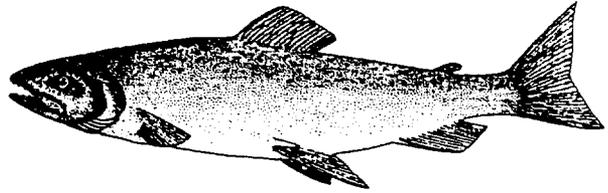


**1998
ANNEX**



**CHINOOK SALMON PLAN
FOR SOUTHEAST ALASKA**



By

Steve McGee,
Carol Denton,
Bruce Bachen,
Gary Freitag,
Mark Stopha,
Dave Gaudet,
and
Frank Thrower

Regional Information Report No. RIR 1J98-24

Alaska Department of Fish and Game
Division of Commercial Fisheries

Juneau, Alaska

November 1998

1998 ANNEX

CHINOOK SALMON PLAN FOR SOUTHEAST ALASKA

By

Steve McGee,
Carol Denton,
Bruce Bachen,
Gary Freitag,
Mark Stopha,
Dave Gaudet,
and
Frank Thrower

Regional Information Report No. RIR¹ 1J98-24

Alaska Department of Fish and Game
Division of Commercial Fisheries
P.O. Box 240020
Douglas, AK 99824-0020

November 1998

¹ The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports.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

AUTHORS

Steve McGee is a fishery biologist with the Alaska Department of Fish and Game, Commercial Fisheries Division, Private Nonprofit Hatchery Program, P.O. Box 25526, Juneau, AK 99802-5526.

Bruce Bachen is the operations manager for the Northern Southeast Regional Aquaculture Association, 1308 Sawmill Creek Road, Sitka, AK 99835.

Gary Freitag is a fishery biologist with the Southern Southeast Regional Aquaculture Association, 2721 Tongass Boulevard, Ketchikan, AK 99901.

Mark Stopha and Dave Gaudet are fishery biologists with the Alaska Department of Fish and Game, Commercial Fisheries Division, P.O. Box 240020, Douglas, AK 99824-0020.

Carol Denton is a fishery biologist with the Alaska Department of Fish and Game, Commercial Fisheries Division, 2030 Sea Level Drive, Suite 205, Ketchikan, AK 99901.

Frank Thrower is a fishery biologist with the National Marine Fisheries Service, Auke Bay Laboratory, 11305 Glacier Highway, Juneau, AK 99801.

Approved and Adopted

I, Frank Rue, Commissioner of the Alaska Department of Fish and Game, hereby give my approval to the 1998 Annex to the *Chinook Salmon Plan for Southeast Alaska*, as per provisions of Alaska Statute 16.10.375. This plan is to remain in effect until altered or terminated by the Commissioner of the Alaska Department of Fish and Game.



Frank Rue
Commissioner
Alaska Department of Fish and Game

11.5.98

Date

Table of Contents

	<u>Page</u>
LIST OF TABLES.....	VI
LIST OF FIGURES	VII
I. Introduction.....	1
II. Summary of Chinook Salmon Production, Harvest, and Enhancement in Southeast Alaska.....	1
A. Wild Stock Production.....	1
B. Chinook Salmon Harvests in Southeast Alaska Fisheries, 1997.....	2
Troll Fishery	3
Net Fisheries	4
Recreational Fisheries.....	5
Summary of 1997 Harvest.....	5
C. Enhanced Production	5
Hatchery Releases.....	5
Harvest of Hatchery Fish.....	6
Disposition of BY 97 Eggs	7
III. Broodstock Allocation	7
A. Broodstock Development, Diversity, and Performance	7
B. Egg Allocation Criteria and Plan for 1998.....	8
Little Port Walter	8
Whitman Lake Hatchery.....	9
Gastineau Hatchery.....	9
Burro Creek and Jerry Myers Hatcheries (Tahini River stock).....	9
IV. Hatchery Return Predictive Models.....	9
A. Little Port Walter	9
B. Crystal Lake Hatchery	10
C. Deer Mountain Hatchery.....	10
D. SSRAA Hatcheries	10
E. NSRAA Hatcheries	10
V. The 1998 Chinook Planning Team Meeting	10
LITERATURE CITED	12

List of Tables

	<u>Page</u>
Table 1. Estimates of total escapements of chinook salmon to escapement indicator systems and to southeast Alaska and transboundary (T) rivers, 1986-1997.....	13
Table 2. Southeast Alaska winter troll fishery vessel landings, chinook salmon catches ^a , and comparison with total season chinook catches, 1980-1997.....	14
Table 3. The number of salmon harvested and permits fished in the 1997 spring troll fisheries.....	15
Table 4. Number of days, effort (boat days) and dates the Southeast Alaska troll fishery was open [chinook retention (CR)], closed to chinook salmon fishing [chinook non-retention (CNR)], and closed to all species (all) during the general summer season, April 15 - September 30, 1978 - 1997.....	21
Table 5. Chinook salmon catch per fleet day (rounded to nearest hundred) in the Southeast Alaska troll fishery during the general summer season, April 15 - September 30, 1984 -1997.....	25
Table 6. Contribution in numbers and percent of chinook salmon produced by Alaskan and other hatcheries, in the winter, experimental, terminal, hatchery access and general summer troll fisheries, 1989-1997.	26
Table 7. Estimated harvest and Alaska hatchery add-on of chinook salmon by commercial and sport fisheries in Southeast Alaska, 1997.....	28
Table 8. Minimum estimated contribution of hatchery chinook salmon to sampled marine boat sport fisheries of southeast Alaska, 1997.....	29
Table 9. Annual Southeast Alaska commercial and recreational chinook salmon harvests and Alaska hatchery contributions, in thousands of fish, 1965-1997.	30
Table 10. Actual and projected releases of chinook salmon by brood year.	31
Table 11. Estimated harvest and escapement of chinook salmon from southeast Alaska enhancement sites in 1997.....	32
Table 12. Total return of chinook salmon released from various enhancement sites in southeast Alaska, by return year.	33
Table 13. Exploitation rate (%) of chinook salmon released from various enhancement sites in southeast Alaska, by return year.	34
Table 14. Estimated harvest of Alaska hatchery-produced chinook salmon in southeast Alaska, 1980-1997.....	35
Table 15. Percent distribution of troll catch of hatchery chinook by PSMFC area, 1980-1997.....	36
Table 16. Chinook salmon egg takes in Southeast Alaska in 1997.....	38
Table 17. Rearing strategies and release sites of 1997 brood chinook salmon eggs in enhancement programs (numbers in thousands).	39

List of Figures

	<u>Page</u>
Figure 1. Location of chinook salmon hatcheries and primary ancestral stock rivers in Southeast Alaska.	40
Figure 2. Experimental troll fishery areas in Southeast Alaska, 1997.	41
Figure 3. Number of days and percent of annual harvests taken in experimental fisheries, 1989-1997.	42
Figure 4. Percent of active troll permits fished by season, 1980-1997.	43
Figure 5. Number of chinook salmon harvested under the Pacific Salmon Treaty quota, 1985-1997.	44
Figure 6. Actual and projected releases of hatchery-produced chinook salmon in Southeast Alaska by brood year, 1978-1997.	45
Figure 7. Actual and projected releases of hatchery-produced chinook salmon in Southeast Alaska by calendar year, 1979-1997.	46
Figure 8. Percentages of Alaska hatchery-produced chinook salmon harvested in common property fisheries and utilized by hatchery operators for cost recovery or broodstock and escapement, 1985-1997.	47
Figure 9. Percentage of Alaska hatchery-produced chinook salmon harvested in Southeast Alaska sport, net, and troll fisheries, 1980-1997.	48
Figure 10. Pacific Marine Fisheries Commission areas in Southeast Alaska.	49
Figure 11. Number of yearling chinook salmon smolts released by Southeast Alaska hatcheries, by ancestral stock, 1976-1997.	50

I. INTRODUCTION

The *Chinook Salmon Plan for Southeast Alaska* (Holland et al 1983) was developed by the Chinook Planning Team, an interagency team under the direction of the commissioner of the Alaska Department of Fish and Game (ADF&G). The Chinook Planning Team was formed to address chinook salmon enhancement in Southeast Alaska from a regional stock rebuilding perspective. The Chinook Salmon Plan is part of a larger effort in region-wide comprehensive salmon planning conducted by the Northern and Southern Southeast Regional Planning Teams (RPTs). This document is an annual update (Annex) to the Chinook Salmon Plan. It includes management, research, and policy guidelines directed at increasing chinook production in Southeast. This publication is the 16th Annex to the Chinook Salmon Plan. Annexes serve as a single source of current information on enhanced chinook salmon production and harvest in southeast Alaska. They also contain broodstock allocation recommendations and list research and development priorities for chinook salmon in the region.

One of the original objectives stated in both the *Comprehensive Salmon Plan*² and the Chinook Salmon Plan was to increase harvests to 537,000 chinook salmon annually from all sources. However, in 1985 the Pacific Salmon Treaty (PST) was signed, and the United States and Canada agreed to begin a coast-wide, chinook salmon stock rebuilding program. Annual harvest limits on the Alaska catch of chinook salmon *not* of Alaska hatchery origin (referred to as "PST" or "quota" fish) are set as part of the wildstock rebuilding strategy. The range in these annual harvest limits has fluctuated between 146,000 fish in 1996 and 302,000 fish in 1990 and 1997. Alaska hatchery chinook production beyond a pre-existing level of 5,000 fish is exempt from the treaty's harvest limits. Therefore, hatchery production that can be harvested in discrete areas, where the interception rate of non-Alaskan fish is low, has become important to the fishing industry, particularly to the troll and recreational fleets.

The locations of all hatcheries that produce chinook salmon in southeast Alaska are shown in Figure 1, along with the major rivers from which hatchery ancestral stocks originated.

II. SUMMARY OF CHINOOK SALMON PRODUCTION, HARVEST, AND ENHANCEMENT IN SOUTHEAST ALASKA

A. Wild Stock Production

The department has estimated chinook salmon escapement in 11 indicator river systems since 1981. Escapement goals for these rivers were set originally as the largest escapement recorded prior to 1981. Recently, coded wire tag (CWT) data, improved estimates of total escapement, and age and sex data have been used to establish maximum sustained yield (MSY) escapement goals.

The estimated total escapement of adult chinook salmon to all southeast Alaska and transboundary rivers in 1997 was 108,039 fish (Table 1). This represented an 18% decrease from 1996 escapement. Most of the decrease can be attributed to lower escapement in the Taku River, which is the most productive wild chinook salmon system in southeast Alaska. Escapement to the Taku River decreased by 30% from 79,000 in 1996 to 55,000 in 1997; however, escapement was still above the most recent five-year average for that system. Seven of the 11 Southeast and transboundary river indices had lower escapements in 1997 than in 1996.

² ADF&G 1981. This plan was developed by the Regional Planning Teams in a series of phases designed to set production goals and identify specific projects to meet them.

Table 1 shows a comparison of 1997 escapements to 1991-1995 average escapements for chinook wild stock river systems. Escapements of chinook salmon into most of the major systems were close to the recent five-year average; however, escapements were below average in the Unuk, Chickamin, and Blossom rivers.

For the five river systems with defined maximum sustained yield (MSY) goals, the Unuk, Chickamin, and Blossom River escapements were below the lower goal, and the Keta was at the lower end of the range. The Situk River was above its goal again. A revised spawner-recruit MSY escapement goal for the Alsek River is under review.

Coded wire tagging (CWT) studies are continuing in the Unuk River for 1998, with the eventual goal of having total life history data for two complete brood years. The Taku River chinook salmon CWT program is also continuing.

Adult mark/recapture operations will continue in 1998 on three major chinook systems: the Stikine, Taku, and Alsek rivers. Radio telemetry studies are also being conducted on the Alsek in order to define spawner distribution among various tributaries, both in the U.S. and in Canada, through cooperative projects with Canadian Department of Fisheries and Oceans. In addition, mark/recapture operations are continuing on the Unuk and Chilkat Rivers and a weir will be operated again at Andrew Creek on the Stikine River. New mark/recapture studies will be conducted on the Blossom and Keta Rivers in 1998. To estimate total regional escapement, counts from surveyed rivers are further expanded to account for the unsurveyed systems. Presently, the indices represent approximately 90% of the region's total escapement. Escapement estimates for the Chilkat River are not available prior to 1991. From 1991 to 1997 the estimated escapement to the Chilkat River averaged 6% of the regionwide total. Therefore, prior to 1991 the index counts represent approximately 84% of the Southeast Alaska total escapement.

B. Chinook Salmon Harvests in Southeast Alaska Fisheries, 1997

The 1997 harvest was managed to achieve a harvest of between 277,000 and 302,000 PST chinook salmon³. The 1997 harvest was conducted according to the June 24, 1996 "Letter of Agreement Regarding an Abundance-Based Approach to Managing Chinook Salmon Fisheries in Southeast Alaska" (LOA), and according to the Southeast Alaska wild chinook conservation program, in order to provide maximum harvest of Alaska hatchery-produced chinook salmon, and to minimize incidental mortality during chinook non-retention periods by closing areas of high chinook abundance. According to the LOA, beginning in 1997, Alaska's guideline harvest range, or quota, for PST chinook salmon will be set through a preseason abundance estimate, then adjusted inseason as more precise abundance data become available.

Under the current Alaska Board of Fisheries (BOF) plan, 4.3% of the annual quota for chinook salmon is allocated to the seine fisheries, 7,600 fish are allocated to drift gillnet fisheries, and 1,000 fish are allocated to set gillnet fisheries. Eighty percent of the remaining quota is allocated to the troll fisheries and 20% goes to the sport fishery.

³ Under the terms of the PST, the number of PST (or quota) fish is the total harvest minus the add-on. The add-on is the number of Alaskan hatchery produced chinook salmon, minus 5,000 fish for pre-treaty catches of Alaskan hatchery chinook salmon and minus a risk factor. The risk factor is the standard deviation of the estimate of the total number of Alaska hatchery chinook salmon.

Troll Fishery:

Management of the troll harvest is critical to achieving the PST quota because the troll fleet harvests the majority of the chinook salmon in Southeast Alaska. The PST quota management target range for the 1997 troll harvest was 205,600 - 225,600 chinook salmon. Participation in the 1997 troll fishery was similar to 1996, with 748 of 965 (78%) power troll permits actually fished, and 387 of 1,507 (26%) hand troll permits fished. In the previous year, 739 power troll and 414 hand troll permits were fished.

Winter season. The 1997 winter troll season opened on October 11, 1996 and continued through April 14, 1997. Total winter harvest was approximately 20,900 chinook salmon, including 19,600 quota fish. Although the winter catch was more than double that of the previous year, it comprised only 9% of the total troll catch, and was still far below the BOF-mandated 45,000 fish catch ceiling for the winter fishery. A summary of winter troll catches for 1980 - 1997 is shown in Table 2.

The open area for the winter season in 1997 was the same as that open during the previous year. The open area included those areas of southeast Alaska lying east of the surfline, south of Cape Spencer, and including the waters of Yakutat Bay. All outer coastal areas including the Exclusive Economic Zone (EEZ) were closed during the winter season.

Summer season. The summer troll season, runs from April 15 through September 30, and in recent years has been divided into three segments: the experimental, the terminal, and the general summer fisheries.

The experimental and terminal fisheries, collectively called spring fisheries, target Alaska hatchery-produced chinook salmon. Experimental fisheries occur mostly during May and June, primarily in the inside waters near hatchery release sites or along migration routes of returning hatchery fish (Figure 2). Terminal fisheries occur in Terminal Harvest Areas associated with hatchery release sites where the fisheries are opened in accordance with schedules developed in cooperation with each hatchery corporation's board of directors. A total of 481 vessels participated in the 1997 spring fisheries, up from 462 vessels the previous year.

Opportunities in experimental fisheries have increased greatly since these fisheries began in 1989, providing a combined total of 393 fishing days in 1997, and yielding 13.5% of the annual harvest of chinook salmon (Figure 3). Forty-one percent of the 33,200 chinook salmon taken in 1997 experimental fishery were from Alaska hatcheries. The most productive areas were Silver Bay (9,800 fish) where the fishery targets Medvejie hatchery chinook salmon, and Chatham Strait (6,600 fish) where the fishery targets Hidden Falls hatchery chinook salmon (Table 3). The catch in these two areas comprised 49% of the total experimental fishery harvest. The Pt. Sophia and Pt. Augusta experimental areas were new for 1997. Forty chinook salmon were harvested in the Pt. Augusta area, but were not sampled for CWTs. In the Pt. Sophia area, 462 chinook salmon were harvested, with 47% being of Alaska hatchery origin.

The terminal fisheries yielded 9,500 chinook salmon, all of which count as Alaska hatchery fish. Nearly 90% of the total terminal fishery harvest was taken at Hidden Falls hatchery (8,400 fish).

The 1997 general summer season troll harvest target was estimated by subtracting the number of PST chinook salmon harvested in the winter and spring troll fisheries from the initial guideline harvest target. In addition, a 5,000 fish hatchery add-on and an estimated 3,000 fish risk factor⁴ were also subtracted from the total. This resulted in 158,000 PST chinook salmon available for harvest during the general summer fishery.

⁴ the standard error of the projected Alaska hatchery chinook harvest.

Under the current BOF plan, 70% of the general summer troll quota is to be taken during the first opening in July, with the remainder to be taken following any fishery closure for coho management in August. The first opening began on July 1, with a harvest target of 122,000 fish (116,000 PST chinook salmon plus an estimated 6% Alaska hatchery contribution) and closed on July 7, with a harvest of 122,000 chinook salmon.

Following this first opening, the PST quota was increased because of an upward adjustment in the abundance index, in accordance with the terms of the LOA. Two more seven-day openings (August 18 - 24, and August 30 - September 5) resulted in a total general summer season catch of 183,000 chinook salmon, of which 4,200 (2%) were Alaskan hatchery fish. A summary of general summer season fishing effort is shown in Table 4. Catch for the general summer season, and chinook abundance indices, 1984-1997, are shown in Table 5.

Alaska hatchery fish contribution to the various troll seasons is shown in Table 6. The 1997 total hatchery contribution of 12% to all troll fisheries is close to the historic average (13%), but is less than half the percent contribution seen in 1996. The reduced percentage of Alaska hatchery fish simply reflects the increased quota of PST fish in 1997. Hatchery contribution to the winter fishery declined from 18% in 1996 to 8% in 1997; contribution to the experimental fisheries dropped from 48% in 1996 to 41% in 1997, and contribution to the general summer season dropped from 6% in 1996 to 2% in 1997. In contrast, contribution from non-Alaskan hatcheries increased in all fisheries, compared to 1996. Most notable was the increase from 8% to 15% in the experimental fisheries.

Figure 4 shows the percent of troll permits fished by season for the period 1980 to 1997. Data points are percentages of total permits fished for the year, tallied by season. In this figure, if a permit was fished in all three seasons of one year, it is counted as three permits for the year. The trendlines in Figure 4 are polynomials based on averages of three years of data. Summer troll fishery effort has been on a downward trend since 1980. Percentages of effort in the winter fishery increased during the 1980s, but have declined as the effort during spring fisheries has increased. In 1997, winter fishery effort was 14% of the total, spring fishery effort was 27%, and summer fishery effort was 59%, based on numbers of permits fished.

The number of Alaska hatchery chinook salmon harvested annually in the troll fishery provides the basis for calculating the annual hatchery add-on to the PST quota for the various fisheries. The PST quota calculations for 1997 are shown in Table 7.

Net Fisheries:

The BOF established an allocation of 20,000 PST chinook salmon to the net fisheries. The allocations by gear type are: 4.3% of the annual quota to the purse seine fishery; 7,600 fish to the drift gillnet fishery; and 1,000 fish for the set gillnet fishery.

In 1997 the seine fleet harvested 4,475 PST chinook salmon, plus 5,913 Alaska hatchery chinook salmon. In addition, the seine fleet's Alaska hatchery add-on was calculated to be 5,843 fish, for a total harvest of 10,318 chinook salmon (Table 7). Ninety-five percent of the Alaska hatchery contribution to the seine fleet was taken in hatchery Terminal areas. Seine gear is very efficient at capturing the larger concentrations of chinook salmon found in hatchery terminal areas.

The gillnet fleet harvested 7,222 PST chinook salmon in 1997, plus 4,290 Alaska hatchery fish, which resulted in a calculated Alaska hatchery add-on of 3,779 additional fish. The total gillnet harvest for 1997 was therefore 11,001 chinook salmon. Forty-seven percent of the gillnet harvest of Alaska hatchery chinook salmon was taken in hatchery terminal area fisheries.

The total 1997 harvest of chinook salmon in the net fisheries was 25,072 fish, a decrease of 32% from the 1996 harvest. A large decline in the hatchery terminal area harvests, from 24,300 fish in 1996 to 8,903 fish in 1997 is the primary reason for the overall decrease from the prior year.

Recreational Fisheries:

The total 1997 chinook salmon sport harvest in Southeast Alaska was estimated at 67,727 fish. Of those, 14,000, or 20%, were Alaska hatchery chinook salmon (Table 7). According to this preliminary estimate, the harvest of Alaska hatchery chinook salmon increased by 1,500 fish over 1996. However, the percentage of Alaska hatchery fish in the harvest dropped from 25% in 1996 to 18% in 1997 because of the increased PST quota. Preliminary estimates of hatchery contributions are raw expansions based on CWT recoveries in the sampled marine boat sport fisheries (Table 8). Sport harvest estimates will be adjusted with data collected in the annual Statewide Harvest Survey, which is a mail-in, random survey of sport fishing license holders.

Approximately half the Alaska hatchery contribution to the recreational fishery was from Medvejie hatchery, and was intercepted in the outer coast sport fisheries near Sitka and Craig. Ninety-seven percent of the non-Alaskan hatchery chinook salmon harvested in southeast Alaska sport fisheries were also taken in the Sitka and Craig vicinity in 1997. Terminal Alaska hatchery sport harvests included approximately 1,400 fish in the Juneau area (Gastineau/Snettisham) and 1,500 fish in the Petersburg area (Crystal Lake).

The chinook allocation to the sport fishery in 1997 was 20% of the PST quota (after the allocation to the net fisheries was removed). The target sport fishery allocation for PST chinook salmon, calculated inseason for the first time in 1997, was set at 53,800 fish within a management range of 49,800 to 57,800 fish. Subtracting the calculated hatchery add-on (i.e., 12,000 fish) and Situk River harvest (i.e., 2,000 fish) from the total harvest leaves 55,800 PST chinook salmon harvested, which was within the management range (Table 7). On July 1, an inseason management action intended to slow the harvest was taken in the form of a reduction in the chinook salmon daily bag limit from two fish to one. This limit remained in effect through the end of 1997.

Summary of 1997 Harvest:

The 1997 chinook salmon harvest by all gear types totaled 339,000 fish (Tables 7 and 9). Of these, 54,700 were Alaska hatchery fish, which translated to a 47,600-fish quota add-on. Therefore, a total of 291,600 PST chinook salmon were harvested, and this number of fish was within the guideline harvest range. Figure 5 shows the history of PST chinook salmon harvested, annual quotas, and the Alaska hatchery chinook salmon harvest. Actual harvests of Alaska hatchery fish declined by 23% from 1996 to 1997, from 37,800 fish to 28,900 fish. Representation of Alaska hatchery fish in the total chinook salmon harvest was at all-time high levels in 1995 and 1996 (28% and 35% respectively). However, in 1997 the percentage of Alaskan hatchery fish declined to 16%, which was also the average percentage for the years 1990-1994 (Table 9).

C. Enhanced Production

Hatchery Releases:

A total of 5,293,900 yearling chinook smolts were released in 1997, an increase of approximately 1 million smolts, or nearly 25%, over the previous year (Table 10). Production from SSRAA's Whitman Lake Hatchery was approximately 450,000 smolts more than in 1996. This increase was a result of the

ADF&G/SSRAA Cooperative Agreement for chinook production in southern southeast⁵. This agreement, in part, reinstates some of the chinook production lost when SSRAA discontinued releases at Carroll Inlet, south of Ketchikan.⁶ Increased production at Crystal Lake Hatchery in 1997 was possible because of a new oxygen generation system that allowed more smolts of better quality to be reared in each raceway. Both of these facilities anticipate maintaining production of yearling smolts at the same or slightly greater magnitude for the foreseeable future.

Gastineau Hatchery's release of 573,000 chinook smolts was an 83% increase over the previous year, and was the only substantial "new production" in southeast in 1997. Because of difficulty in obtaining King Salmon River brood (see section III.A.) in 1995, the unoccupied chinook rearing space was filled with Andrew Creek stock. Smolts of the two stocks were released at separate locations in the Juneau area. Gastineau Hatchery production is approaching its permitted capacity of 590,000 smolts. This capacity is expected to be achieved with fish from the 1997 brood year.

The two regional aquaculture associations released a combined total of 3,034,500 chinook salmon in 1997, an increase of 13% over the previous year. Approximately two-thirds of this production came from NSRAA facilities where close to 1 million smolts were released from each of the Medvejie Creek and Hidden Falls hatcheries. Combined yearling smolt production from non-association PNPs, state, and federal hatcheries was 2,234,800 fish in 1997, an increase of 48% over 1996.

Tamgas Creek Hatchery, the only remaining producer of age-zero chinook salmon smolts in southeast Alaska, released 146,000 age-zero smolts in 1997. This represents a substantial decrease from the release of 946,000 age-zero smolts in 1996. The operator of Tamgas Creek Hatchery, Metlakatla Indian Community (MIC), plans to continue emphasis on yearling smolt production, and should approach the capacity of its hatchery (800,000 yearling smolts) with releases from the 1996 brood. Age-zero smolt production at Tamgas Creek Hatchery will decrease to approximately 10,000 smolts with the 1997 brood.

Two southeast hatcheries permitted for chinook salmon did not release any smolts in 1997. Jerry Myers hatchery in Skagway lost all of its brood year 1995 production when the water supply was interrupted. Port Armstrong Hatchery's chinook salmon production is on hold, pending availability of broodstock. The final releases of Unuk River stock at Port Armstrong occurred in 1993, and since then not enough King Salmon River stock eggs have been available to restart the Port Armstrong program.

Figures 6 and 7 show the history of chinook salmon releases from all southeast Alaska hatcheries by brood year (Figure 6) and by calendar year (Figure 7). Chinook permitted capacity remained essentially unchanged in 1997, with the aggregate production capacity of all existing programs at 8,150,000 yearling smolts and 250,000 age-zero smolts.

Harvest of Hatchery Fish:

Hatchery operators reported total returns of 91,864 chinook salmon in 1997 based on recoveries of CWT fish, estimates of unsampled fisheries, and totals of broodstock and escapement (Table 11). Of this total, 45,700 fish were taken in common property harvests, 30,000 fish were harvested by hatchery operators for cost recovery, and 15,700 adults and jacks were used for broodstock or given away to the public as surplus to hatchery needs. Six CWT chinook salmon of Alaska Hatchery origin were recovered in Canadian waters, but an estimate of total contribution to Canadian fisheries is not available.

⁵ See McGee et al, 1997 for a description of the agreement.

⁶ SSRAA released between 700,000 and 1,200,000 chinook smolts annually from 1987 through 1994 at Carroll Inlet. The program was discontinued because the benefit to common property fisheries was unacceptably low.

Total returns of hatchery chinook salmon and exploitation rates by hatchery are summarized in Tables 12 and 13, respectively. Returns are listed by release site, rather than by production facility, as was the case in previous Annex publications.

The history of utilization of southeast Alaska hatchery chinook salmon is shown in Table 14. Percent utilization by year since 1985 is shown in Figure 8. Overall, Alaskan hatcheries contributed 52% of their available return (total return minus broodstock) to common property fisheries in 1997, down from 68% in 1996. The entire decrease can be accounted for by the decrease in the net fishery harvest. Conversely, cost recovery, at 33%, reached a record maximum in 1997. All other categories are within historic ranges. Common property interception of Alaska hatchery chinook salmon for 1980 through 1997 is shown in Figure 9.

The distribution of hatchery-produced chinook salmon in the commercial troll fishery from 1980 through 1997 is shown in Table 15. Distributions of 20% or more are shaded in this table to illustrate the northern outside to southern inside distribution in the harvest. The distribution is expressed as a percentage of the total harvest in each Pacific States Marine Fisheries Commission (PSMFC) area. The PSMFC areas are shown in Figure 10. The northernmost hatcheries contribute primarily to the central and southern intermediate areas, while the southernmost hatcheries contribute more to the southern inside areas.

Disposition of BY 97 Eggs:

Approximately 10,300,000 chinook salmon eggs were taken from hatchery returns in 1997 (Table 16). Approximately 9,654,000 green eggs remained after discarding eggs from BKD-positive parents, pursuant to ADF&G fish pathology policy.

One transfer of eyed brood year 1997 chinook eggs between facilities occurred in 1997. A total of 507,400 eggs of Chickamin River stock origin were transferred from Whitman Lake Hatchery to Crystal Lake Hatchery as part of the SSRAA/ADF&G Cooperative Agreement for Chinook Salmon Production in the Ketchikan Area. The resultant smolts will be transported to Neets Bay for release in 1999. Table 17 shows the rearing strategies and release sites of all 1997 brood chinook salmon.

NSRAA began its Green Lake project in 1997 with the collection of 400,000 eggs for the first phase of the project. These eggs will be incubated and the resulting fish initially reared at Medvejie Creek hatchery. The fish will be transferred to net pens in Green Lake and reared there until October at which time they will be returned to the hatchery for rearing in saltwater netpens. At final production levels, this project is expected to double chinook production from Medvejie Creek hatchery to 2 million smolts per year.

III. BROODSTOCK ALLOCATION

A. Broodstock Development, Diversity, and Performance

The Chinook Salmon Plan's goal of increasing genetic diversity among hatchery chinook salmon stocks in southeast Alaska is being met in part through development of the King Salmon River (KSR) broodstock. The intent is to establish this broodstock at Gastineau Hatchery, thereby replacing the Andrews Creek stock, and then to begin KSR releases at Port Armstrong Hatchery, where releases of Unuk River stock were discontinued after 1993. Both hatcheries have been relying on KSR eggs from returns to Little Port Walter; however, returns there have been low. Approximately 15,000 eyed eggs resulted from the 1997 LPW return of KSR chinook salmon; however, these were not transferred to Gastineau Hatchery because that number of eggs was too small to deal with at a production facility.

Andrew Creek stock continued to dominate 1997 releases by comprising 67% of smolt production region-wide (Figure 11). Fourteen percent of releases were Chickamin River stock, and only 4% were King Salmon River stock. Tahini River stock amounted to only 0.3% of 1997 smolt releases. Unuk River stock releases accounted for 9% of total releases in 1997, up from 2% in 1996. This increase is due to a one-year arrangement whereby LPW transferred Unuk River stock eggs to Crystal Lake Hatchery for eventual release at Neets Bay in the initial year of the SSRAA/ADF&G Cooperative Agreement. Chickamin River stock from Whitman Lake Hatchery will be used for this component of the agreement beginning with the 1997 brood.

Medvejie Creek Hatchery's shift from Chickamin River stock back to Andrew Creek stock was complete in 1997. All age classes of adult returns were from Andrew Creek releases, and hatchery personnel were able to take the full complement of eggs for the facility onsite for the first time in several years.

National Marine Fisheries Service (NMFS) has announced its intent to eventually phase out the chinook salmon broodstock program at Little Port Walter hatchery. Although not a substantial producer in terms of numbers (capacity 200,000 smolts), LPW has been critical to broodstock development for several hatcheries in Southeast over the past 20 years. At the present time the program is still intact, providing some potential for development of new programs and serving as a back-up source for Unuk and Chickamin eggs for existing programs. Approximately 350,000 Unuk River eggs, 318,000 Chickamin River eggs, and 35,000 KSR eggs were taken at LPW Hatchery in 1997.

B. Egg Allocation Criteria and Plan for 1998

Allocation criteria, first formulated in 1987, are relevant only in cases where chinook salmon eggs or smolts are transferred either between hatcheries or from the wild to hatcheries. Allocation criteria for chinook salmon eggs can be found in McGee et al. 1996.

Most hatchery programs in southeast Alaska have become self-supporting. Returns in excess of broodstock needs are anticipated at some hatcheries; exports of chinook salmon eggs from the 1998 brood are possible from the following locations:

Little Port Walter:

Stock	Total Eyed Eggs Expected	Needed for LPW	Potential Export
Unuk	500,000	100,000	400,000
Chickamin	840,000	100,000	740,000
KSR	80,000	0	80,000

Unuk and Chickamin River eggs are available as a back-up source for existing programs at other hatcheries.

Little Port Walter is the source for King Salmon River stock development program at Gastineau Hatchery and Port Armstrong Hatcheries. According to the allocation agreement, all KSR eggs taken at LPW in 1998 will be sent to Gastineau Hatchery. Port Armstrong will receive KSR eggs from LPW only in years when Gastineau's capacity is reached.

Whitman Lake Hatchery:

Stock	Total Eyed Eggs Expected	Needed for WLH	Planned Export
Chickamin	1,800,000	1,200,000	600,000

All expected 1998 brood chinook eggs at Whitman Lake are allocated to various segments of the chinook Cooperative Agreement between SSRAA and ADF&G. Approximately 600,000 eyed eggs will be transferred to Crystal Lake Hatchery for rearing, and eventual release at Neets Bay. Approximately 300,000 fry will be transferred from WLH to Neets Bay Hatchery for overwinter rearing and release there.

Gastineau Hatchery:

Stock	Total Eggs Expected	Needed for Gastineau	Potential Export
Andrew Cr	1,500,000	650,000	850,000

Hatchery capacity is 590,000 smolts; Andrew Creek stock will be used to complement any KSR eggs received from LPW, to reach capacity. Hatchery plans call for selling excess eggs as salmon roe for cost recovery because the return will consist of a mixture of KSR and Andrew Creek stocks that cannot be positively separated. Thus, eggs from Gastineau hatchery returns are not suitable for use as broodstock at other facilities.

Burro Creek and Jerry Myers Hatcheries (Tahini River stock)

Burro Creek PNP hatchery and Jerry Myers hatchery, the school hatchery in Skagway, will continue their chinook egg sharing agreement in 1998. Both facilities have permits in place to take eggs from returns to either location. The operator of Burro Creek hatchery plans to take up to its newly permitted capacity of 100,000 eggs in 1998.

IV. HATCHERY RETURN PREDICTIVE MODELS

Each year hatchery operators are asked to predict the number of returning chinook salmon expected to return to hatchery facilities in Southeast Alaska. These pre-season projections include total return, number of fish expected to be harvested in traditional and terminal fisheries, and number needed for brood stock. There are no standardized procedures for making such projections, and the inaccuracy inherent in predicting future events has resulted, in some years, in substantial differences between the prediction and actual returns.

Some of the techniques used to predict future chinook salmon returns are described below; they are the same as those used in 1997.

A. Little Port Walter

The Little Port Walter facility uses a dual-model approach for predicting year-class strength of chinook salmon in fisheries and in returns to the hatchery. The first model is an overall survival estimator for each brood year based on a linear-regression prediction using the square root-transformed percent survival of recoveries of zero-ocean-age mini-jacks at the Sashin Creek weir as an independent predictor variable (mini-jack survival is not included in the total). No other predictor variables are used with the model.

The second model is a synthesis of previous years' returns and age-class distribution rates and sex ratios at the weir. This analysis predicts percent returns for a given cohort in a given year based on the previous year's data combined with the historic ratios between age classes.

B. Crystal Lake Hatchery

During the year preceding the target year, the initial prediction for chinook salmon returns in the target year is based on historic age-class fractions of each brood year. Numbers of age-1.2 and age-1.3 fish returning in the year preceding the target year are used as predictors. The model is "fine-tuned" after the strength of each age-class is determined in the winter fishery of the target year.

C. Deer Mountain Hatchery

Predictions are based on the same technique used for predicting the Crystal Lake Hatchery run, with the exception that information from the winter fishery is not used.

D. SSRAA Hatcheries

SSRAA employs a synthesis of previous year's return and age-class distribution information similar to that for Little Port Walter to predict returns for the subsequent year at the Whitman Lake and Neets Bay Hatcheries. The analysis predicts percent return for a given cohort in a given year based on the previous year's data combined with the historic ratios among age classes. The distribution between fishery and rack components of the run is based on the most recent three-year average.

E. NSRAA Hatcheries

A great deal of effort goes into regular sampling of the chinook return each year to NSRAA facilities to be able to generate accurate estimates of age-at-return. These estimates are used to develop historic relationships between age-at-return for each hatchery. Returns of age 1.2 fish are predicted using historic averages. Age 1.3 and 1.4 fish return predictions are based on regression analysis of the previous year's age 1.2 and 1.3 returns, respectively. Size-at-age information is also analyzed. Predictions may be adjusted if size data suggests a shift from normal age-at-return ratios.

V. THE 1998 CHINOOK PLANNING TEAM MEETING

The Chinook Planning Team met on April 14 in the ADF&G Southeast Regional Office in Douglas. Discussion focused on three main topics:

1. Possible federal funding for new chinook production. The Chinook Planning Team discussed conducting a review of chinook salmon production in Southeast Alaska that was originated with the last increment of approximately \$20 million in federal mitigation funding. The success of the previous program in actually delivering chinook salmon to the troll fleet would be examined in order to determine if the original production and harvest goals have been met. In addition, the team agreed to work with user groups to identify additional opportunities for chinook salmon production in Southeast Alaska in the event additional funding were to become available from the federal government.
2. King Salmon River broodstock development. In the early 1990s the Chinook Planning Team endorsed a plan to switch the chinook stock at Gastineau Hatchery from Andrew Creek to King Salmon River stock, and then as KSR returns to LPW allow, also supply eggs to Port Armstrong Hatchery to replace the Unuk River chinook stock there. Little Port Walter has released KSR smolts on site beginning with the 1988 brood. Adult return rates to LPW have been mixed, but generally disappointing. LPW exported eyed KSR chinook

eggs to Gastineau Hatchery for brood years 1993 - 1996. In 1997 only 15,000 eyed KSR eggs resulted from the egg take at LPW.

The Chinook Planning Team reassessed the planned broodstock changes at the 1998 meeting. LPW staff presented data on in-hatchery and marine survival. The Team reaffirmed the desirability of maintaining genetic diversity among hatchery chinook broodstocks in Southeast, and concluded that it is still too early to reach a solid conclusion about KSR stock performance under culture. In view of this decision, it will be important to be able to identify all KSR returns to Gastineau Hatchery as well as at LPW in order to maximize available broodstock. Gastineau Hatchery staff marked all KSR smolts released in 1998 with ventral fin-clips in order to be able to identify them for future broodstock.

3. Upper Lynn Canal hatchery chinook salmon production. Burro Creek Hatchery and the Jerry Myers educational hatchery in Skagway are the only facilities culturing Tahini River stock chinook salmon in southeast Alaska. Jerry Myers Hatchery is permitted to release 20,000 smolts, and Burro Creek requested a permit alteration to double their chinook production from 50,000 to 100,000 smolts. The two facilities have released a combined total of 133,700 smolts in upper Lynn Canal since 1987. Hidden Falls reared and released 125,400 Tahini River chinook salmon smolts in Taiya Inlet over a three-year period, 1992-1994. The Lynn Canal sport fishery, including the charter boat industry, has grown rapidly during the last few years (in conjunction with the tourism industry), partly because of the increased abundance of chinook salmon from the Hidden Falls releases. The final return year for the Hidden Falls fish is 1998. Burro Creek will not be able to produce at an increased capacity for several years. Also, at the present time the facility is for sale with the hope that the new owner will obtain a PNP permit and continue to operate the hatchery.

The Chinook Planning Team discussed alternative ways of maintaining or increasing chinook production in upper Lynn Canal. Another series of releases, incubated and reared at another Alaskan Hatchery, could be initiated. The City of Skagway has shown interest in increasing production of chinook salmon in the vicinity of Skagway, perhaps by entering into agreements with the hatchery in Whitehorse, British Columbia for incubation and initial rearing of chinook eggs from returns to the Skagway area.

Literature Cited

- ADF&G (Alaska Department of Fish and Game). 1981. Comprehensive salmon plan for Southeast Alaska. Alaska Department of Fish and Game, Fisheries Rehabilitation, Enhancement, and Development Division (developed by the Joint Southeast Alaska Regional Planning Team), Juneau.
- Holland, J., B. Bachen, G. Freitag, P. Kissner, and A. Wertheimer. 1983. Chinook salmon plan for Southeast Alaska. Alaska Department of Fish and Game, Fisheries Rehabilitation, Enhancement, and Development Division, Special Report, Juneau.
- McGee, S., C. Denton, B. Bachen, G. Freitag, M. Stopha, D. Gaudet, R. Josephson, and F. Thrower. 1997. 1997 Annex, Chinook Salmon Plan for Southeast Alaska. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division. Regional Information Report 5J97-21.

Table 1. Estimates of total escapements of chinook salmon to escapement indicator systems and to southeast Alaska and transboundary (T) rivers, 1986-1997.^a

Year	MAJOR SYSTEMS				MEDIUM SYSTEMS								TOTAL ALL SYSTEMS	Expanded Region Total		
	Alsek ^b (T)	Taku ^c (T)	Stikine (T)	Major Subt.	Situk	Chilkat	Andrew	Unuk (T)	Chick-amin (T)	Blossom	Keta	Med. Subt.			King Salmon	
1975		8,356	5,800	14,156				520		1,481	365	508	2,873	62	17,091	20.34
1976	1,672	18,904	3,300	23,876	1,365			404		627	170	210	2,776	96	26,748	31.84
1977	4,363	22,684	6,600	33,647	1,732			456	3,896	1,450	280	575	8,389	199	42,235	50.28
1978	4,050	13,220	5,200	22,470	776			388	4,424	1,234	358	980	8,159	84	30,713	36.56
1979	6,101	16,624	9,328	32,053	1,266			327	2,304	954	135	1,065	6,051	113	38,217	45.49
1980	3,770	30,176	17,096	51,042	905			282	4,064	1,779	223	480	7,732	104	58,878	70.09
Ave.	3,991	18,327	7,887	29,541	1,209			396	3,672	1,254	255	636	5,997	110	35,647	42.43
1981	2,837	39,144	26,672	68,653	702			536	2,924	1,536	398	823	6,918	139	75,710	90.13
1982	3,078	19,252	22,640	44,970	434			672	5,404	2,284	863	1,885	11,542	354	56,866	67.69
1983	3,352	8,248	4,752	16,352	592			366	4,500	2,398	1,473	2,055	11,383	245	27,980	33.31
1984	2,038	15,636	10,352	28,026	1,726			389	7,348	4,408	1,270	1,525	16,666	265	44,957	53.52
1985	1,853	28,832	12,456	43,141	1,521			640	4,736	3,824	1,773	1,560	14,054	175	57,370	68.29
Ave.	2,632	22,222	15,374	40,228	995			521	4,982	2,890	1,155	1,570	12,112	236	52,576	62.59
1986	3,966	30,080	11,564	45,610	2,067			1,414	8,504	6,980	3,195	1,725	23,885	255	69,750	83.03
1987	3,598	22,972	19,132	45,702	1,265			1,576	7,892	3,900	3,373	1,920	19,926	196	65,824	78.36
1988	2,891	34,504	29,168	66,563	837			1,128	6,984	3,144	960	1,438	14,491	208	81,262	96.74
1989	3,399	40,329	18,860	62,588	653			1,060	4,596	3,736	860	2,888	13,793	240	76,621	91.21
1990	2,722	52,142	17,568	72,432	676			1,328	2,364	2,256	643	1,515	8,781	179	81,392	96.89
Ave.	3,315	36,005	19,258	58,579	1,100			1,301	6,068	4,003	1,806	1,897	16,175	216	74,970	89.24
1991	3,165	40,612	18,024	61,801	878	5,897	800	2,620	1,948	598	680	13,421	134	75,356	83.72	
1992	1,950	44,232	26,508	72,690	1,579	5,284	1,556	3,496	1,384	375	543	14,217	99	87,006	96.67	
1993	4,811	52,816	45,796	103,423	899	4,472	2,120	4,272	1,556	758	905	14,982	259	118,664	131.84	
1994	5,532	39,652	25,800	70,984	1,263	6,795	1,144	2,844	1,552	403	765	14,766	207	85,957	95.50	
1995	8,579	33,805	13,036	55,420	4,355	3,790	686	3,088	1,424	543	438	14,323	144	69,887	77.65	
Ave.	4,807	42,223	25,833	72,864	1,795	5,248	1,261	3,264	1,573	535	666	14,341	169	87,374	97.08	
1996	4,401	79,019	19,360	102,780	1,913	4,920	670	4,668	1,688	550	743	15,152	288	118,220	131.35	
1997	4,173	55,396	22,228	81,797	2,190	7,728	586	2,544	1,088	330	615	15,081	357	97,235	108.03	
1997 CHANGE FROM 1996																
Number	(228)	(23,623)	2,868	(20,983)	277	2,808	(84)	(2,124)	(600)	(220)	(128)	(71)	69	(20,985)	(23,317)	
Percent	-5%	-30%	15%	-20%	14%	57%	-13%	-46%	-36%	-40%	-17%	0%	24%	-18%	-18%	
Goals	Under	Under	Under			Under	Under									
Lower	review	review	review		500	review	review	2,800	1,680	600	600		120			
Point	7,344	52,840	21,200	81,384	600	2,000	750	3,500	2,100	750	750	10,450	150	91,984	102,200	
Upper					1000			5,600	3,360	1,200	1,200		240			

^a Index escapements are expanded for survey counting rates and unsurveyed tributaries.

^b Using CTC calculations of Alsek Escapement: Escapement = (weir count/0.64)-sport and IFF harvest.

^c Using M-R estimates for Taku River when available.

Table 2. Southeast Alaska winter troll fishery vessel landings, chinook salmon catches^a, and comparison with total season chinook catches, 1980-1997.

Year	EARLY WINTER POWER TROLL			LATE WINTER POWER TROLL			EARLY WINTER HAND TROLL			LATE WINTER HAND TROLL			TOTALS		
	Number Chinook	Vessel Landings	Chinook per land	Number Chinook	Vessel Landings	Chinook per land	Number Chinook	Vessel Landings	Chinook per land	Number Chinook	Vessel Landings	Chinook per land	Winter Total	Percent	Annual Total
1980	2,577	171	15.1	2,448	128	19.1	1,425	357	4.0	1,160	278	4.2	7,610	2.5	303,874
1981	1,000	78	12.8	5,412	375	14.4	737	201	3.7	1,615	369	4.4	8,764	3.5	248,791
1982	3,156	217	14.5	5,407	466	11.6	1,709	318	5.4	1,450	298	4.9	11,722	4.8	242,315
1983	9,698	581	16.7	14,516	941	15.4	2,819	345	8.2	2,824	483	5.8	29,857	11.1	269,790
1984	11,792	825	14.3	14,258	1,366	10.4	2,431	392	6.2	2,983	614	4.9	31,464	13.3	235,699
1985	11,631	628	18.5	5,369	587	9.1	2,604	388	6.7	1,865	503	3.7	21,469	9.9	216,089
1986	13,389	748	17.9	4,944	542	9.1	3,390	454	7.5	1,203	290	4.1	22,926	9.6	237,698
1987	15,049	872	17.3	8,850	715	12.4	3,404	532	6.4	1,225	279	4.4	28,528	11.8	242,562
1988	38,243	1,568	24.4	13,603	1,306	10.4	6,531	1,058	6.2	2,081	478	4.4	60,458	26.2	231,185
1989	20,630	1,598	12.9	8,009	973	8.2	3,796	756	5.0	1,863	429	4.3	34,298	14.6	235,609
1990	15,089	755	20.0	12,976	1,020	12.7	2,525	373	6.8	2,537	456	5.6	33,127	11.5	287,100
1991	17,711	752	23.6	18,393	1,419	13.0	2,209	342	6.5	2,229	496	4.5	40,542	15.4	263,091
1992	24,793	1,376	18.0	39,771	2,066	19.3	3,484	576	6.0	3,783	607	6.2	71,831	39.2	183,354
1993	18,579	983	18.9	38,601	1,889	20.4	1,696	227	7.5	3,846	476	8.1	62,722	27.7	226,561
1994	33,462	983	34.0	19,806	1,277	15.5	1,731	149	11.6	1,369	221	6.2	56,368	30.3	186,167
1995	9,662	505	19.1	6,665	699	9.5	720	137	5.3	821	172	4.8	17,868	12.9	138,115
1996	5,584	370	15.1	3,141	362	8.7	424	60	7.1	252	85	3.0	9,401	6.6	141,407
1997	12,890	560	23.0	7,258	997	17.0	362	67	5.0	447	87	5.0	20,957	8.5	246,462

^a Catches are by troll accounting year (October 1 - September 30).

^b Early winter troll = October - December.

^c Late winter troll = January - April 14.

Table 3. The number of salmon harvested and permits fished in the 1997 spring troll fisheries.^a

Experimental Fisheries

Fishery Name	Week	Open	Close	Days	Permits	Chinook	% Alaska Hatchery ^b
Gravina Island (101-29)	22	05/27-	05/28	2			
	23	06/02-	06/03	2			
	24	06/09-	06/12	4	3	21	0%
	25	06/16-	06/20	5	6	90	0%
	26	06/23-	06/28	6	8	92	29%
	Total:				19		211
Mountain Point (101-45)	21	05/19-	05/20	2			
	22	05/27-	05/28	2			
	23	06/02-	06/03	2	5	22	0%
	24	06/09-	06/12	4	6	141	42%
	25	06/16-	06/20	5	6	120	NS
	26	06/23-	06/28	6	8	241	50%
Total:				21		530	34%
Ship Island Shore (102-80)	21	05/19-	05/20	2			
	22	05/27-	05/28	2			
	23	06/02-	06/03	2			
	24	06/09-	06/12	4			
	25	06/16-	06/20	5			
	26	06/23-	06/24	2			
Total:				17	Less than 3 permits fished		
Steamer Point (106-30)	21	05/19-	05/20	2	8	50	NS
	22	05/27-	05/28	2	4	17	0%
	23	06/02-	06/03	2			0%
	24	06/09-	06/10	2			
	25	06/16-	06/17	2	3	34	52%
	26	06/23-	06/24	2	6	79	0%
Total:				12		184	10%
Snow Passage (106-41)	21	05/19-	05/20	2			
	22	05/27-	05/28	2			
	23	06/02-	06/03	2			
	24	06/09-	06/10	2			
	25	06/16-	06/17	2			
	26	06/23-	06/24	2			
Total:				12	Less than 3 permits fished		

-Continued-

Table 3. (page 2 of 6)

Experimental Fisheries, continued

Fishery Name	Week	Open	Close	Days	Permits	Chinook	% Alaska Hatchery ^b
Baht Harbor (108-30)	21	05/19-	05/20	2	3	28	0%
	22	05/27-	05/28	2	5	22	0%
	23	06/02-	06/03	2	3	16	0%
	24	06/09-	06/10	2			0%
	25	06/16-	06/17	2			NS
	26	06/23-	06/24	2			
	Total:				12		135
Little Port Walter (109-10)	19	05/05-	05/06	2			
	20	05/12-	05/13	2			
	21	05/19-	05/20	2	3	16	29%
	22	05/27-	05/30	4			
	23	06/02-	06/06	5	10	134	9%
	24	06/09-	06/13	5	7	388	34%
	25	06/16-	06/20	5	15	820	49%
	26	06/23-	06/28	6	3	57	21%
Total:				31		1,487	38%
Point Gardner (109-30)	19	05/05-	05/06	2			
	20	05/12-	05/13	2			
	21	05/19-	05/20	2			
	22	05/27-	05/28	2			
	23	06/02-	06/03	2			
	24	06/09-	06/10	2			
	25	06/16-	06/17	2	4	72	55%
	26	06/23-	06/28	6			
Total:				20		83	47%
Kingsmill Point (109-51)	19	05/05-	05/06	2	3	22	0%
	20	05/12-	05/13	2	5	49	51%
	21	05/19-	05/22	4	7	103	4%
	22	05/27-	05/28	2	6	127	NS
	23	06/02-	06/03	2	7	260	79%
	24	06/09-	06/14	6	45	2,188	47%
	25	06/15-	06/21	7	43	1,693	54%
	26	06/22-	06/28	7	26	506	48%
Total:				32		4,948	49%

-Continued-

Table 3. (page 3 of 6)

Experimental Fisheries, continued

Fishery Name	Week	Open	Close	Days	Permits	Chinook	% Alaska Hatchery ^b
Frederick Sound (110-31)	19	05/05-	05/06	2	3	16	94%
	20	05/12-	05/13	2	5	52	3%
	21	05/19-	05/20	2			
	22	05/27-	05/30	4	12	214	11%
	23	06/02-	06/04	3	30	521	37%
	24	06/09-	6/13	5	33	627	38%
	25	06/16-	6/20	5	15	127	57%
	26	06/23-	6/28	6	5	33	8%
Total:				29		1,595	34%
Chatham Strait (112-12)	19	05/05-	05/06	2			
	20	05/12-	05/13	2			
	21	05/19-	05/22	4	8	88	56%
	22	05/27-	05/30	4	23	468	38%
	23	06/02-	06/07	6	62	2,282	20%
	24	06/08-	06/14	7	70	2,144	49%
	25	06/15-	06/21	7	47	1,298	87%
	26	06/22-	06/28	7	25	219	67%
Total:				39		6,559	46%
Point Augusta (112-14)	19	05/05-	05/06	2			
	20	05/12-	05/13	2			
	21	05/19-	05/20	2			
	22	05/27-	05/28	2			
	23	06/02-	06/03	2			
	24	06/09-	06/10	2			
	25	06/16-	06/17	2			
	26	06/23-	06/28	6			
Total:				20		40	NS
Silver Bay (113-35)	21	05/19-	05/22	4	26	271	60%
	22	05/27-	05/31	5	24	266	33%
	23	06/01-	06/07	7	54	1,380	43%
	24	06/08-	06/14	7	83	2,655	53%
	25	06/15-	06/21	7	75	3,063	61%
	26	06/22-	06/28	7	70	2,204	62%
Total:				37		9,839	56%

-Continued-

Table 3. (page 4 of 6)

Experimental Fisheries, continued

Fishery Name	Week	Open	Close	Days	Permits	Chinook	% Alaska Hatchery ^b
Middle Island (113-41)	19	05/05-	05/06	2			
	20	05/12-	05/13	2	8	23	0%
	21	05/19-	05/22	4	11	103	27%
	22	05/27-	05/30	4	10	166	17%
	23	06/02-	06/06	5	14	135	100%
	24	06/09-	06/10	2	6	86	100%
	25	06/16-	06/21	6	29	1,042	55%
	26	06/22-	06/28	7	35	1,144	33%
Total:				32		2,701	49%
Peril Strait (113-51)	19	05/05-	05/06	2			
	20	05/12-	05/13	2			
	21	05/19-	05/20	2			
	22	05/27-	05/28	2			
	23	06/02-	06/03	2			
	24	06/09-	06/10	2			
	25	06/16-	06/17	2			
	26	06/23-	06/24	2			
Total:				16	Less than 3 permits fished		
Salisbury Sound (113-62)	19	05/05-	05/06	2			
	20	05/12-	05/13	2			
	21	05/19-	05/20	2			
	22	05/27-	05/28	2	3	28	0%
	23	06/02-	06/03	2	9	152	16%
	24	06/09-	06/10	2	26	1,220	12%
	25	06/16-	06/17	2	55	1,963	22%
Total:				14		3,389	18%
Point Sophia (114-27)	19	05/05-	05/06	2	4	19	NS
	20	05/12-	05/13	2	4	8	NS
	21	05/19-	05/20	2			
	22	05/27-	05/28	2	8	47	NS
	23	06/02-	06/03	2	8	49	48%
	24	06/09-	06/14	6	9	111	44%
	25	06/15-	06/21	7	14	161	87%
	26	06/22-	06/28	7	4	30	20%
Total:				30		462	47%

-Continued-

Table 3. (page 5 of 6)

Terminal Fisheries

Fishery Name	Week	Open	Close	Days	Permits	Chinook	% Alaska Hatchery ^b
Carroll Inlet (101-46)	21	05/20	05/24	5			
	22	05/25	05/31	7			
	23	06/01	06/07	7			
	24	06/08	06/14	7	3	45	
	25	06/15	06/21	7	8	102	
	26	06/22	06/28	7	6	127	
	Total:			40		283	
Wrangell Narrows (106-44)	23	06/01	06/07	7	23	201	
	24	06/08	06/14	7	16	162	
	25	06/15	06/21	7	24	305	
	26	06/22	06/25	4	18	133	
	Total:			25		801	
Earl West Cove (107-45)	25	06/15	06/21	7	7	35	
	26	06/22	06/28	7			
	Total:			14		49	
Port Armstrong (109-11)	24	06/14	06/14	1			
	25	06/15	06/21	7			
	26	06/22	06/28	7	13	399	
	27	06/29	07/05	7	4	30	
	28	07/06	07/12	7			
	29	07/13	07/19	7			
	Total:			36		432	
Hidden Falls (112-22)	19	05/05	05/10	6			
	20	05/11	05/17	7	6	80	
	21	05/18	05/24	7	15	222	
	22	05/25	05/31	7	25	433	
	23	06/01	06/07	7	46	1,237	
	24	06/08	06/14	7	45	1,521	
	25	06/15	06/21	7	42	1,828	
	26	06/22	06/28	7	17	1,051	
	27	06/29	07/05	7	6	1,490	
	28	07/06	07/12	7	4	332	
	29	07/13	07/19	7	4	170	
	Total:			76		8,366	

-Continued-

Table 3. (page 6 of 6)

	Week	Dates	Days	Permits	Chinook	Sockeye	Coho	Pink	Chum
Cross Sound Pink	24	6/9-6/13	5	9	355	99	0	50	311
and Chum Fishery	25	6/16-6/20	5	22	213	695	308	6,279	2,785
(114-21)	26	6/23-6/27	5	25	0	716	258	20,168	2,532
	Total:		15		568	1,510	566	26,497	5,628

Spring Fishery Totals:	Permits	Chinook	% Alaska Hatchery	Sockeye	Coho	Pink	Chum
Experimental	423	32,795	44%	1,569	716	26,608	5,911
Terminal	174	9,964	100%	7	74	221	1,165
SPRING TOTAL:		42,759	57%	1,576	790	26,829	7,076

^a Catches omitted from weeks where less than three permits made landings; therefore, totals may not match the sum of weekly values.

^b "NS" listed under Alaska Hatchery % indicates catch not sampled for coded-wire-tag presence.

Table 4. Number of days, effort (boat days) and dates the Southeast Alaska troll fishery was open [chinook retention (CR)], closed to chinook salmon fishing [chinook non-retention (CNR)], and closed to all species (all) during the general summer season, April 15 - September 30, 1978 - 1997.

Year	Open Periods				Closed Periods				
	Days ^a Open	Days Closed	Dates Open	CR Days	CR Effort in Boat Days ^b	Closed Periods	Number of Days	CNR Days	CNR Effort in Boat Days ^b
1978	169	0	Apr 15- Sep-30	169		None		0	
1979	169	0	Apr 15- Sep-30	169		None		0	
1980	149	20	Apr 15- Jul-14 Jul-25- Sep-20	91 58		Jul-15- Jul-24 Sep-21- Sep-30	10 (all) 10 (all)	0	
1981	101	69	May 15- Jun-25 July 5- Aug-06 Aug 20- Sep-03 Sep-13- Sep-20	42 36 15 8	76,751	Apr-15- May-14 Jun-26- Jul-04 Aug-10- Aug-19 Sep-04- Sep-12 Sep-21- Sep-30	30 (all) 9 (all) 10 (all) 9 10 (all)	9	3,526
1982	65	104	May 15- Jun-06 Jun-17- Jul-28	23 42	53,371	Apr-15- May-14 Jun-07- Jun-16 Jul-29- Aug-07 Aug-08- Sep-20 Sep-21- Sep-30	30 (all) 10 (all) 10 (all) 44 10 (all)	44	32,727
1983	60	109	May 15- Jun-08 July 1- Aug-04	25 35	48,734	Apr-15- May-14 Jun-09- Jun-30 Aug-05- Aug-14 Aug-15- Sep-20 Sep-21- Sep-30	30 (all) 22 (all) 10 (all) 37 10 (all)	37	18,396
1984	45	124	June 5- Jun-30 Jul-11- Jul-29	26 19	33,641	Apr-15- Jun-04 Jul-01- Jul-10 Jul-30- Aug-14 Aug-15- Aug-24 Aug-25- Sep-20 Sep-21- Sep-30	51 (all) 10 (all) 16 10 (all) 27 10 (all)	43	29,583

-Continued-

Table 4. (page 2 of 4)

Year	Open Periods					Closed Periods			
	Days ^a Open	Days Closed	Dates Open	CR Days	CR Effort in Boat Days ^b	Closed Periods	Number of Days	CNR Days	CNR Effort in Boat Days ^b
1985	33.6	135.4	June 3- Jun-12 July 1- Jul-22 Aug 25- Aug 26 ^c	10 22 1.6	30,934	Apr-15- Jun-02 Jun-13- Jun-30 Jul-23- Aug-14 Aug-15- Aug-24 Aug-26- Sep-20 Sep-21- Sep-30	49 (all) 18 (all) 23 10 (all) 25.4 10 (all)	48.4	35,509
1986	41	128	Jun-20- Jul-15 Aug 21- Aug-26 Sept 1- Sep-09	26 6 9	26,496	Apr-15- Jun-19 Jul-16- Aug-10 Aug-11- Aug-20 Aug-27- Aug-31 Sep-10- Sep-20 Sep-21- Sep-30	66 (all) 26 10 (all) 5 11 10 (all)	42	37,265
1987	23	146	Jun-20- Jul-12	23	19,079	Apr-15- Jun-19 Jul-13- Aug-02 Aug-03- Aug-12 Aug-13- Sep-20 Sep-21- Sep-30	66 (all) 21 10 (all) 39 10 (all)	60	37,219
1988	12	157	July 1- Jul-12	12	9,509	Apr-15- Jun-30 Jul-13- Jul-25 Jul-26- Aug-04 Aug-05- Aug-14 Aug-15- Aug-24 Aug-25- Aug-31 Sep-01- Sep-03 Sep-04- Sep-20 Sep-21- Sep-30	77 (all) 13 10 (all) 10 10 (all) 7 3 (all) 17 10 (all)	47	27,344

-Continued-

Table 4. (page 3 of 4)

Year	Open Periods					Closed Periods			
	Days ^a Open	Days Closed	Dates Open	CR Days	CR Effort in Boat Days ^b	Closed Periods	Number of Days	CNR Days	CNR Effort in Boat Days ^b
1989 ^d	13	156	July 1- Jul-13	13	9,585	Apr-15- Jun-30 Jul-14- Aug-13 Aug-14- Aug-23 Aug-24- Sep-20 Sep-21- Sep-30	77 (all) 31 10 (all) 28 10 (all)	59	38,424
1990 ^d	24	145	July 1- Jul-22 Aug 23- Aug-24	22 2	17,175	Apr-15- Jun-30 Jul-23- Aug-12 Aug-13- Aug-22 Aug-25- Sep-20 Sep-21- Sep-30	77 (all) 21 10 (all) 27 10 (all)	48	29,528
1991 ^d	7.5	161.5	July 1- Jul-08	7.5	4,718	Apr-15- Jun-30 Jul-08- Aug-15 Aug-16- Aug-24 Aug-25- Sep-20 Sep-21- Sep-30	77 (all) 38.5 10 (all) 26 10 (all)	64.5	32,556
1992 ^d	4.5	164.5	July 1- Jul-04 Aug-23- Aug-24	3.5 1	2,882	Apr-15- Jun-30 Jul-04- Aug-12 Aug-13- Aug-22 Aug-24- Sep-20 Sep-21- Sep-30	77 (all) 39.5 10 (all) 28 10 (all)	67.5	36,306
1993 ^d	20	149	Jul-01- Jul-06 Aug-21- Aug-25 Sept. 12 Sep-20	6 5 9	7,635	Apr-15- Jun-30 Jul-07- Jul-11 Jul-12- Aug-12 Aug-13- Aug-20 Aug-26- Sep-11 Sep-21- Sep-30	77 (all) 5 (all) 32 8 (all) 17 10 (all)	49	35,156
1994 ^d	12	157	Jul-01- Jul-07 Aug-29- Sep-02	7 5	6,434	Apr-15- Jun-30 Jul-08- Aug-26 Aug-27- Aug-28 Sep-03- Sep-30	77 (all) 52 2 (all) 28	80	35,718

-Continued-

Table 4. (page 4 of 4)

Year	Open Periods					Closed Periods			
	Days ^a Open	Days Closed	Dates Open	CR Days	CR Effort in Boat Days ^b	Closed Periods	Number of Days	CNR Days	CNR Effort in Boat Days ^b
1995	17	152	Jul-01- Jul-10 Jul-30- Aug-05	10 7	 7,807	Apr-15- Jun-30 Jul-11- Jul-29 Aug-06- Aug-12 Aug-13- Aug-22 Aug-23- Sep-30	77 (all) 19 7 10 (all) 39	 65	 24,002
1996	12	157	Jul-01- Jul-10 Aug-19- Aug-20	10 2	 5,161	Apr-15- Jun-30 Jul-11- Aug-14 Aug-15- Aug-19 Aug-21- Sep-20 Sep-21- Sep-30	77 (all) 35 5 (all) 30 10 (all)	 65	 23,262
1997	21	148	Jul-01- Jul-07 Aug-18- Aug-24 Aug-30- Sep-05	7 7 7	 9,020	Apr-15- Jun-30 Jul-08- Aug-07 Aug-08- Aug-17 Aug-25- Aug-29 Sep-06- Sep-20	77(all) 30 10(all) 5 14	 49	 18,023

^a Number of days the major portion of Southeast Alaska was open to chinook salmon fishing.

^b Summer total of boat days estimated from inseason dockside interviews with troll fisherman and actual landings from fish tickets tabulated postseason.

^c Trolling was open to all species for 39 hours, 12:01 am Aug 25 to 3:00 pm Aug 26.

^d Hatchery access fisheries were conducted for 6 days each year in June, except in 1991, when only 4.5 were open.

Table 5. Chinook salmon catch per fleet day (rounded to nearest hundred) in the Southeast Alaska troll fishery during the general summer season, April 15 - September 30, 1984 -1997.^a

Year	Fishing Period	Number of Days	Chinook Catch	Fish Per Fleet Day	Chinook Abundance Index ^b
1984	JUN 5-30	26	130,000	5,000	1.34
	JUL 11-29	19	77,000	4,100	
		45	207,000	4,600	
1985	JUN 3-12	10	66,000	6,600	1.18
	JUL 1-22	22	114,000	5,200	
		32	180,000	5,600	
1986	JUN 20 - JUL 15	26	155,000	6,000	1.31
1987	JUN 20 - JUL 12	23	209,000	9,100	1.53
1988	JUL 1-12	12	162,000	13,500	1.78
1989	JUL 1-13	13	167,000	12,800	1.74
1990	JUL 1-22	22	200,000	9,100	1.81
	AUG 23-24	2	12,000	5,900	
		24	212,000	8,800	
1991	JUL 1-8 (noon)	7.5	154,000	20,500	1.91
1992	JUL 1-4 (noon)	3.5	66,000	19,000	1.76
	AUG 23	1	7,000	7,000	
		4.5	73,000	16,200	
1993	JUL 1-6	6	101,000	17,000	1.92
	AUG 21-25	5	25,000	5,000	
	SEP 12-20	9	19,000	2,000	
		20	144,000	7,200	
1994	JUL 1-7	7	98,000	14,000	1.61
	AUG 29 - SEPT 2	5	20,000	4,000	
		12	118,000	9,800	
1995	JUL 1-10	10	76,000	7,600	0.91
	JUL 30 - AUG 5	7	21,000	3,000	
		17	97,000	5,700	
1996	JUL 1 - 10	10	76,000	7,600	0.71
	AUG 19 - 20	2	8,000	4,000	
		12	84,000	7,000	
1997	JUL 1-7	7	122,000	17,400	1.48
	AUG 18 - 24	7	38,000	5,400	
	AUG 30 - SEPT 5	7	22,000	3,100	

^a The general summer fishery does not include experimental, terminal, or hatchery access fisheries, which target Alaska hatchery stocks.

^b Abundance index is estimated by the chinook technical committee of the Pacific Salmon Commission.

Table 6. Contribution in numbers and percent of chinook salmon produced by Alaskan and other hatcheries, in the winter, experimental, terminal, hatchery access and general summer troll fisheries, 1989-1997.

Year	Total Catch ^a	Alaskan Hatcheries		Other Hatcheries		Total Hatcheries	
		Number	Percent	Number	Percent	Number	Percent
Winter							
1989	34,300	4,915	14%	7,039	21%	11,749	34%
1990	33,130	4,433	13%	9,845	30%	14,278	43%
1991	42,600	10,246	24%	13,399	31%	23,505	55%
1992	71,800	6,977	10%	28,875	40%	35,851	50%
1993	62,700	3,862	6%	25,598	41%	29,450	47%
1994	56,400	1,957	3%	19,498	35%	21,455	38%
1995	17,900	2,131	12%	7,708	43%	9,839	55%
1996	9,400	1,653	18%	2,216	24%	3,869	41%
1997	20,900	1,740	8%	5,212	25%	6,952	33%
	<i>average</i>		12%		32%		44%
Experimental							
1989	2,500	854	34%	39	2%	893	36%
1990	7,100	4,250	60%	^b		4,425	62%
1991	14,000	6,159	44%	1,903	14%	8,461	60%
1992	11,200	5,378	48%	2,663	24%	8,041	72%
1993	15,800	6,574	42%	2,001	13%	8,101	51%
1994	11,300	4,922	44%	2,292	20%	7,214	64%
1995	21,700	13,987	64%	1,137	5%	15,124	70%
1996	31,000	14,900	48%	2,438	8%	17,338	56%
1997	33,200	13,500	41%	5,000	15%	18,500	56%
	<i>average</i>		47%		13%		59%
Terminal^c							
1989	1,100	1,100	100%				
1990	16	16	100%				
1991	5,900	5,900	100%				
1992	4,100	4,100	100%				
1993	2,800	2,800	100%				
1994	100	100	100%				
1995	1,300	1,300	100%				
1996	16,400	16,400	100%				
1997	9,500	9,500	100%				
Hatchery Access							
1989	31,200	4,575	15%	8,310	27%	12,885	41%
1990	34,900	6,653	19%	12,700	36%	19,232	55%
1991	46,500	8,577	18%	10,812	23%	19,943	43%
1992	23,800	6,625	28%	8,590	36%	15,217	64%
	<i>average</i>		20%		31%		51%

-Continued-

Table 6. (page 2 of 2)

Year	Total Catch ^a	Alaskan Hatcheries		Other Hatcheries		Total Hatcheries	
		Number	Percent	Number	Percent	Number	Percent
General Summer							
1989	167,000	5,225	3%	30,268	18%	35,493	21%
1990	212,000	14,281	7%	70,908	33%	85,097	40%
1991	154,000	6,606	4%	54,131	35%	59,070	38%
1992	72,600	2,460	3%	30,823	42%	33,282	46%
1993	145,100	4,931	3%	37,361	26%	42,237	29%
1994	118,400	5,341	5%	28,033	24%	33,374	28%
1995	97,200	9,724	10%	21,016	22%	30,740	32%
1996	84,600	4,800	6%	12,600	15%	17,400	21%
1997	182,800	4,200	2%	40,600	22%	44,800	25%
<i>average</i>			5%		26%		31%
Total^d							
1989	236,100	16,669	7%	45,656	19%	62,120	26%
1990	287,116	29,633	10%	93,453	33%	123,048	43%
1991	263,000	37,488	14%	80,245	31%	116,879	44%
1992	183,500	25,540	14%	70,951	39%	96,491	53%
1993	226,500	18,167	8%	64,960	29%	82,588	36%
1994	186,200	12,320	7%	49,823	27%	62,143	33%
1995	138,100	27,142	20%	29,861	22%	57,003	41%
1996	141,400	37,753	27%	17,254	12%	55,007	39%
1997	246,400	28,940	12%	50,812	21%	79,752	32%
<i>average</i>			13%		26%		39%

^a Does not include Annette Island catches.

^b 1990 hatchery access total for other hatchery production includes experimental fishery.

^c Terminal catches are accounted as 100% Alaska hatchery

^d Totals may not agree with other totals due to rounding.

Table 7. Estimated harvest and Alaska hatchery add-on of chinook salmon by commercial and sport fisheries in Southeast Alaska, 1997.

Fishery	Total Catch	Common Property Catch	Alaska Hatchery Total Contribution			Add-On	Quota Fish ^a (Base Catch)
			General Fisheries	Terminal	Subtotal		
Annette Island Catches							
Seine	29	29	0	0	0	0	29
Gillnet	460	460	334	0	334	258	202
Trap	0	0	0	0	0	0	0
Troll	15	15	0	0	0	0	15
Total Annette Island	504	504	334	0	334	258	246
General Purse Seine and Gillnet							
Seine	10,318	4,712	307	5,606	5,913	5,843	4,475
Gillnet	11,001	8,968	2,257	2,033	4,290	3,779	7,222
Setnet	3,264	2,000	0	1,264	1,264	1,264	2,000
Total Net Fisheries (Incl. Annette Is.)	25,072	16,169	2,898	8,903	11,801	11,144	13,928
Troll							
Winter Fishery							
Oct 11 - Dec 31	13,209		1,087	0	1,087	841	12,368
Jan 1 - Apr 14	7,705		619	0	619	479	7,226
Winter Total	20,914		1,706	0	1,706	1,319	19,594
Spring Fishery							
Experimental	33,227		13,479	0	13,479	10,424	22,803
Terminal	9,499		0	9,499	9,499	9,499	0
Spring Total	42,726		13,479	9,499	22,978	19,923	22,803
Summer Fishery							
July 1 - 7	122,485		3,493	0	3,493	2,701	119,784
August 18 - 24	37,899		520	0	520	402	37,497
Aug 30 - Sep 5	22,380		232	0	232	179	22,201
Summer Total	182,764		4,245	0	4,245	3,283	179,481
Total Troll (incl. Annette Is.)	246,419		19,430	9,499	28,929	24,526	221,893
Sport Fishery							
All 1997	67,727		9,100	4,900 ^b	14,000	11,938	55,789
Grand Totals	339,218		31,428	23,302	54,730	47,608	291,610
				Alaska Hatchery Add-On	47,608		
				Risk Factor	2,122		

^a Under the terms of the PST, the number of PST (or quota) fish is the total harvest minus the add-on. The add-on is the number of Alaskan hatchery produced chinook salmon, minus 1) 115,000 fish for pre-treaty catches of Alaskan hatchery chinook salmon and 2) a risk factor. The risk factor is the standard deviation of the estimate of the total number of Alaska hatchery chinook salmon.

^b Includes Situk River harvest of 2,000 fish.

Table 8. Minimum estimated contribution of hatchery chinook salmon to sampled marine boat sport fisheries of southeast Alaska, 1997.^{a, b}

Region or Hatchery	Marine Boat Sport Fishery						Total	
	Ketchikan 4/28-9/28	Sitka 4/28-9/28	Juneau 4/28-9/28	Craig 4/28-9/14	Petersburg 5/1-7/14	Wrangell 5/1-7/14		
British Columbia	24	8,752	325	169	12	0	7,749	
Nitinat R	0	5,105	306	113	0	0	5,524	
Robertson Cr	0	2,186	0	39	0	0	2,225	
Other non-Alaskan	20	2,624	0	0	5	0	2,649	
Non-Alaska Total	44	11,376	325	0	169	17	10,398	
Alaska								
Bell Island (AAC)	7	0	0	0	0	0	7	
Carroll Inlet (SSRAA)	622	24	35	0	0	7	688	
Crystal Lake (ADF&G)	0	11	68	0	61	0	140	
Crystal Lake/Earl West Cove	0	80	53		6	15		
Deer Mountain (KIC)	34	0	0	0	0	0	34	
Elmendorf (ADF&G)	0	3	0	0	0	0	3	
Gastineau Hatchery (DIPAC)	0	0	753	0	0	0	753	
Hidden Falls (NSRAA)	0	21	166	0	0	0	187	
Jerry Myers (ADF&G)	0	0	7	0	0	0	7	
L. Port Walter (NMFS)	0	121	97	0	6	0	224	
Medvejie (NSRAA)	0	2,419	0	16	0	0	2,435	
Neets Bay (SSRAA)	73	22	0	0	0	0	95	
Port Armstrong (AKI)	0	0	0	0	0	0	0	
Sheldon Jackson (SJC)	0	10	0	0	0	0	10	
Snettisham (ADF&G)	0	16	549	0	0	0	565	
Tamgas Creek (MIC)	58	0	0	0	0	0	58	
Whitman Lake (SSRAA)	265	28	2	0	0	0	295	
Alaska Total	1,059	2,755	1,730	0	16	73	22	5,655
All Areas Total	1,103	14,131	2,055		185	90	22	17,586
Harvest ^c	3,245	25,850	7,952		9,524	683	2,526	49,780
Percent Alaska Hatchery	34%	11%	22%		0%	11%	1%	11%
Percent Total Hatchery	35%	55%	26%		2%	13%	1%	35%

^a Not all expanded to entire area. Craig, Petersburg, and Wrangell estimates are based on catch sampling programs only.

^b Does not include any terminal fisheries or Haines fishery CWT sampling.

^c All harvest numbers are preliminary, pending results of the Statewide Harvest Survey

Table 9. Annual Southeast Alaska commercial and recreational chinook salmon harvests and Alaska hatchery contributions, in thousands of fish, 1965-1997.

Year	Commercial Fisheries			Recreational		Alaska Hatchery Harvest	% Alaska Hatchery	Total Less AK Hatchery
	Troll ^a	Net ^b	Subtotal	Fisheries ^c	Total ^d			
1965	309	28	337	13	350			
1966	282	26	308	13	321			
1967	275	26	301	13	314			
1968	304	27	331	14	345			
1969	290	24	314	14	328			
Ave. 1965-69	292	26	318	13	332			
1970	305	18	323	14	337			
1971	311	23	334	15	349			
1972	242	44	286	15	301			
1973	308	36	344	16	360			
1974	322	24	346	17	363			
Ave. 1970-74	298	29	327	15	342			
1975	287	13	300	17	317			
1976	231	10	241	17	258			
1977	272	13	285	17	302			
1978	375	25	400	17	417			
1979	338	28	366	17	383			
Ave. 1975-79	301	18	318	17	335			
1980	304	20	324	20	344	7	2%	337
1981	249	19	268	21	289	2	1%	287
1982	242	48	290	26	316	1	0%	315
1983	270	19	289	22	311	2	1%	309
1984	236	32	268	22	290	5	2%	285
Ave. 1980-84	260	28	288	22	310	3	1%	307
1985	216	35	252	25	276	14	5%	263
1986	238	22	260	23	283	18	6%	265
1987	243	15	258	24	282	24	9%	258
1988	231	21	252	26	278	30	11%	248
1989	236	24	260	31	291	34	12%	257
Ave. 1985-89	233	23	256	26	282	24	9%	258
1990	288	27	315	51	366	62	17%	304
1991	264	32	296	60	356	70	20%	286
1992	184	31	215	44	259	45	17%	214
1993	226	28	254	49	303	39	13%	264
1994	186	35	221	42	263	38	14%	225
Ave. 1990-94	230	31	260	49	309	51	16%	259
1995	138	48	186	50	236	66	28%	170
1996	141	37	178	38	217	77	35%	140
1997	246	25	271	68	339	55	16%	284

^a Troll catches prior to 1980 are reported by calendar year. From 1981-1990, catches are for the catch accounting year, October 1 to September 30.

^b Purse seine chinook catches reported under net fisheries for 1986-1991 do not include chinook less than five pounds reported on fish tickets.

^c Estimates of recreational catches for 1965-76 based on 1977-80 average catch per capita data. Recreational catches for 1977 to 1995 based on statewide postal harvest surveys. The recreational harvest for 1996 is based on preliminary creel survey data, pending compilation of statewide postal harvest surveys.

^d Total reported catches do not include approximately 200 to 400 chinook harvested annually by native food fisheries in several rivers.

Table 10. Actual and projected releases of chinook salmon by brood year.

Hatchery	1997 Chinook Smolt Capacity		Number of Smolts Released by Brood Year (thousands)																	Projected Release (thousands)			
	Age	(thousands)	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
Burnett Inlet	1											170.0	193.0	100.0	54.2								
Burno Creek	1	50.0														7.1	8.6	8.8	1.9	34.9	12.8	30.0	35.0
Crystal Lake	0		16.2	13.7	273.8	59.1		36.1															
	1	1,800.0		42.2		137.9	666.0	135.0	650.0	684.0	1,033.0	1,100.0	1,378.0	833.8	888.4	899.0	855.6	662.5	743.8	966.6	1,000.0	1,000.0	
Deer Mountain	0						80.9	304.8	480.6	423.0	323.2												
	1	100.0	72.1	65.7	118.8	147.0			46.4	42.0	121.0	191.0	121.0	153.5	135.2	71.3	85.0	98.7	80.8	97.9	100.0	70.0	
Gastineau	1	590.0										101.5	44.0	192.0	207.5	241.4	189.0	313.2	571.9	562.0	613.0		
	2																				10.0	10.0	
Hidden Falls	1	1,100.0			81.0	70.0	97.0	92.1	97.0	159.0	343.7	351.0	184.5	1,544.0	1,755.0	1,053.0	924.0	888.5	944.5	1,000.0	1,100.0		
Jerry Myers	1	10.0							6.1	4.7	1.7	6.4	7.0	12.0	13.0	1.7	5.6	1.5			8.0	10.0	
Little Port Walter	0		28.9							102.0	90.6												
	1	200.0	165.2	30.6	20.3	129.5	176.2	192.7	213.0	205.0	286.7	161.8	166.0	187.0	300.0	201.0	144.6	196.7	147.7	193.1	108.0	100.0	
Medveje	1	1,100.0				26.6	21.9	108.0	227.5	174.6	743.7	921.0	866.0	1,145.0	762.0	1,083.0	1,130.0	1,004.9	1,053.0	1,100.0	1,400.0		
Neets Bay	0						205.9	800.8	2,300.0	2,733.0													
	1	325.0			135.2	140.0	231.4	1,115.0	734.0	708.0	700.0	1,608.0	900.0	728.5	377.7	215.0		564.6	339.8	600.0	650.0		
Port Armstrong	0									76.0													
	1	1,500.0							70.0		89.9	144.0	62.2	418.8	1,264.4								
Sheldon Jackson	1	100.0							54.2	47.0	32.0	96.7	100.5	51.0	94.1	89.4	103.4	104.0	57.8	79.0	30.0	30.0	
Snettisham	1		26.7	39.2	234.0	286.0	109.1	387.2	1,047.0	430.4	1,224.0	1,631.0	91.2	285.7	206.5	284.0	392.0						
	2										307.0			109.4									
Tamgas	0	250.0					70.3	150.0	555.5	2,111.7	1,756.3	721.0	878.7	287.0	893.0	1,060.0	395.3	964.0	145.9	10.0			
	1	500.0				48.9	391.2	573.4	1,445.7	164.4	888.9	1,131.8	670.9	527.0	339.0	300.0	300.0	167.2	326.3	524.8	500.0		
Whitman Lake	0							12.6	280.0	435.0				27.0	29.5								
	1	775.0		145.6	78.7		27.2	150.0	915.0	1,043.0	758.0	1,080.0	1,176.0	1,324.0	1,171.0	1,708.0	747.0	239.0	697.2	700.0	750.0		
Subtotals	0	250.0	45.1	13.7	273.8	59.1	80.9	617.1	1,444.0	3,660.5	5,693.5	1,756.3	0.0	748.0	908.2	287.0	893.0	1,060.0	395.3	964.0	145.9	10.0	
	1&2	8,150.0	237.3	165.2	323.9	943.3	1,413.7	1,205.5	3,389.3	5,520.3	4,232.8	6,469.4	9,240.2	5,327.1	7,765.4	7,365.4	6,083.5	4,751.4	4,243.9	5,292.6	5,772.8	6,268.0	
Total		8,400.0	282.4	178.9	597.7	1,002.4	1,494.6	1,822.6	4,833.3	9,180.8	9,926.3	8,225.7	9,240.2	6,075.1	8,673.6	7,652.4	6,976.5	5,811.4	4,639.2	6,256.6	5,918.7	6,278.0	

31

Table 11. Estimated harvest and escapement of chinook salmon from southeast Alaska enhancement sites in 1997.^a

Hatchery	Harvest					Rack Return		Total
	Troll	Net	Sport ^b	Canadian ^c	Cost Recovery	Adults	Jacks	
Auke Creek	54	1	101		11	131		298
Big Boulder Creek			3			6		9
Burro Creek	5	10	10		21	0	0	46
Carroll Inlet	1,271	276	755	9	0	456	0	2,767
Crystal Lake	1,792	329	2,614	7	0	1,578	1,161	7,481
Deer Mountain	30	63	34	2	0	460	27	616
Earl West Cove	469	1,137	260		0	0	0	1,866
Fish Creek	52	33	400		6	65	0	556
Gastineau	234	286	1,801		842	566	256	3,985
Hidden Falls	10,823	4,594	142		5,091	4,658	137	25,445
Jerry Myers								0
Little Port Walter	2,093	330	227			1,161	142	3,953
Lynn Canal ^{d,e}	33	20	74			11	0	138
Medvejie Creek	9,451	211	2,763		20,997	1,600	2,052	37,074
Neets Bay	122	0	98		545			765
Port Armstrong	882	118	67		10	9	0	1,086
Sheep Creek			5		1	1		7
Sheldon Jackson	332	0	10		124	172		638
Tamgas Creek	149	518	59		2,850	350		3,926
Whitman Lake	373	59	286	7	0	790		1,515
Totals	28,111	7,984	9,605	25	30,487	11,877	3,775	91,864

^a Reported by hatchery operators.

^b Includes estimates of terminal area sport harvests.

^c Expanded by tagging fraction only; sampling fraction unknown.

^d Big Boulder incubation box, and Tahini releases from Gastineau and Hidden Falls.

^e Only CWT fish counted in escapement.

Table 12. Total return of chinook salmon released from various enhancement sites in southeast Alaska, by return year.^a

Return Year	Auke Creek ^b	Big Boulder ^c	Burro Creek	Carroll Inlet ^d	Crystal Lake	Deer Mountain	Earl West ^e	Fish Creek ^b	Gastineau	Hidden Falls	Jerry Myers
1980					5,258	160					
1981					2,531	310					
1982					1,284	1,577					
1983					1,633	2,481					
1984					4,186	2,246					
1985					8,879	3,144				96	
1986					7,081	2,511				250	
1987	7				16,681	565				605	
1988	196			653	10,076	539	384			335	
1989	467			5,003	11,213	1,541	2,807	5		398	
1990	908			22,045	18,693	1,370	11,226	11		738	60
1991	1,547			28,810	15,657	1,324	15,595	113		2,819	91
1992	780			9,868	12,676	1,002	9,570	87		3,298	32
1993	1,410			3,008	8,361	1,171	9,264	707		4,249	55
1994	804		1	1,409	6,143	1,113	8,523	2,471		8,079	250
1995	411	3	7	2,775	6,558	841	4,516	3,771		31,863	214
1996	955	35	34	1,999	10,310	483	4,678	704	3,075	40,781	29
1997	298	9	46	2,758	7,474	614	1,866	556	3,985	25,445	0

Return Year	L. Port Walter	Lynn Canal ^f	Medvejje Creek	Montana Creek ^g	Neets Bay	Port Armstrong ^h	Sheep Creek ⁱ	Sheldon Jackson	Speel	Tamgas Creek	Whitman Lake
1980											
1981											
1982											2,672
1983									33		
1984					400				214		3,356
1985					2,796				392		3,815
1986	6,338		94		9,872				960	529	770
1987	9,517		284		7,126				2,645	1,829	2,987
1988	7,592		409	2	17,320		100		1,122	1,821	4,220
1989	5,144		289	9	26,148	2,069	362	176	436	2,562	8,730
1990	7,271	11	2,429	91	15,217	1,163	620	351	1,244	2,571	39,169
1991	7,587	74	6,427	93	9,470	846	1,284	490	991	8,617	3,800
1992	3,026	189	16,272	61	8,908	1,355	799	467	1,647	7,233	714
1993	2,995	267	21,551	5	11,326	1,515	1,864	892	2,214	3,008	428
1994	3,873	295	21,626	10	3,254	1,241	1,002	1,280	1,757	2,163	399
1995	5,190	200	46,281	29	2,279	1,270	377	1,194	201	1,940	1,019
1996	4,270	201	37,920		715	2,526	4	1,316		1,834	1,039
1997	3,953	138	37,074		765	1,086	7	638		3,926	1,508

^a Includes all ages.

^b Reared at Snettisham (BY 84-92) and Gastineau (BY 93-95).

^c Releases of fed fry incubated and reared at Gastineau Hatchery.

^d Reared at Whitman Lake Hatchery.

^e Reared at Crystal Lake Hatchery.

^f Smolts reared at Hidden Falls and Gastineau hatcheries, released in Lynn Canal.

^g Reared at Snettisham.

^h Includes smolts reared at Snettisham and released at Port Armstrong.

ⁱ Brood years 1984-1988 reared at Snettisham; brood year 1993 reared at Gastineau.

Table 13. Exploitation rate (%) of chinook salmon released from various enhancement sites in southeast Alaska, by return year.

Return Year	Auke Creek	Big Boulder	Burro Creek	Carroll Inlet	Crystal Lake	Deer Mountain	Earl West	Fish Creek	Gastineau	Hidden Falls	Jerry Myers
1980					86.4						
1981					66.3	79.2					
1982					40.6	62.2					
1983					28.4	51.0					
1984					51.6	47.7					
1985					58.2	51.1				79.1	
1986					63.6	40.8				95.7	
1987	100.0				63.2	59.7				81.0	
1988	62.2				43.4	34.7	100.0			52.5	
1989	82.4			59.5	42.0	34.9	100.0			38.6	
1990	57.5			52.5	51.4	47.5	100.0			59.0	
1991	48.4			53.6	88.1	38.1	100.0			63.2	
1992	77.7			58.2	85.1	19.9	100.0			46.9	
1993	75.8			51.4	92.0	57.6	100.0		33.8	58.0	30.0
1994	55.8		100.0	85.8	20.1	49.3	100.0		27.3	40.0	61.3
1995	77.9	33.3	71.4	77.2	80.9	61.5	100.0		32.9	63.1	72.9
1996	70.5	31.4	45.5	78.7	85.1	31.1	100.0	88.6	51.0	80.4	13.8
1997 ^a	52.3	33.3	54.3	83.5	75.0	21.6	100.0	87.2	62.2	61.5	

Return Year	L. Port Walter	Lynn Canal	Medvejie Creek	Montana Creek	Neets Bay	Port Armstrong	Sheep Creek	Sheldon Jackson	Speel	Tamgas Creek	Whitman Lake
1980	97.0										
1981	67.5										
1982	66.0										
1983	46.5										
1984	39.2										39.5
1985	60.1				47.9						34.7
1986	44.1				61.1				79.8		25.0
1987	44.4				44.9				80.9	94.6	38.0
1988	36.2		26.1	100.0	42.6		93.1		58.8	51.7	52.2
1989	37.5		43.0	100.0	32.8		78.4		76.7	54.2	42.2
1990	63.9	.0	44.0	100.0	23.4	54.2	59.8	25.5	81.4	48.8	66.2
1991	70.5	91.9	25.8	100.0	46.2	47.9	48.5	23.3	79.0	39.5	54.5
1992	50.9	99.5	38.0	100.0	35.0	53.3	80.2	58.0	94.8	38.4	30.5
1993	44.1	74.9	34.8	100.0	28.7	26.4	80.5	43.5	92.0	50.9	41.4
1994	49.2	79.0	41.4	100.0	32.0	64.5	66.9	43.2	87.4	39.9	41.1
1995	59.5	94.5	50.5	100.0	51.3	35.5	76.6	73.2	100.0	30.4	41.4
1996	62.1	90.0	26.0		82.5	73.1	0.0	88.6		11.0	39.6
1997 ^a	69.5	92.0	35.5		28.8	98.3	67.5	53.6		18.5	47.6

^a Preliminary data - excludes 0-ocean and 1-ocean returns.

Table 14. Estimated harvest of Alaska hatchery-produced chinook salmon in southeast Alaska, 1980–1997.

Year	Gear Type			Cost Recovery	Brood Escapement	Total Return ^a
	Troll	Net	Sport			
1980	5,877	363	N/A	0	N/A	8,571
1981	1,949	59	N/A	0	N/A	3,985
1982	943	212	N/A	0	N/A	2,105
1983	1,857	113	872	0	1,451	4,293
1984	3,626	563	1,904	0	6,029	12,122
1985	8,100	2,400	3,372	2,011	9,819	25,702
1986	9,900	2,700	5,010	1,900	10,063	29,573
1987	16,600	2,300	5,108	2,466	15,426	41,900
1988	19,716	5,154	5,545	8,670	13,732	52,817
1989	18,804	8,831	6,351	17,748	13,071	64,805
1990	30,040	12,341	16,612	20,824	14,696	94,513
1991	38,336	14,488	18,818	25,854	14,425	111,921
1992	25,687	9,432	9,983	20,523	13,004	78,629
1993	17,805	13,999	9,279	22,929	14,712	78,724
1994	12,069	5,726	6,110	17,401	25,009	66,315
1995	26,187	22,506	9,983	23,690	29,680	112,046
1996	33,344	23,196	10,515	30,003	18,737	115,795
1997	28,111	7,984	9,605	30,487	15,652	91,839

^a Totals do not include chinook caught in Canadian fisheries.

Table 15. Percent distribution of troll catch of hatchery chinook by PSMFC area, 1980-1997.^a

Facility/Stock/Fishery		PMFC Area									Catch	%	
		LYN	NOUT	COUT	CNTR	STEP	SNTR	CIN	SOUT	SIN			
Tahini River		winter	0%	0%	0%	30%	0%	16%	0%	0%	0%	48	46%
	summer	0%	0%	0%	27%	0%	11%	13%	0%	4%	56	54%	
Big Boulder Cr.		winter	0%	0%	0%	0%	0%	0%	0%	0%	0	0%	
	summer	0%	0%	0%	100%	0%	0%	0%	0%	0%	7	100%	
Lutak Inlet		winter	0%	0%	0%	69%	0%	0%	0%	0%	27	69%	
	summer	0%	8%	0%	21%	0%	3%	0%	0%	0%	12	31%	
Jerry Myers		winter	0%	0%	21%	12%	0%	1%	0%	0%	43	40%	
	summer	11%	0%	7%	40%	0%	1%	0%	0%	0%	64	60%	
Burro Creek		winter	0%	0%	50%	0%	0%	0%	0%	0%	2	50%	
	summer	0%	0%	0%	0%	0%	50%	0%	0%	0%	2	50%	
Gastineau		winter	0%	0%	2%	0%	0%	16%	0%	0%	178	17%	
	summer	0%	7%	8%	44%	0%	23%	0%	0%	0%	840	83%	
King Salmon R.		winter	0%	0%	0%	0%	0%	0%	0%	0%	0		
	summer	0%	0%	0%	100%	0%	0%	0%	0%	0%	7		
Snettisham		winter	0%	0%	0%	1%	2%	31%	0%	0%	154	34%	
	summer	0%	0%	0%	11%	9%	37%	5%	3%	0%	302	66%	
Andrew Cr.		winter	0%	0%	2%	9%	1%	22%	0%	0%	2,464	34%	
	summer	0%	1%	5%	21%	1%	36%	0%	1%	1%	4,719	66%	
Hidden Falls		winter	0%	0%	12%	33%	0%	8%	0%	0%	261	53%	
	summer	0%	1%	4%	31%	0%	11%	0%	0%	0%	231	47%	
Andrew Cr.		winter	0%	0%	0%	1%	0%	2%	0%	0%	1,406	4%	
	summer	0%	1%	3%	82%	0%	10%	0%	0%	0%	35,201	96%	
Sheldon Jackson		winter	0%	0%	19%	1%	0%	0%	0%	0%	562	19%	
	summer	0%	0%	74%	3%	0%	2%	0%	0%	0%	2,350	81%	
Medvejie Creek		winter	0%	0%	5%	1%	0%	1%	0%	0%	2,470	7%	
	summer	0%	1%	86%	1%	0%	3%	0%	2%	0%	33,400	93%	
Chickamin		winter	0%	0%	4%	0%	0%	1%	0%	0%	635	5%	
	summer	0%	3%	86%	1%	0%	3%	1%	1%	0%	12,183	95%	
Farragut River		winter	0%	0%	1%	2%	1%	24%	0%	0%	144	29%	
	summer	0%	1%	0%	6%	1%	62%	1%	1%	0%	356	71%	
Crystal Lake		winter	0%	0%	2%	2%	1%	22%	2%	0%	20,226	29%	
	summer	0%	1%	4%	7%	1%	37%	16%	2%	2%	48,417	71%	

-Continued-

Table 15. (page 2 of 2)

Facility/Stock/Fishery		PMFC Area										Catch	%
		LYN	NOUT	COUT	CNTR	STEP	SNTR	CIN	SOUT	SIN			
Little Port Walter													
Unuk R.	winter	0%	0%	2%	3%	0%	17%	0%	0%	0%	4,545	23%	
	summer	0%	2%	8%	14%	0%	50%	1%	2%	0%	14,965	77%	
Chickamin R.	winter	0%	0%	4%	1%	0%	18%	0%	0%	0%	2,900	24%	
	summer	0%	2%	7%	13%	0%	52%	0%	1%	0%	9,059	76%	
King Salmon R.	winter	0%	0%	4%	1%	0%	19%	0%	0%	0%	188	24%	
	summer	0%	1%	5%	22%	0%	48%	1%	0%	0%	595	76%	
Port Armstrong													
Unuk R.	winter	0%	0%	5%	7%	0%	11%	0%	0%	0%	818	24%	
	summer	0%	0%	9%	13%	0%	52%	1%	1%	0%	2,614	76%	
Andrew Cr.	winter	0%	0%	8%	0%	0%	6%	0%	0%	0%	108	14%	
	summer	0%	3%	3%	12%	0%	67%	0%	0%	0%	686	86%	
Harding River													
	winter	0%	0%	4%	0%	0%	7%	3%	0%	0%	10	13%	
	summer	0%	0%	23%	3%	0%	23%	21%	4%	13%	65	87%	
Burnett Inlet													
Andrew Ck	winter	0%	0%	2%	8%	0%	17%	0%	0%	0%	221	27%	
	summer	0%	3%	4%	4%	0%	11%	23%	5%	22%	601	73%	
Harding R.	winter	0%	0%	100%	0%	0%	0%	0%	0%	0%	4	100%	
	summer	0%	0%	0%	0%	0%	0%	0%	0%	0%	0	0%	
Bell Island													
Unuk R.	winter	0%	0%	0%	0%	0%	0%	0%	0%	0%	0	0%	
	summer	0%	0%	38%	13%	0%	25%	0%	0%	25%	8	100%	
Neets Bay													
Unuk R.	winter	0%	0%	3%	3%	0%	8%	2%	0%	4%	5,567	20%	
	summer	0%	4%	5%	7%	0%	12%	12%	9%	31%	22,239	80%	
Chickamin R.	winter	0%	0%	21%	0%	0%	4%	3%	0%	0%	195	28%	
	summer	0%	3%	29%	2%	0%	27%	2%	4%	5%	499	72%	
Deer Mountain													
Unuk R.	winter	0%	0%	1%	2%	0%	13%	2%	0%	4%	1,258	22%	
	summer	0%	4%	16%	5%	0%	9%	5%	10%	27%	4,377	78%	
Whitman Lake													
Chickamin R.	winter	0%	0%	6%	1%	0%	5%	1%	2%	7%	3,546	22%	
	summer	0%	4%	9%	3%	0%	10%	6%	10%	37%	12,322	78%	
Unuk R.	winter	0%	0%	1%	1%	0%	5%	0%	0%	2%	2,262	10%	
	summer	0%	4%	6%	4%	0%	8%	3%	12%	53%	19,494	90%	
Tamgas Creek													
Unuk R.	winter	0%	0%	5%	3%	0%	8%	1%	0%	8%	2,478	26%	
	summer	0%	2%	6%	3%	0%	5%	3%	8%	47%	7,050	74%	

Table 16. Chinook salmon egg takes in Southeast Alaska in 1997.

Facility (or wild)	Stock	Females Spawned	Green Eggs (thousands)	Facility	Disposition of Eggs	
					Total # of Green Eggs (thousands)	Total # of Eyed Eggs (thousands)
Burro Creek	Tahini R.	10	50.0	Burro Creek	50.0	49.5
Crystal Lake	Andrew Cr.	340	1,883.3	Crystal Lake	1,883.3	1,801.6
Deer Mountain	Unuk	21	137.7	Deer Mountain	137.7	83.2
Gastineau	Andrew Cr.	135	679.9	Gastineau	679.9	656.6
Hidden Falls	Andrew Cr.	360	1,999.8	Hidden Falls	1,400.0	1,343.6
Jerry Myers	Tahini R.	3	15.0	Jerry Myers	15.0	(frank)
Little Port Walter	Unuk R.	64	350.0	Little Port Walter	350.0	303.7
	Chickamin R.	55	318.0	Little Port Walter	318.0	259.4
	King Salmon R.	7	35.0	Little Port Walter	35.0	19.8
Medvejie	Andrew Cr.	386	1,957.3	Medvejie	1,957.3	1,820.3
Sheldon Jackson	Andrew Cr.	10	52.7	Sheldon Jackson	52.0	34.0
Tamgas Creek	Unuk/Chickamin	114	676.1	Tamgas	676.1	647.5
Whit.Lk/Carroll In.	Chickamin R.	370	2,120.0	Whitman Lake	2,100.0	1,259.5
				Crystal Lake		507.4
Total	Hatchery Return	1,875	10,275		9,654	8,786

Table 17. Rearing strategies and release sites of 1997 brood chinook salmon eggs in enhancement programs (numbers in thousands).

Facility	Stock	Green Eggs (thousands)	Release Site	Fry Plants	Age-0 Smolts	Age-1 Smolts	
						FW ^a	SW ^b
Burro Creek	Tahini R.	50.0	Burro Cr			35.0	
Crystal Lake	Andrew Cr.	1,883.3	Crystal Cr			600.0	
			Earl West Cove				
Deer Mountain	Unuk R.	137.7	Ketchikan Cr			70.0	
Gastineau	Andrew Cr.	679.9	(req. Focht)				613.0
Hidden Falls	Andrew Cr.	1,999.8	Hidden Falls				1,100.0
Jerry Myers	Tahini R.	15.0	Taiya Inlet			5.0	
Little Port Walter	Unuk R.	350.0	L. Port Walter			50.0	
	Chickamin R.	318.0	L. Port Walter			50.0	
	King Salmon R.	35.0 ^c	L. Port Walter				
Medvejie	Andrew Cr.	1,957.3	Bear Cove				1,600.0 ^d
Port Armstrong	King Salmon R.	0.0	Jetty Cr				
Sheldon Jackson	Andrew Cr.	52.7	Crescent Bay			32.0	
Tamgas Creek	Unuk/Chickamin	676.1	Tamgas Cr		10.0		500.0
Whitman Lake	Chickamin R.	2,120.0	Herring Cove			750.0	
			Neets Bay				650.0 ^c
			Long Lake	25.0			
Total		10,274.8		25.0	10.0	1,592.0	4,863.0

^a Fresh water.

^b Salt water.

^c Not released.

^d Includes first release from Green Lake project.

^e Includes 250 K reared at Neets Bay by SSRAA and 400 K reared at CLH and released at Neets Bay.

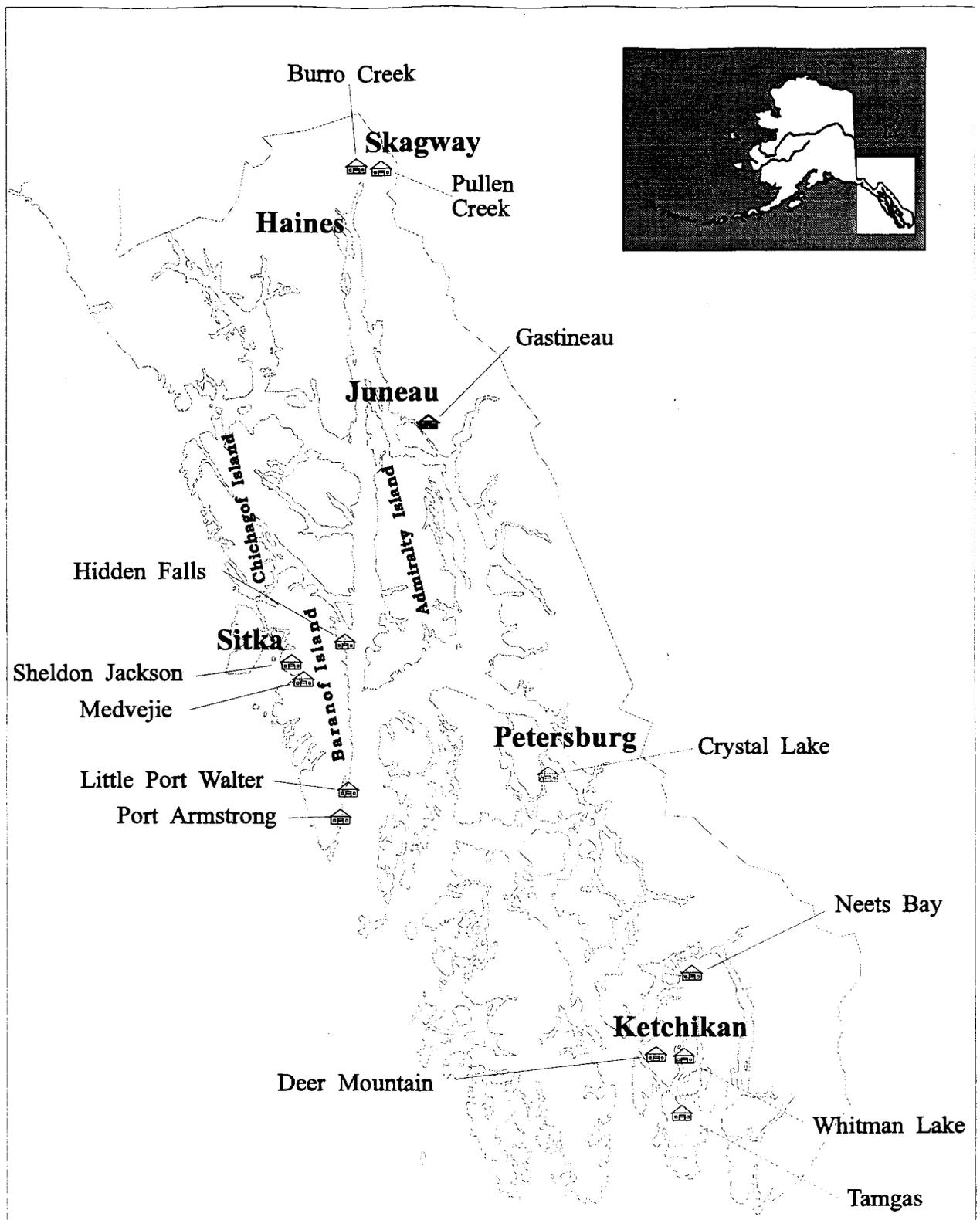


Figure 1. Location of chinook salmon hatcheries and primary ancestral stock rivers in Southeast Alaska.

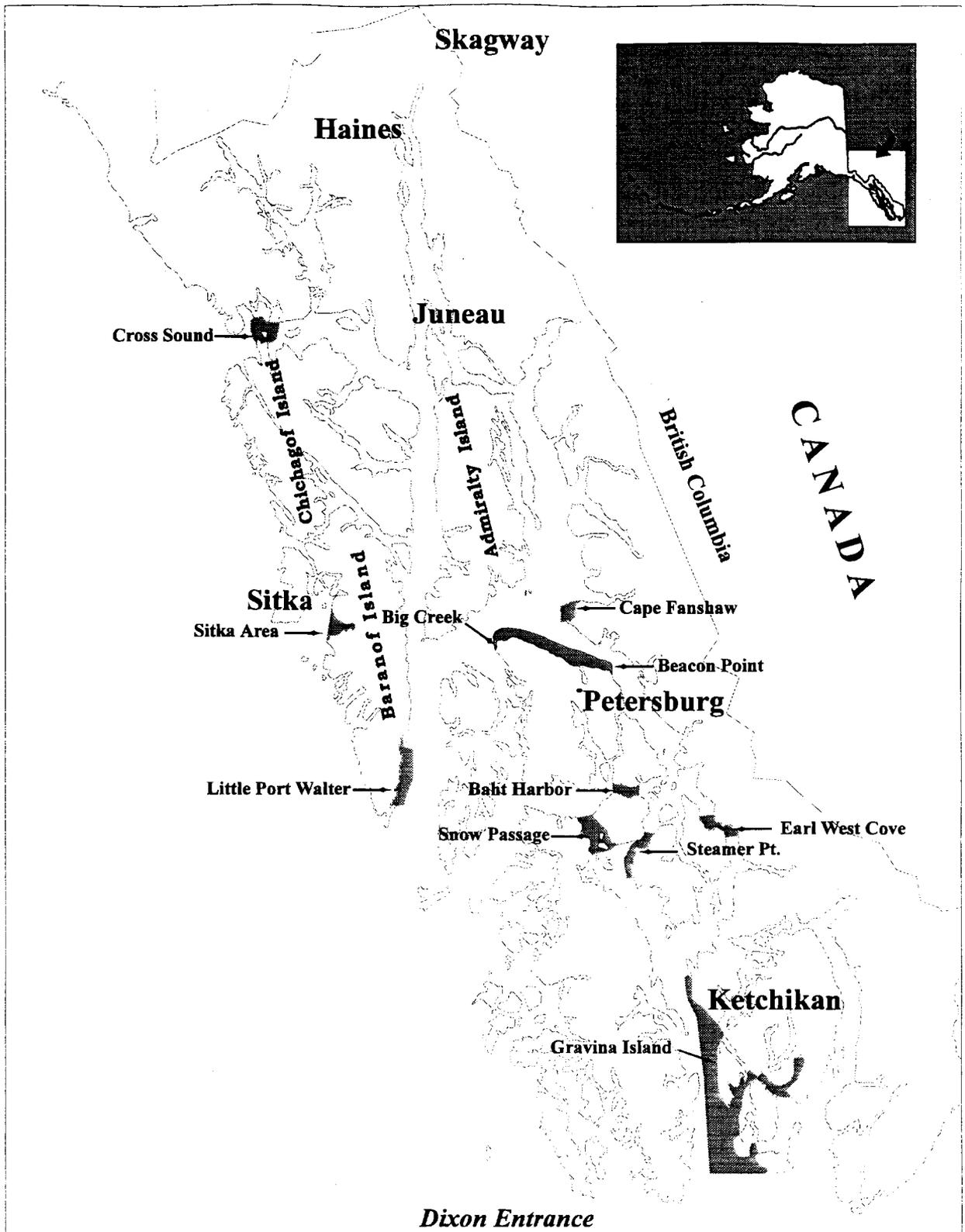


Figure 2. Experimental troll fishery areas in Southeast Alaska, 1997.

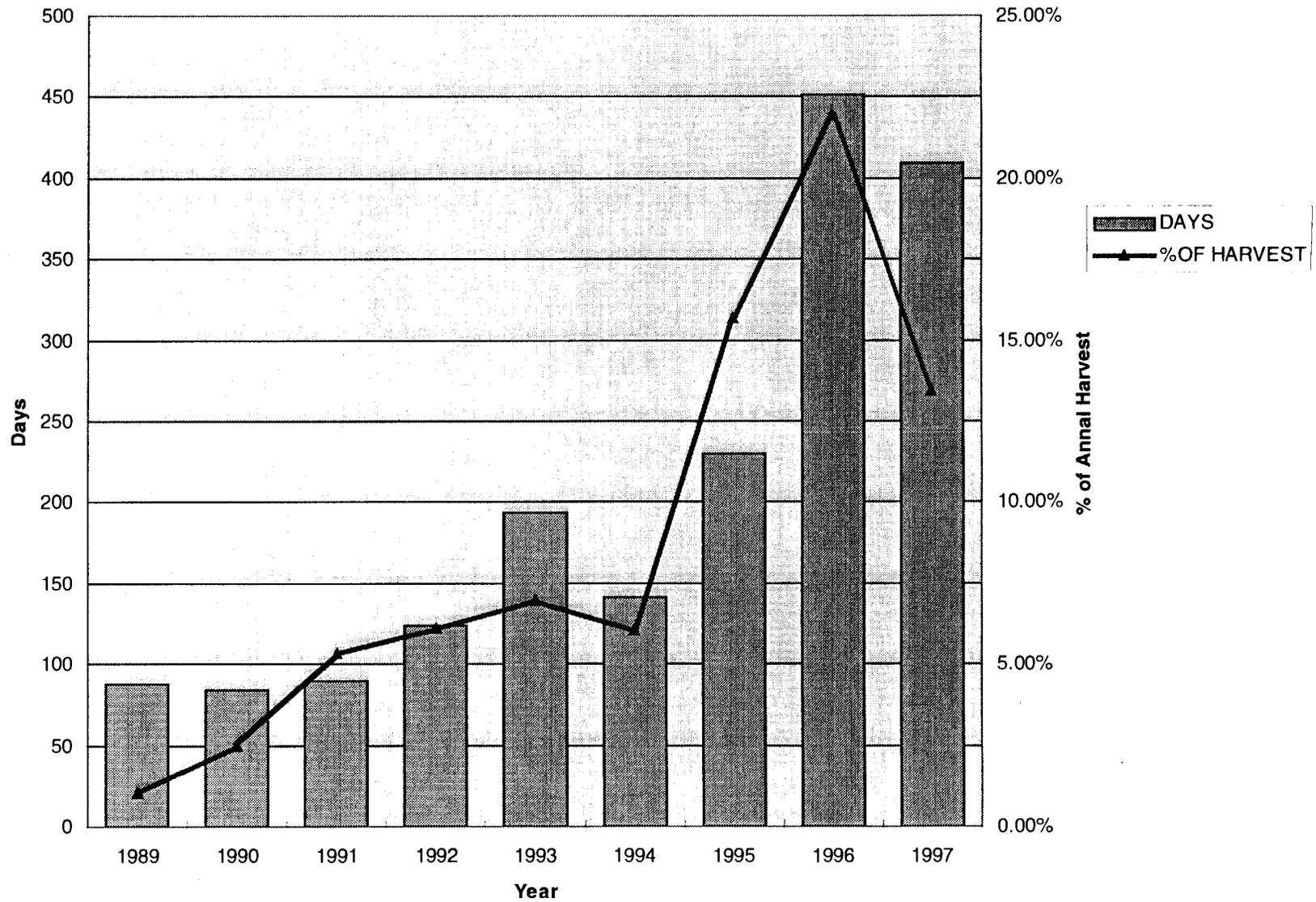


Figure 3. Number of days and percent of annual harvests taken in experimental fisheries, 1989-1997.

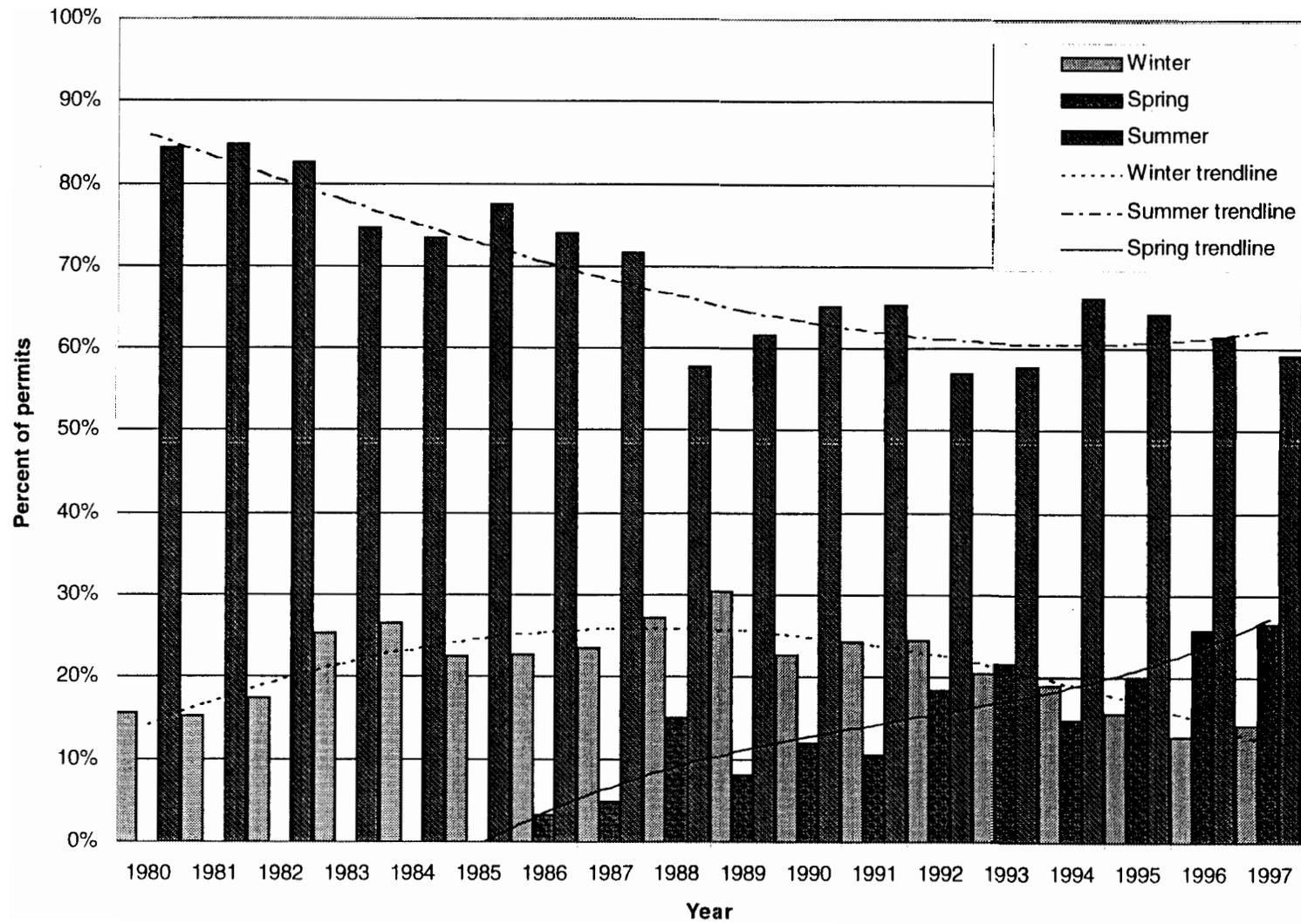


Figure 4. Percent of active troll permits fished by season, 1980-1997.

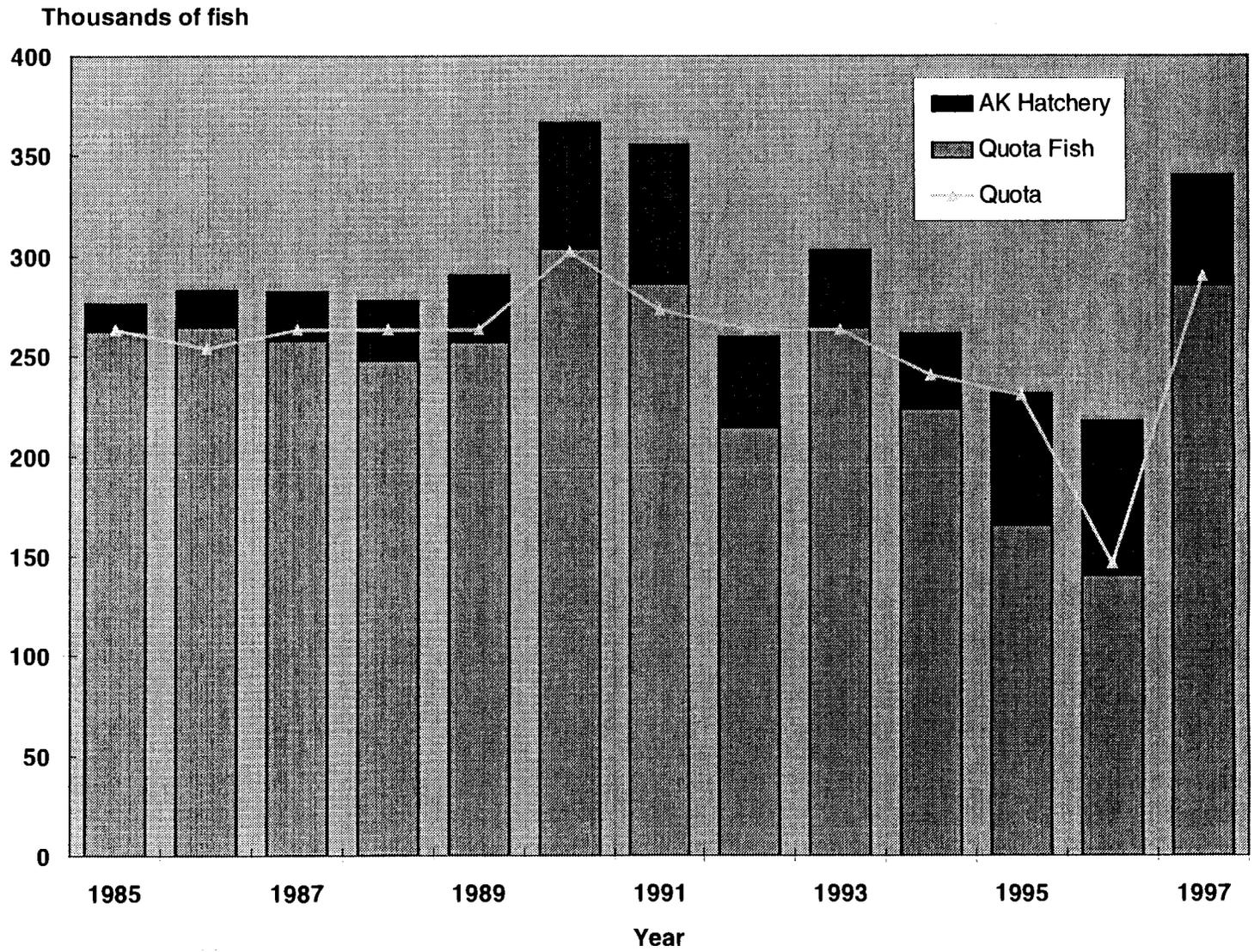


Figure 5. Number of chinook salmon harvested under the Pacific Salmon Treaty quota, 1985-1997.

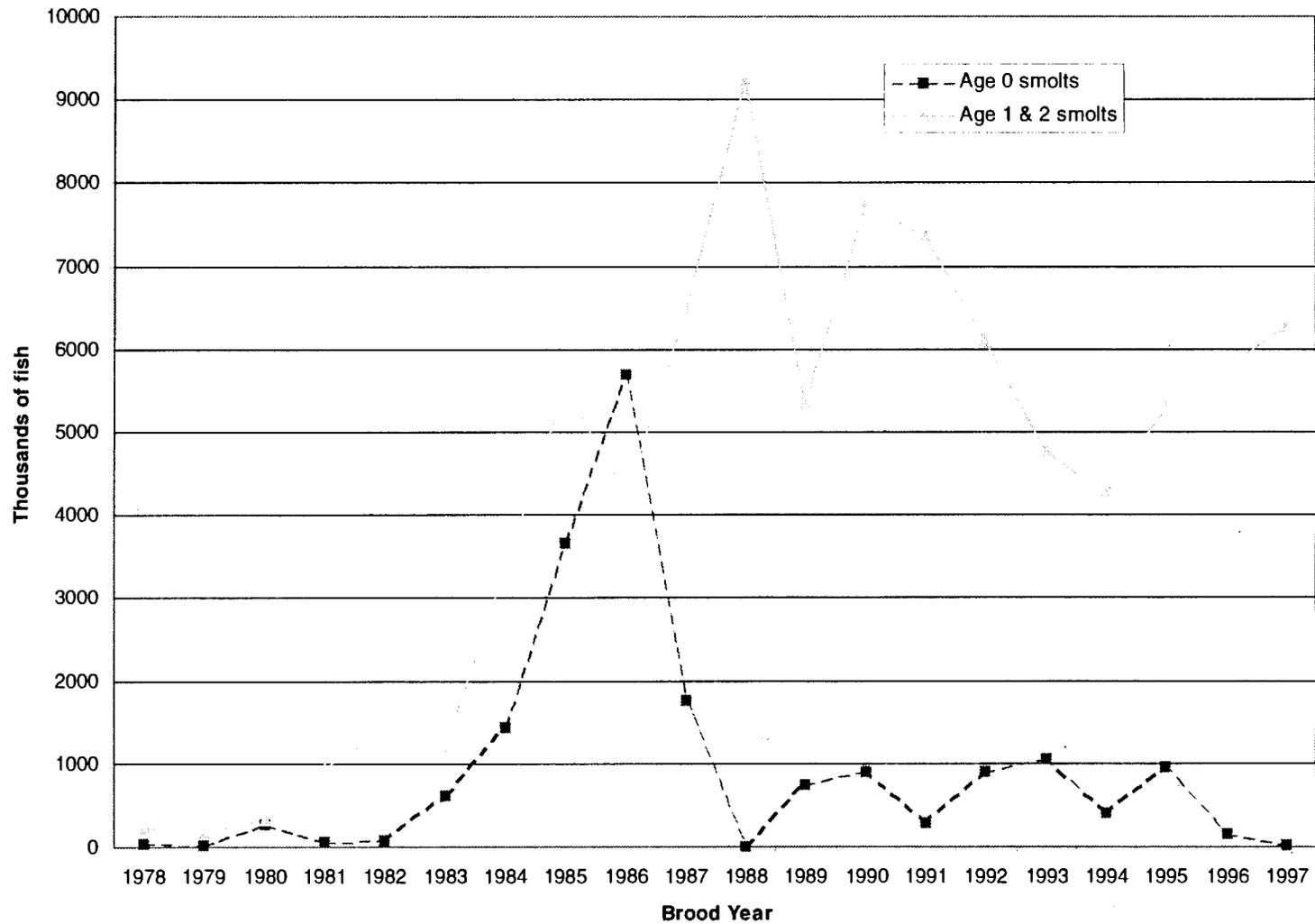


Figure 6. Actual and projected releases of hatchery-produced chinook salmon in Southeast Alaska by brood year, 1978-1997.

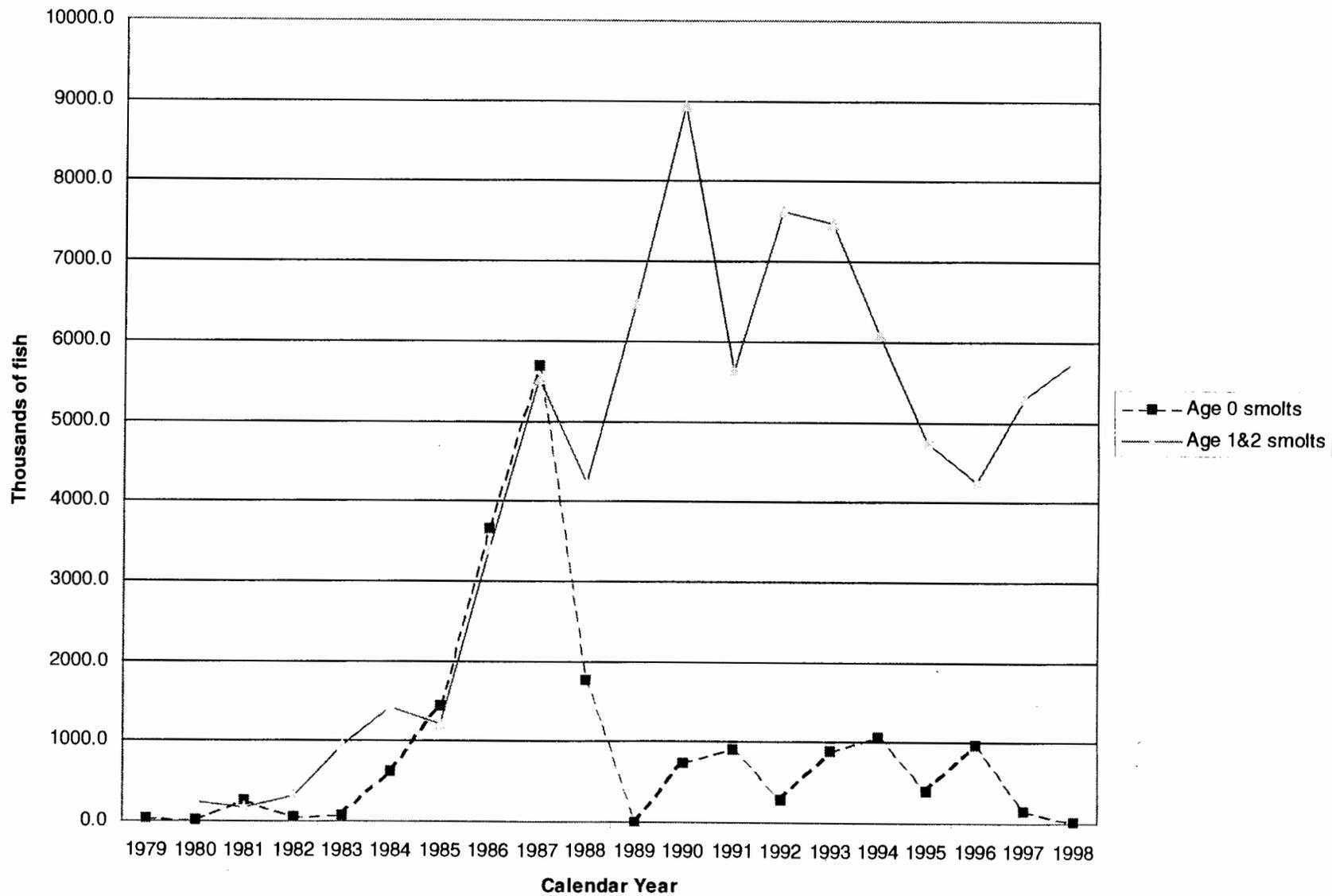


Figure 7. Actual and projected releases of hatchery-produced chinook salmon in Southeast Alaska by calendar year, 1979-1997.

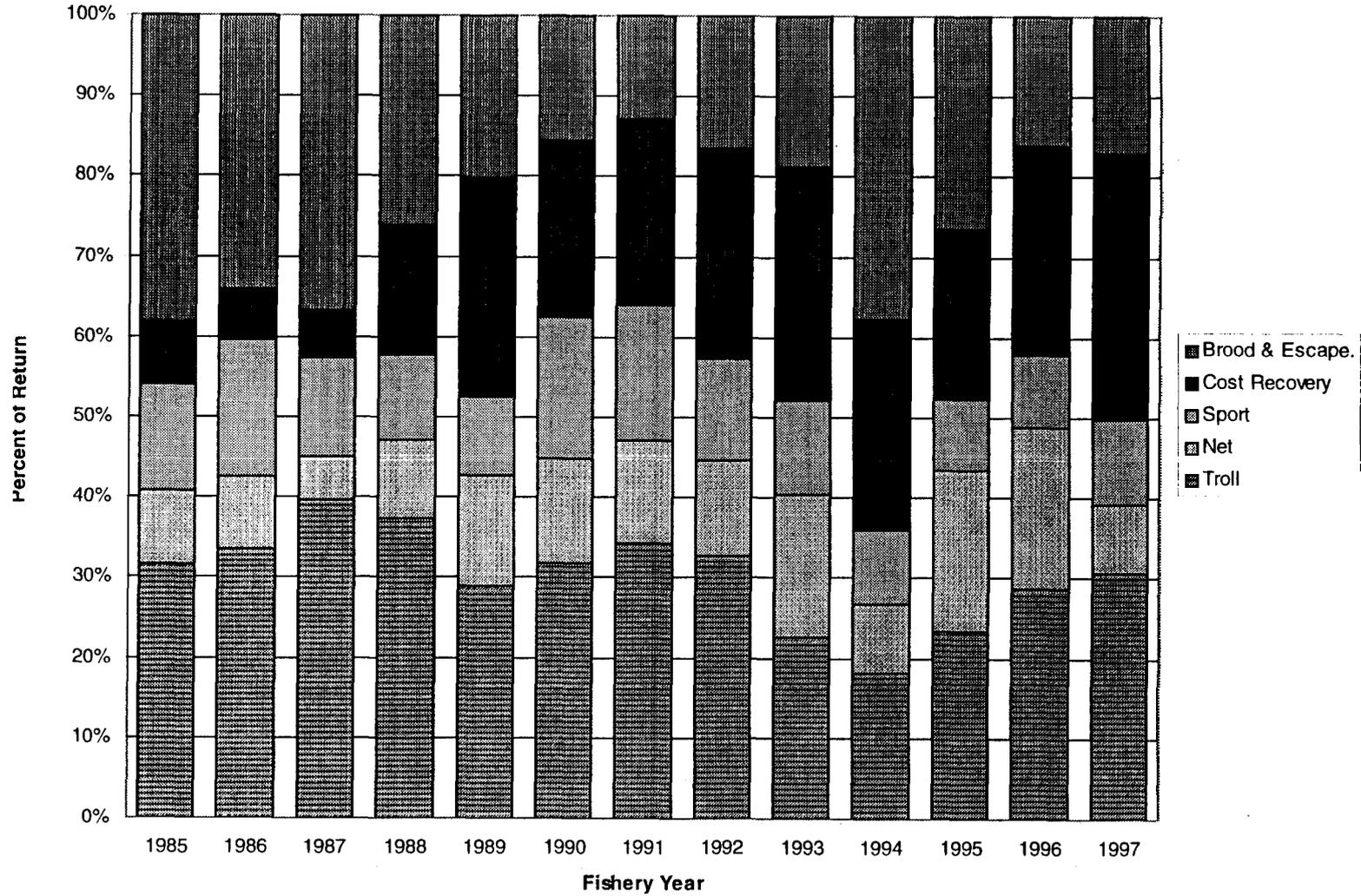


Figure 8. Percentages of Alaska hatchery-produced chinook salmon harvested in common fisheries and utilized by hatchery operators for cost recovery or broodstock and escapement, 1985-1997.

fisheries and utilized by hatchery operators

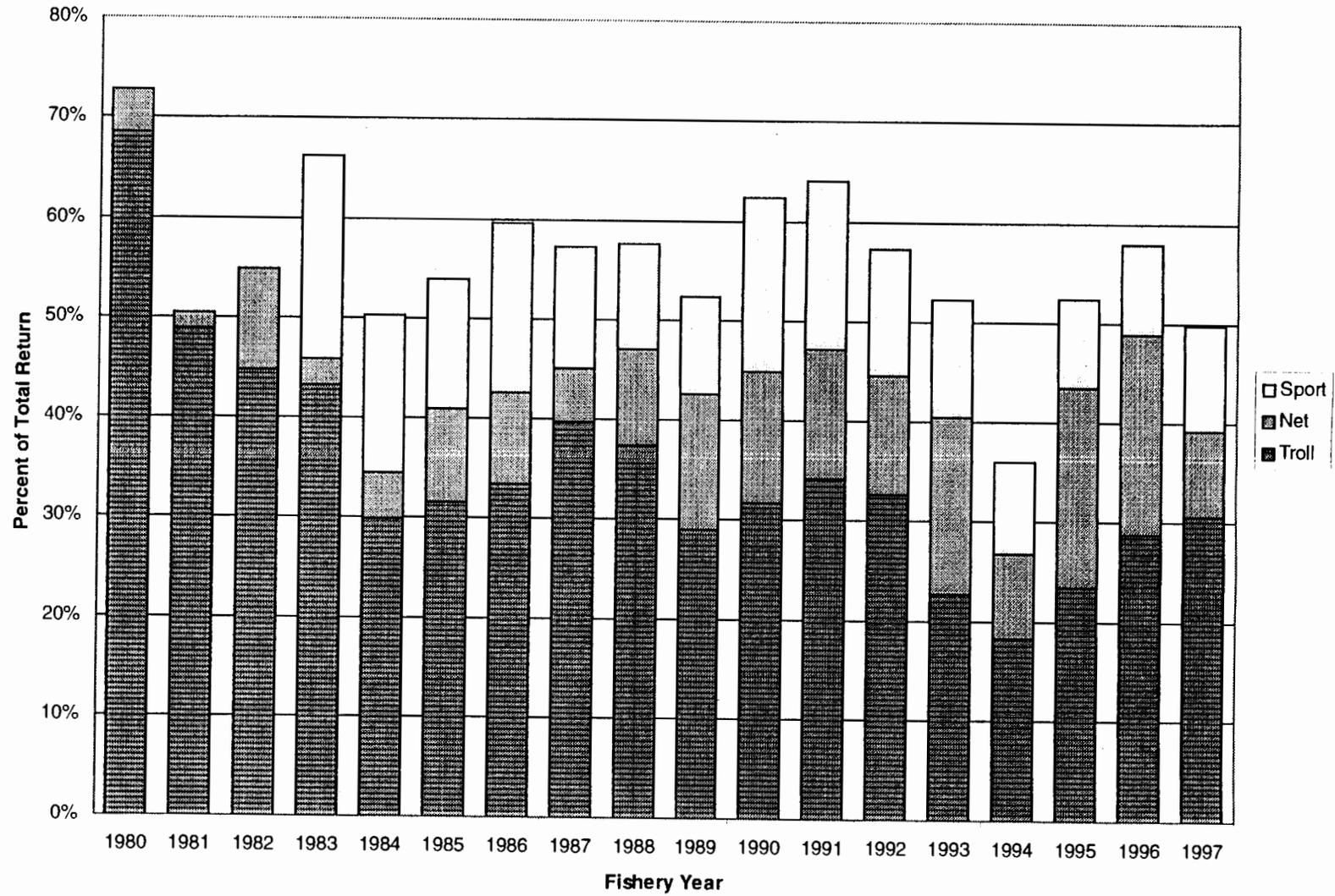


Figure 9. Percentage of Alaska hatchery-produced chinook salmon harvested in Southeast Alaska sport, net, and troll fisheries, 1980-1997.

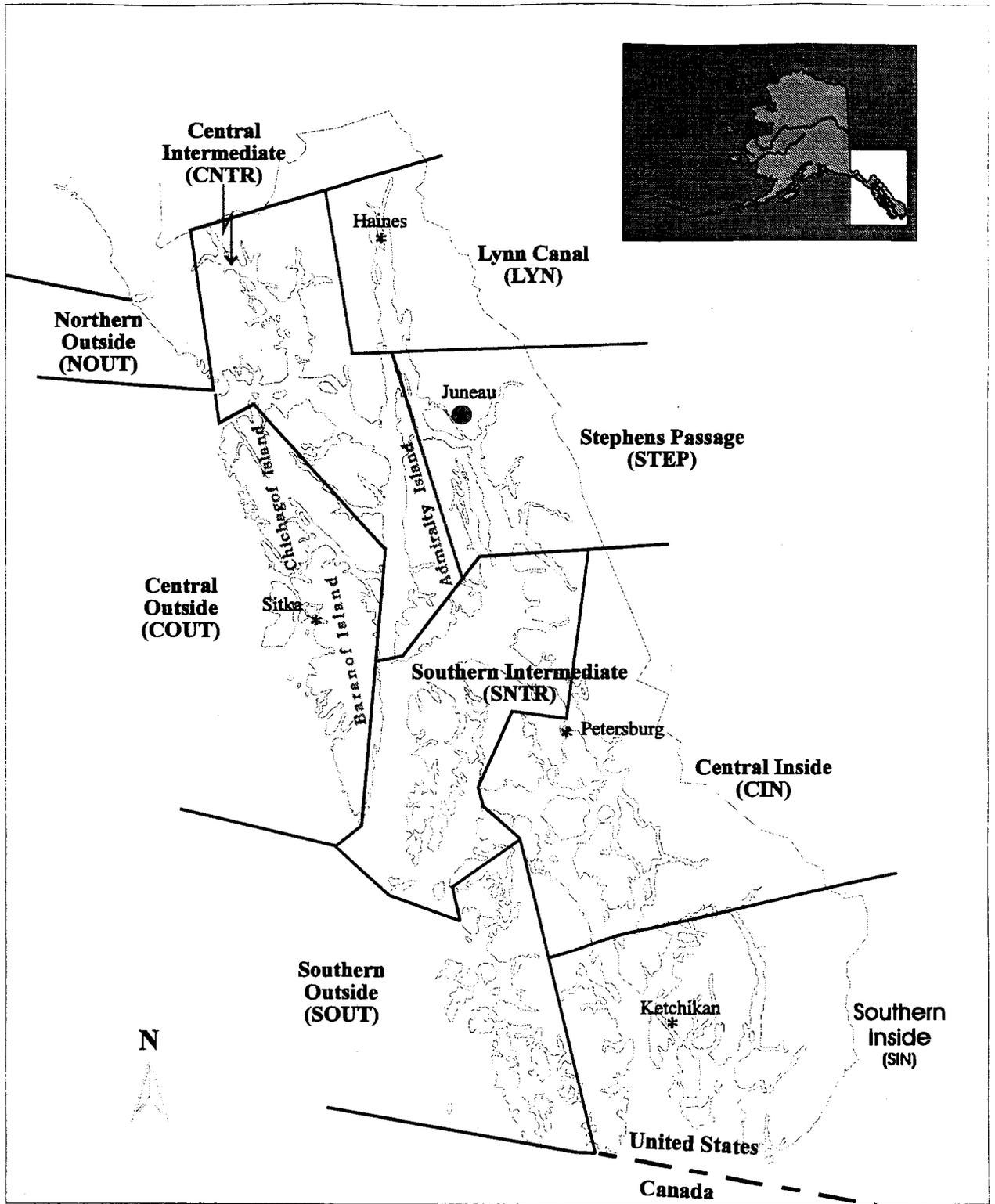


Figure 10. Pacific Marine Fisheries Commission areas in Southeast Alaska.

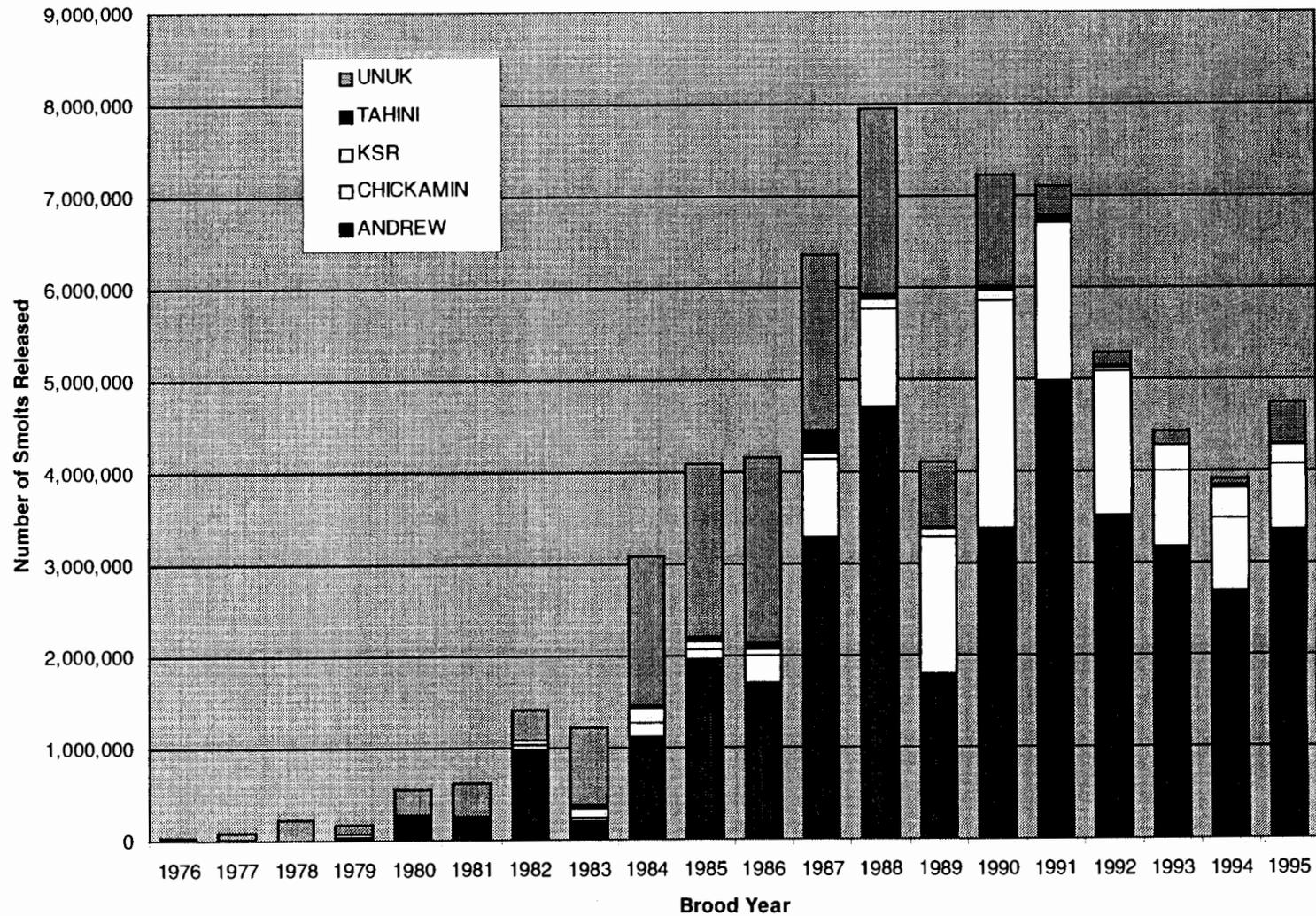


Figure 11. Number of yearling chinook salmon smolts released by Southeast Alaska hatcheries, by ancestral stock, 1976-1997.

ADA Publications Statement

The Alaska Department of Fish and Game administers all programs and activities free from discrimination on the basis of sex, color, race, religion, national origin, age, marital status, pregnancy, parenthood, or disability. For information on alternative formats available for this and other department publications, contact the department ADA Coordinator at (voice) 907-465-4120, (TDD) 907-465-3646. Any person who believes s/he has been discriminated against should write to: ADF&G, P.O. Box 25526, Juneau, AK 99802-5526; or O.E.O., U.S. Department of the Interior, Washington, DC 20240.
