6,841	561,986	81%	5,550	187,858	19%	1,291	374,128
07/29/02	4,796	566,782	82%	3,946	191,804	18%	850	374,978
07/30/02	3,705	570,487	83%	3,090	194,894	17%	615	375,593
07/31/02	3,350	573,837	84%	2,829	197,722	16%	521	376,115
08/01/02	3,760	577,597	85%	3,213	200,935	15%	547	376,662
08/02/02	3,220	580,817	86%	2,782	203,717	14%	438	377,100
08/03/02	1,351	582,168	87%	1,179	204,896	13%	172	377,272
08/04/02	1,791	583,959	88%	1,579	206,475	12%	212	377,484
08/05/02	2,908	586,867	89%	2,587	209,062	11%	321	377,805
08/06/02	1,519	588,386	90%	1,363	210,426	10%	156	377,960
08/07/02	1,876	590,262	90%	1,697	212,123	10%	179	378,139
08/08/02	3,050	593,312	91%	2,780	214,904	9%	270	378,408
08/09/02	5,018	598,330	92%	4,607	219,511	8%	411	378,819
08/10/02	2,959	601,289	92%	2,735	222,246	8%	224	379,043
08/11/02	4,023	605,312	93%	3,742	225,987	7%	281	379,325
08/12/02	2,611	607,923	94%	2,443	228,430	6%	168	379,493
08/13/02	2,930	610,853	94%	2,756	231,186	6%	174	379,667
08/14/02	926	611,779	95%	876	232,062	5%	50	379,717
08/15/02	2,225	614,004	95%	2,114	234,176	5%	111	379,828
08/16/02	2,206	616,210	95%	2,106	236,282	5%	100	379,928
08/17/02	2,463	618,673	96%	2,361	238,643	4%	102	380,030
08/18/02	3,081	621,754	96%	2,966	241,609	4%	115	380,145
08/19/02	2,262	624,016	97%	2,185	243,794	3%	77	380,222
08/20/02	2,244	626,260	97%	2,176	245,970	3%	68	380,290
08/21/02	1,791	628,051	97%	1,742	247,712	3%	49	380,339
08/22/02	2,376	630,427	98%	2,318	250,030	2%	58	380,397
08/23/02	2,235	632,662	98%	2,187	252,217	2%	48	380,445
08/24/02	1,935	634,597	98%	1,898	254,116	2%	37	380,481
08/25/02	3,322	637,919	98%	3,267	257,383	2%	55	380,536
08/26/02	2,605	640,524	99%	2,568	259,951	1%	37	380,573
08/27/02	3,113	643,637	99%	3,076	263,027	1%	37	380,610

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Table 12. (page 3 of 3)

Date	Total ^a		Percent	Chignik Lake		Percent	Black Lake	
	Daily	Cumulative		Daily	Cumulative		Daily	Cumulative
08/28/02	2,212	645,849	99%	2,190	265,217	1%	22	380,632
08/29/02	2,624	648,473	99%	2,603	267,820	1%	21	380,653
08/30/02	2,812	651,285	99%	2,794	270,614	1%	18	380,671
08/31/02	3,410	654,695	100%	3,394	274,008	0%	16	380,687
09/01/02	4,380	659,075	100%	4,366	278,374	0%	14	380,701
09/02/02	4,879	663,954	100%	4,879	283,253	0%	0	380,701
09/03/02	4,763	668,717	100%	4,763	288,016	0%	0	380,701
09/04/02	903	669,620	100%	903	288,919	0%	0	380,701
Through								
09/15/02	38,900	708,520	100%	38,900	327,819	0%	0	380,701

^aThe postweir escapement of sockeye from September 4 through September 15 was 38,900. A total of 55,600 sockeye salmon were estimated to have escaped into the Chignik Lakes system after the weir was removed from September 4 through September 30. September 4 counts are from midnight through 9:30 AM when the weir removal process began.

Table 13. Sockeye salmon harvest limits placed on Chignik Management Area salmon fleets during 2002.

Commercial Fleet Sockeye Salmon Harvest Limits		
Date	Assigned Limit	Actual Daily Sockeye Salmon Harvest
June 5	1,000	320
June 9	1,500	1,050
June 19	5,000	4,553
June 20	5,000	4,215
June 21	6,000	6,438
June 22	5,000	3,188
June 23	10,000	11,620
June 24	3,000	2,426
June 25	10,000	10,252
June 26	2,000	1,993
June 27	1,000	1,000
June 28	10,000	10,009
June 29	5,000	4,629
June 30	15,000	18,350
July 23	5,000	5,370
July 24	5,000	4,638
July 25 ^a	5,000	5,772

^a Competitive fleet volunteered to accept harvest limit of 5,000 for one day.

Table 14. Commercial salmon fishing effort and catch by fleet, district, and day in the Chignik Management Area, 2002.

District	Date	Fishing Effort ^{a,b}		Chinook		Sockeye		Coho		Pink		Chum	
		Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Competitive Fleet													
Central	06/11/02 ^c												
Central	06/12/02 ^c												
Central	06/17/02 ^c												
Central	06/18/02 ^c												
Central	06/19/02 ^c												
Central	07/05/02	4	4	4	56	3,347	21,651	0	0	80	295	452	3,320
Central	07/06/02 ^c												
Central	07/07/02 ^c												
Central	07/19/02 ^c												
Central	07/20/02 ^c												
Central	07/21/02	4	4	0	0	974	7,499	108	897	203	586	196	1,421
Central	08/02/02 ^c												
Central	08/03/02	4	5	0	0	5,235	34,855	1,110	7,795	7,754	23,707	2,139	17,889
Central	08/04/02	4	4	0	0	2,028	13,513	245	1,814	3,100	9,211	524	4,354
Central	08/05/02	4	4	0	0	353	2,585	52	367	493	1,667	92	838
Central	08/19/02 ^c												
Central	08/20/02	5	5	0	0	1,467	10,950	649	5,279	777	2,358	402	2,970
Central	08/21/02 ^c												
Central	08/22/02 ^c												
Central	08/23/02 ^c												
Total		6	64	17	194	44,368	302,715	4,442	34,093	17,580	53,900	9,643	75,768
Avg. Wt.					11.41		6.82		7.68		3.07		7.86

-Continued-

Table 14. (page 2 of 6)

District	Date	Fishing Effort ^{a,b}		Chinook		Sockeye		Coho		Pink		Chum	
		Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Competitive Fleet													
Chignik Bay	06/10/02	16	16	0	0	16,145	107,425	0	0	0	0	0	8
Chignik Bay	06/11/02	17	22	0	0	26,926	184,327	0	0	0	0	0	0
Chignik Bay	06/12/02	17	17	1	11	22,058	153,741	0	0	0	0	1	10
Chignik Bay	06/17/02	17	20	12	83	29,753	197,354	0	0	0	0	1	7
Chignik Bay	06/18/02	18	21	12	199	30,959	212,127	0	0	0	0	0	0
Chignik Bay	06/19/02	13	13	0	0	15,136	106,813	0	0	0	0	2	15
Chignik Bay	07/05/02	18	18	22	349	11,611	84,365	1	9	6	20	16	111
Chignik Bay	07/06/02	16	19	12	142	17,045	126,726	0	0	11	27	40	334
Chignik Bay	07/07/02	17	17	21	309	15,046	111,420	0	0	55	189	188	1,403
Chignik Bay	07/19/02	18	19	3	50	16,913	119,115	104	726	434	1,338	578	4,409
Chignik Bay	07/20/02	18	21	11	132	16,466	115,236	17	112	199	685	128	955
Chignik Bay	07/21/02	17	17	0	0	9,115	66,752	0	0	67	260	18	144
Chignik Bay	07/25/02	4	4	2	23	5,722	38,627	0	0	66	177	18	155
Chignik Bay	08/02/02	18	19	4	46	5,624	37,492	57	480	468	1,810	95	786
Chignik Bay	08/03/02	14	14	1	6	4,771	32,051	5	48	375	1,485	125	1,020
Chignik Bay	08/04/02	15	17	6	74	6,740	44,710	4	30	814	3,286	139	1,060
Chignik Bay	08/05/02	12	12	0	0	2,860	19,246	1	7	180	674	66	533
Chignik Bay	08/19/02	10	10	1	9	1,863	13,145	42	343	138	452	60	391
Chignik Bay	08/20/02	14	15	0	0	2,388	16,481	62	444	175	683	60	405
Chignik Bay	08/21/02	12	12	0	0	2,502	17,425	170	1,374	203	764	80	559
Chignik Bay	08/22/02	9	9	0	0	1,471	9,814	164	1,372	84	286	70	470
Chignik Bay	08/23/02	9	9	0	0	2,113	14,296	198	1,590	114	389	40	293
Total		21	341	108	1,433	263,227	1,828,688	825	6,535	3,389	12,525	1,726	13,068
Avg. Wt.					13.27		6.95		7.92		3.70		7.57

Eastern Harvest Data is Confidential

Perryville Harvest Data is Confidential

-Continued-

Table 14. (page 3 of 6)

District	Date	Fishing Effort ^{a,b}		Chinook		Sockeye		Coho		Pink		Chum	
		Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Competitive Fleet													
Western	07/12/02	8	8	72	646	1,326	8,212	3,044	21,694	2,062	7,155	5,559	41,008
Western	07/13/02	9	9	70	651	1,847	11,988	3,296	24,537	3,747	12,115	9,392	64,917
Western	07/14/02	9	9	99	915	3,334	22,646	5,727	41,703	6,157	19,720	11,137	82,258
Western	07/26/02	7	7	40	222	748	4,453	5,758	39,156	8,615	25,664	3,958	30,312
Western	07/27/02	9	9	201	769	754	4,717	7,500	53,727	5,883	17,698	4,605	32,514
Western	07/28/02	10	10	45	311	421	2,739	4,067	29,542	5,990	17,922	2,398	19,423
Western	08/16/02	6	6	3	19	221	1,554	1,302	9,974	1,031	3,733	908	7,274
Western	08/17/02	8	9	8	110	774	5,250	5,589	38,908	3,433	11,575	2,380	18,178
Total		13	67	538	3,643	9,425	61,559	36,283	259,241	36,918	115,582	40,337	295,884
Avg. Wt.					6.77		6.53		7.14		3.13		7.34

Competitive Fleet Total	22	474	663	5,270	320,024	2,213,848	41,736	301,140	59,186	186,751	52,336	389,808
Avg. Wt.				7.95		6.92		7.22		3.16		7.45

Cooperative Fleet													
Chignik Bay	06/05/02 ^d	1	1	0	0	320	2,528	0	0	0	0	0	0
Chignik Bay	06/09/02 ^d	1	2	0	0	1,050	6,847	0	0	0	0	0	0
Chignik Bay	06/12/02	12	28	0	0	6,065	37,637	0	0	0	0	0	0
Chignik Bay	06/13/02	17	54	0	0	33,687	179,140	0	0	0	0	0	0
Chignik Bay	06/14/02	17	58	2	14	36,637	262,170	0	0	0	0	0	0
Chignik Bay	06/15/02	17	60	0	0	50,139	356,896	0	0	0	0	0	0
Chignik Bay	06/16/02	17	51	0	0	39,658	261,865	0	0	0	0	0	0
Chignik Bay	06/17/02	4	4	0	0	1,152	7,981	0	0	0	0	0	0
Chignik Bay	06/19/02	6	8	1	13	4,553	34,313	0	0	0	0	0	0
Chignik Bay	06/20/02	5	8	0	0	4,215	29,014	0	0	0	0	0	0
Chignik Bay	06/21/02	4	4	0	0	6,438	43,701	0	0	0	0	0	0
Chignik Bay	06/22/02	4	4	0	0	3,188	22,381	0	0	0	0	0	0
Chignik Bay	06/23/02	7	13	0	0	11,620	72,546	0	0	0	0	0	0

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Table 14. (page 4 of 6)

District	Date	Fishing Effort ^{a,b}		Chinook		Sockeye		Coho		Pink		Chum	
		Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Cooperative Fleet													
Chignik Bay	06/24/02	4	4	0	0	2,426	17,602	0	0	0	0	0	0
Chignik Bay	06/25/02	9	16	8	110	10,252	71,864	0	0	0	0	0	0
Chignik Bay	06/26/02 ^d	2	2	1	10	1,993	13,831	0	0	0	0	0	0
Chignik Bay	06/27/02 ^d	2	2	0	0	1,000	6,975	0	0	0	0	0	0
Chignik Bay	06/28/02	8	15	27	183	10,009	68,682	0	0	0	0	0	0
Chignik Bay	06/29/02	7	13	0	0	4,629	30,053	0	0	0	0	0	0
Chignik Bay	06/30/02	12	26	4	29	18,350	127,540	0	0	0	0	0	0
Chignik Bay	07/01/02	12	30	20	137	13,033	90,133	0	0	0	0	0	0
Chignik Bay	07/02/02	15	44	9	119	17,136	122,600	0	0	0	0	0	0
Chignik Bay	07/03/02	16	45	54	360	19,863	144,578	0	0	0	0	0	0
Chignik Bay	07/04/02	17	57	14	140	25,197	182,990	0	0	0	0	0	0
Chignik Bay	07/05/02	13	24	29	221	9,944	71,163	0	0	0	0	0	0
Chignik Bay	07/07/02	14	22	25	255	7,138	51,728	0	0	0	0	0	0
Chignik Bay	07/08/02	15	46	73	679	14,828	106,534	0	0	0	0	0	0
Chignik Bay	07/09/02	13	45	78	891	14,824	110,255	0	0	0	0	0	0
Chignik Bay	07/10/02	12	30	19	231	13,173	99,277	0	0	0	0	0	448
Chignik Bay	07/11/02	15	35	4	105	18,816	141,374	0	0	0	0	0	10
Chignik Bay	07/12/02	13	29	50	434	16,273	117,983	0	0	0	0	0	17
Chignik Bay	07/13/02	16	37	66	593	19,378	140,134	0	0	0	0	0	0
Chignik Bay	07/14/02	14	28	18	214	13,266	96,581	0	0	1	5	2	18
Chignik Bay	07/15/02	16	46	32	302	21,090	151,224	0	0	2	10	17	130
Chignik Bay	07/16/02	15	58	59	786	22,839	163,816	0	0	0	0	2	13
Chignik Bay	07/17/02	15	44	31	312	22,054	159,772	0	0	0	0	0	0
Chignik Bay	07/18/02	16	46	14	212	19,361	136,602	0	0	0	0	0	0
Chignik Bay	07/19/02	13	24	47	602	11,701	81,841	0	0	0	0	0	0
Chignik Bay	07/21/02	12	18	7	113	7,613	50,268	0	0	0	0	0	0
Chignik Bay	07/22/02	14	30	5	82	14,075	95,275	0	0	0	0	0	0
Chignik Bay	07/23/02	5	7	3	64	5,370	36,083	0	0	0	0	0	0
Chignik Bay	07/24/02 ^e	7	9	1	11	4,683	31,159	0	0	0	0	0	0
Chignik Bay	07/26/02	13	31	13	125	15,711	102,895	0	0	152	717	6	44

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Table 14. (page 5 of 6)

District	Date	Fishing Effort ^{ab}													
		Permits		Landings		Chinook		Sockeye		Coho		Pink		Chum	
		Number	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Cooperative Fleet															
Chignik Bay	07/27/02	13	31	8	132	9,687	63,273	0	0	0	0	49	149	94	749
Chignik Bay	07/28/02	12	30	1	22	10,972	71,693	0	0	0	0	95	297	0	0
Chignik Bay	07/29/02 ^c	9	12	9	183	4,271	29,489	0	0	0	0	0	0	0	0
Chignik Bay	07/30/02	14	26	39	384	9,129	57,875	2	17	199	615	230	615	230	1,933
Chignik Bay	07/31/02	13	25	0	0	7,880	50,639	0	0	12	37	29	37	29	204
Chignik Bay	08/01/02	13	27	5	86	6,757	44,730	0	0	377	990	125	990	125	934
Chignik Bay	08/02/02	4	5	22	211	1,289	9,109	0	0	199	572	0	572	0	0
Chignik Bay	08/05/02	11	20	0	0	3,376	22,085	0	0	411	1,067	144	1,067	144	1,108
Chignik Bay	08/06/02	12	28	1	6	5,118	36,363	0	0	719	1,973	61	1,973	61	387
Chignik Bay	08/07/02	12	23	0	0	4,951	33,577	2	15	338	987	37	987	37	267
Chignik Bay	08/08/02	10	19	2	15	3,749	24,732	0	0	327	957	83	957	83	589
Chignik Bay	08/09/02	10	21	0	0	3,618	24,488	0	0	390	1,083	71	1,083	71	514
Chignik Bay	08/10/02	11	20	0	0	4,630	30,726	13	96	558	1,614	208	1,614	208	1,538
Chignik Bay	08/11/02	10	26	1	12	2,677	19,422	0	0	443	1,221	186	1,221	186	1,396
Chignik Bay	08/12/02	13	49	0	0	4,183	30,340	0	0	426	1,301	81	1,301	81	594
Chignik Bay	08/13/02	14	48	0	0	5,140	34,635	0	0	290	893	136	893	136	1,086
Chignik Bay	08/14/02	13	44	0	0	4,636	31,948	0	0	267	826	103	826	103	817
Chignik Bay	08/15/02	13	39	0	0	3,826	25,313	0	0	79	248	92	248	92	654
Chignik Bay	08/16/02	12	40	2	16	3,540	24,417	16	115	165	545	24	545	24	172
Chignik Bay	08/17/02	11	29	1	6	2,632	17,608	29	207	210	615	70	615	70	526
Chignik Bay	08/18/02	11	36	0	0	2,860	17,268	48	362	189	617	47	617	47	312
Chignik Bay	08/19/02	12	23	1	13	2,354	11,521	35	279	76	254	80	254	80	641
Chignik Bay	08/24/02	7	16	0	0	1,374	8,955	173	1,362	104	306	25	306	25	192
Chignik Bay	08/25/02	9	18	0	0	1,341	8,769	217	1,727	108	249	15	249	15	129
Chignik Bay	08/26/02	7	19	1	12	1,747	11,425	364	2,897	116	264	27	264	27	220
Chignik Bay	08/27/02	6	19	0	0	1,638	10,632	423	3,370	140	327	13	327	13	100
Chignik Bay	08/28/02	6	14	1	10	1,793	11,020	482	4,021	92	230	16	230	16	129
Chignik Bay	08/29/02	6	22	0	0	2,308	14,491	1,026	8,270	92	209	21	209	21	153
Chignik Bay	08/30/02	6	13	0	0	2,805	17,006	1,158	8,738	84	210	20	210	20	163
Chignik Bay	08/31/02	5	25	0	0	3,152	18,347	1,787	13,732	35	83	20	83	20	146

-Continued-

Table 14. (page 6 of 6)

District	Date	Fishing Effort ^{a,b}		Chinook		Sockeye		Coho		Pink		Chum	
		Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Cooperative Fleet													
Chignik Bay	09/01/02 ^d	2	9	0	0	1,151	6,985	721	5,639	11	35	8	58
Chignik Bay	09/02/02 ^d	2	7	0	0	758	4,627	435	3,501	15	46	9	69
Chignik Bay	09/03/02 ^d	2	4	0	0	300	1,701	142	1,055	1	3	1	8
Chignik Bay	09/04/02 ^d	2	6	0	0	759	4,486	296	2,129	20	60	13	99
Chignik Bay	09/05/02 ^d	2	3	0	0	280	1,755	267	2,109	6	19	1	7
Total		19	1,954	808	8,455	721,428	4,969,281	7,636	59,641	6,798	19,634	2,177	16,574
Avg. Wt.					10.87		6.89		7.98		2.89		7.61
Cooperative Fleet Total													
		19	1,954	808	8,455	721,428	4,969,281	7,636	59,641	6,798	19,634	2,177	16,574
Avg. Wt.					10.87		6.89		7.98		2.89		7.61

^a Does not include salmon that were caught for subsistence use but does include personal use fish.

^b Does not include salmon caught at Cape Igvak or Southeastern District Mainland destined for Chignik.

^c Data are omitted because of confidentiality concerns.

^d The cooperative fleet and area processors agreed to allow the data to be published, regardless of confidentiality concerns.

^e Does not include catch from the department's test fishery within Chignik Lagoon.

Table 15. Pink, chum, and coho salmon daily and cumulative escapement estimates through the Chignik weir, 2002.

Date ^a	Pink Escapement		Chum Escapement		Coho Escapement	
	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
07/16/02	0	0	0	0	0	0
07/17/02	6	6	0	0	0	0
07/18/02	6	12	0	0	0	0
07/19/02	7	19	0	0	0	0
07/20/02	48	67	0	0	0	0
07/21/02	12	79	6	6	0	0
07/22/02	30	109	0	6	0	0
07/23/02	12	121	0	6	0	0
07/24/02	96	217	0	6	0	0
07/25/02	6	223	0	6	0	0
07/26/02	30	253	0	6	0	0
07/27/02	6	259	0	6	0	0
07/28/02	0	259	0	6	0	0
07/29/02	12	271	0	6	0	0
07/30/02	12	283	0	6	0	0
07/31/02	0	283	6	12	0	0
08/01/02	12	295	0	12	0	0
08/02/02	18	313	0	12	0	0
08/03/02	12	325	0	12	0	0
08/04/02	24	349	0	12	0	0
08/05/02	6	355	0	12	0	0
08/06/02	6	361	0	12	0	0
08/07/02	12	373	0	12	0	0
08/08/02	12	385	6	18	0	0
08/09/02	72	457	0	18	0	0
08/10/02	78	535	0	18	0	0
08/11/02	162	697	18	36	0	0
08/12/02	30	727	6	42	0	0
08/13/02	126	853	0	42	0	0
08/14/02	30	883	0	42	0	0
08/15/02	72	955	0	42	0	0
08/16/02	42	997	0	42	0	0
08/17/02	66	1,063	0	42	0	0
08/18/02	104	1,167	1	43	0	0
08/19/02	90	1,257	6	49	0	0
08/20/02	236	1,493	12	61	0	0
08/21/02	150	1,643	0	61	0	0
08/22/02	336	1,979	0	61	6	6
08/23/02	120	2,099	0	61	90	96
08/24/02	24	2,123	0	61	66	162
08/25/02	162	2,285	0	61	102	264
08/26/02	36	2,321	0	61	191	455
08/27/02	198	2,519	0	61	318	773
08/28/02	84	2,603	0	61	172	945
08/29/02	168	2,771	0	61	319	1,264

-Continued-

Table 15. (page 2 of 2)

Date ^a	Pink Escapement		Chum Escapement		Coho Escapement	
	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
08/30/02	130	2,901	0	61	413	1,677
08/31/02	48	2,949	0	61	1,691	3,368
09/01/02	102	3,051	0	61	1,660	5,028
09/02/02	96	3,147	0	61	1,689	6,717
09/03/02	270	3,417	6	67	2,545	9,262
09/04/02	0	3,417	0	67	225	9,487
Total		3,417		67		9,487

^aThe Chignik Weir was operational on June 2, 2002; the first fish that passed the weir for any of these species was on July 17.

Table 16. Estimated salmon escapement by district and statistical area in the Chignik Management Area, 2002.

District	Statistical Area	Species					Total
		Chinook	Sockeye ^a	Coho ^b	Pink ^c	Chum ^f	
Chignik Bay	27110	3,541	708,520	9,487	16,917	67	738,532
	Total	3,541	708,520	9,487	16,917	67	738,532
Central	27220				33,410		33,410
	27230				16,000	5,000	21,000
	27250				34,835	5,065	39,900
	27262				1,510	1,550	3,060
	Total	0	0	0	85,755	11,615	97,370
Eastern	27260		3,000	700	109,600	23,000	136,300
	27270		150		48,400	10,000	58,550
	27272				50,500	9,200	59,700
	27280			10	79,010	54,000	133,020
	27290				210,500	54,650	265,150
	27292		700		66,700	8,000	75,400
	27296		8650		213000	16000	237,650
	Total	0	12,500	710	777,710	174,850	965,770
Western	27370			3,500	17,000	800	21,300
	27372		10	8,000	57,001	2,110	67,121
	27380				2,500	2,500	5,000
	27382				3,000	0	3,000
	27384				6,000	11,672	17,672
	27390				0	0	0
	Total	0	10	11,500	85,501	17,082	114,093
Perryville	27540			4,600	20,147	28,500	53,247
	27550		10	2,300	42,000	3,500	47,810
	27560			100	23	20	143
	Total	0	10	7,000	62,170	32,020	101,200
All District Total		3,541	721,040	28,697	1,028,053	235,634	2,016,965

^a Includes sockeye salmon from Chignik weir counts, aerial surveys, and postweir estimates.

^b Coho escapement estimates were from Chignik River weir counts, aerial surveys, and postweir estimates. Coho aerial surveys were incomplete because of budget and weather constraints.

^c Escapement estimates for pink and chum were based on Chignik River weir counts, aerial surveys, and area under the curve methods developed by Johnson and Barrett (1988).

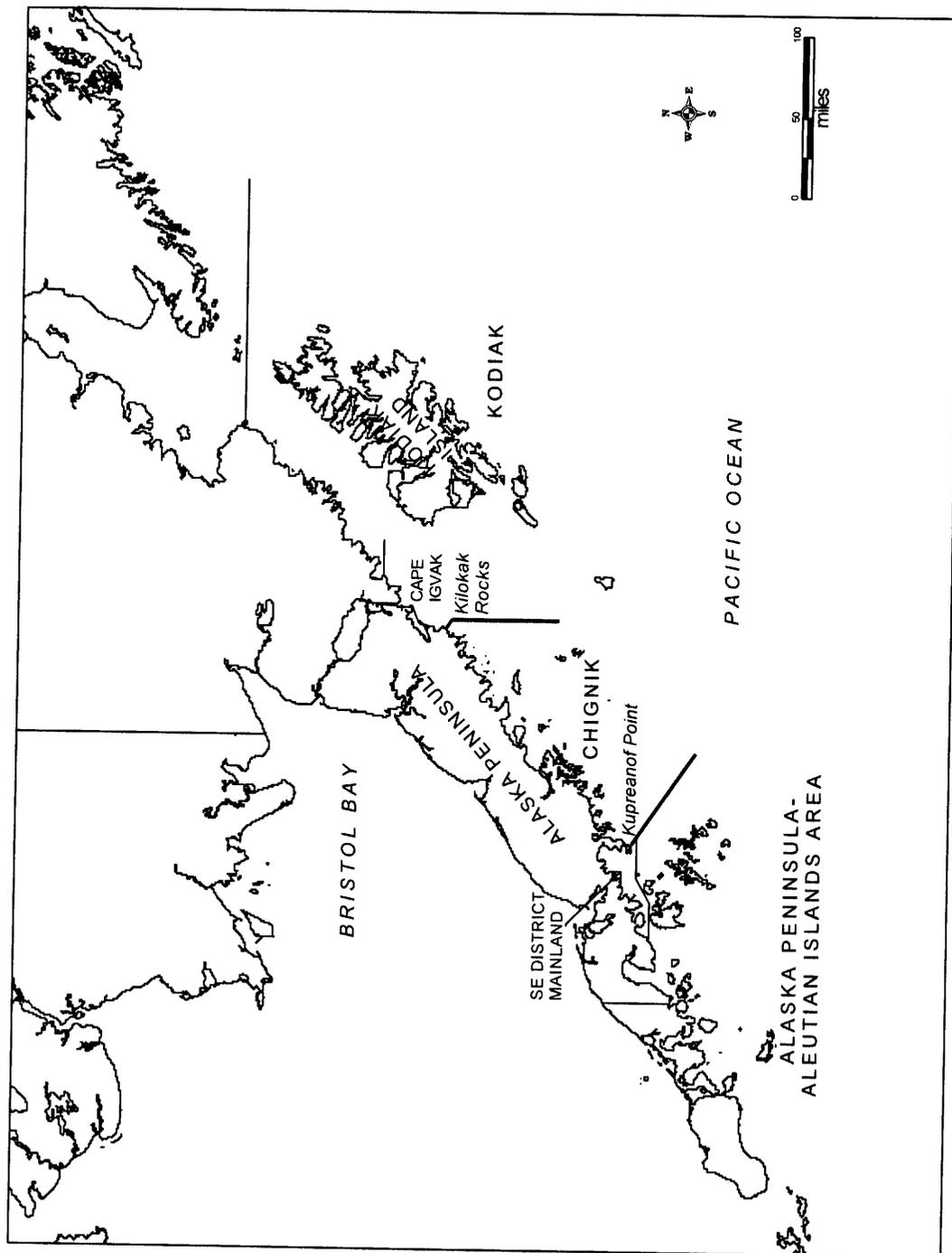


Figure 1. Map of the Alaska Peninsula illustrating the relative locations of the Chignik, Kodiak, and Alaska Peninsula-Aleutian Islands Management Areas.

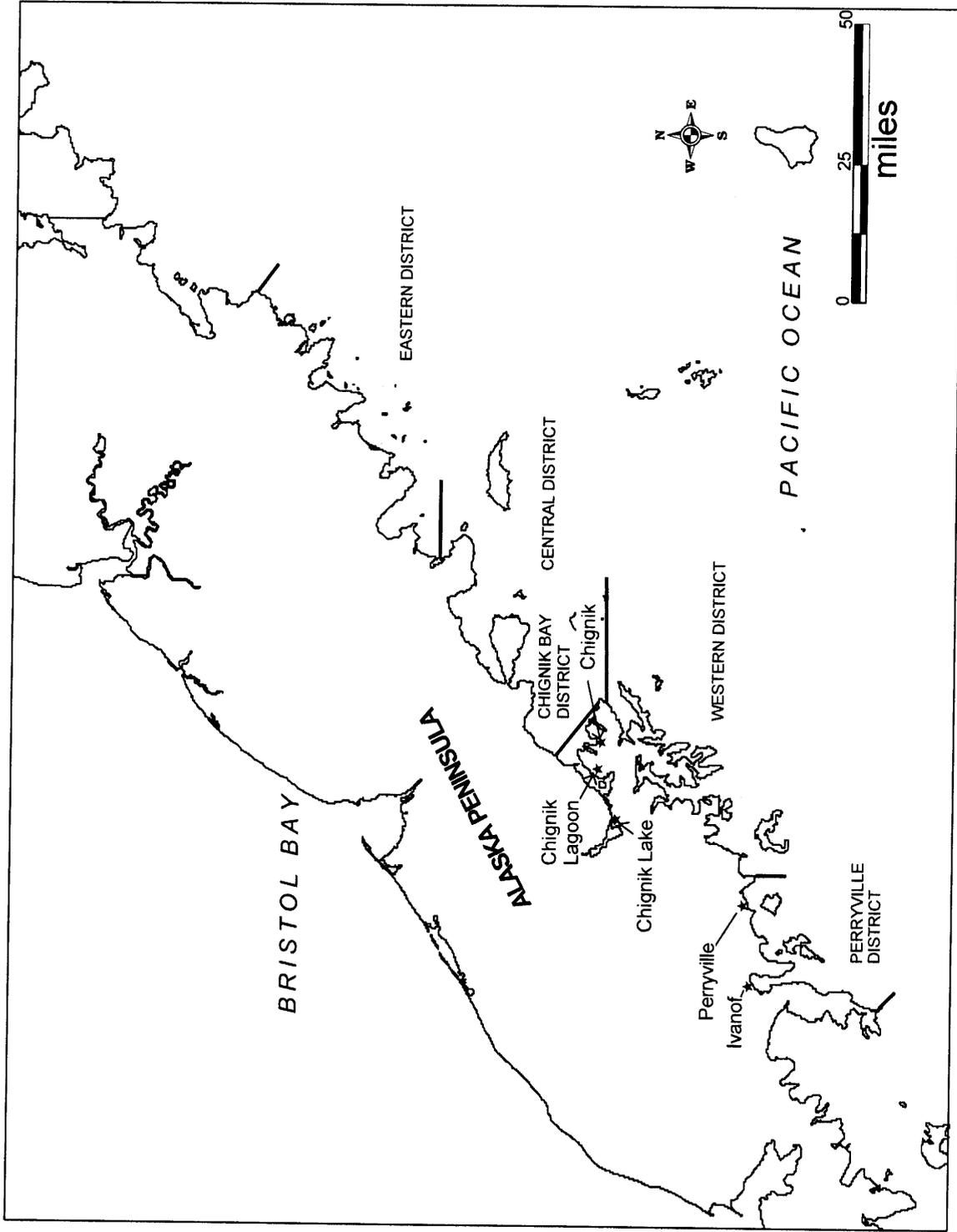


Figure 2. Map illustrating district boundaries and village locations within the Chignik Management Area.

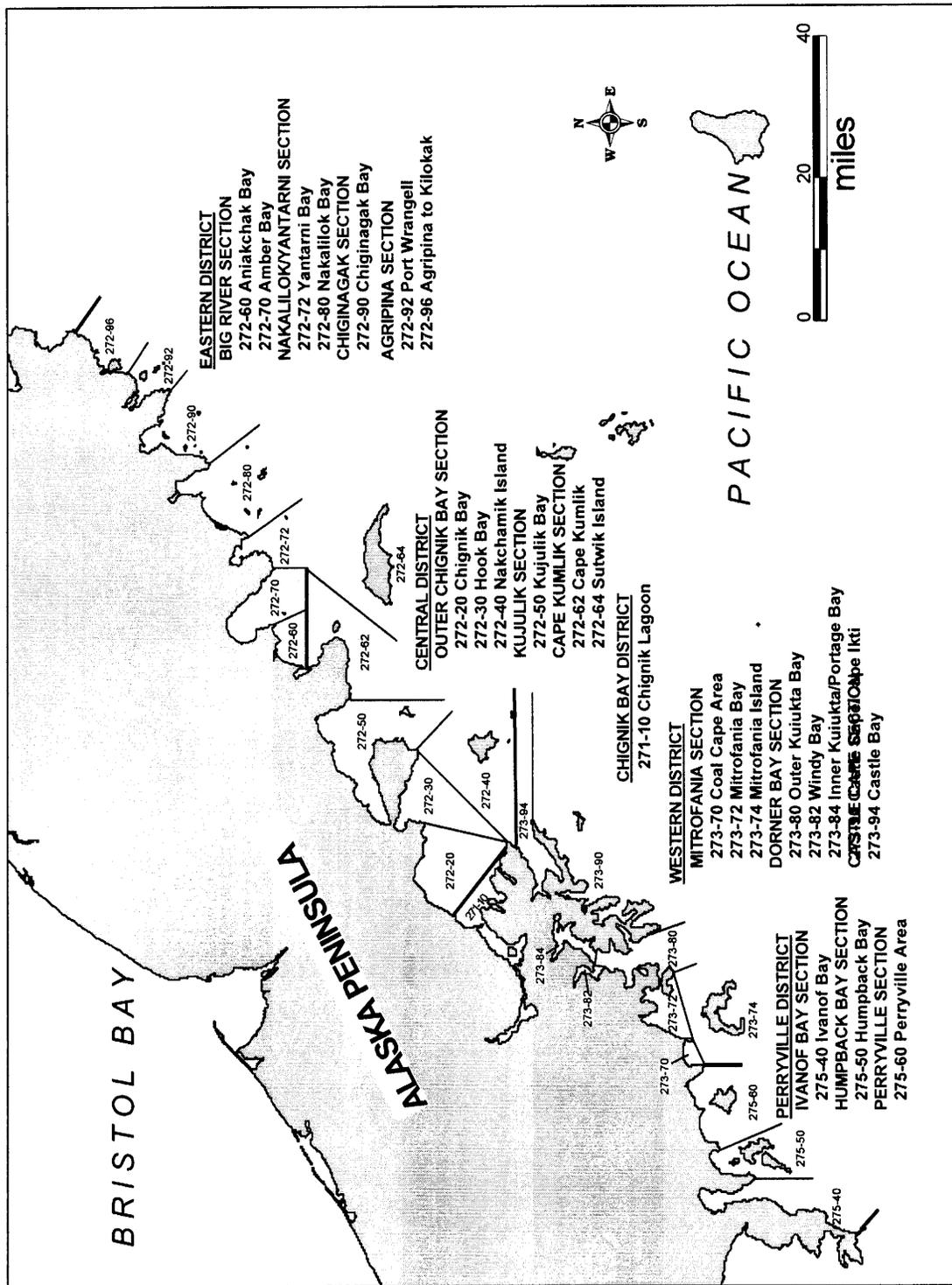


Figure 3. Map of Chignik Management Area illustrating district boundaries and statistical areas.

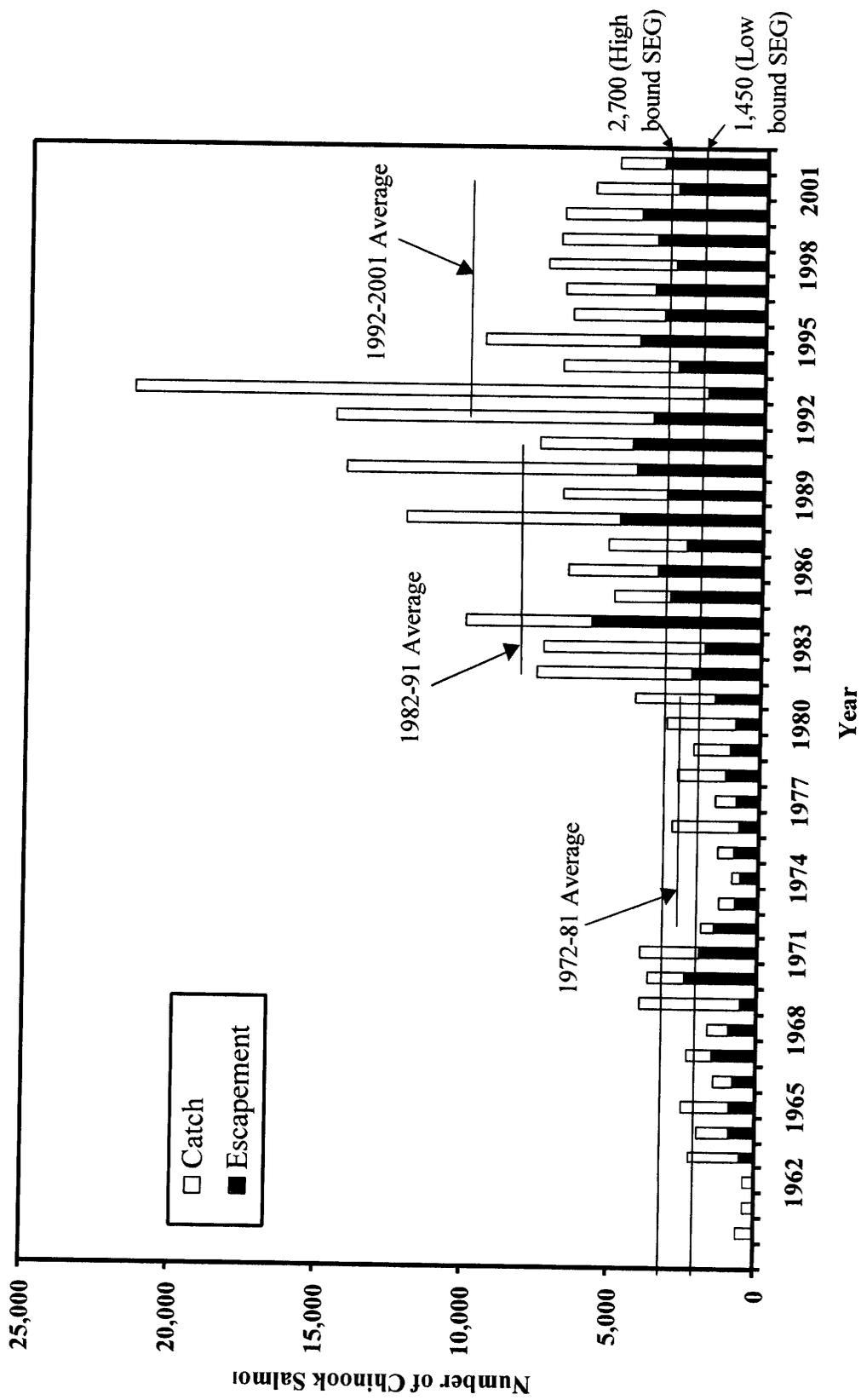


Figure 4. Chinook salmon catch and escapement in the Chignik Management Area, 1960-2002.

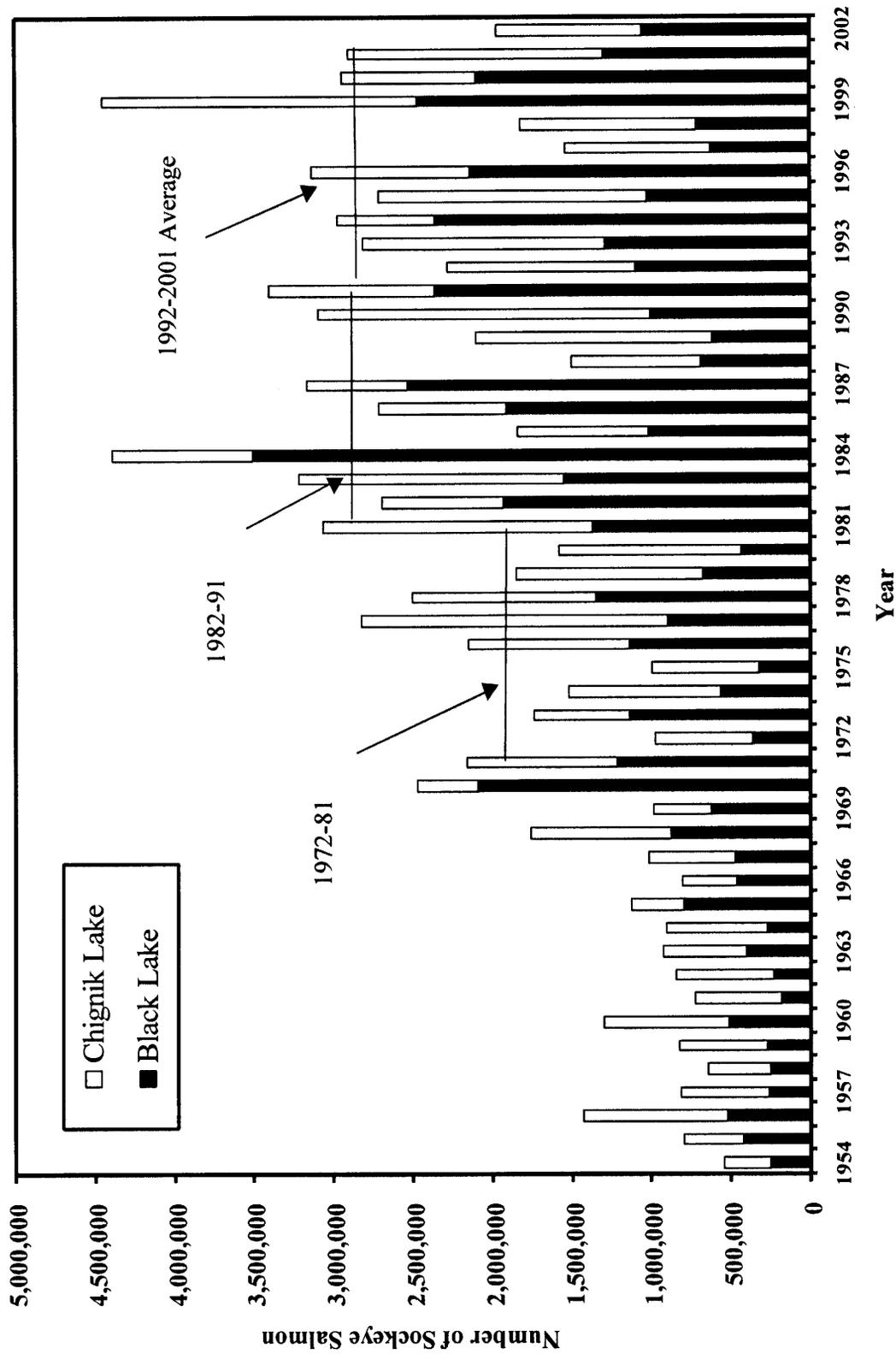


Figure 5. Sockeye salmon runs (catch including all Chignik Management Area and most of the sockeye salmon caught in the Cape Igvak and Southeastern District Mainland through July 25) and escapement to both Black and Chignik Lakes, 1954-2002.

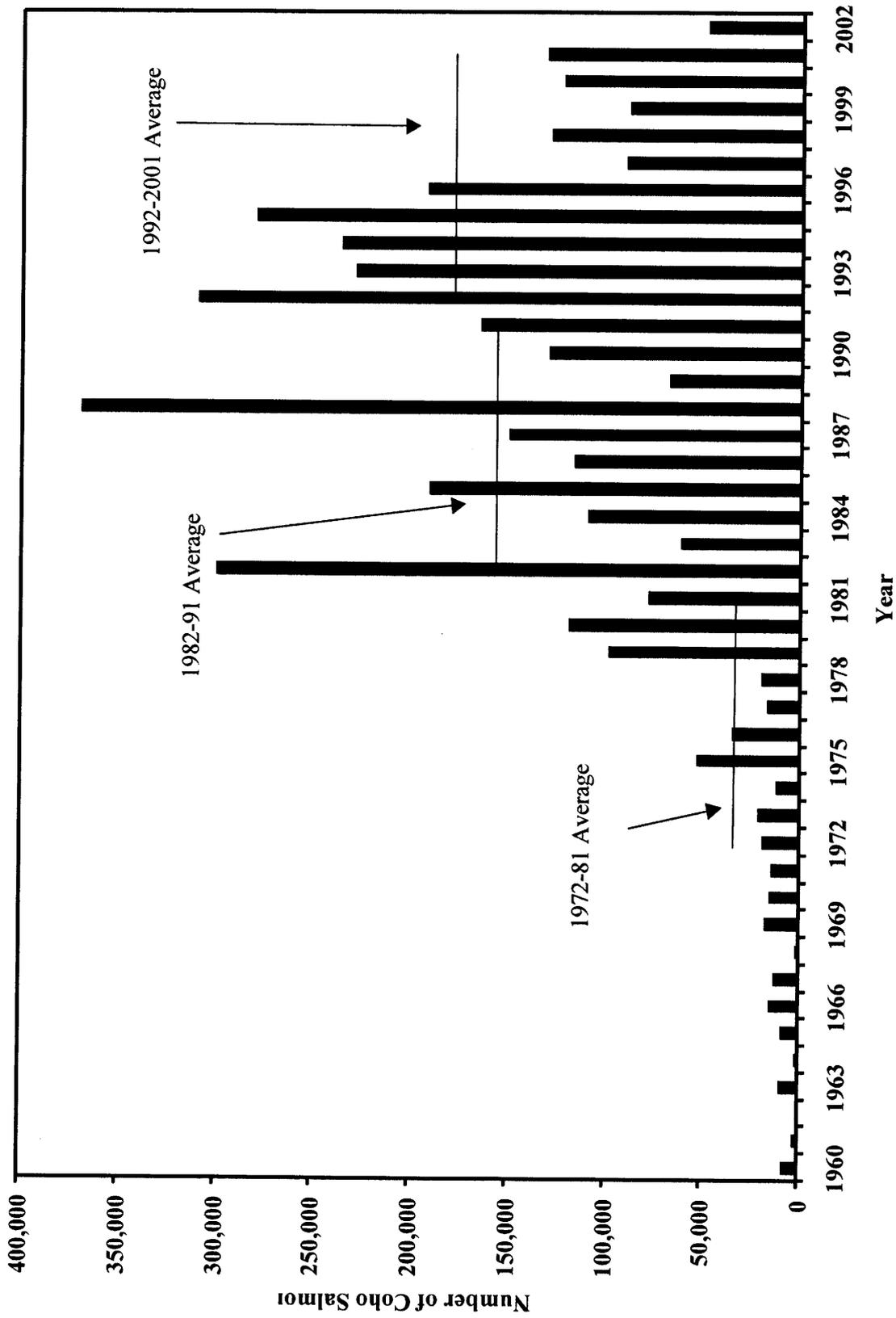


Figure 6. Coho salmon catch in the Chignik Management Area, 1960-2002.

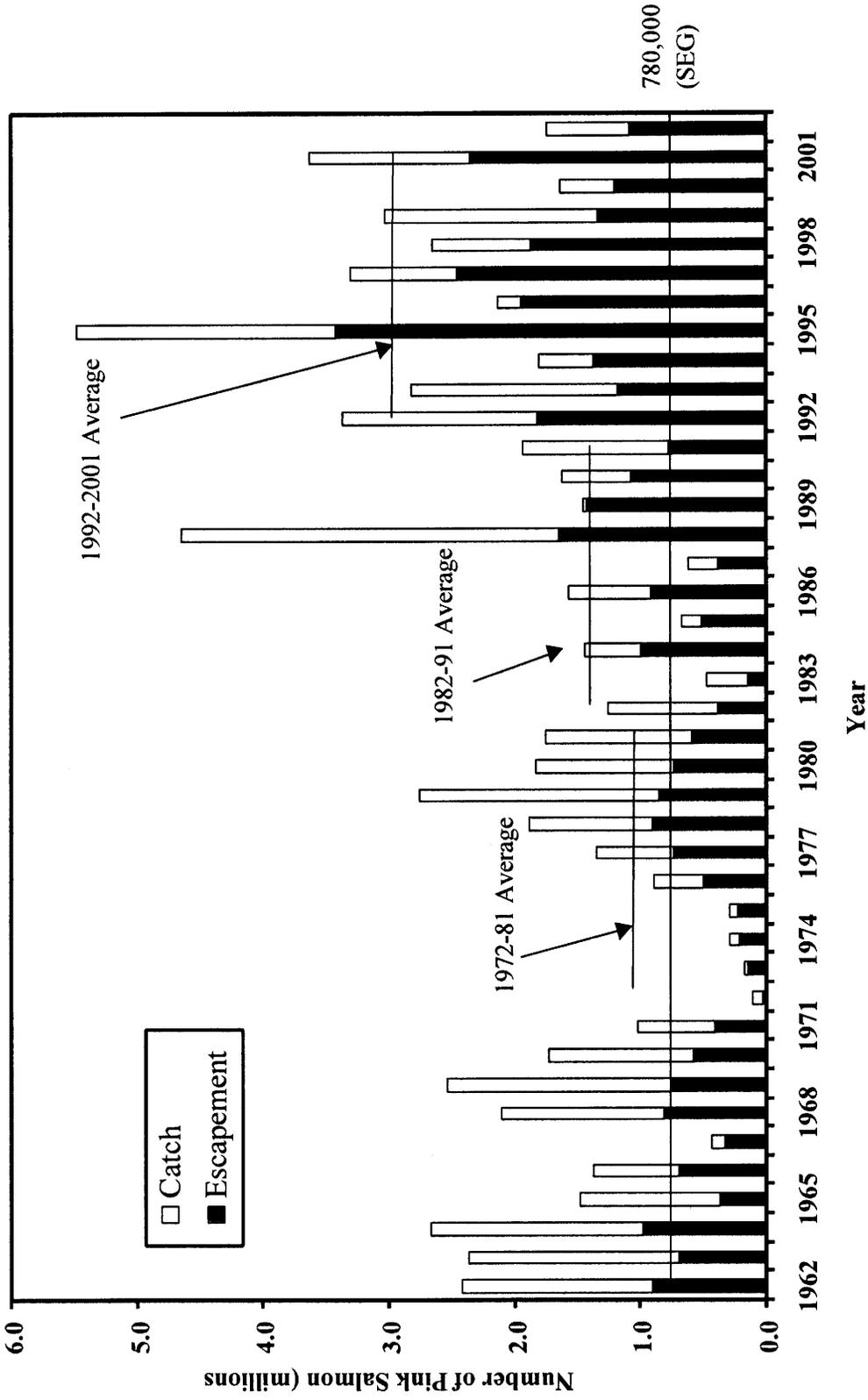


Figure 7. Pink salmon catch and escapement in the Chignik Management Area, 1962-2002.

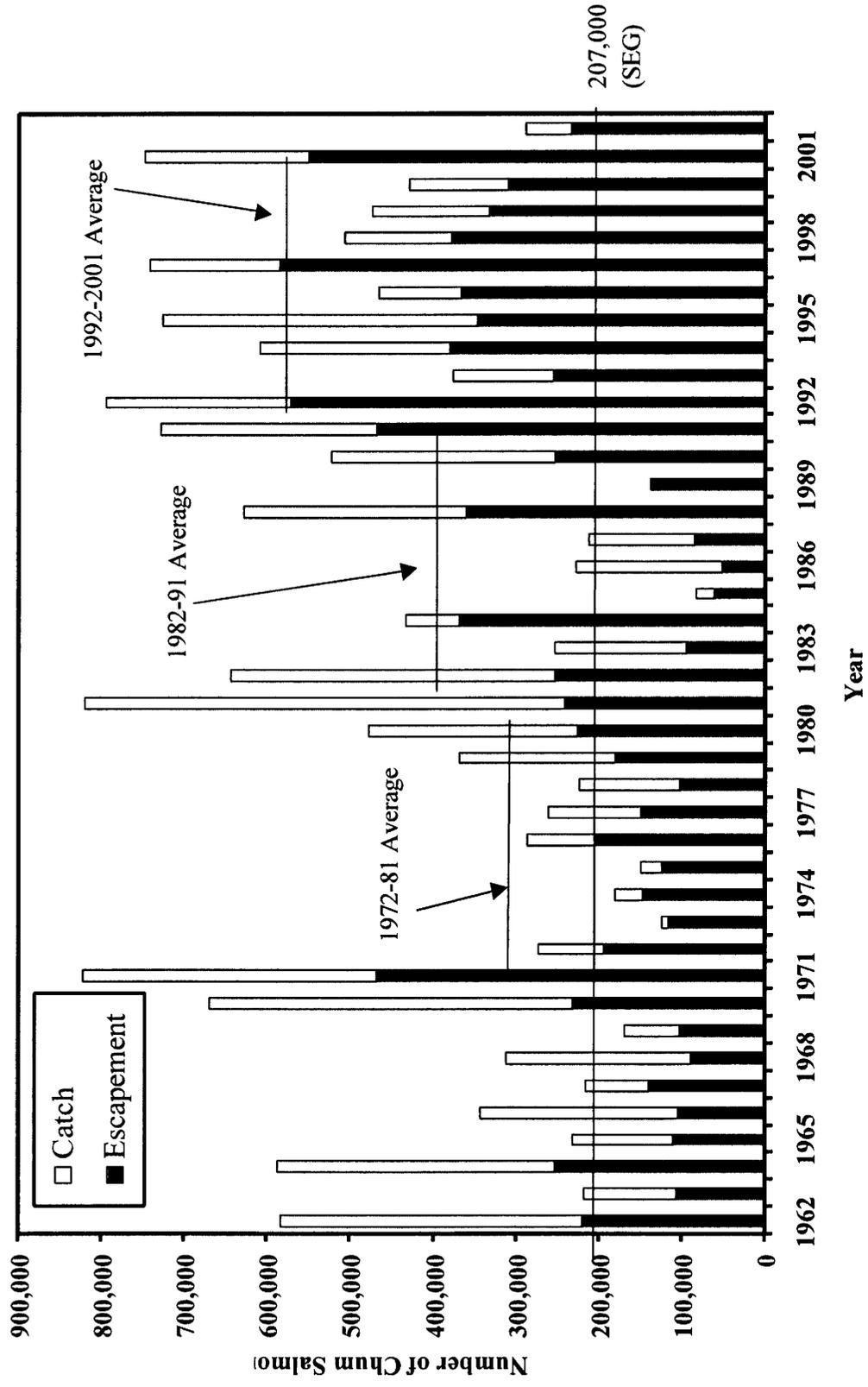


Figure 8. Chum salmon catch and escapement in the Chignik Management Area, 1962-2002.

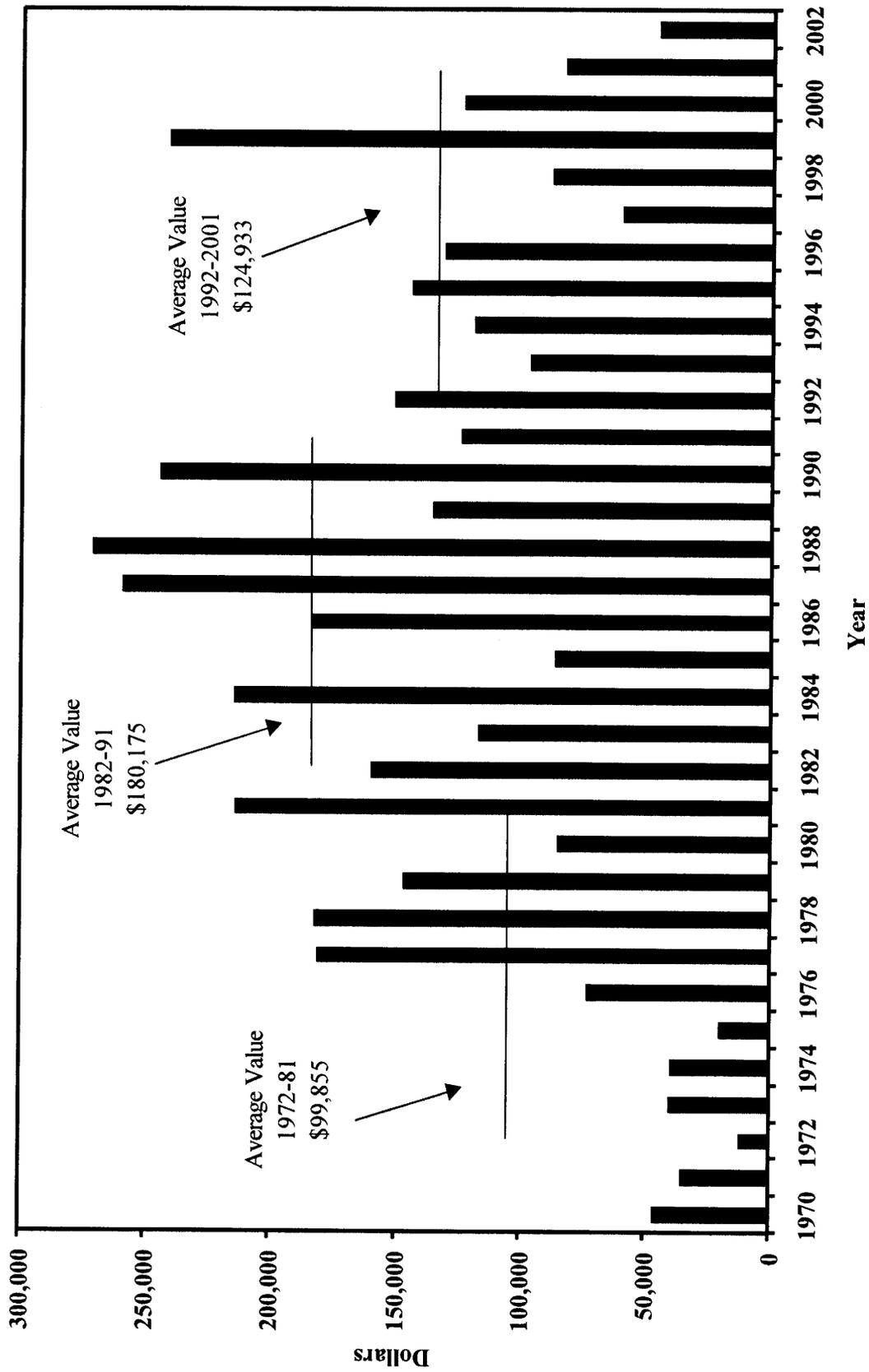


Figure 9. Average economic value of salmon per active Chignik Management Area permit holder, 1970-2002.

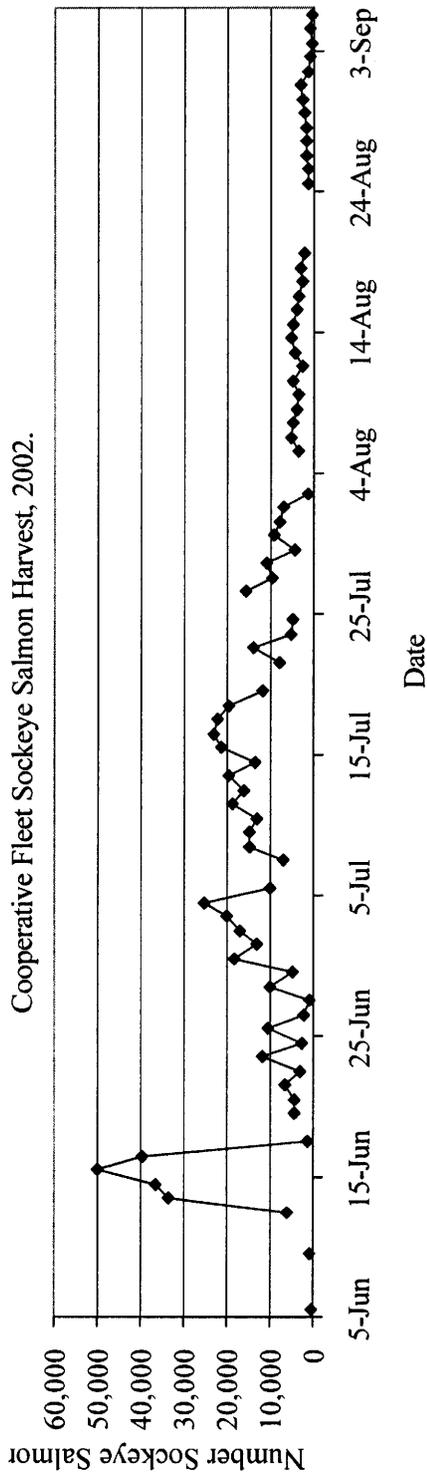
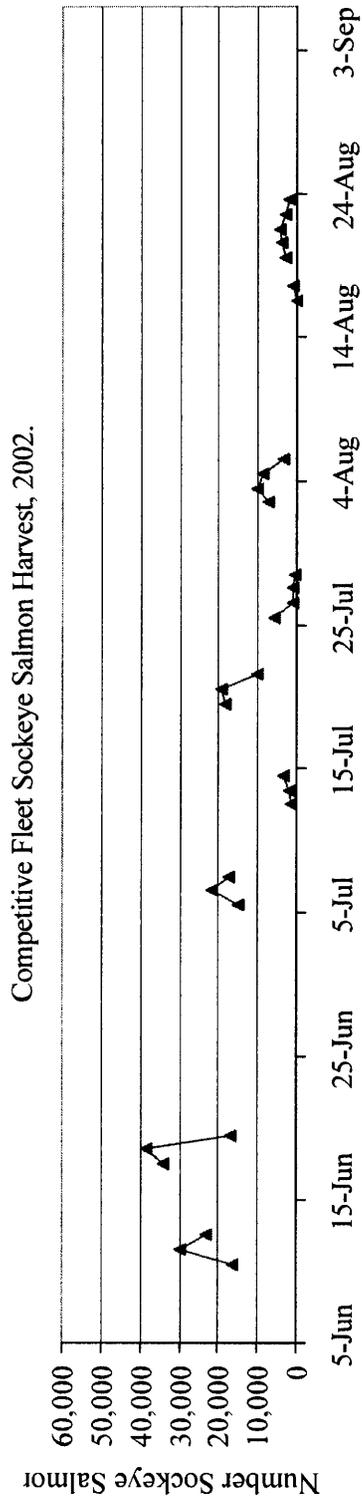


Figure 10. Chignik Management Area sockeye salmon harvest by date and fleet, 2002.

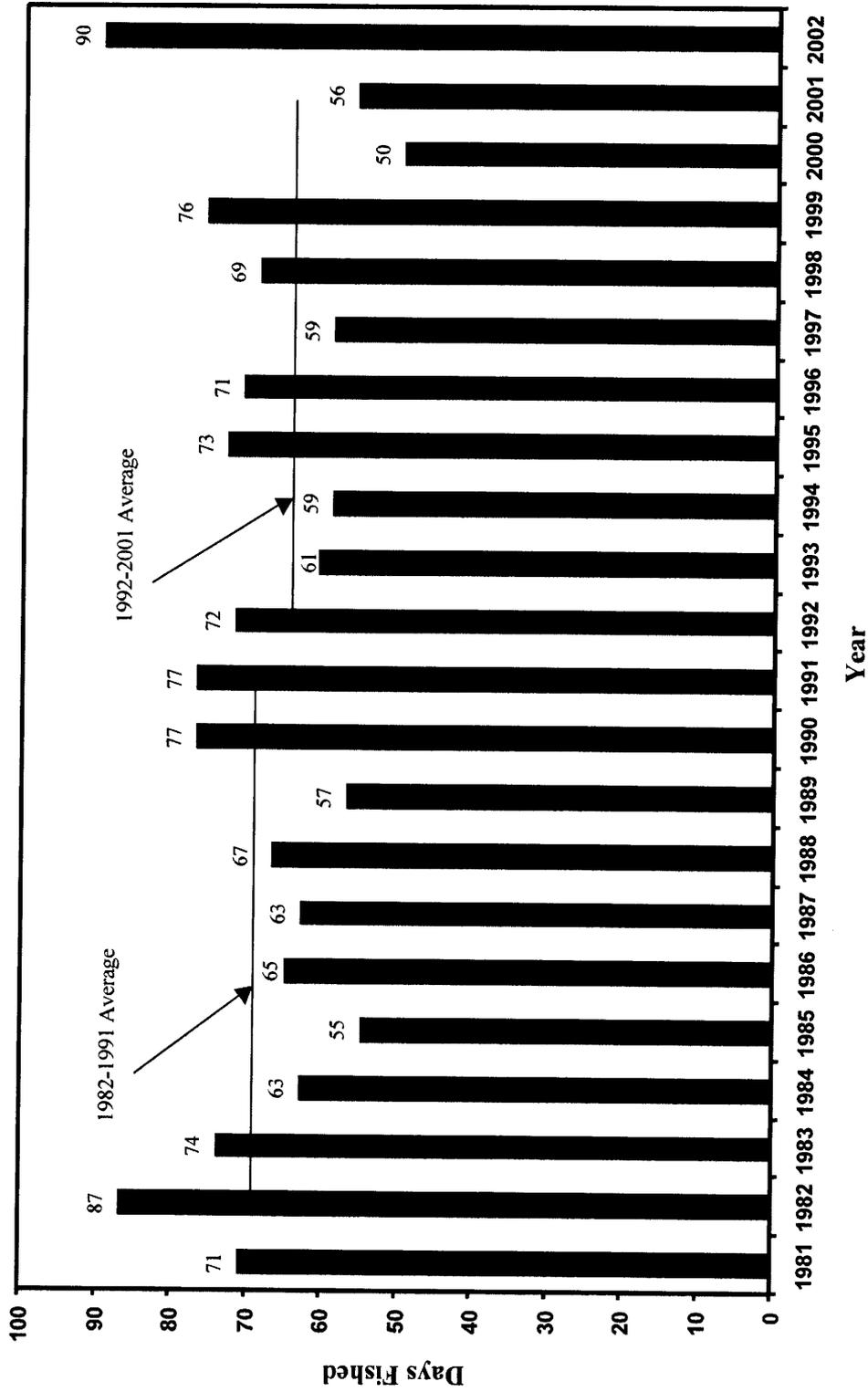


Figure 11. Total days fished per year in the Chignik Management Area commercial salmon fishery, 1981-2002.

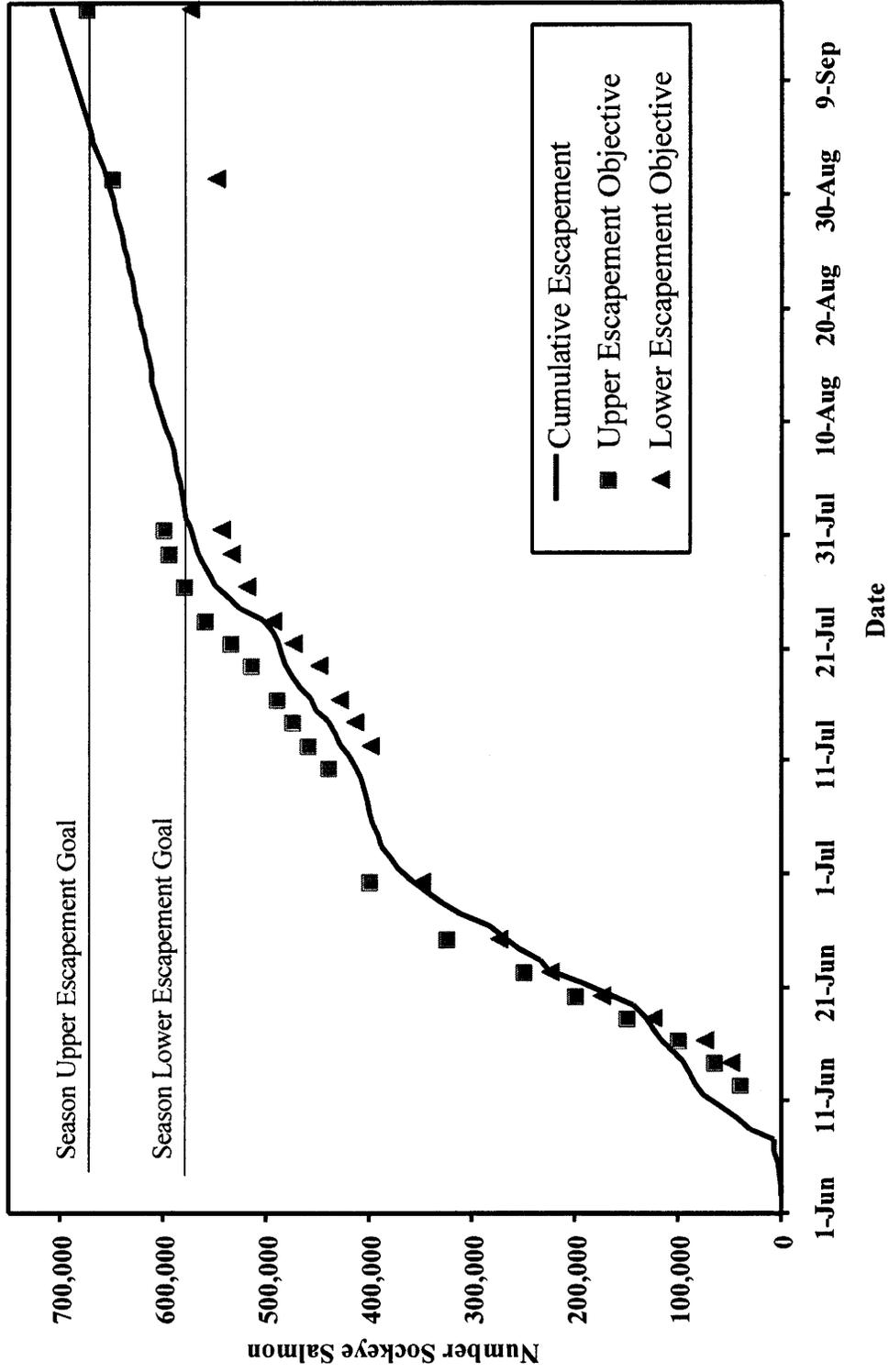


Figure 12. Sockeye salmon cumulative escapement through the Chignik weir and cumulative escapement objectives, 2002.

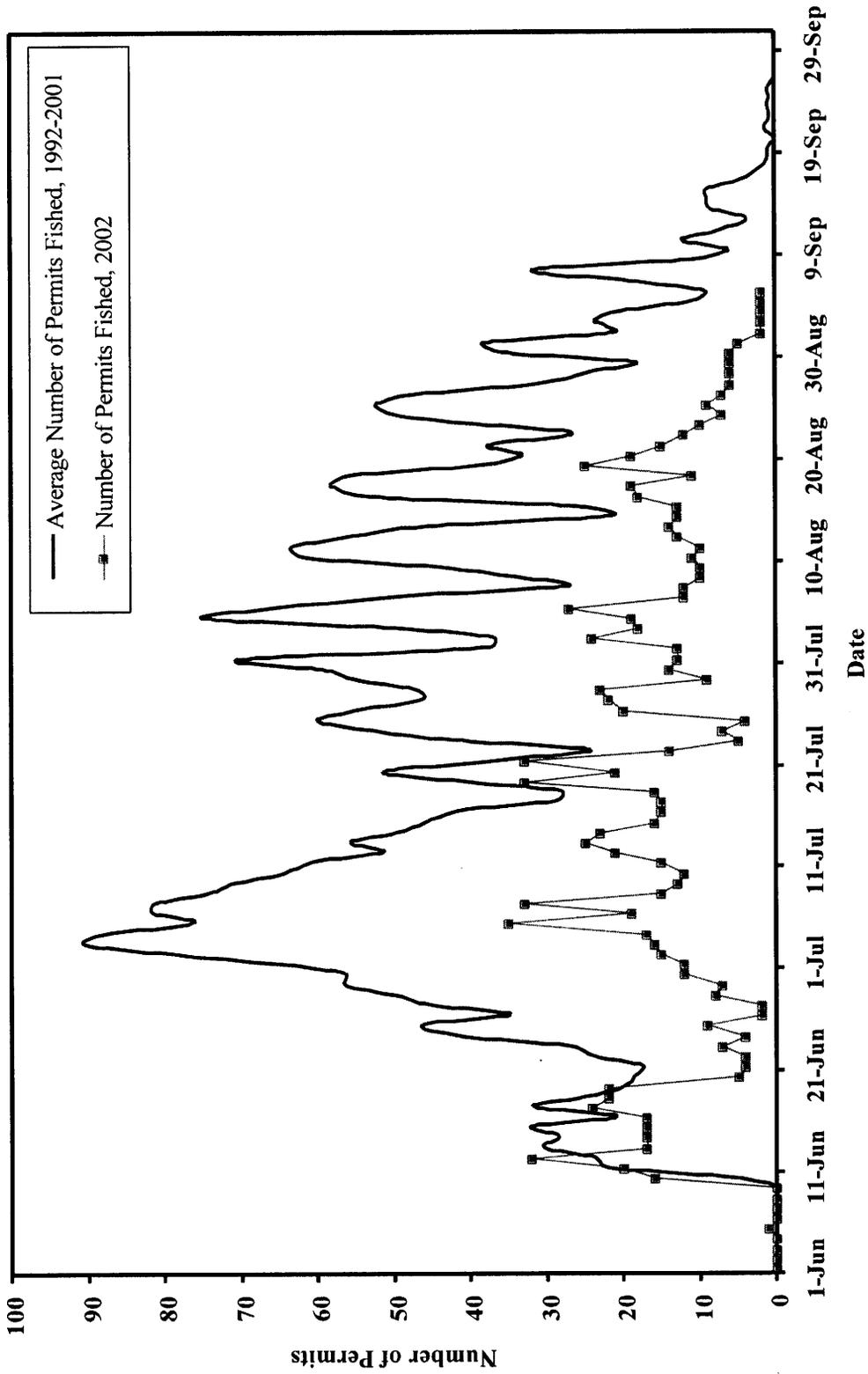


Figure 13. Average number of Chignik Management Area salmon permits fished, 1992-2001, and number of permits fished during 2002.

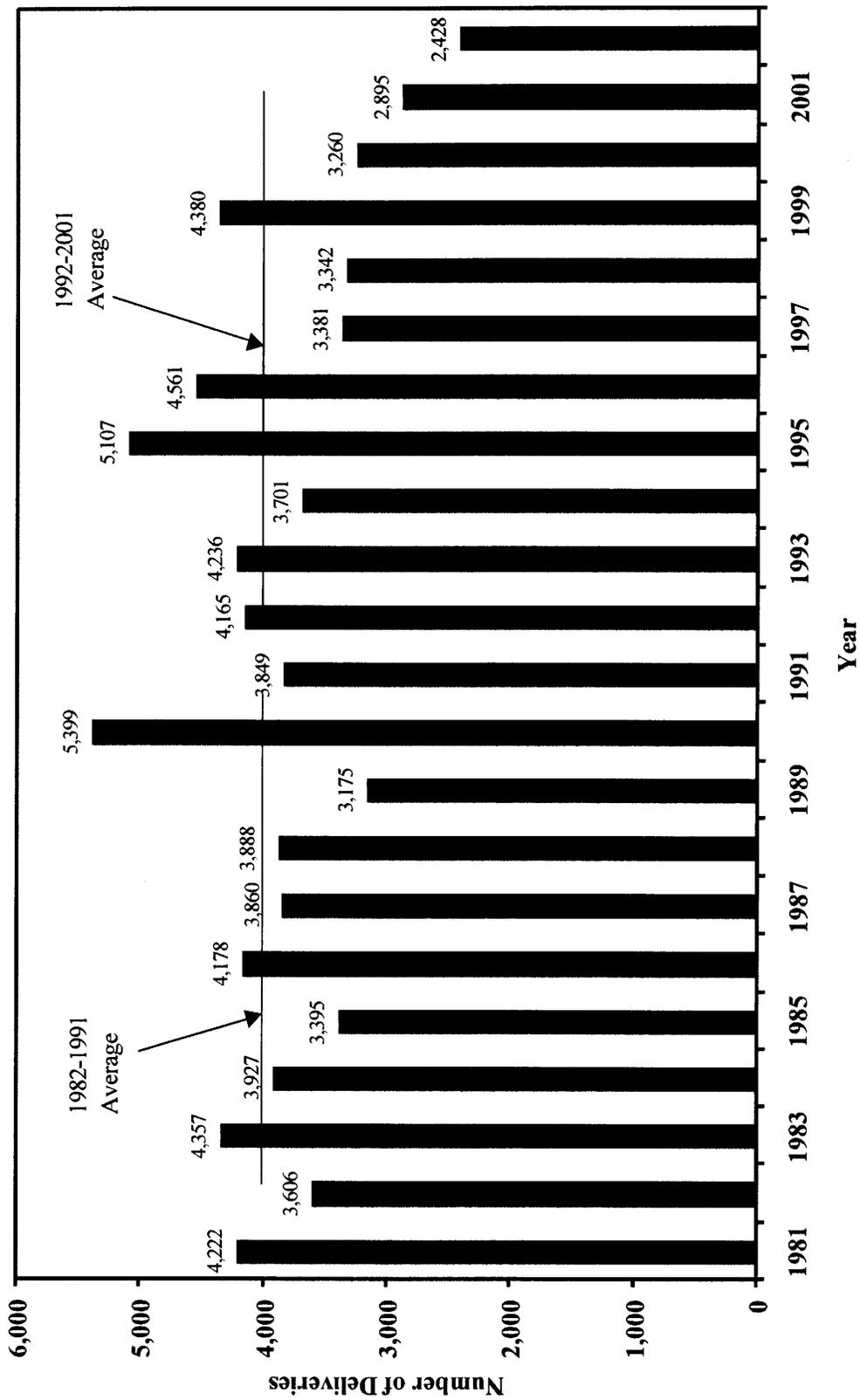


Figure 14. Total number of deliveries per year in the Chignik Management Area commercial salmon fisheries, 1981-2002.

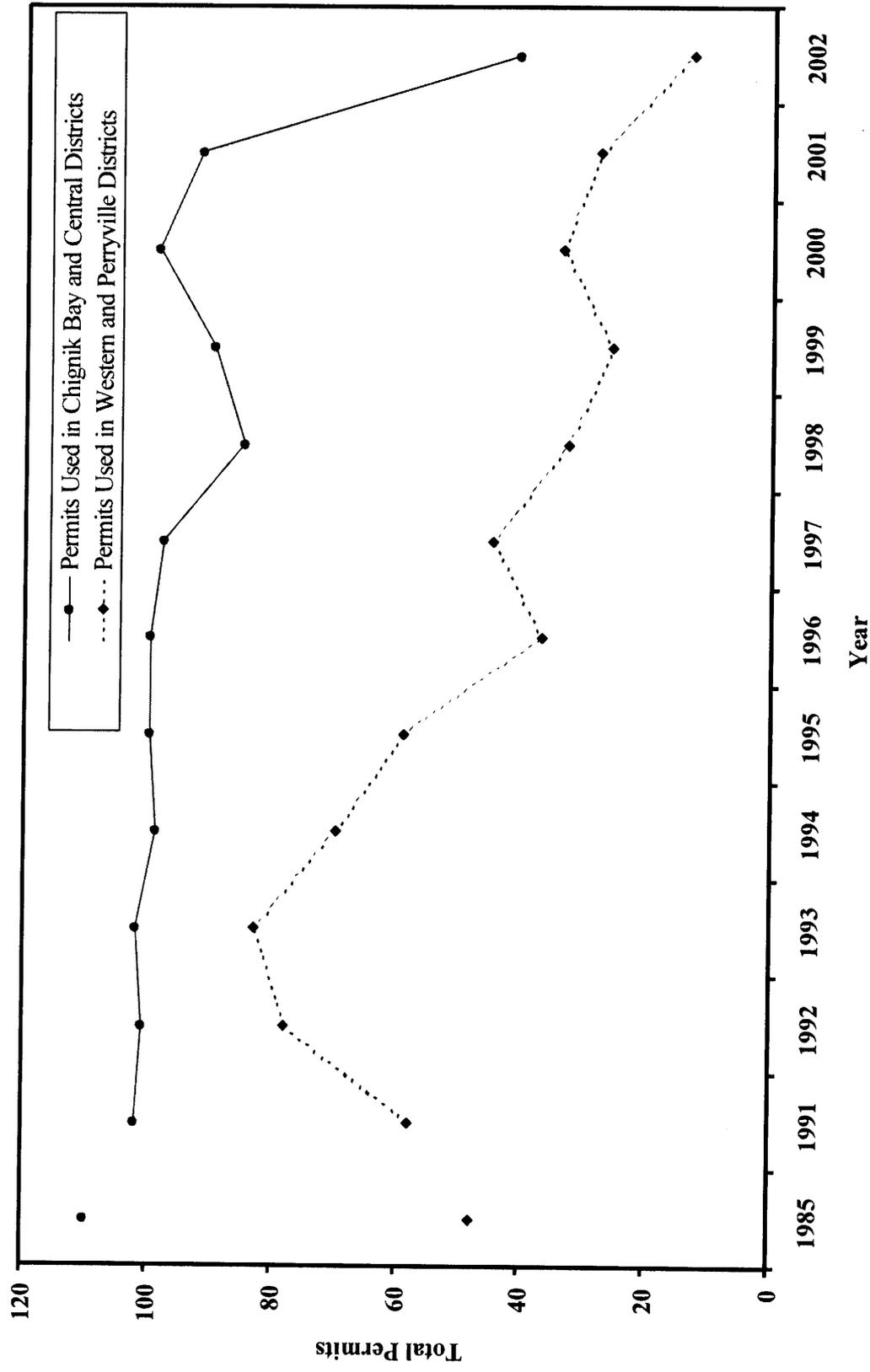


Figure 15. Total number of Chignik Management Area salmon permits used by year in the Chignik Bay and Central Districts combined, and the Western and Perryville Districts combined, 1985 and 1991-2002.

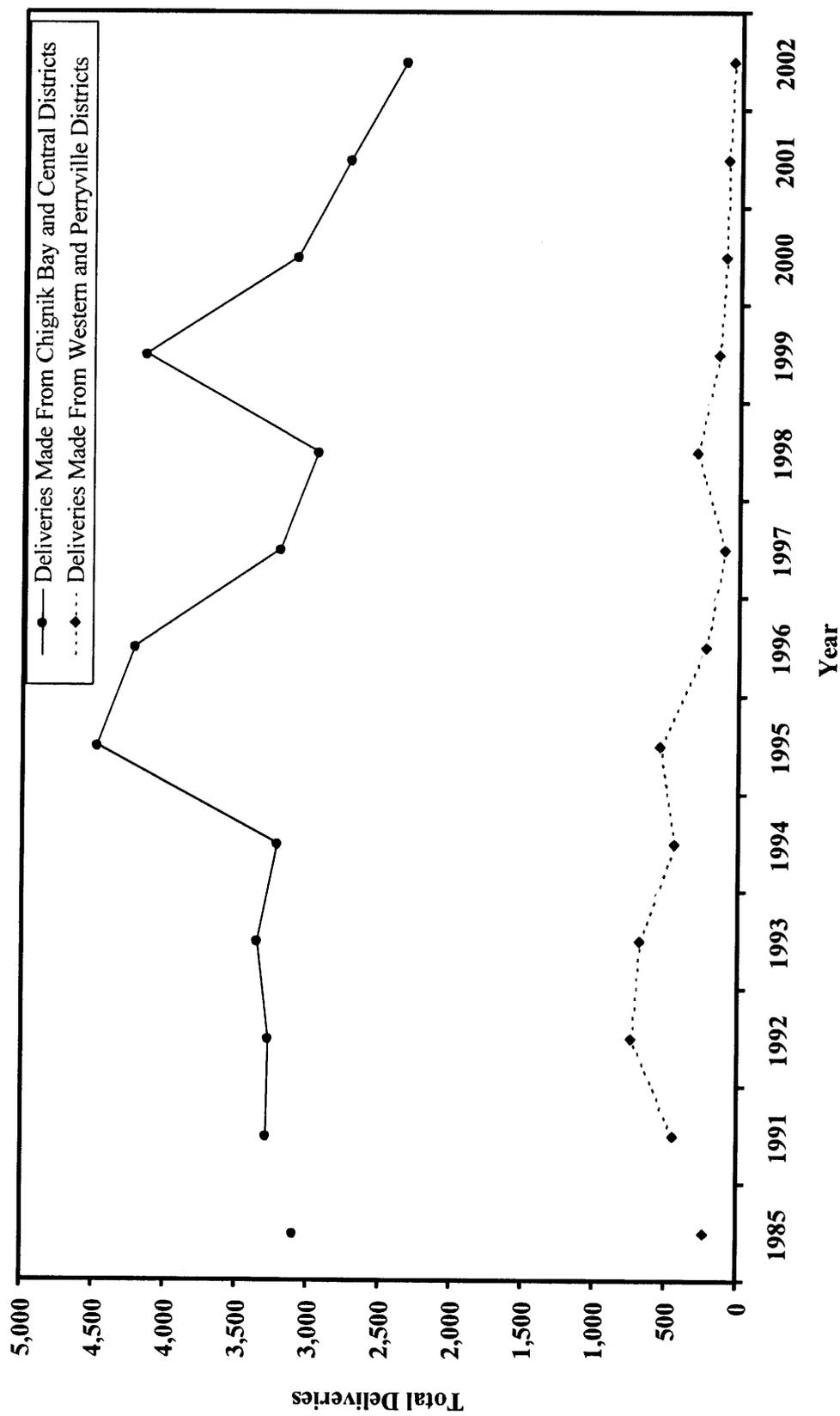


Figure 16. Total number of salmon deliveries by year in the Chignik Bay and Central Districts combined, and the Western and Perryville Districts combined, 1985 and 1991-2002.

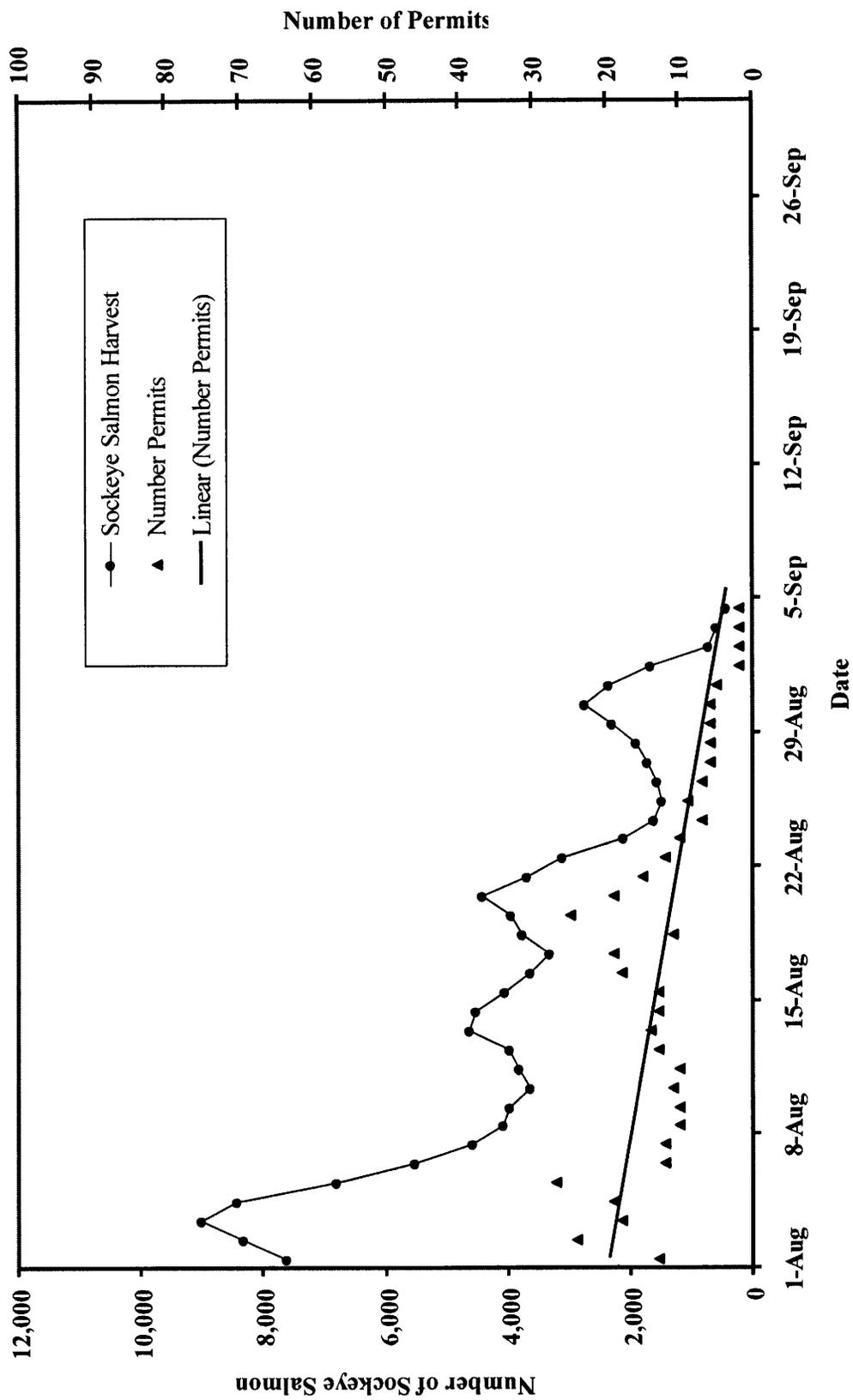


Figure 17. Chignik Management Area fall sockeye salmon harvest and number of permits fished, August - September, 2002.

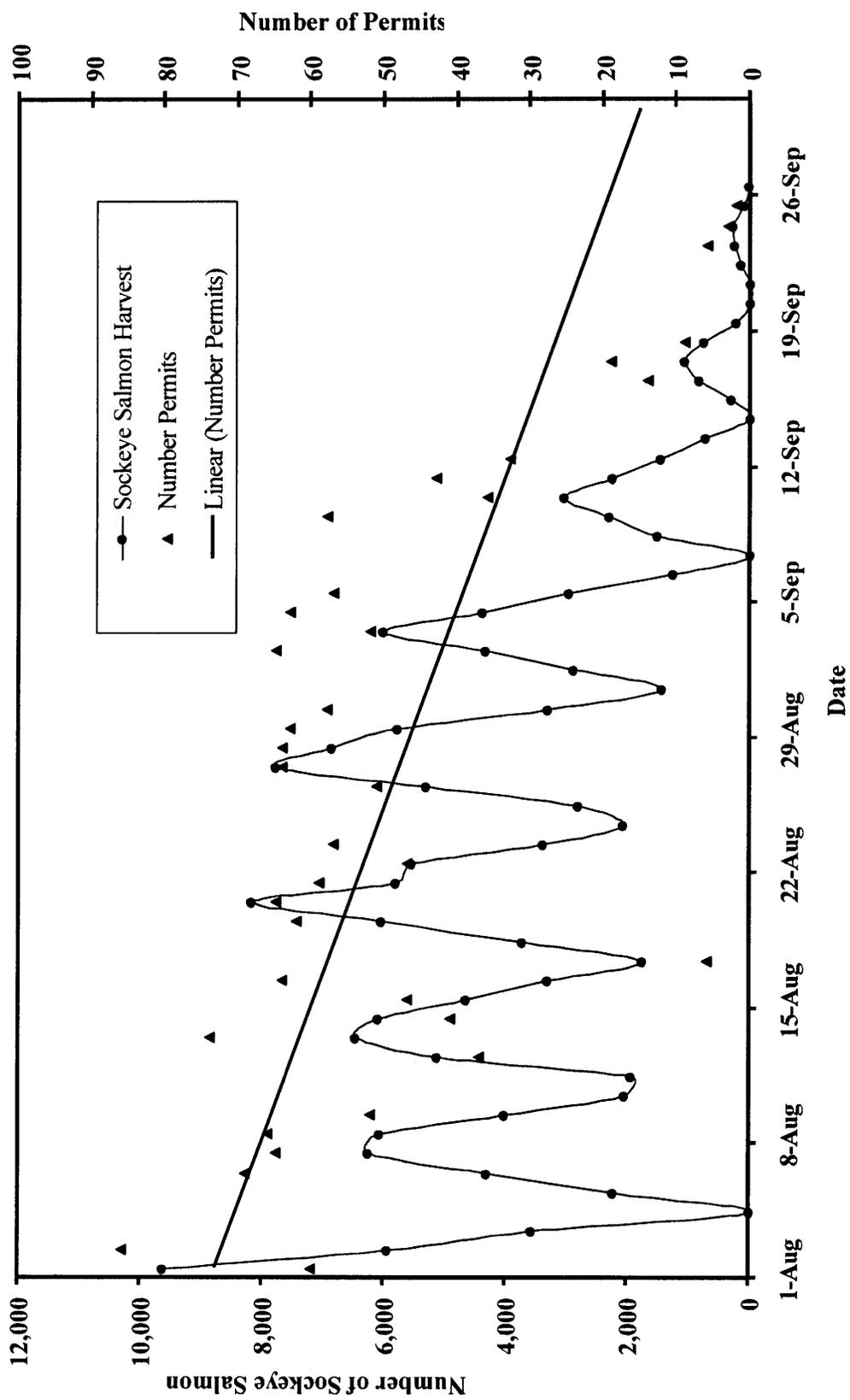


Figure 18. Chignik Management Area fall sockeye salmon harvest and number of permits fished, August - September, 1985.

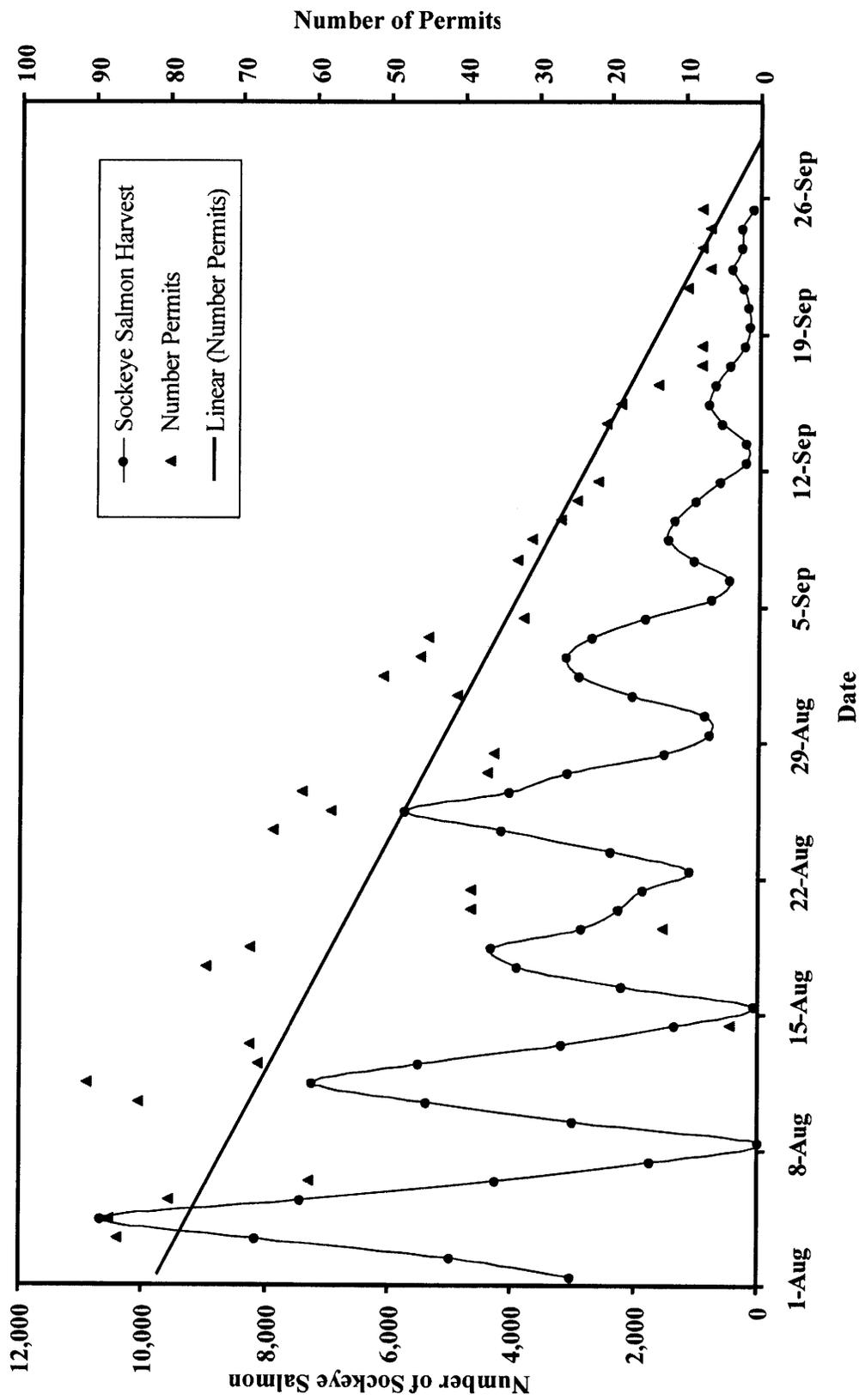


Figure 19. Chignik Management Area fall sockeye salmon harvest and number of permits fished, August - September, 1992.

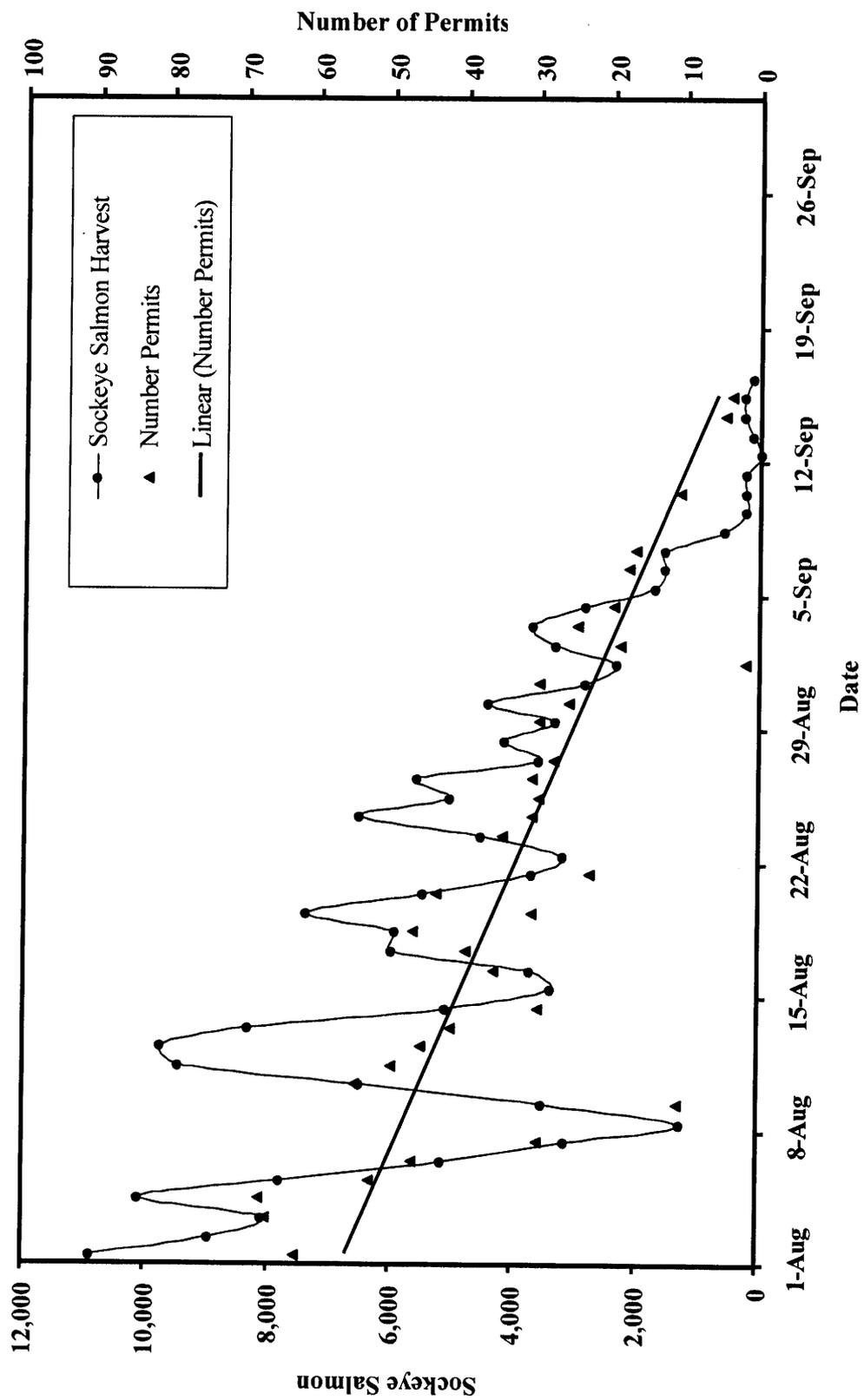


Figure 20. Chignik Management Area fall sockeye salmon harvest and number of permits fished, August - September, 1998.

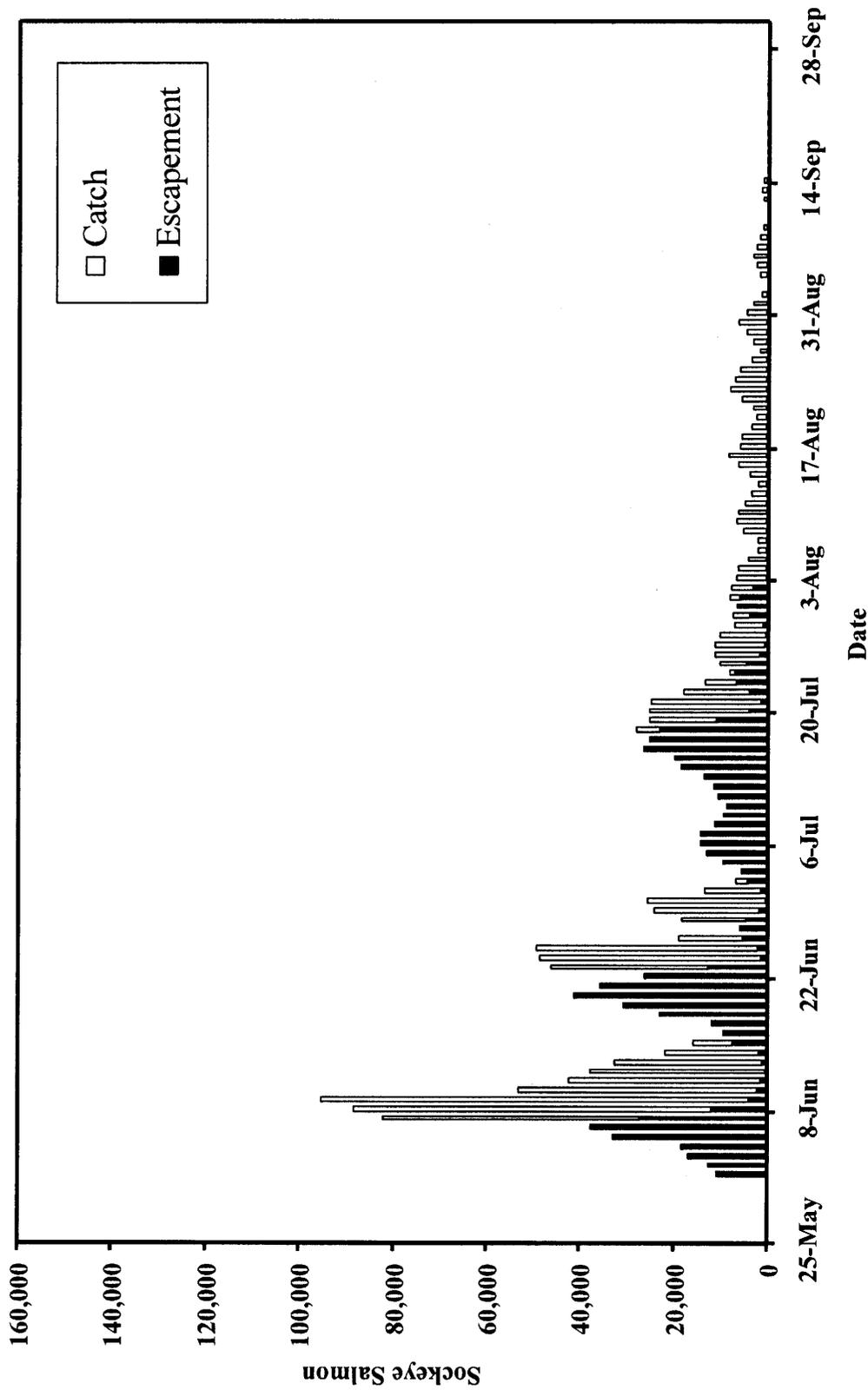


Figure 21. Chignik Management Area sockeye salmon catch and escapement, 1985.

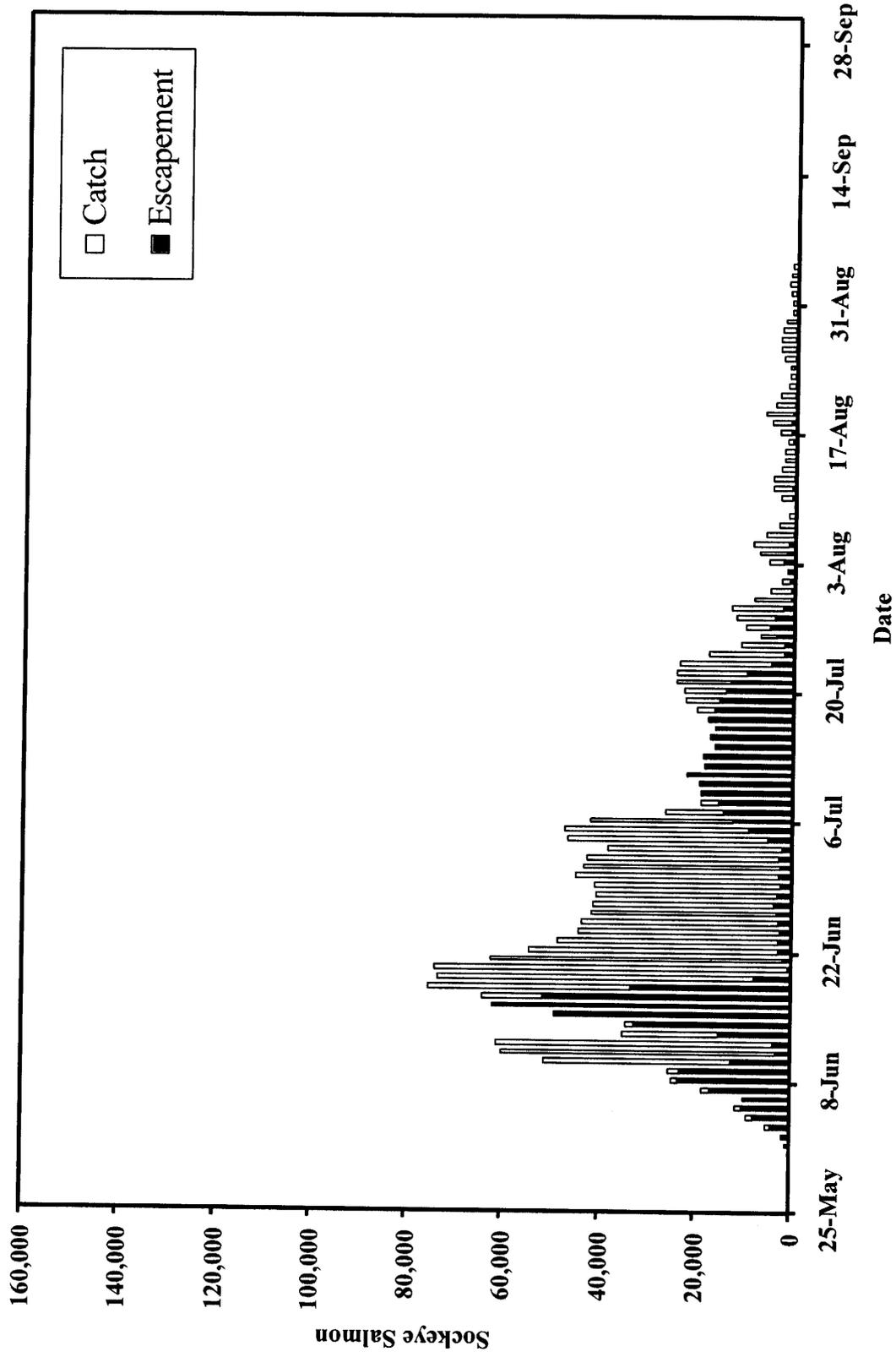


Figure 22. Chignik Management Area sockeye salmon catch and escapement, 1992.

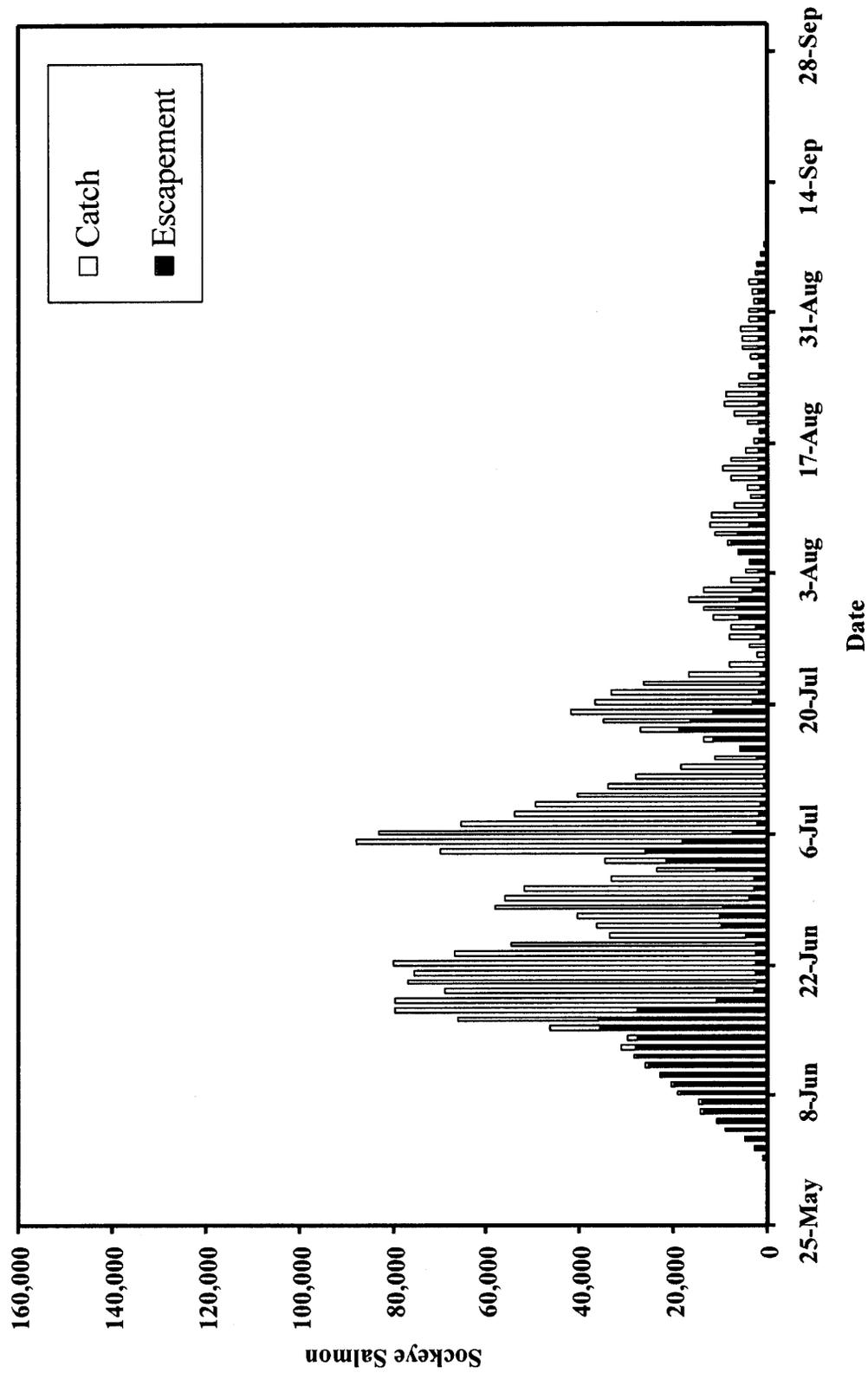


Figure 23. Chignik Management Area sockeye salmon catch and escapement, 1993.

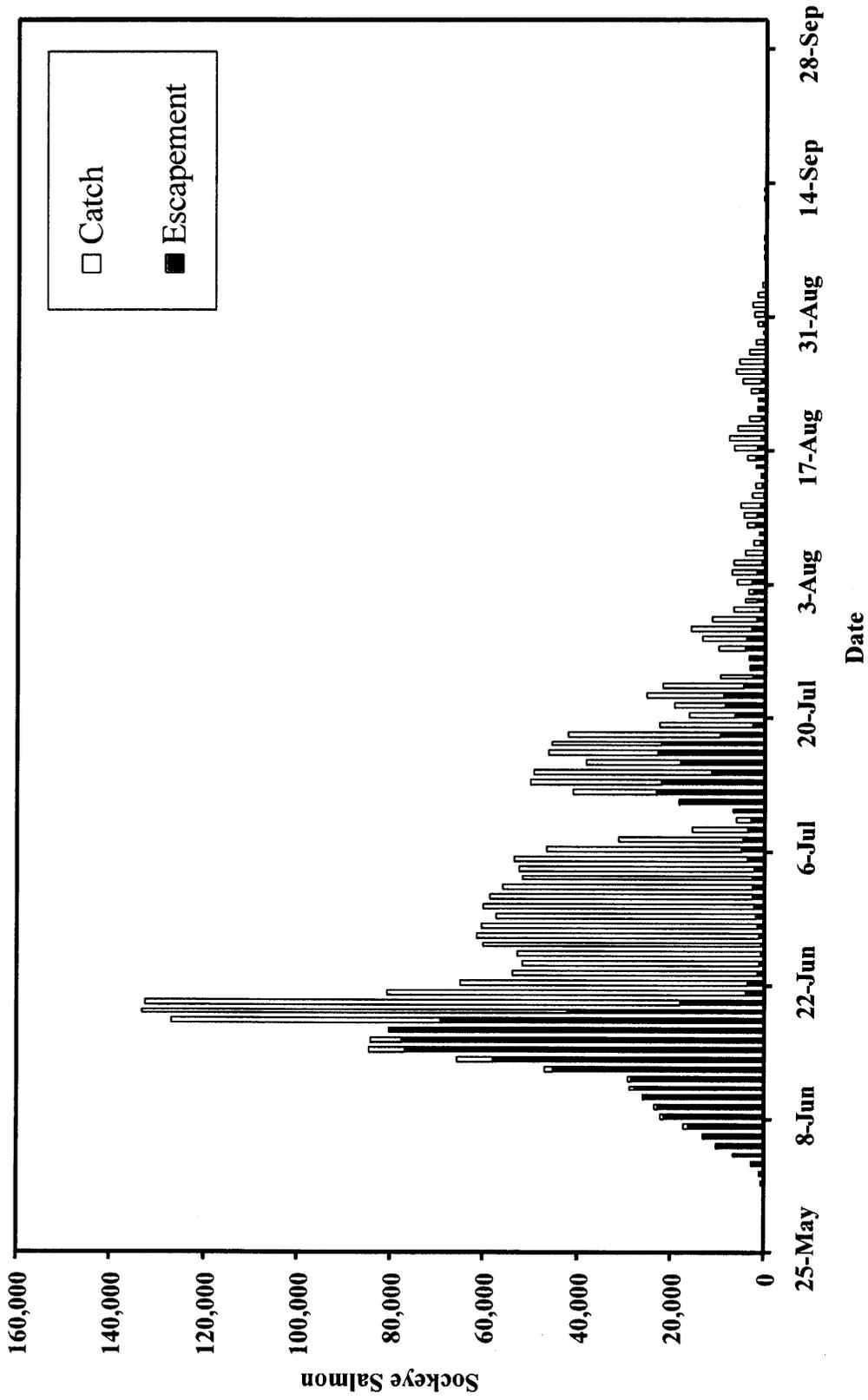


Figure 24. Chignik Management Area sockeye salmon catch and escapement, 1994.

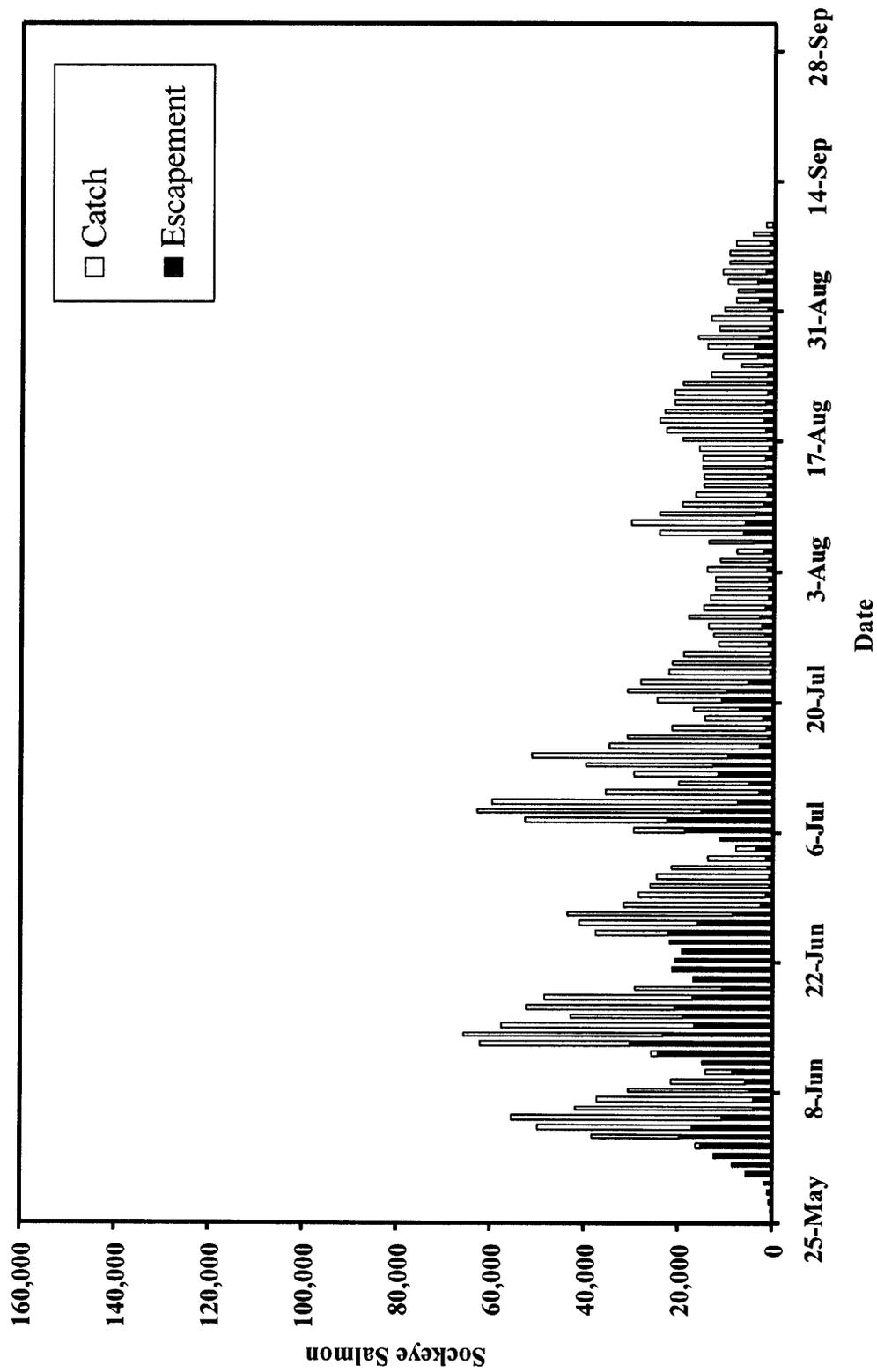


Figure 25. Chignik Management Area sockeye salmon catch and escapement, 1995.

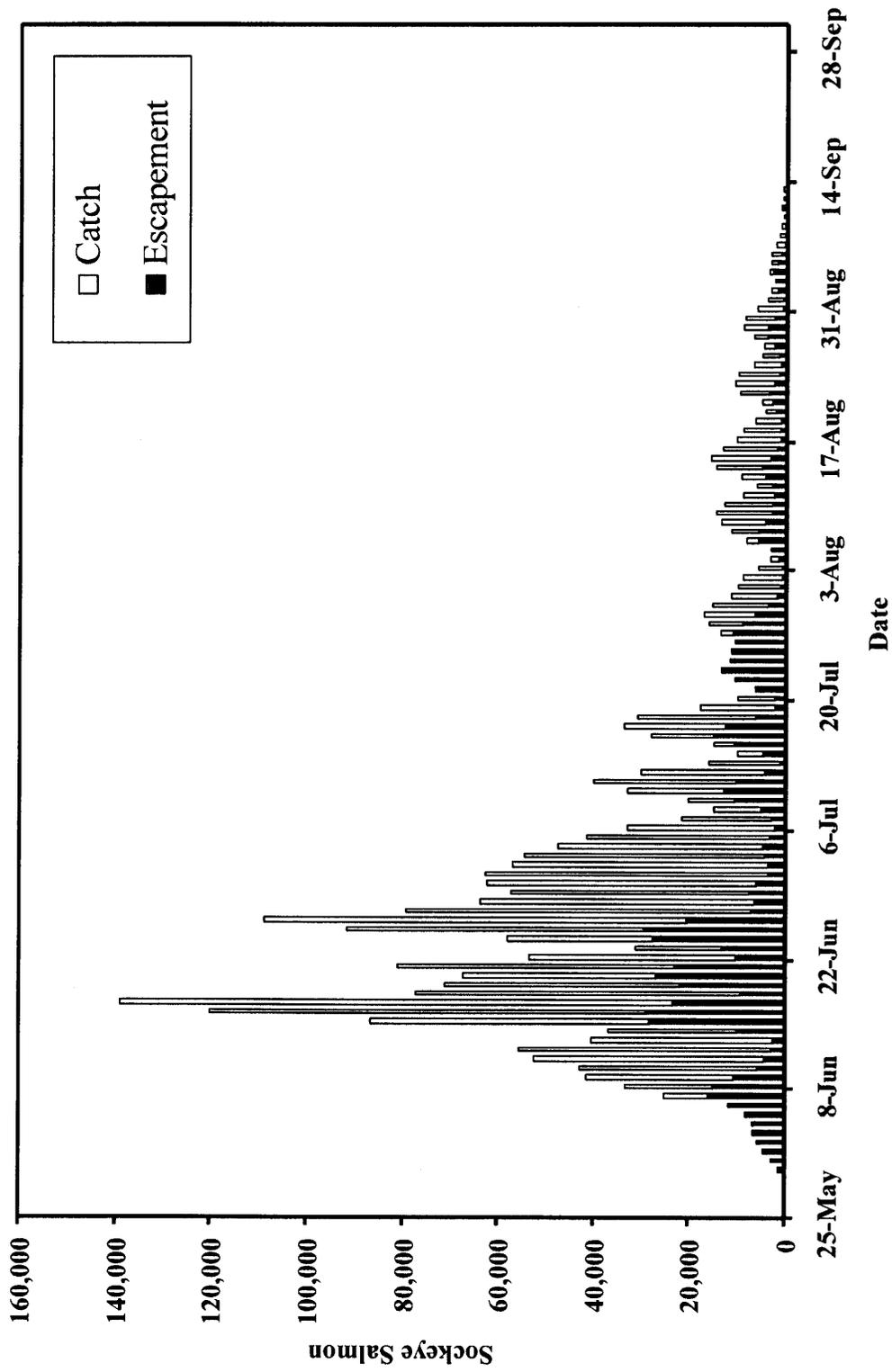


Figure 26. Chignik Management Area sockeye salmon catch and escapement, 1996.

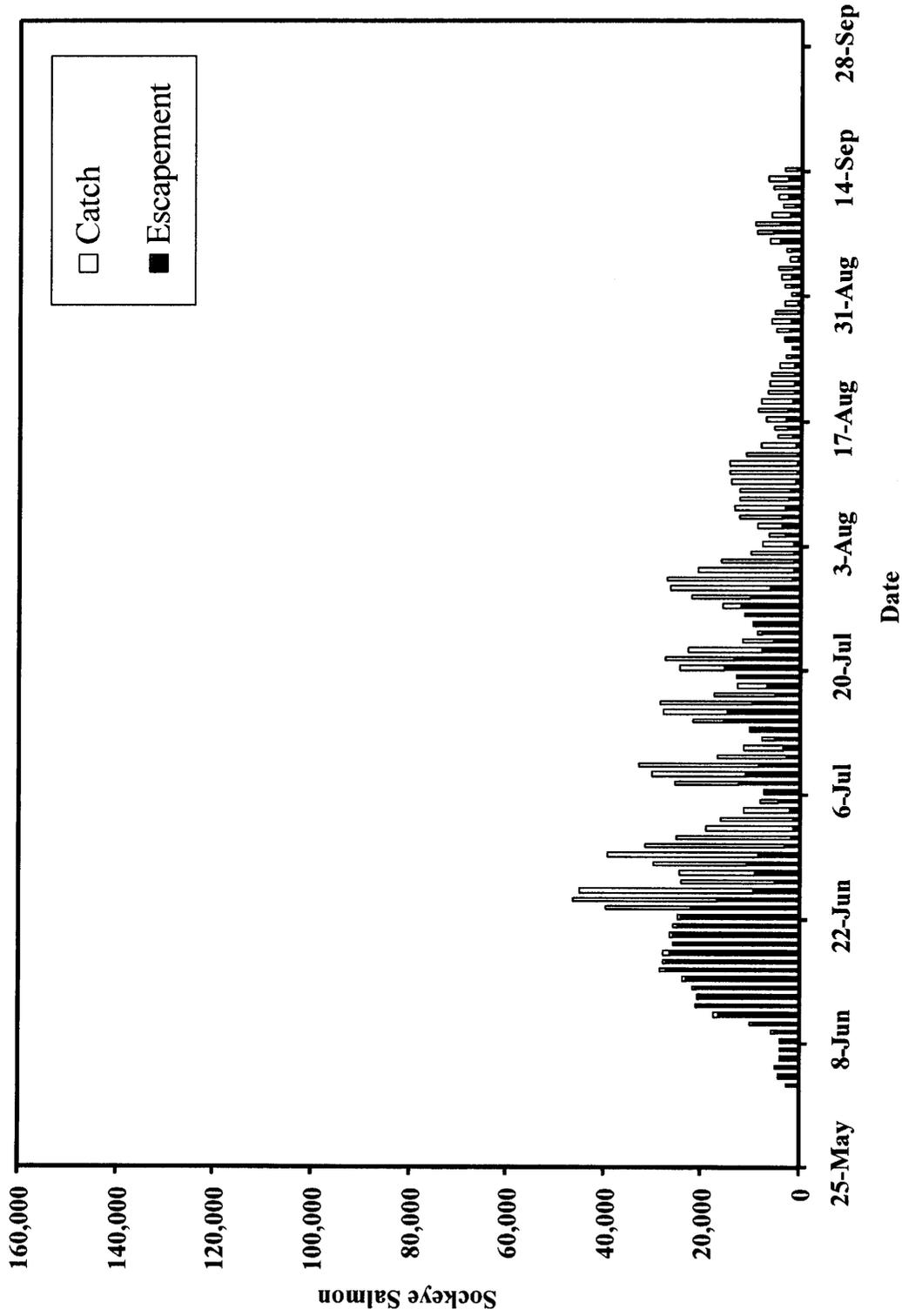


Figure 27. Chignik Management Area sockeye salmon catch and escapement, 1997.

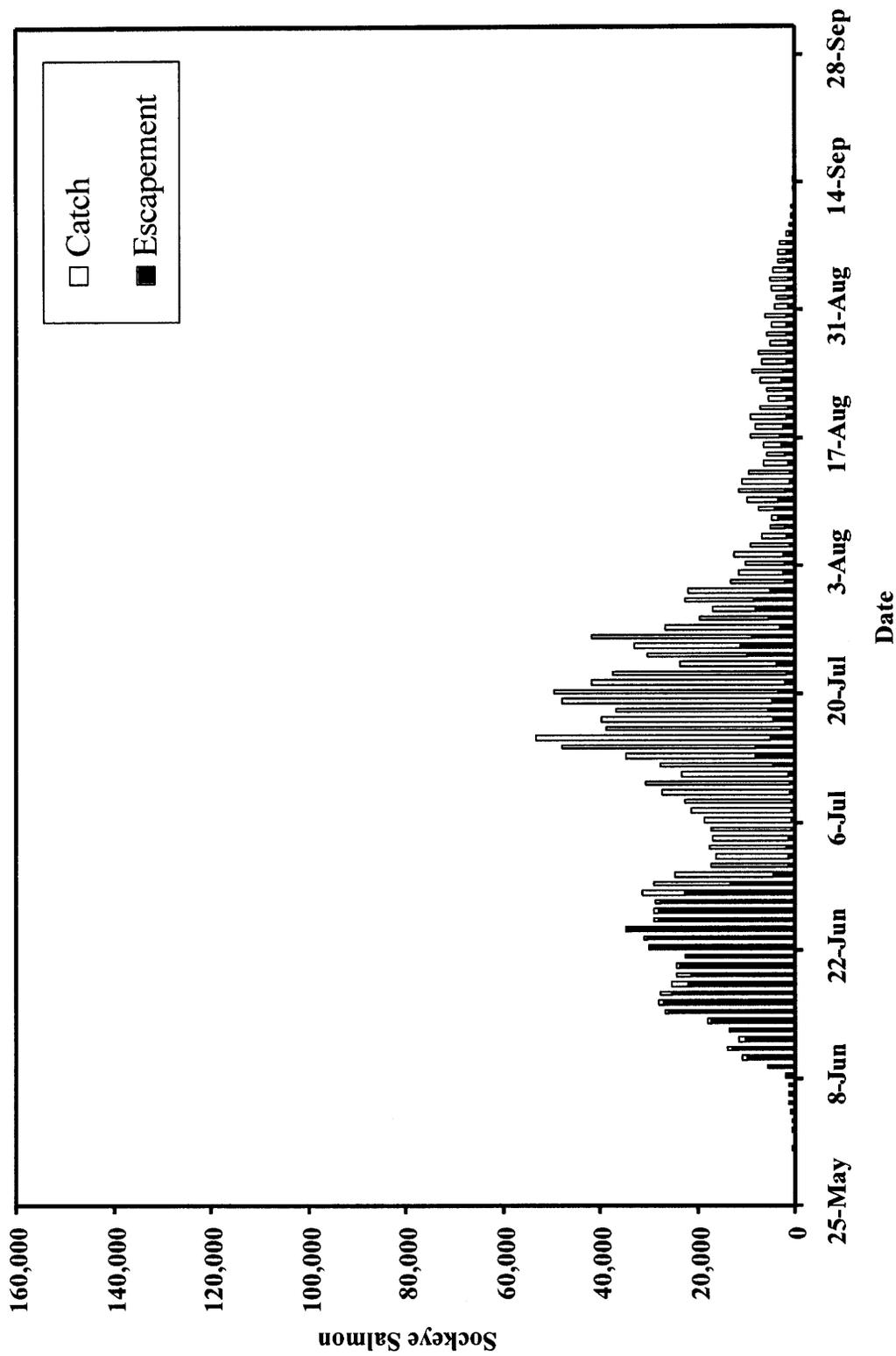


Figure 28. Chignik Management Area sockeye salmon catch and escapement, 1998.

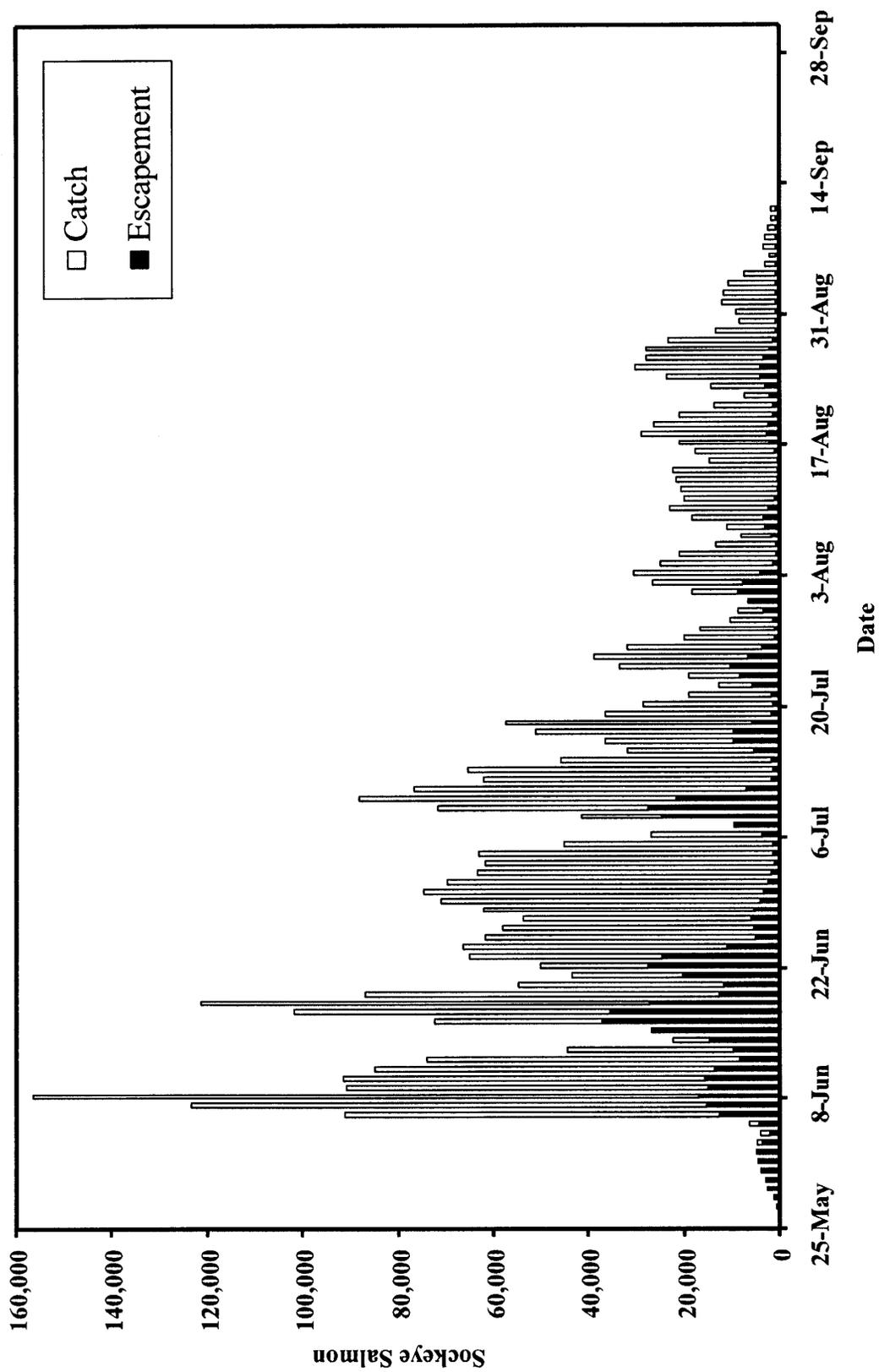


Figure 29. Chignik Management Area sockeye salmon catch and escapement, 1999.

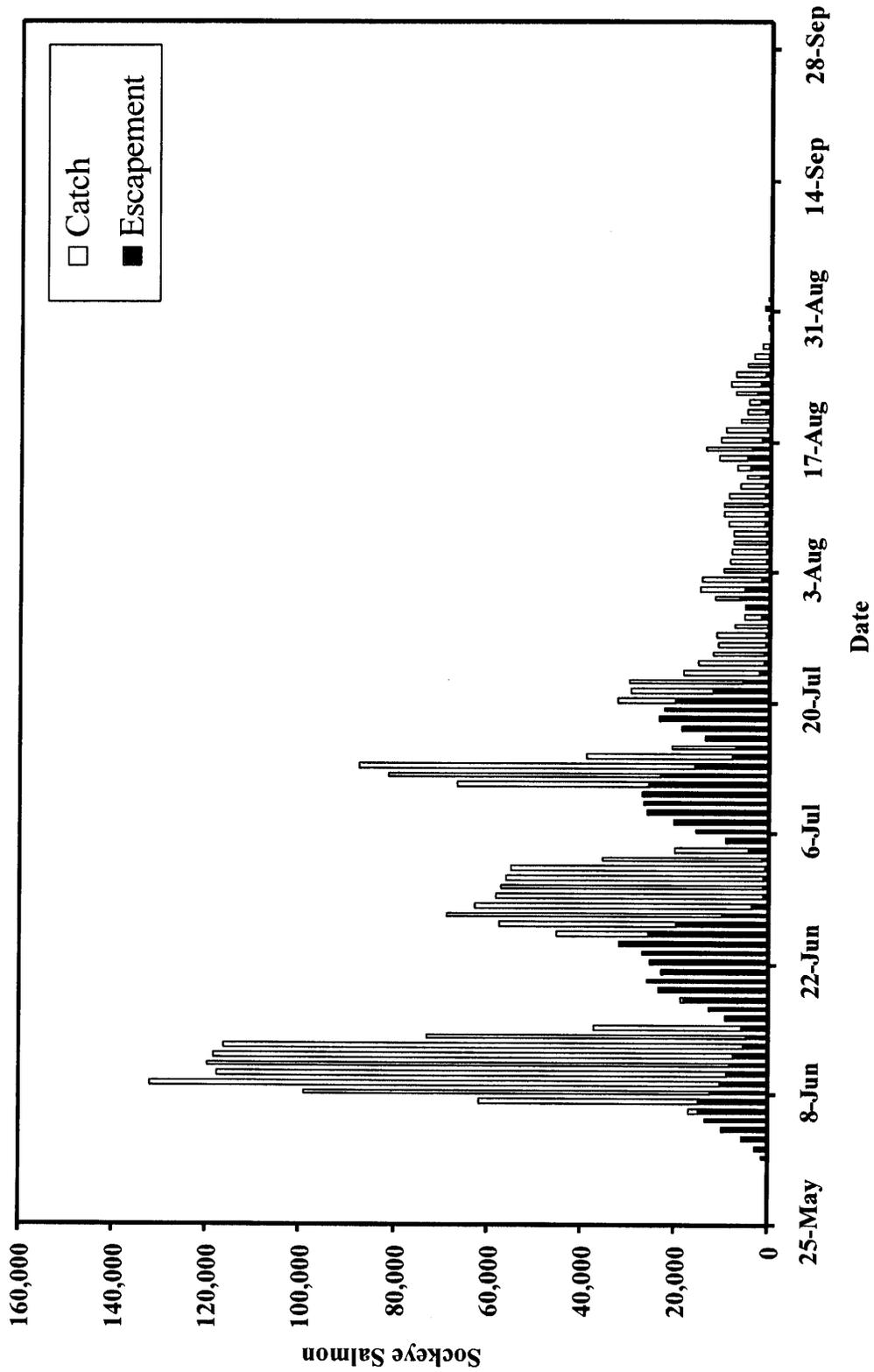


Figure 30. Chignik Management Area sockeye salmon catch and escapement, 2000.

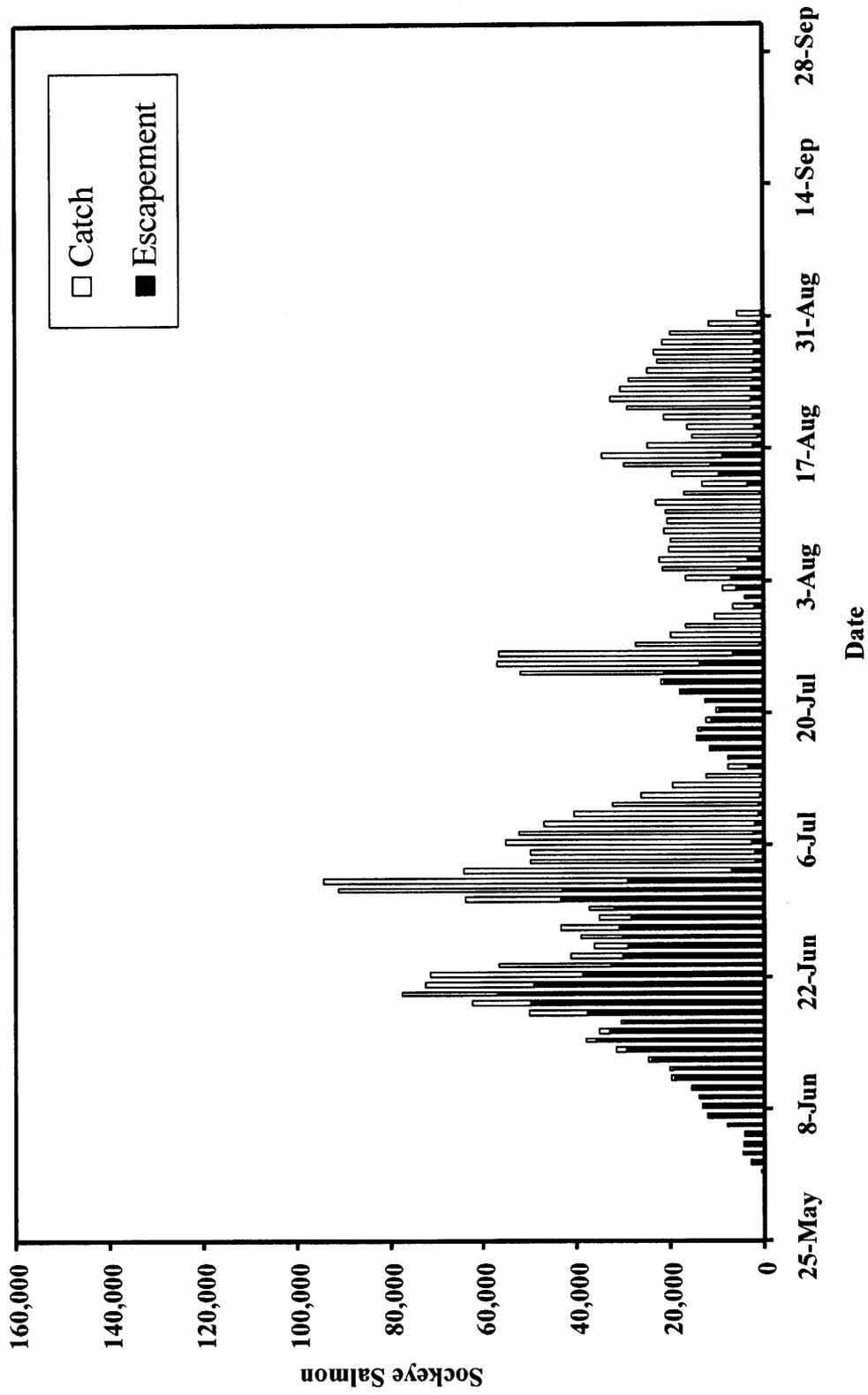


Figure 31. Chignik Management Area sockeye salmon catch and escapement, 2001.

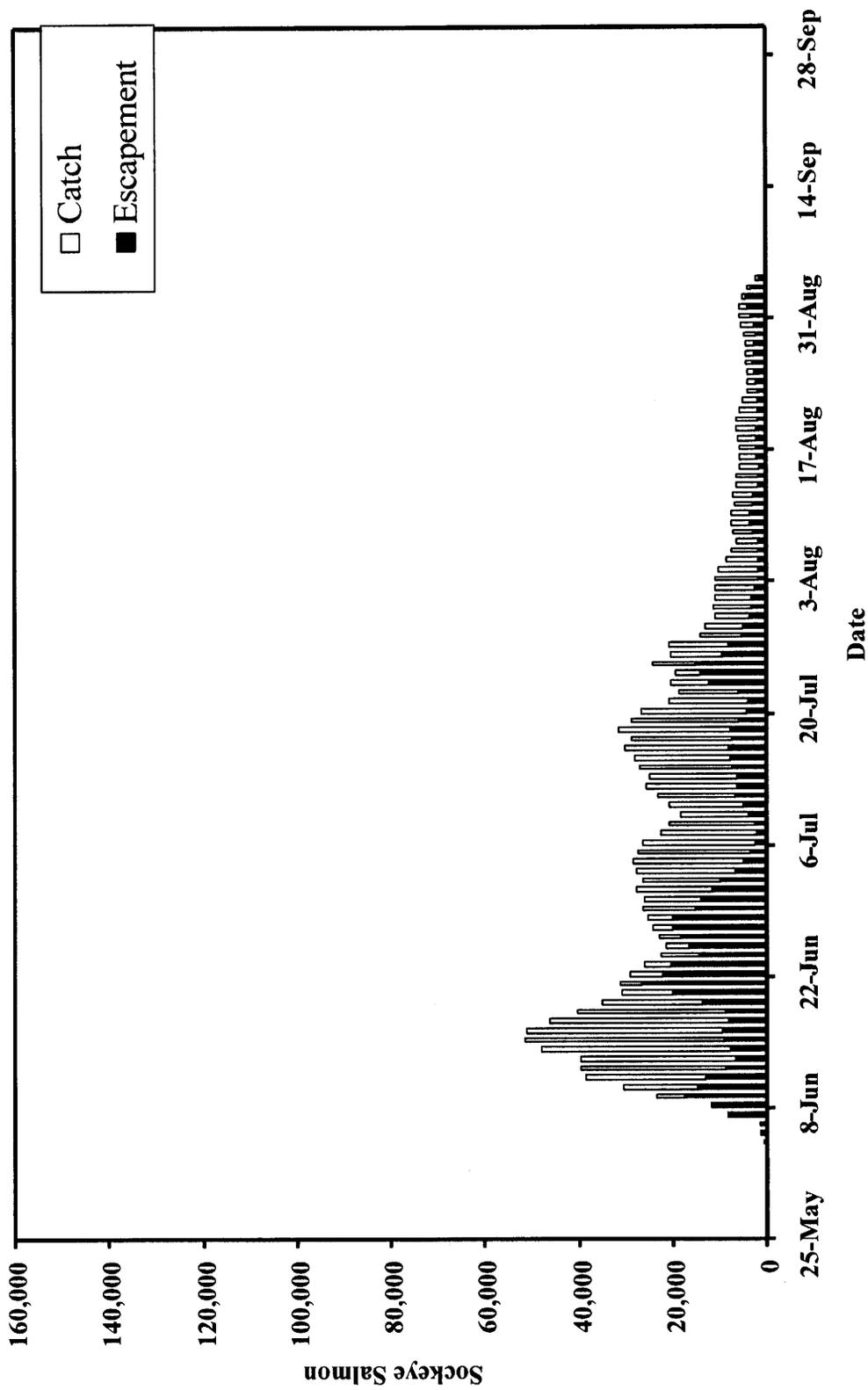


Figure 32. Chignik Management Area sockeye salmon catch and escapement, 2002.

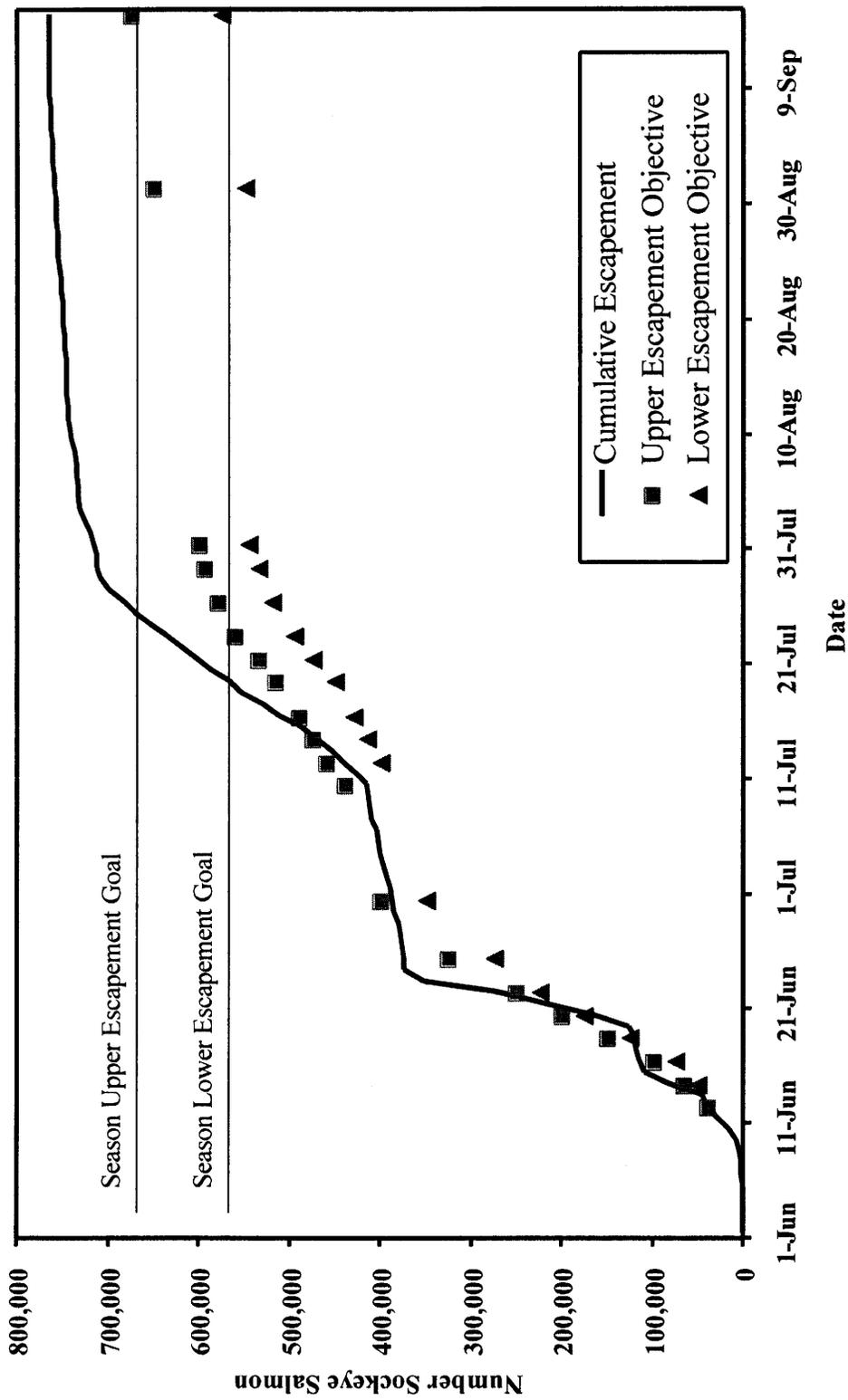


Figure 33. Sockeye salmon cumulative escapement through the Chignik weir and cumulative escapement objectives, 1992.

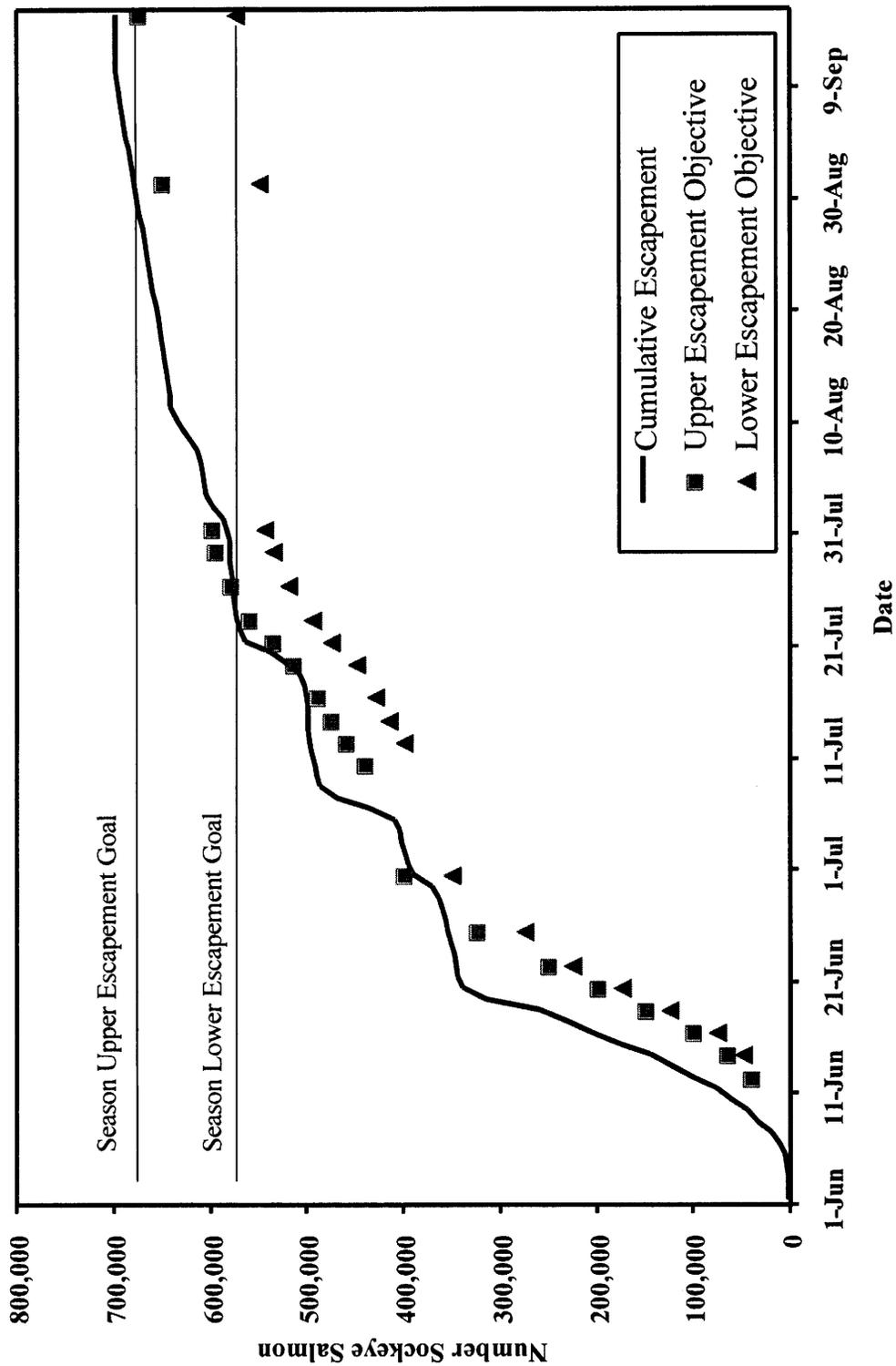


Figure 34. Sockeye salmon cumulative escapement through the Chignik weir and cumulative escapement objectives, 1993.

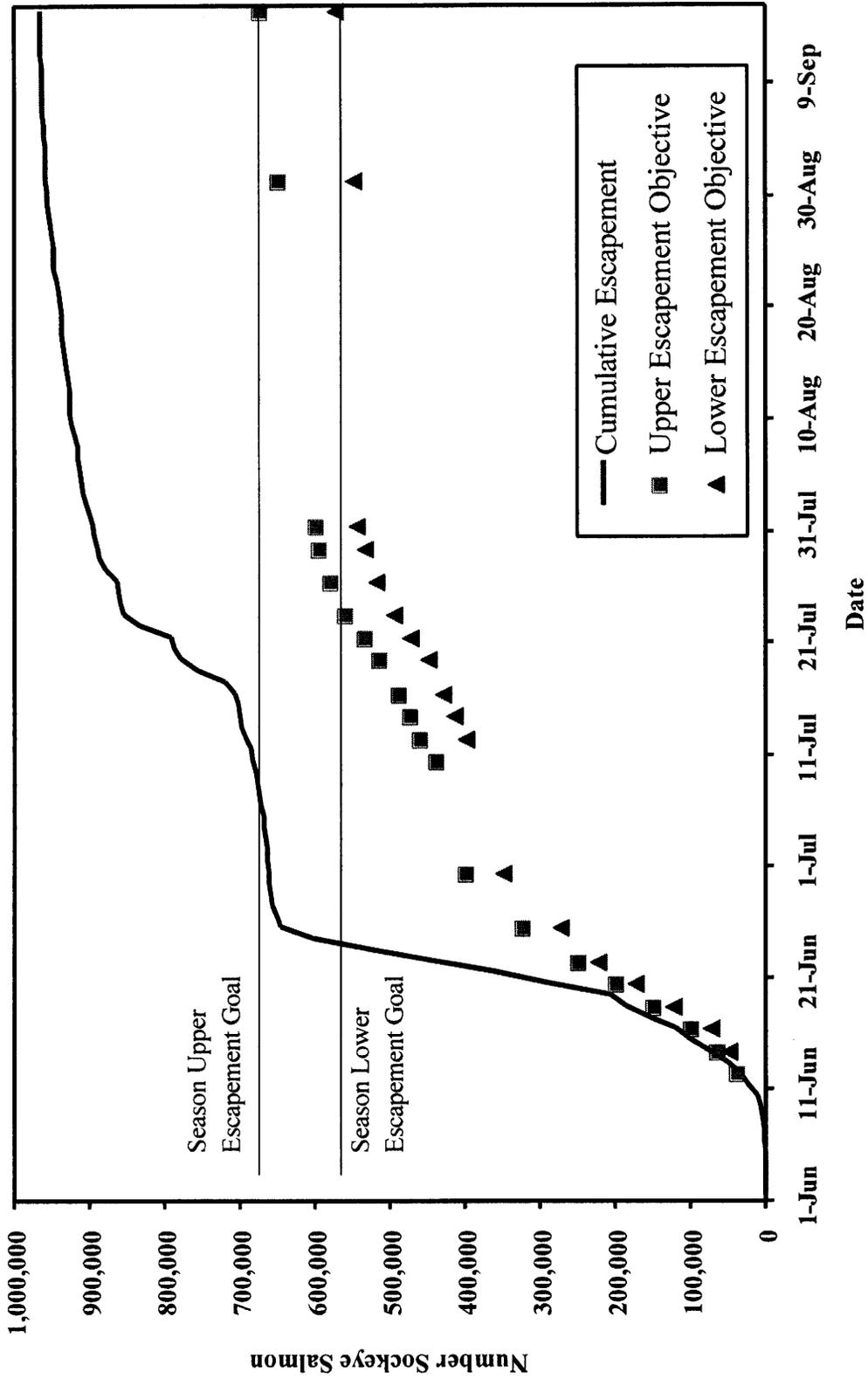


Figure 35. Sockeye salmon cumulative escapement through the Chignik weir and cumulative escapement objectives, 1994.

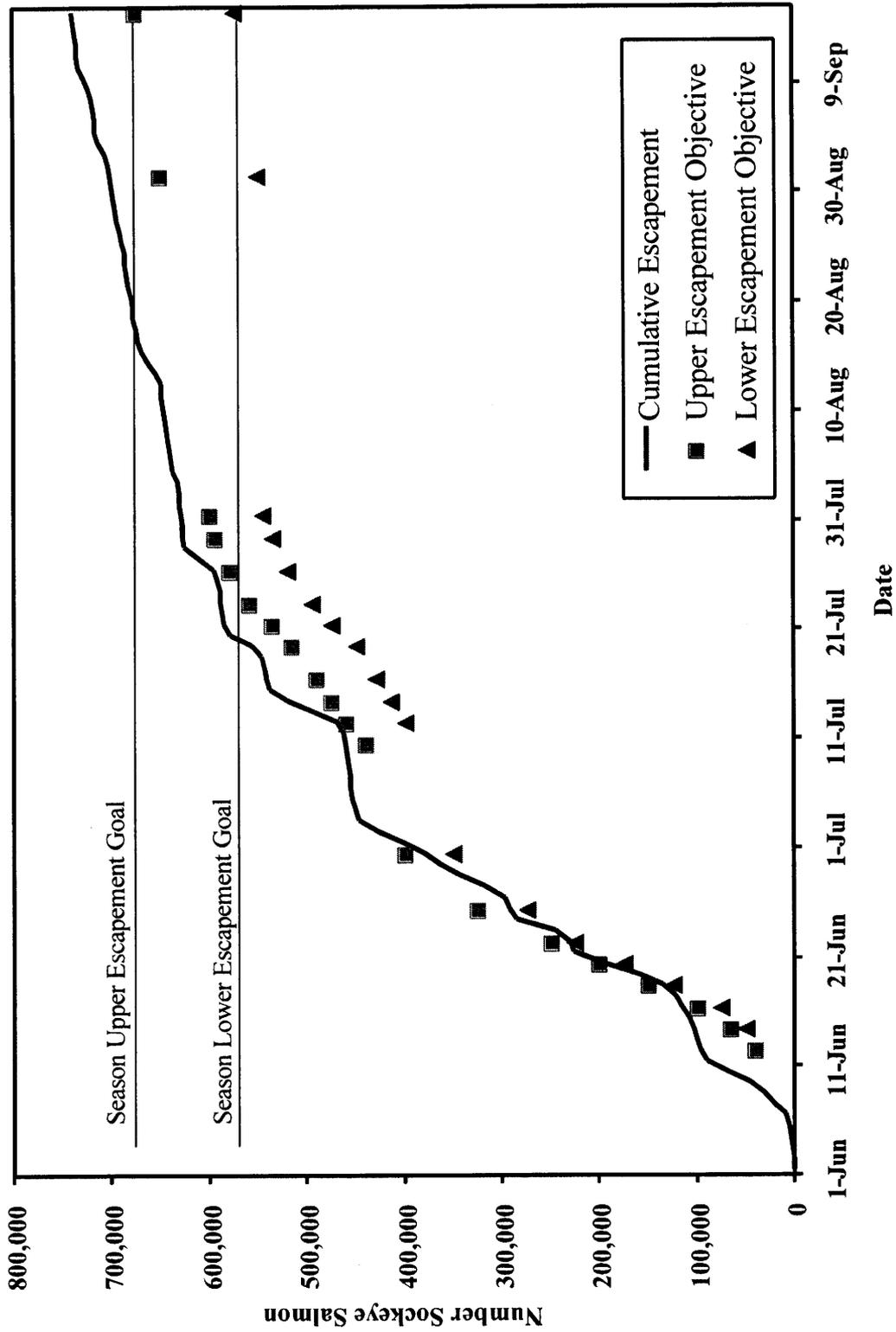


Figure 36. Sockeye salmon cumulative escapement through the Chignik weir and cumulative escapement objectives, 1995.

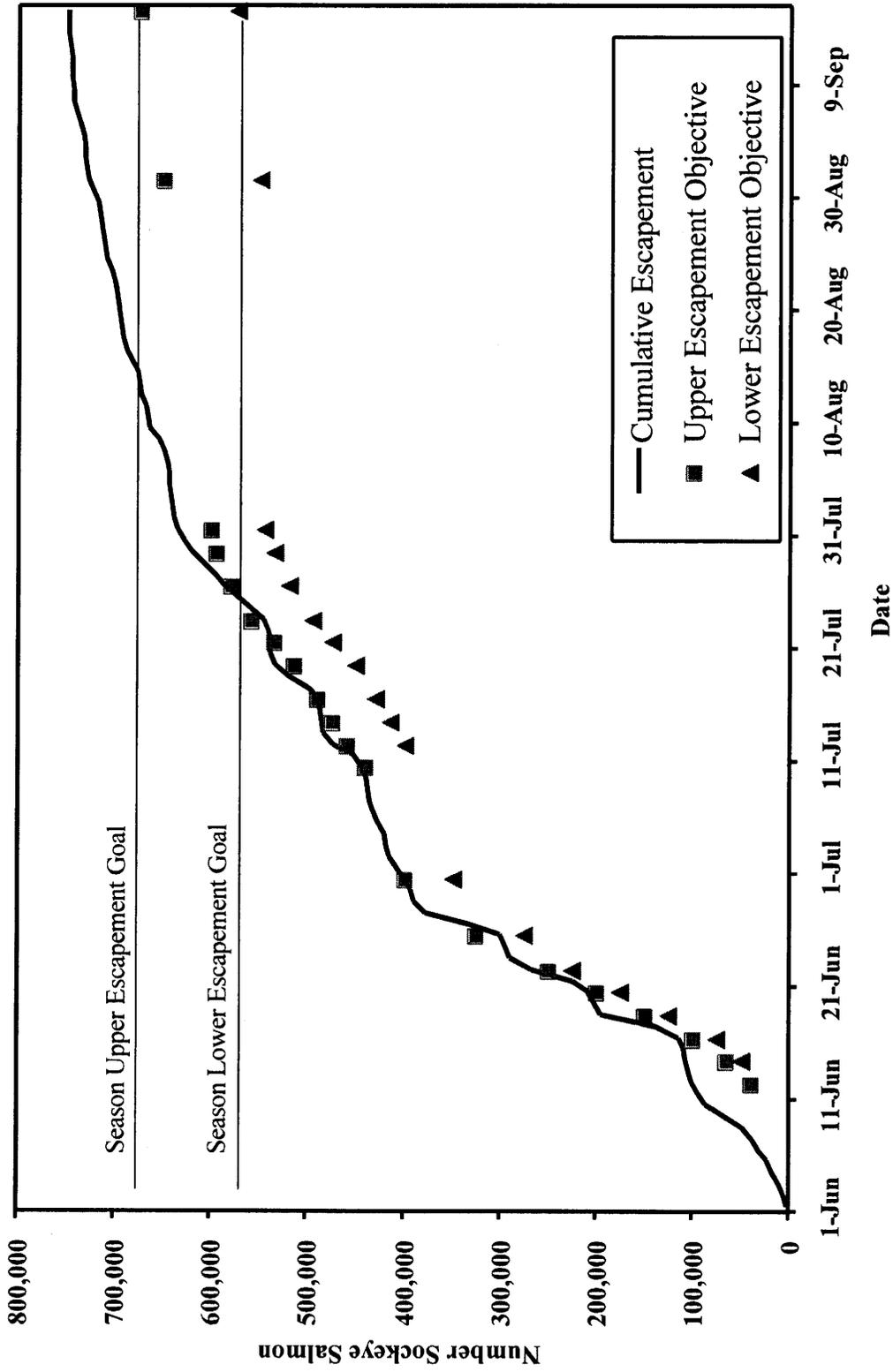


Figure 37. Sockeye salmon cumulative escapement through the Chignik weir and cumulative escapement objectives, 1996.

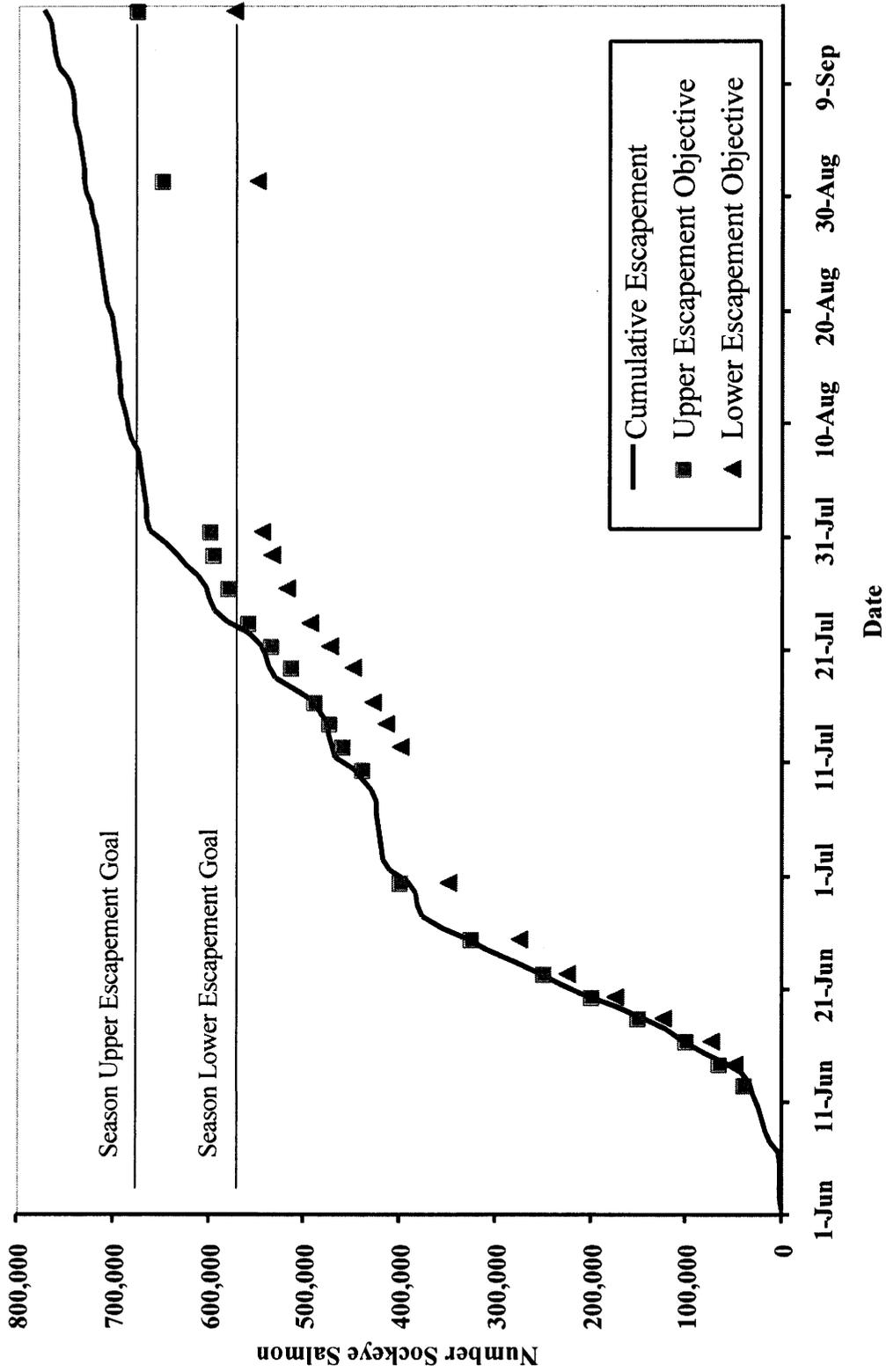


Figure 38. Sockeye salmon cumulative escapement through the Chignik weir and cumulative escapement objectives, 1997.

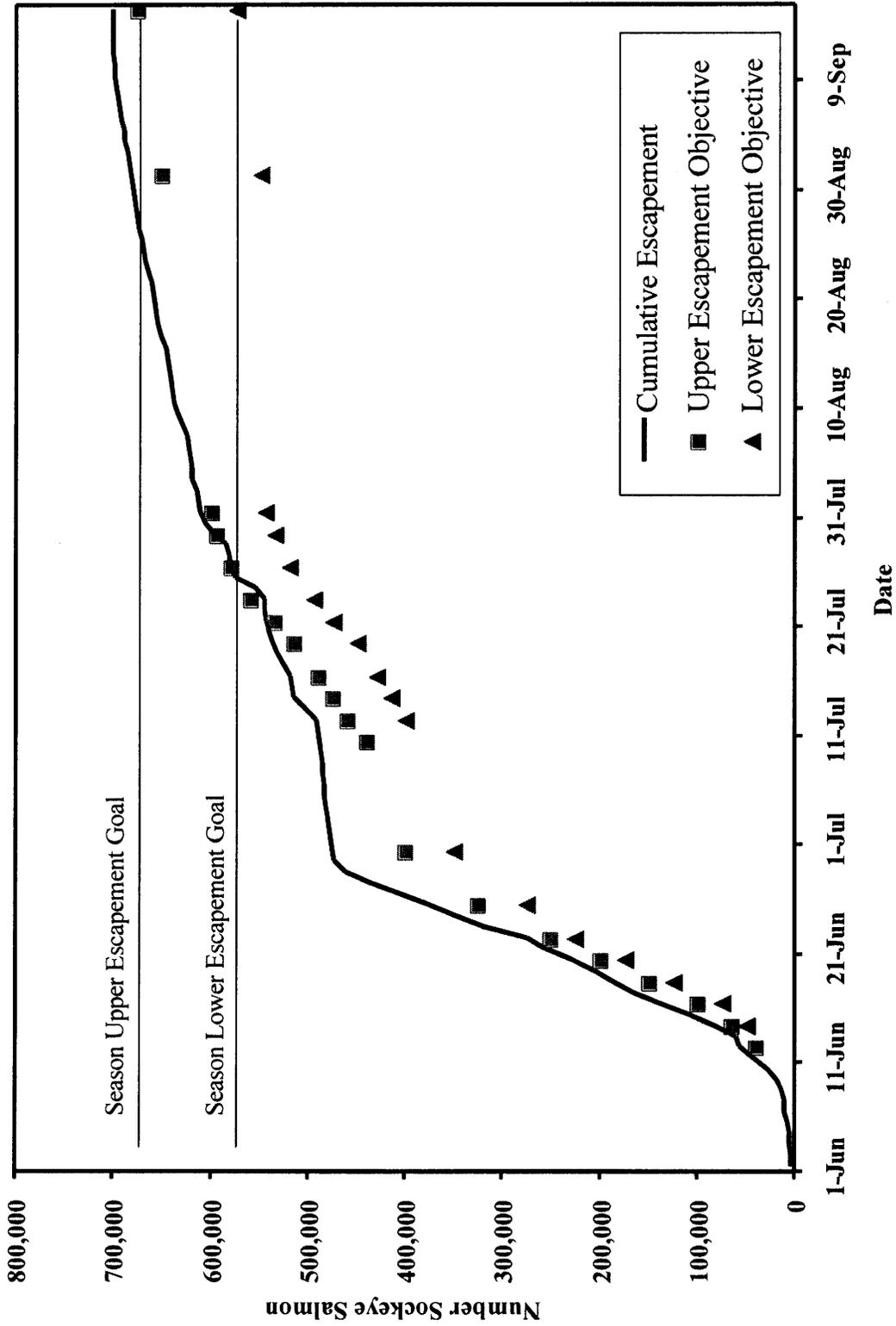


Figure 39. Sockeye salmon cumulative escapement through the Chignik weir and cumulative escapement objectives, 1998.

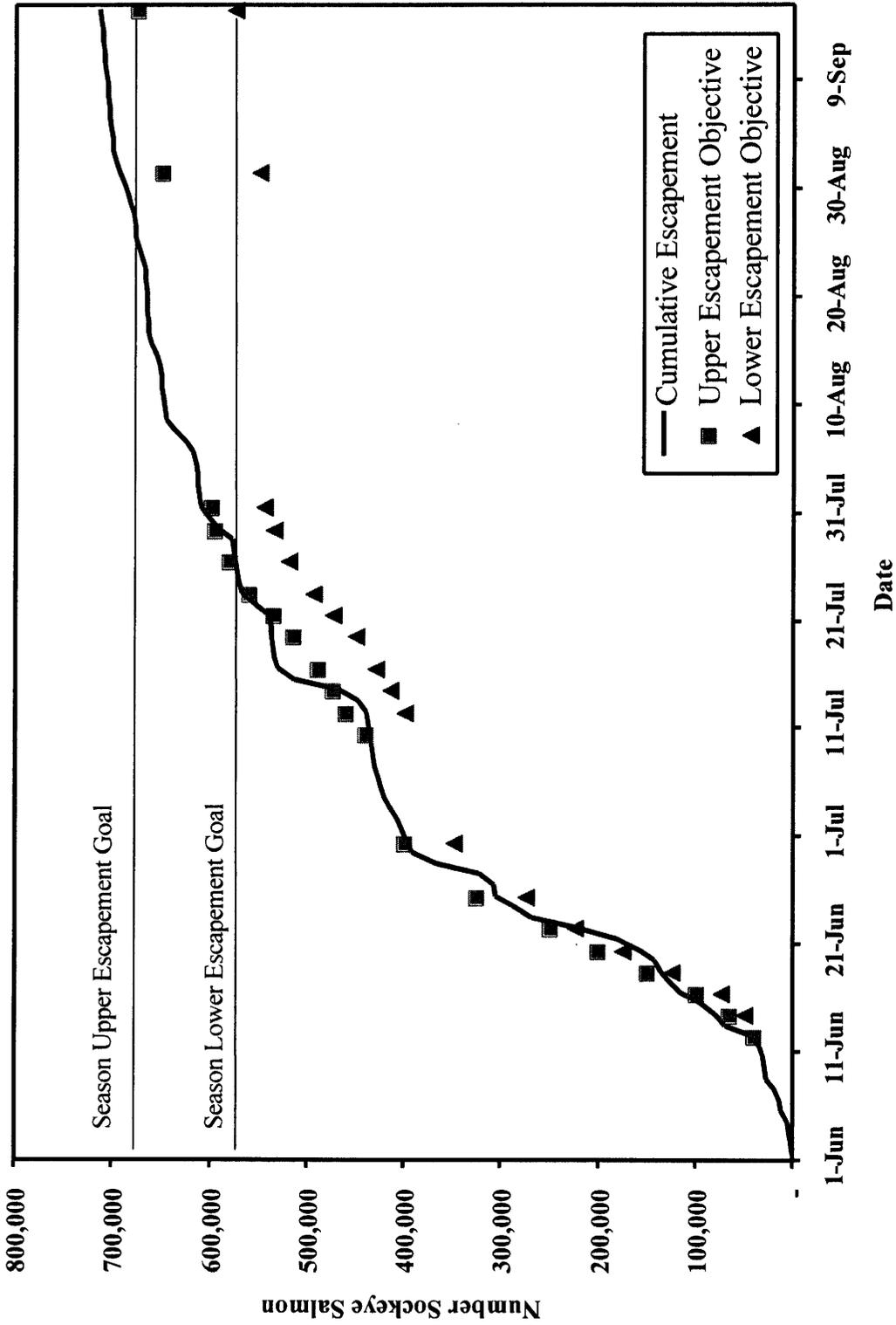


Figure 40. Sockeye salmon cumulative escapement through the Chignik weir and cumulative escapement objectives, 1999.

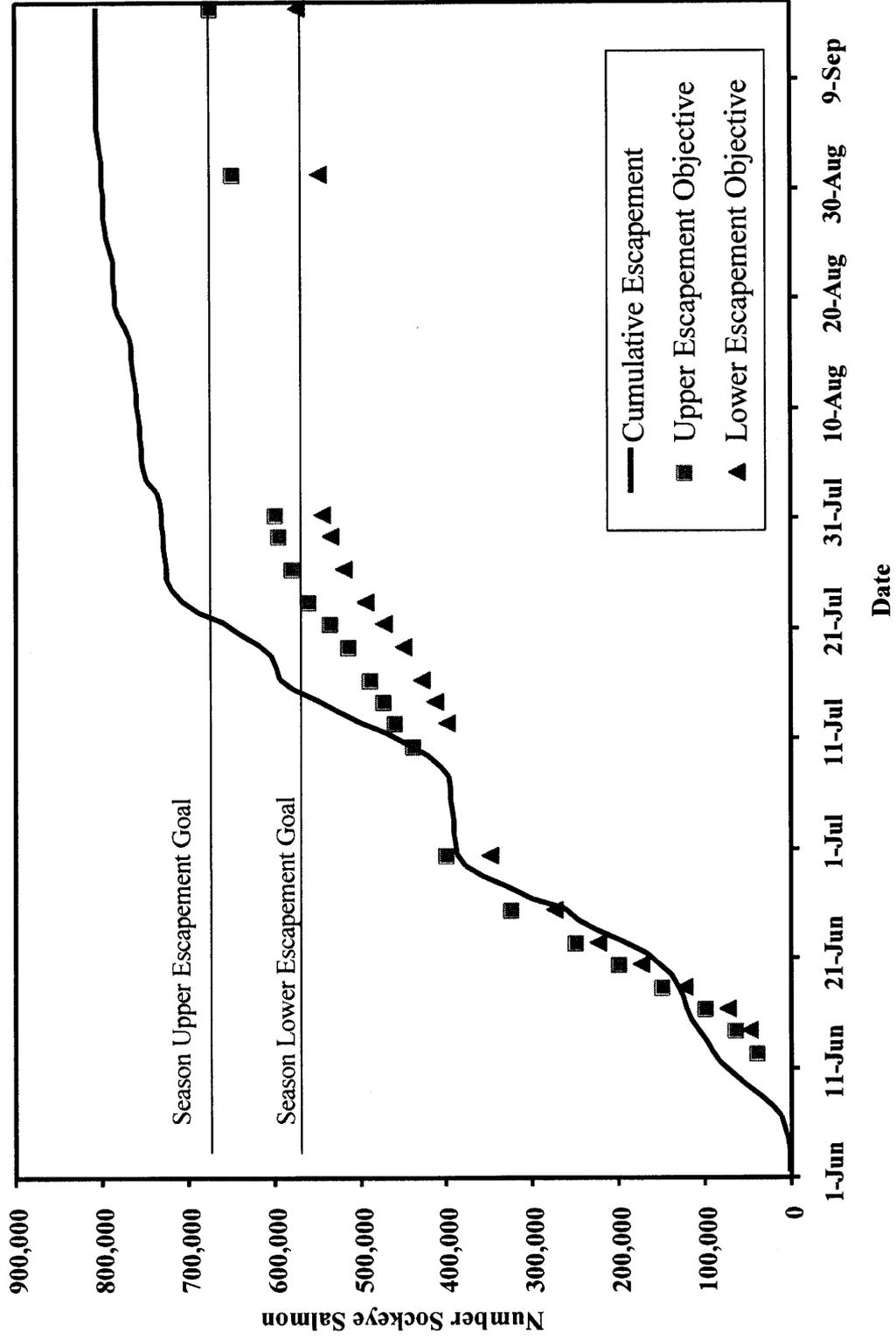


Figure 41. Sockeye salmon cumulative escapement through the Chignik weir and cumulative escapement objectives, 2000.

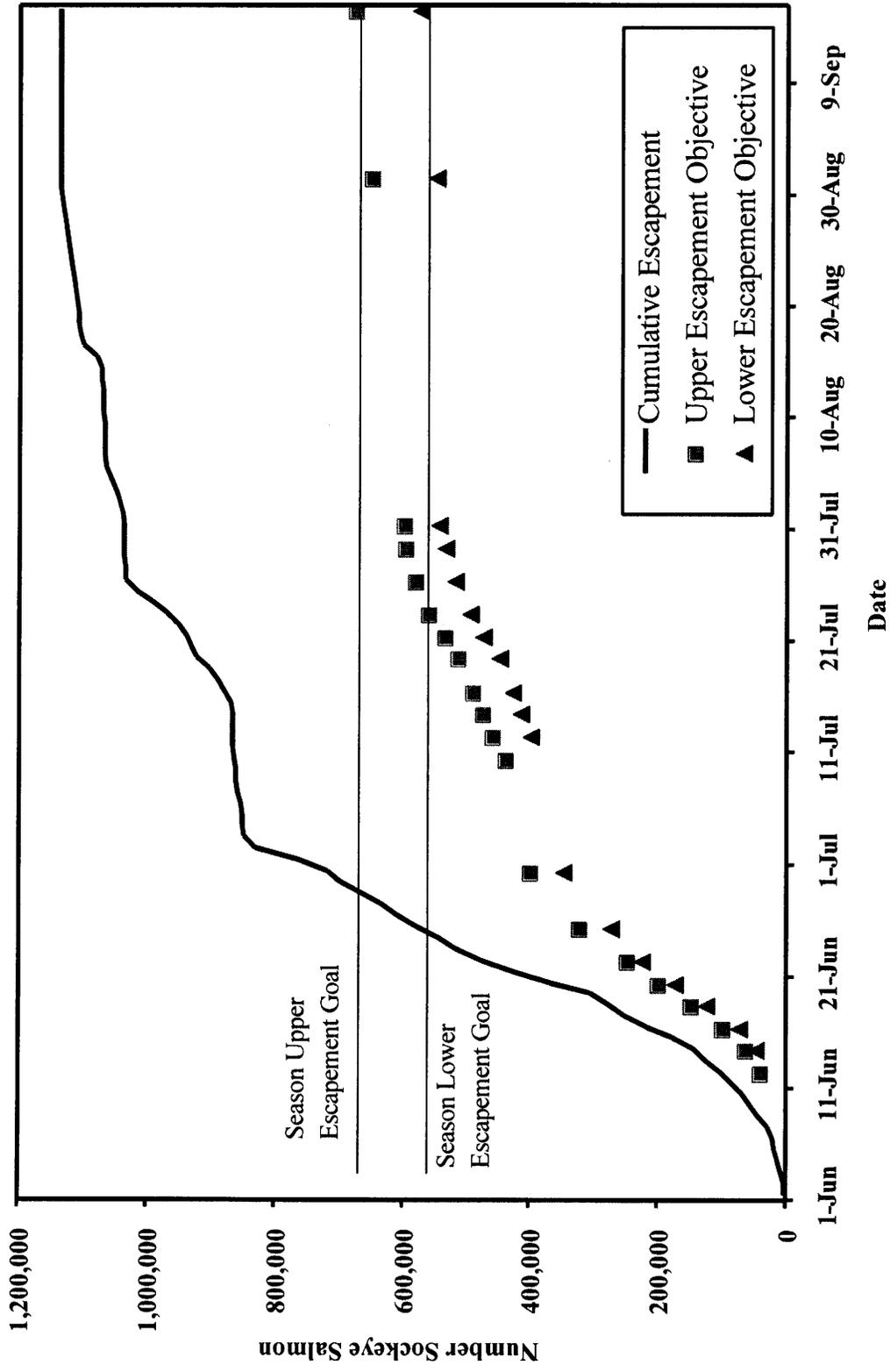


Figure 42. Sockeye salmon cumulative escapement through the Chignik weir and cumulative escapement objectives, 2001.

APPENDIX

(Not available Electronically)

The Alaska Department of Fish and Game administers all programs and activities free from discrimination on the bases of race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

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