

2003 ANNEX

CHINOOK SALMON PLAN FOR SOUTHEAST ALASKA



By
Craig Farrington
Steve McGee
Chip Blair
Rick Focht
Gary Freitag
Rocky Holmes
Frank Thrower
And
Ron Josephson

Regional Information Report No. RIR 5J04-03

Alaska Department of Fish and Game
Division of Commercial Fisheries
P.O. Box 25526
Juneau, AK 99802-5526

March 2004

This page left blank for printing purposes.

2003 ANNEX

CHINOOK SALMON PLAN FOR SOUTHEAST ALASKA

By
Craig Farrington
Steve McGee
Chip Blair
Rick Focht
Gary Freitag
Rocky Holmes
Frank Thrower
And
Ron Josephson

Regional Information Report No. RIR¹ 5J04-03

Alaska Department of Fish and Game
Division of Commercial Fisheries
P.O. Box 25526
Juneau, AK 99802-5526

March 2004

¹ The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports.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 maybe 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

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

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, Alaska 99802-5526.

Chip Blair is a data analyst for Northern Southeast Regional Aquaculture Association, 1308 Sawmill Creek Road, Sitka, Alaska 99835.

Rick Focht is the director of research for Douglas Island Pink and Chum, Inc., 2697 Channel Drive, Juneau, Alaska 99801.

Gary Freitag is a research and evaluation manager with the Southern Southeast Regional Aquaculture Association, 2721 Tongass Avenue, Ketchikan, Alaska 99901.

Rocky Holmes is the Southeast regional supervisor with the Alaska Department of Fish and Game, Sport Fish Division, P.O. Box 240020, Douglas, Alaska 99824-0020.

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

Ron Josephson is the supervisor of the ADF&G Mark, Tag, and Age Lab, P.O. Box 25526, Juneau, AK 99802-5526.

TABLE OF CONTENTS

LIST OF TABLES	iv
LIST OF FIGURES	v
INTRODUCTION	1
SUMMARY OF CHINOOK SALMON PRODUCTION, HARVEST, AND ENHANCEMENT IN SOUTHEAST ALASKA	1
Wild Stock Production	1
Chinook Salmon Harvests in Southeast Alaska Fisheries, 2002	2
Troll Fishery	2
Winter Season	3
Summer Season	3
Net Fisheries	5
Recreational Fisheries	5
Summary of the 2002 Harvest	6
Enhanced Production	6
Hatchery Releases	6
Smolt Capacity	6
Harvest of Hatchery Fish	7
Disposition of BY '02 Eggs	7
BROODSTOCK ALLOCATION	8
Broodstock Development and Diversity	8
Egg Allocation Criteria and Plan for 2003	8
Little Port Walter	8
Deer Mountain Tribal Hatchery	9
Whitman Lake Hatchery	9
Crystal Lake Hatchery	9
Skagway/ Pullen Creek	9
HATCHERY RETURN PREDICTIVE MODELS	9
Little Port Walter	10
Crystal Lake Hatchery	10
Deer Mountain Tribal Hatchery	10
SSRAA Hatcheries	10
NSRAA Hatcheries	10
THE 2003 CHINOOK PLANNING TEAM MEETING	11
Status of Hatchery Production	11
Federal Funding	12
EFFECT OF THE SOUTHEAST ALASKA CHINOOK SALMON HATCHERY PROGRAM ON WILD STOCKS	12
Site and Stock Selection	13
Straying	13
Genetic Studies	13
Domestication Effects Studies	14
BROODSTOCK PERFORMANCE	14
LITERATURE CITED	16

LIST OF TABLES

Table 1.	Estimates of total escapements of chinook salmon to escapement indicator systems and to Southeast Alaska and transboundary (T) rivers, 1975-2002 ^a	17
Table 2.	Southeast Alaska winter troll fishery chinook catches (including Annette Island catches), vessel landings, and catch per landing, by troll accounting year (October to September), years 1980 to 2002.	19
Table 3.	The number of salmon harvested and permits fished in the 2002 spring (Experimental and Terminal) troll fisheries.	20
Table 4.	Estimated harvest and Alaska hatchery add-on/terminal exclusion of chinook salmon by commercial and sport fisheries in Southeast Alaska, 2002.	29
Table 5.	Chinook salmon catch per fleet day (rounded to nearest hundred) in the Southeast Alaska troll fishery during the general summer season, from April 15 to September 30, 1984 to 2002. ^a	31
Table 6.	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, from April 15 to September 30, 1978 to 2002.	33
Table 7.	Contribution in numbers and percent of Alaska hatchery chinook salmon in the winter, experimental, terminal, hatchery access, and general summer troll fisheries, from 1989 to 2002.	36
Table 8.	Minimum estimated contribution of hatchery chinook salmon to sampled marine boat sport fisheries of Southeast Alaska, 2002.	38
Table 9.	Annual Southeast Alaska commercial and recreational chinook salmon harvests and Alaska hatchery contributions, in thousands of fish, from 1965 to 2002.	39
Table 10.	Actual and projected releases of chinook salmon by brood year (thousands).....	40
Table 11.	Chinook smolt capacity of Southeast Alaska hatcheries, from 1996 to 2003.	42
Table 12.	Estimated harvest and escapement of chinook salmon from Southeast Alaska enhancement sites in 2002.	43
Table 13.	Estimated harvest and escapement of Alaska hatchery-produced chinook salmon in Southeast Alaska, from 1980 to 2002.	44
Table 14.	Percent distribution of troll catch of hatchery chinook by Pacific Salmon Marine Fishery Council (PSMFC) area, from 1979 to 2002.	45
Table 15.	Total return of chinook salmon released from various enhancement sites in Southeast Alaska, by return year. ^a	47
Table 16.	Common property exploitation rate (%) of chinook salmon returning to enhancement sites with reasonably complete counts in terminal areas and at the rack, by return year. Excludes 0-ocean and 1-ocean fish in cost recovery fisheries, escapements, and/or Canadian fisheries.	48
Table 17.	Chinook salmon egg takes in southeast Alaska in 2002 (numbers of eggs in thousands).	49
Table 18.	Rearing strategies and release sites of 2002 brood chinook salmon eggs in enhancement programs (numbers in thousands).	50
Table 19.	Incidence of hatchery strays in ten wild stock streams in Southeast Alaska.	51

LIST OF FIGURES

Figure 1.	Ketchikan area spring trolling areas, 2002.	52
Figure 2.	Wrangell and Prince of Wales spring trolling areas, 2002.	42
Figure 3.	Chatham Strait and Frederick Sound spring trolling areas, 2002.	54
Figure 4.	North Chatham and Icy Strait spring trolling areas, 2002.	55
Figure 5.	Sitka area spring trolling areas, 2002.	56
Figure 6.	Number of days and percent of annual harvests taken in experimental fisheries, from 1989 to 2002.	57
Figure 7.	Southeast Alaska areas closed to trolling for all species following the initial chinook salmon opening in the Southeast Alaska summer troll season	58
Figure 8.	Percent of active troll permits fished by season, from 1980 to 2002.	59
Figure 9.	Number of chinook salmon harvested under the Pacific Salmon Treaty quota, from 1985 to 2002.	59
Figure 10.	Location of chinook salmon hatcheries, remote release sites, and primary ancestral stock rivers in Southeast Alaska.	60
Figure 11.	Actual and projected releases of hatchery-produced chinook salmon in Southeast Alaska by brood year, from 1978 to 2002.	62
Figure 12.	Actual and projected releases of hatchery-produced chinook salmon in Southeast Alaska by calendar year, from 1979 to 2002.	62
Figure 13.	Percentages of Alaska hatchery-produced chinook salmon harvested in common property fisheries and utilized by hatchery operators for cost recovery or broodstock and escapement, from 1985 to 2002.	63
Figure 14.	Pacific States Marine Fisheries Commission areas in Southeast Alaska.	64
Figure 15.	Number of chinook salmon released by Southeast Alaska hatcheries, by ancestral stock, brood years 1976 to 2002.	65
Figure 16.	Chinook salmon sensitive and non-sensitive areas in Southeast Alaska.	66
Figure 17.	Troll harvest rate and marine survival of chinook salmon released from Southeast Alaska enhancement sites.	67

This page left blank for printing purposes.

INTRODUCTION

The Chinook Salmon Plan for Southeast Alaska (Holland et al. 1983) was developed by the Chinook Planning Team (CPT), under the direction of the commissioner of the Alaska Department of Fish and Game (ADF&G). The CPT was established to address chinook salmon enhancement in Southeast Alaska from a regional stock rebuilding perspective. The team's members represent chinook salmon producers, harvest managers, and ADF&G planning and permitting staff. This annual update (Annex) to the Chinook Salmon Plan serves as a single source of current information on enhanced chinook salmon production and harvest in Southeast Alaska. Each Annex describes actions taken to implement the policies and achieve the goals described in the Chinook Salmon Plan. Annexes also contain broodstock allocation plans and recommendations for the current year and summarize current issues in chinook salmon enhancement discussed at the Chinook Planning Team meeting each spring. This publication is the 21st Annex to the Chinook Salmon Plan.

One of the original objectives stated in both the *Comprehensive Salmon Plan for Southeast Alaska, Phase I*¹ and the Chinook Salmon Plan was to increase the chinook salmon harvest in Southeast Alaska to 537,000 fish 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, wild chinook salmon stock-rebuilding program. Since then annual harvest limits have been imposed on the Alaska catch of PST or "treaty" fish, defined as any chinook salmon *not* of Alaska hatchery origin. The range in these annual limits has fluctuated between 146,000 fish in 1996 to 356,000 fish in 2002. Alaska hatchery chinook salmon production beyond a preexisting level of 5,000 fish is exempt from the PST 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 compilation of data in each Annex assists chinook salmon producers and managers with plans to maximize benefits to Alaskan user groups while staying within the annual harvest quota.

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

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 escapement goals for the Taku and Stikine Rivers were revised in 1999, based on a comprehensive review of existing data. The revised Taku River escapement goal is a range of 30,000 to 55,000 large fish (age .3 and older). This new goal is similar to the previous goal of 53,000. The Stikine River goal was revised to a range of 14,000 to 28,000, which also encompasses the previous goal of 21,000 large fish. In 1998, a revised stock-recruitment analysis by ADF&G and Canada Department of Fisheries and Oceans (DFO) staff established an

¹ ADF&G 1981. The primary operating document of the Southeast Alaska Regional Planning Teams

escapement goal for the Klukshu River² of between 1,100 and 2,300 spawners. The Andrew Creek escapement goal was also revised in 1998 to a range of 650 to 1,500 large spawners.

In general, escapements in 2002 decreased slightly from 2001, but were considerably above the low counts of 1998 and 1999. The estimated total chinook salmon escapement to wild systems in 2002 was 146,358 large fish, a 7% decrease from the 2001 estimate (Table 1). The Unuk River had a 51% reduction in escapement numbers from 2001, but escapement to this system was still close to the upper limits of the goal.

Mark-recapture programs were conducted on the Alesk, Chilkat, Taku, Stikine, Unuk, and Chickamin Rivers. Surveys for fish continued in other systems in order to document the escapement. There was also some increased on-ground presence in King Salmon River, Andrew Creek, and Blossom and Keta Rivers to collect age, sex, and size data, and to look for CWTs. Wild chinook salmon smolt tagging continued in 2002 on the Taku, Stikine, Chilkat, Unuk, and Chickamin Rivers.

Chinook Salmon Harvests in Southeast Alaska Fisheries, 2002

The 2002 chinook salmon harvest was managed under Pacific Salmon Treaty Agreements (PSTA). Although the latest chinook salmon management agreement replaced its abundance-based predecessor implemented in 1997 and 1998 under the “Letter of Agreement Regarding an Abundance-Based Approach to Managing Chinook Salmon Fisheries in Southeast Alaska” (LOA), its provisions were similar; however, Alaska agreed to harvest fewer chinook salmon at lower abundance levels than had been harvested previously under either the PST or the LOA. In addition to complying with the PSTA, 2002 chinook salmon fisheries were managed to (1) continue the Southeast Alaska wild chinook salmon conservation program; (2) provide maximum opportunity to harvest Alaska hatchery-produced chinook salmon; and (3) minimize incidental mortality during chinook salmon non-retention periods by closing areas of high chinook salmon abundance.

The PSTA quota for the 2002 fisheries was 356,500 treaty fish, based on a preseason abundance index of 1.74. Under the current Alaska Board of Fisheries (BOF) plan, the commercial troll and sport fisheries divide the quota using a 80:20 ratio, respectively, after 8,600 plus 4.3% of the annual quota for chinook salmon has been subtracted for net fisheries. Following this formula, 23,900 fish were allocated to the net fisheries. The remaining 332,000 treaty fish were split between the troll and sport fisheries, resulting in allocations of 266,000 and 66,500 fish, respectively.

Troll Fishery

Management of the troll harvest is critical to achieving the PSTA quota each year, because the troll fleet harvests the majority of chinook salmon in Southeast Alaska. All treaty Chinook harvested in the winter and Spring troll fisheries, the pre-treaty production of Alaska hatchery fish, and an estimated 1,000 fish risk factor are subtracted from the troll quota in order to establish the harvest target for the summer season. Following this procedure, the 2002 summer season harvest target was calculated to be 211,300 PSTA fish. According to the BOF plan, 70% (147,900 fish) chinook salmon were to be harvested in the first opening and the remaining 30%

² The Klukshu River is the main spawning tributary of the Tatshenshini River, which is the most productive fork of the Alesk River.

(63,400 fish), following any closure for coho salmon management in the month of August. The first opening was managed for a minimum harvest of 148,000 treaty fish.

In addition, the department also managed the troll fishery to reduce the cumulative harvest undererages from the previous two seasons. The Southeast Alaska King Salmon Management Plan (5 AAC 47.055[j]) specifies that the commercial troll fishery be managed to reduce the underage. This plan also provides for accounting of underages so that the overall allocation goals specified in the plan will be met. The harvest increase attributable to the underage was approximately 10,600 fish. In combination with the unused portion of the sport fish allocation, it increased the troll allocation to 281,200 fish.

Winter Season

The 2002 winter troll season opened on October 11, 2001 and continued through April 14, 2002. By regulation, the winter fishery occurs in those areas of Southeast Alaska east of the surf line south of Cape Spencer, including the waters of Yakutat Bay. All outer coastal areas, including the Exclusive Economic Zone (EEZ), are closed during the winter season. A catch ceiling of 45,000 fish is mandated in regulation for this winter fishery. 29,415 chinook salmon were harvested during the 2002 winter troll fishery, representing 9% of the total chinook troll harvest for 2002 (Table 2). The harvest and harvest per landing increased 30% and 40%, respectively, from those of the previous season.

Summer Season

The summer troll season extends from April 15 through September 30 and in recent years has been divided into two fisheries: the spring and general summer fisheries. Two categories of fisheries occur during the spring fishery, “experimental” and “terminal.” Both 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. Terminal fisheries occur in Terminal Harvest Areas associated with hatchery release sites, where fisheries are opened in accordance with schedules developed by each hatchery corporation’s board of directors. Spring fishery areas that were open in 2002 are shown in Figures 1 through 5.

Harvest opportunities in the experimental fisheries have been increasing since their inception in 1989. From mid-April through June 30, 2002, 30 areas were open for varying lengths of time; these openings accounted for a combined total of 1373 area-days. The total experimental fishery chinook salmon harvest in 2002 was 37,610 fish; of those, 48% were Alaska hatchery fish. The most productive experimental fishery areas were Eastern Channel (7,914 fish), Western Channel (4,299 fish), Silver Bay (3,129 fish), and Middle Point (2,282 fish) near the Medvejie Creek Hatchery in Sitka; and Gravina Island (4,010 fish) near the Whitman Lake Hatchery in Ketchikan (Table 3). Of these areas, the harvests at Eastern Passage, Silver Bay, and Gravina Island contained over 60% Alaska hatchery chinook, while the harvests at Western Channel and Middle Point contained less than 40% Alaska hatchery chinook. Experimental fisheries represented 11.6% of the total troll chinook salmon harvest in 2002, compared with 18.4% in 2001 (Figure 6).

Four terminal area fisheries were opened in 2002. The terminal area fisheries yielded 5,612 chinook; all of these were counted as Alaska hatchery fish. Hidden Falls was the most productive terminal area, contributing 4,600 fish, or 82% of the total terminal harvest, notwithstanding that the Hidden Falls terminal area was reduced in size in accordance with 5 AAC 33.374(a).

Seven new experimental areas were opened in 2002, including three areas near Sitka (Western Channel, Biorka Island, and Redoubt Bay); two areas near Pelican (Lisianski Strait and Port Althorp); one area near Wrangell in Stikine Strait (Craig Point); and one area near Ketchikan (Felice Strait). These areas are located near hatcheries that expected substantial increases in their chinook returns and historically have had a high percentage of Alaska hatchery fish.

In addition to the new areas, there were line changes that expand the Chatham Strait, Homeshore, West Rock, and Mountain Point areas. Several areas open in 2001 were eliminated for 2002. These areas have had low Alaska hatchery contributions, very low effort, or both over the past few years. The three areas eliminated were Point Alava, Babbler Point, and Ernest Sound. The Ernest Sound area will likely be re-opened in 2004 to harvest enhanced Chinook salmon returning to the SSRAA remote release site in Anita Bay.

The spring fishery's total harvest of 43,650 chinook salmon contained approximately 54% Alaska hatchery fish (Table 4). The chinook harvest was 8,319 fish greater than the 2001 harvest, but the Alaska hatchery contribution decreased from 60% to 54%. In 2002, a lower percentage of the annual troll harvest (13%) was taken in the spring fishery than was taken in 2001 spring fishery (23%); 23,682 treaty fish were harvested in the spring fishery in 2002.

The first general summer troll fishery occurred July 1 through July 18, and the harvest was 186,998 chinook salmon. Of that, 182,963 were counted as treaty fish (Table 4). The harvest per fleet day was 10,389 fish (Table 5). Following the first opening, the areas that had high chinook salmon abundance were closed (Figure 7). After the fish ticket data were reviewed, the number of chinook salmon left to be harvested was not considered large enough to warrant another opening prior to the planned mid-August opener following the coho salmon closure.

When the troll fishery reopened on August 12 to both coho and chinook retention, it was monitored inseason using fishery performance data and on-the-grounds catch information. The chinook salmon catch rate during the second opening was lower than expected, and the fishery remained open through September 2. About 65,266 chinook salmon were harvested during the second summer opening, of which 63,972 were treaty fish. This brought the final summer troll harvest to 252,264 chinook salmon, of which 246,935 were treaty fish. The total 2002 troll chinook salmon harvest was 325,303 fish, and 298,384 of these were treaty fish. Although the troll harvest of 298,384 treaty fish was above the PSTA quota of 266,000 troll-caught chinook, the all-gear catch total of 370,280 PSTA chinook was within the 7.5% management range designated by 5 AAC 29.060(c).

In 2002 the CFEC renewed 919 power troll permits and 1,027 hand troll permits, which represented 1% decreases in each from renewals issued in 2001. Of those, 666 power troll permits and 252 hand troll permits were actually fished. This represents a 6% decrease in power troll effort and a 19% decrease in hand troll effort, compared to 2001. Compared to the 2001 season, percentage participation in 2002 winter and spring troll fisheries increased, while percentage participation in the Summer troll fishery declined (Figure 8).

Boat days of effort during the summer chinook salmon retention period increased substantially for the third year in a row (Table 6). The chinook salmon general summer fishery was open for 40 days in 2002, including 10,457 boat days of effort, which is the highest since 1998. The Alaska hatchery contribution of 31,400 fish represented 10% of the 2002 total (Table 7).

Net Fisheries

Based on the 2002 annual harvest limit of 356,500 treaty chinook salmon (28 inches or larger), the purse seine quota was 15,300 chinook salmon. The drift gillnet chinook salmon quota was 7,600 fish, and the set gillnet quota was 1,000 fish. Chinook salmon less than 21 inches in length may not be retained in the purse seine fishery; chinook salmon between 21 and 28 inches may be retained but not sold. These restrictions do not apply to the gillnet fisheries. As in the troll fishery, chinook salmon produced by Alaska hatcheries, minus adjustments for pre-treaty hatchery production and estimation error, do not count against the annual quota for treaty fish.

In order to stay within the harvest guideline for treaty fish, periods of nonretention of chinook salmon are established each year for the purse seine fishery. In 2002, nonretention was in effect from the start of the season until July 21 in all purse seine fisheries except the Hidden Falls and Deep Inlet Terminal Harvest Areas, where nearly all harvested chinook salmon are of Alaska hatchery origin. The total 2002 purse seine harvest of chinook salmon was 17,145 fish (Table 4). Of these fish, 11,553 were considered to be hatchery-produced and were excluded from consideration as treaty fish. The seine fishery harvested 5,592 treaty fish in the general seine fishery.

The total drift gillnet harvest of chinook salmon in 2002 was 8,751 (Table 4). Of these, approximately 5,526 fish were from Alaska hatcheries and did not count against the seasonal harvest guideline. As a result, total drift gillnet harvest of treaty fish was 3,225 roughly 4,375 fish below the 7,600 harvest guideline.

In 2002, terminal exclusion zones were in effect for the net fisheries in the Taku and Stikine Rivers. Chinook salmon harvested in these areas will be excluded from the treaty quota only after escapements have been met and a baseline catch level for the fisheries has been calculated.

Recreational Fisheries

The sport fishery is allocated 20% of the quota of treaty chinook salmon remaining after the deduction of the net fishery allocation. Under the present system, once the preseason abundance index is determined, the department sets an initial sport fish bag limit that will achieve the 20% allocation. Additional in-season management measures are taken if the sport harvest appears to be deviating more than 7.5% from the target. In 2002, the sport quota was 66,500 PSTA chinook salmon. The actual harvest of treaty chinook salmon was 58,403.

The 2002 sport harvest of chinook salmon was 87,057 fish (Table 4), an increase of 14,766 fish from that of the previous year. The Alaska hatchery contribution was 32,045 chinook salmon. The calculated add-on of 28,654 chinook salmon was 33% of the total sport catch in 2002, similar to 35% in 2001. 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 random postal survey of sport fishing license holders.

The sport harvest in the Ketchikan area contained the highest percentage of Alaskan hatchery chinook salmon (63%) of all sampled areas; the largest contributor to the Ketchikan area was Whitman Lake Hatchery, with 2,587 out of 4,600 Alaska hatchery chinook salmon harvested. Macaulay Hatchery contributed 3,295 chinook salmon to the Juneau area sport fisheries; Macaulay was also the largest hatchery contributor in Southeast Alaska, accounting for 3,362 fish. Medvejie Hatchery contributed 1,785 chinook salmon to the Sitka area sport fishery. The

Blind Slough fishery, near Crystal Lake Hatchery, again produced the highest terminal area chinook salmon sport harvest of about 3,685 fish.

Summary of the 2002 Harvest

The total 2002 chinook salmon harvest by all gear types was 444,049 fish (Table 4). Of these, 370,280 were treaty fish. The remainder of the actual harvest, an estimated 82,069 Alaska hatchery chinook salmon, translated into an add-on quota of 72,645 fish, and together with the terminal exclusion for wild Alaska fish of 1,124 fish gives the total harvest number. Contribution of Alaska hatchery chinook salmon to the total catch was 17% in 2002, a decrease from last year's 31% (Table 9, Figure 9).

Enhanced Production

The locations of (1) all hatcheries that produce chinook salmon, (2) significant remote release sites, and (3) ancestral rivers of the major hatchery stocks in Southeast Alaska are shown in Figure 10. The map key associated with Figure 10 lists the stream numbers for all past and present release sites and stream numbers of ancestral chinook salmon stocks used in region.

Hatchery Releases

Table 10 shows the actual and projected releases of chinook salmon by brood year and is organized by age at release; it also shows release sites for each hatchery. Release numbers match the on-line database of Coded Wire Tag and Otolith Processing Laboratory of the Alaska Department of Fish and Game and, therefore, the PSMFC database. Total release numbers are shown in Figure 11 by brood year and in Figure 12 by calendar year.

A total of 6,593,000 juvenile chinook salmon were released from Southeast hatcheries in 2002. This 9% decrease over releases in 2001 is attributable in large part to hiatus in production of chinook from the Little Port Walter Field Research Station and a transitory loss of production at SSRAA's Anita Bay remote release site. The majority of releases were age-1 smolts; however, SSRAA released 257,000 fry into Long Lake at Neets Bay, and the Tamgas Creek Hatchery produced 300,000 age-zero smolts. There was a temporary change in release strategy at the Medvejie Hatchery as juvenile Chinook were not released as age-zero smolts, but were instead held for age-1 smolts.

Smolt Capacity

Production capacity for the past seven years is shown in Table 11. Approximately 80% of the current capacity for Southeast Alaska hatcheries is being utilized. A new increment of chinook salmon production was added to Southeast's total smolt capacity in 2002; production from Hidden Falls will be increased by 1 million smolts. In addition, Port Armstrong Hatchery resumed production of chinook salmon in 2002, receiving 125,000 eyed eggs from Little Port Walter's (LPW) Unuk stock. This facility has not released chinook smolts since 1991; however, its permitted production is 1.5 million smolts. When and if Port Armstrong reaches its production capacity, nearly all of the current permitted capacity for chinook salmon production will be achieved.

Harvest of Hatchery Fish

Hatchery operators reported a total return of 135,027 chinook salmon in 2002, based on recoveries of coded wire tags in sampled fisheries, estimates of contribution to unsampled fisheries, and totals of broodstock and escapement (Tables 12 & 13). Of this total, 67,533 fish (50%) were harvested in common property fisheries, up from the 58,400 fish (60%) harvested in CP fisheries in 2001. Cost recovery by hatchery operators decreased from the 69,425 fish (49% of return) harvested in 2001 to 37,667 fish (30% of return) in 2002. Broodstock needs increased in 2002, because 29,828 fish were either spawned or considered to be surplus and given away to the public (Table 13).

In 2001 the troll harvest represented 18% of the hatchery return; in 2002 it increased to 22%. Concurrently, the harvest by net gear increased from 9% to 13% and the sport harvest increased moderately from 12% to 15%. As a percentage of the total enhanced return, the common property harvest of Alaska hatchery Chinook was one of the lower CP contributions since the beginning of the enhancement program (Figure 13).

Historically, the northernmost hatcheries contribute primarily to the central and southern intermediate PSMFC areas (Figure 14), while the southernmost hatcheries contribute more to the southern inside areas (Table 14). Total adult returns by release site from 1980 to 2002 are provided in Table 15. Exploitation rates by release site are provided in Table 16.

Disposition of BY '02 Eggs

Southeast Alaska hatchery operators took 12,506,600 chinook salmon eggs in 2002. After discarding fertilized eggs from BKD positive parents and making other adjustments in numbers, a total of 11,041,500 eggs were incubated (Table 17). Regionwide, the total incubation survival to the eyed stage was 90%.

Four transfers of BY '00 chinook salmon eggs occurred within the region:

- Crystal Lake Hatchery received 545,000 eyed eggs from Whitman Lake Hatchery as part of the ongoing SSRAA/ADF&G Cooperative Agreement for Chinook Salmon Production in the Ketchikan Area. Resultant smolts will be transferred back to SSRAA for release at Neets Bay in 2004.
- Macaulay Hatchery also received 154,200 green eggs from Burro Creek Hatchery. Smolts from these eggs will be released at Pullen Creek in Skagway as part of the Tahini River broodstock development program that will eventually replace Andrew Creek stock at the Macaulay Hatchery.
- Port Armstrong received 172,900 eyed eggs from Little Port Walter's Unuk stock.

A projected total release of 6,963,000 age-one smolts from BY 2002 is an increase from the projected release from BY 2001. Similar to 2001, two groups of age-0 smolts will be produced from BY 2002 at Medvejie and Tamgas Creek Hatcheries (Table 18).

BROODSTOCK ALLOCATION

Broodstock Development and Diversity

Five chinook salmon broodstocks are currently used in hatchery production in Southeast Alaska; however, two of these stocks, Andrew Creek and Chickamin River, have accounted for the majority of releases since the 1989 brood year (Figure 15). The Tahini River chinook salmon stock has been the least-utilized stock, and its development would provide an opportunity to increase the genetic diversity of hatchery chinook salmon stocks in Southeast. Macaulay Hatchery is geographically the closest major facility to the Tahini River and therefore the logical site for rearing and release of this stock. A broodstock development program that calls for a series of smolt releases at Skagway will eventually result in enough adults to provide gametes for DIPAC's Macaulay Hatchery chinook salmon program. This program remained on track in 2002 when Tahini River returns to Burro Creek Hatchery (the only hatchery source for this stock) provided 154,200 eggs. DIPAC staff has calculated that the development schedule will take 10 to 15 years to achieve the goal of converting DIPAC's production to the Tahini stock. The schedule can be accelerated if wild egg takes supplement the return of enhanced fish. A cooperative agreement (COOP-00-084) has been approved by DIPAC, ADF&G Sport Fish Division, Burro Creek Hatchery, and the City of Skagway to describe what each party will accomplish toward the common goals of improving sport fishing and establishing a significant hatchery broodstock.

NMFS has resumed the chinook salmon broodstock maintenance program at Little Port Walter. The LPW Unuk River broodstock is one of the two remaining hatchery stocks derived from the Unuk River. The other one at Deer Mountain Tribal Hatchery is at some degree of risk because of financial difficulties of maintaining that program. Additionally, the chinook program at Port Armstrong Hatchery is utilizing Unuk River fish for the beginning phase of broodstock development. One of the policies for enhanced chinook salmon production in the Chinook Salmon Plan states that "Genetic variability in enhancement stocks is to be maximized i.e., as many different hatchery stocks as feasible should be developed . . ." Maintaining all existing hatchery stocks should be the goal of this policy.

Egg Allocation Criteria and Plan for 2003

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.

The following planned or potential egg transfers are noted for 2003:

Little Port Walter

Stock	Total Eggs Expected	Needed for LPW	Potential Transfer
Unuk	500,000	200,000	300,000
Chickamin	600,000	All	

With the resumption of chinook salmon production at LPW, some eggs from Unuk River stock will be available for use at other facilities. Armstrong-Keta, Inc. received 172,915 green eggs of Unuk River origin from LPW in 2002 and may receive a similar number in 2003.

Deer Mountain Tribal Hatchery

Stock	Total Eyed Eggs Expected	Needed for DMTH	Potential Transfer
Unuk	175,000	133,000	42,000

Deer Mountain Tribal Hatchery will maintain its production of Unuk River chinook. Klawock River Hatchery has permission to use this stock for the Coffman Cove project; however the project will not begin in 2003.

Whitman Lake Hatchery

Stock	Total Eyed Eggs Expected	Needed for WLH	Planned Transfer
Chickamin	2,000,000	1,500,000	500,000

All expected 2003 brood year eggs are fully allocated under the SSRAA/ADF&G Cooperative Agreement for Chinook Salmon Production. According to the agreement, 500,000 eyed Chickamin chinook salmon eggs (or the equivalent number of green eggs) will be transferred to Crystal Lake Hatchery, and the resultant smolt will be transported to SSRAA's Neets Bay hatchery for imprinting and release in 2005.

Crystal Lake Hatchery

Stock	Total eyed eggs expected	Needed for CLH	Planned Transfer
Andrew Cr	2,000,000	1,700,000	300,000

Skagway/ Pullen Creek

Stock	Total Eggs Expected	Need for Pullen Creek	Planned Transfer
Tahini R	290,000	20,000	230,000

Burro Creek Hatchery no longer has Chinook salmon returning to the facility. A planned eggtake at Pullen Creek should result in the transfer at least 230,000 Tahini River chinook salmon eggs to Macaulay Hatchery for incubation and rearing (Cooperative Agreement COOP-00-084). Resultant smolts will be transported to Pullen Creek pond for imprinting and release in 2005.

HATCHERY RETURN PREDICTIVE MODELS

Each year hatchery operators are asked to predict the number of chinook salmon expected to return to hatchery facilities in Southeast Alaska. These preseason 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; most remain the same as those used in 2001.

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, age distributions, 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.

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. Survival rates of age-1.2 and age-1.3 fish returning in the year preceding the target year are used as predictors.

Deer Mountain Tribal Hatchery

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

SSRAA Hatcheries

SSRAA employs a synthesis of previous year's return and 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.

NSRAA Hatcheries

A great deal of effort goes into regular sampling of the chinook salmon return each year to NSRAA facilities to be able to generate accurate estimates of age-at-return. These estimates are used to examine historic relationships between age classes for each hatchery. Returns of age 1.2 fish are predicted using historic averages. Return predictions for age 1.3 and 1.4 fish 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.

Macaulay Salmon Hatchery

Forecasts are based on a synthesis of the previous years' returns from each of the three release sites (Gastineau Channel, Fish Creek and Auke Bay) and historic age class ratios. The distribution between fishery and rack components is based on the long-term average. The analysis predicts the percent return for a given cohort in a given year.

THE 2003 CHINOOK PLANNING TEAM MEETING

The Chinook Planning Team met on May 21, 2003, in the Commissioner's conference room at ADF&G Headquarters in Juneau. Major topics of discussion are summarized below:

- Steve McGee provided an update on the Port St. Nicholas and Coffman Cove projects on Prince of Wales Island. Both projects are proceeding with plans to use Chickamin River stock. Funding is currently earmarked for conducting preliminary analyses on the Coffman Cove project, and funding has been secured for the design work of a small chinook hatchery for the Port St. Nicholas project to be located at the City of Craig water treatment plant facility.
- Rick Focht gave an update on the Tahini broodstock development program at DIPAC. The city of Skagway is recommitting itself to the cooperative agreement to assist in developing the source for the Tahini broodstock in Skagway.
- Little Port Walter resumed production of chinook salmon in 2001, and the facility will concentrate on wild/enhanced interactions. Frank Thrower gave an update on LPW and their current emphasis on wild/enhanced interactions.
- Rocky Holmes updated the team on Chinook salmon research conducted by Sport Fish Division.
- Chip Blair provided an update on NSRAA chinook salmon activities.
- Gary Freitag provided an update on SSRAA Chinook salmon activities.

Status of Hatchery Production

Little Port Walter Hatchery resumed production of chinook salmon in 2001; production will be maintained on a year-to-year basis, subject to availability of funding.

For 2003, SSRAA expects a large chinook return to Whitman Lake and expects the department to hold a personal-use gillnet fishery to remove excess fish from Herring Cove Creek. SSRAA began rearing the full complement of 250,000 chinook salmon fingerlings in Long Lake beginning with the 1999 brood. This moves the entire SSRAA component of the Neets Bay chinook salmon production out of the saltwater net pen complex and into the lake-rearing mode. The move is expected to result in better survival to smolt and better smolt quality. Long Lake

chinook salmon production constitutes SSRAA's part of the Neets Bay release described in the ADF&G/SSRAA Cooperative Agreement for chinook salmon production in southern Southeast.³

NSRAA will release more than one million, 40-gram smolts from Hidden Falls, as well as 1.5 million 50-gram smolts from Medvejie. They also expect to release 260,000 age-zero smolts from saltwater pens at Medvejie by mid-July.

The Port Armstrong Hatchery resumed production of chinook salmon in 2001, and expects to release 120,000 age-1 smolts in 2003.

DIPAC's chinook salmon program will be unchanged for 2003. Smolts of Andrew Creek origin will be released at three sites in the Juneau area, and Tahini River origin smolts will be transported to Skagway for imprinting and release from Pullen Creek pond. Only 59,000 Tahini smolts will be available for release in 2003. Although the 2003 eggtake goal from Pullen Creek is expected to be reached, an additional eggtake at the Tahini River is possible if insufficient eggs are available from Pullen Creek. However, before such an eggtake could occur, the escapement goal would need to have been reached and the community of Haines would need to agree to the removal of eggs for the Skagway chinook program.

Federal Funding

Two sources of funding for possible use in chinook salmon enhancement have been established in the last year. The *Northern Fund*, associated with the 1999 U.S./Canada Pacific Salmon Treaty agreement, can be used for transboundary river projects in the U.S. and B.C. Some \$75 M will be put into an endowment, and a board will oversee disbursement of all or part of the earnings. Makeup of the board has yet to be determined. The fund can be used for all species.

The second source of funding, the *Southeast Sustainable Salmon Fund*, should contain a third increment of federal money in 2003. Project proposals are solicited for the following four areas of application: (1) habitat restoration and protection, (2) enhancing economic opportunities, (3) research and monitoring, and (4) national and international cooperation. There is a five-year period in which to expend the funds, and the Governor's office will have oversight. ADF&G staff from the commissioner's office will coordinate the process of developing priorities.

EFFECT OF THE SOUTHEAST ALASKA CHINOOK SALMON HATCHERY PROGRAM ON WILD STOCKS

Salmonid hatchery programs in the Pacific Northwest have recently been identified as being among the causal factors in the listing or pending listing of several species of salmon under the Endangered Species Act. Hatchery programs have been implicated because the genetic integrity of wild stocks has been lost through mixing of wild and hatchery fish during spawning. In addition, wild stocks there have been over-harvested because of greater fishing pressure on hatchery stocks.

³ See McGee et al. (1997) for a description of the cooperative agreement.

The Alaska hatchery program was designed to minimize impacts on wild stocks through consideration of the topics discussed in the following sections. These topics are considered to be important factors in maintaining the genetic integrity of wild stocks.

Site and Stock Selection

Southeast Alaska hatchery sites, remote release sites, and broodstocks were selected to minimize the chance of returning hatchery stocks mixing with wild stocks (Holland et al. 1983). No hatcheries in Southeast Alaska were built on streams with natural runs of chinook salmon. With few exceptions, chinook salmon hatcheries in the region are located on islands at or near tidewater (Heard et al. 1995; Heard 1996). Most hatcheries are 50 to 240 km from any endemic chinook salmon stock. The Chinook Salmon Plan (Holland et al. 1983) delineates a “sensitive” and a “non-sensitive” zone for chinook salmon stock selection and transport considerations. The zones are based on the potential for impacting wild stocks. A sensitive zone, in which wild spawning populations are present, is comprised of commercial fishing Districts 101, 107, 108, 110, 111, and 115 (Figure 16). Within the sensitive zone, movement of stocks is limited and new stock needs must be met with the closest feasible stock. The non-sensitive zone, in which there are no systems that contain self-sustaining populations of chinook salmon, is delineated by commercial fishing Districts 102, 103, 104, 105, 106, 109, 112, and 116. Stock needs in the non-sensitive zone may be met by any stock approved through the department review process.

Straying

An examination of several wild and hatchery systems indicates there has been very little straying. Results from surveys that examined wild chinook salmon populations for hatchery CWTs were first reported by Heard et al. (1995), indicating that 0.30% of the fish examined in wild stock systems through 1993 were strays from hatcheries. Beginning in 1997, extensive numbers of chinook salmon in wild systems were sampled for biological data, including CWTs. Examination of 126,675 chinook salmon from 1979 to 2002 has indicated hatchery stray rates averaged 0.26%. Survey results up to and including 2002 are reported in Table 19. Historically, escapements to the Farragut River have had an unusually high incidence of hatchery strays. More recent surveys of the Keta, Blossom, and Chickamin Rivers have shown 2.37%, 1.95%, and 1.43% of escapements to consist of hatchery strays, respectively. The majority of strays into Andrew Creek are from releases of Andrew Creek stock at Earl West Cove. Releases at this site, which is approximately 20 miles from the mouth of the Stikine River, have been discontinued.

In 2002, four hatchery CWT-marked chinook salmon were found out of a total of 15,564 fish examined in the escapement. One DIPAC hatchery CWT was found in the escapement to the Unuk River in 2002, out of 1637 fish examined. Out of 1060 fish examined from the Chickamin River escapement, three hatchery CWTs were found: one from Tamgas Creek Hatchery, one from Neets Bay hatchery, and one from the Kincolith Hatchery in British Columbia.

Genetic Studies

Genetics staffs of several organizations have been collecting and analyzing genetic data from wild-spawning and hatchery populations of chinook salmon throughout Alaska for a number of years. The goal of one recent ADF&G project was to develop a database that could be used to

identify the origin of chinook salmon harvested as trawl by-catch in Alaska waters (Crane et al. 1996). In addition, researchers sought to define relationships within and among hatchery stocks. In Southeast Alaska, collections were made from six wild-spawning populations and 11 (by site and brood year) derivative hatchery stocks. Data were analyzed for temporal stability of allele frequencies of a broodstock within hatcheries, allele frequency homogeneity among hatcheries using the same broodstock, and homogeneity of allele frequencies between a hatchery stock and its wildstock progenitor. These studies will enable detection and tracking of genetic changes of individual stocks both through time and between hatchery broodstocks. The ADF&G genetic policy prohibits the planting of chinook salmon offspring of wild broodstock beyond the F1 generation back into their stream of origin, to avoid introduction into the wild population of any salmon whose allele frequencies may have been altered through domestication.

Domestication Effects Studies

Studies have been initiated by the National Marine Fisheries Service Auke Bay Lab, in cooperation with ADF&G, to evaluate any differences in performance and life history characteristics between native Southeast Alaska chinook salmon stocks and hatchery stocks derived from them. Concern has been expressed over the potential deleterious effects of hatchery practices on wild salmon stocks. Alaska is in the unique position of being able to compare unperturbed wild chinook salmon with fifth and sixth generation hatchery stocks that originated from them. Gamete collections were made in 1996 and 1998 on the Chickamin and Unuk Rivers, respectively, to compare the offspring of wildstock fish with those from the Little Port Walter Hatchery's Chickamin and Unuk stocks. Comparisons include evaluating the ability of fry to avoid predation, hatchery performance (growth and survival to smolt), the ability of smolt to act as predators on pink fry, marine survival, age at maturation, and growth. Preliminary results indicate no significant differences in the predation behavior and feeding trials. Evaluation will continue and hopefully expand to other chinook salmon stocks.

Based on the above information, it appears the hatchery program has had little or no deleterious effect on the genetic integrity of Southeast wild stocks. The higher-than-expected amount of straying into the Farragut River, however, is a cause for concern and should be regularly monitored. Research on the effects of hatchery stock/wild stock interactions should continue to be supported.

The department manages chinook salmon harvests primarily to sustain the health and maximum sustainable yields of wild stocks. Hatcheries and remote release sites have been situated to enable managers to maximize the harvest of hatchery returns with minimum disruption of wild stocks. The *spring* fisheries (i.e., experimental and terminal fisheries) target hatchery returns in areas where abundance of wild stocks is low. Management of the experimental fisheries is based primarily on the percentage of hatchery chinook salmon present, as determined through extensive catch sampling. A low abundance of Alaska hatchery stocks results in reduced fishing time.

BROODSTOCK PERFORMANCE

The Chinook Planning Team, as part of the Southeast Alaska-wide Production and Management Committee, has compiled marine survival and troll harvest rate data for the major, long-standing chinook salmon programs in Southeast. The impetus for formation of the committee in 1998 was

to prepare a proposal for supplemental chinook and coho salmon production, using federal funding anticipated at that time. The survival and troll harvest rates are now included in the Chinook Annex (Figure 17). Troll harvest rates are expressed as percent of total return, including all age classes. Survival rates are based on all recoveries, from all age classes.

Marine survival rates for chinook salmon released from most southern and central Southeast facilities have declined since the beginning of programs in the early 1980s; however, at some of these facilities there are indications that survival rates are improving (Hidden Falls, Macaulay, and Whitman Lake).

Troll harvest rates are on a downward trend for most facilities even though the fleet and managers have become more adept at targeting enhanced fish over time. This is in accord with the diminished participation in the troll fisheries in recent years, and may ultimately be due to market forces and economics, which more strongly affect troll fisheries than net fisheries.

LITERATURE CITED

- Crane, P. A., W. D. Templin, and L. W. Seeb. 1996. Genetic stock identification of Alaska chinook salmon. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division. Regional Information Report 5J96-17. Juneau.
- Denton, C., S. McGee, S. Reifentstahl, G. Freitag, M. Stopha, R. Holmes, F. Thrower. 1999. 1999 Annex, Chinook salmon plan for Southeast Alaska. Alaska Department of Fish and Game, Division of Commercial Fisheries. Regional Information Report 1J99-33. Juneau.
- Heard, W. R. 1996. Sequential imprinting in chinook salmon: is it essential for homing fidelity? Bulletin of the National Research Institute on Aquaculture, Supplement 2:59-64.
- Heard, W., R. Burkett, F. Thrower, and S. McGee. 1995. A review of chinook salmon resources in Southeast Alaska and development of an enhancement program designed for minimal hatchery-wild stock interaction. American Fisheries Society 15:21-37.
- 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.
- Hubartt, D. J. and M. J. Jaenicke. In press. Harvest estimates for selected marine sport fisheries in Southeast Alaska during 2002. Alaska Department of Fish and Game, Fishery Data Series, Anchorage.
- McGee, S., B. Bachen, G. Freitag, M. Stopha, D. Gaudet, R. Josephson, G. Garcia, and F. Thrower. 1996. 1996 Annex, Chinook salmon plan for southeast Alaska. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division. Regional Information Report 1J96-24. Juneau.
- McGee, S., C. Denton, B. Bachen, G. Freitag, M. Stopha, D. Gaudet, R. Josephson, 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. Juneau.
- McGee, S., C. Denton, B. Bachen, G. Freitag, M. Stopha, D. Gaudet,, F. Thrower. 1998. 1998 Annex, Chinook salmon plan for Southeast Alaska. Alaska Department of Fish and Game, Division of Commercial Fisheries. Regional Information Report 1J98-24. Juneau.
- McGee, S., C. Denton, S. Reifentstahl, G. Freitag, R. Holmes, F. Thrower. 2001. 2001 Annex, Chinook salmon plan for Southeast Alaska. Alaska Department of Fish and Game, Division of Commercial Fisheries. Regional Information Report 5J01-10. Juneau.
- Monagle, K., S. McGee, C. Farrington, S. Reifentstahl, G. Freitag, R. Holmes, F. Thrower. 2003. 2002 Annex, Chinook salmon plan for Southeast Alaska. Alaska Department of Fish and Game, Division of Commercial Fisheries. Regional Information Report 1J03-22. Juneau.

Table 1. Estimates of total escapements of chinook salmon to escapement indicator systems and to Southeast Alaska and transboundary (T) rivers, from 1975 to 2002. ^a

Year	MAJOR SYSTEMS				MEDIUM SYSTEMS								King Salmon	Total All Systems	Expanded Region Total
	Alsek (T)	Taku (T)	Stikine (T)	Major Sub T.	Situk	Chilkat	Andrew	Unuk (T)	Chickamin (T)	Blossom	Keta	Med. Sub T			
1975		12,920	7,571	20,491			520		1,914	584	609	3,627	62	24,180	28,786
1976	5,320	24,582	5,723	35,625	1,421		404		810	272	252	3,159	98	38,882	46,288
1977	13,490	29,496	11,445	54,431	1,732		456	4,870	1,875	448	690	10,071	201	64,703	77,027
1978	12,650	17,124	6,835	36,609	808		388	5,530	1,594	572	1,176	10,068	86	46,763	55,670
1979	15,520	21,617	12,610	49,747	1,284		327	2,880	1,233	216	1,278	7,218	113	57,078	67,950
Average	11,745	21,148	8,837	39,381	1,311		419	4,427	1,485	418	801	6,829	112	46,321	55,144
1980	12,435	39,239	30,573	82,247	905		282	5,080	2,299	356	576	9,498	104	91,849	109,344
1981	9,815	49,559	36,057	95,431	702		536	3,655	1,985	636	987	8,501	139	104,071	123,894
1982	9,845	23,847	40,488	74,180	434		672	6,755	2,952	1,380	2,262	14,455	354	88,989	105,939
1983	11,185	9,795	6,424	27,404	592		366	5,625	3,099	2,356	2,466	14,504	245	42,153	50,182
1984	7,860	20,778	13,995	42,633	1,726		389	9,185	5,697	2,032	1,830	20,859	265	63,757	75,901
1985	6,415	35,916	16,037	58,368	1,521		638	5,920	4,943	2,836	1,872	17,730	175	76,273	90,801
1986	13,035	38,110	14,889	66,034	2,067		1,414	10,630	9,022	5,112	2,070	30,315	255	96,604	115,005
1987	12,455	28,935	24,632	66,022	1,379		1,576	9,865	5,041	5,396	2,304	25,561	196	91,779	109,261
1988	9,970	44,524	37,554	92,048	868		1,128	8,730	4,064	1,536	1,725	18,051	208	110,307	131,318
1989	11,010	40,329	24,282	75,621	637		1,060	5,745	4,829	1,376	3,465	17,112	240	92,973	110,682
Average	10,403	33,103	24,493	67,999	1,083		806	7,119	4,393	2,302	1,956	17,659	218	85,876	102,233
1990	8,490	52,142	22,619	83,251	628		1,328	2,955	2,916	1,028	1,818	10,673	179	94,103	112,027
1991	11,115	51,645	23,206	85,966	889	5,897	800	3,275	2,518	956	816	15,151	134	101,251	112,501
1992	6,215	55,889	34,129	96,233	1,595	5,284	1,556	4,370	1,789	600	651	15,845	99	112,177	124,641
1993	16,105	66,125	58,962	141,192	952	4,472	2,120	5,340	2,011	1,212	1,086	17,193	263	158,648	176,276
1994	18,100	48,368	33,094	99,562	1,271	6,795	1,144	4,623	2,006	644	918	17,401	210	117,173	130,192
1995	26,985	33,805	16,784	77,574	4,330	3,790	686	3,860	2,309	868	525	16,368	146	94,088	104,542
1996	17,995	79,019	28,949	125,963	1,800	4,920	670	5,835	1,587	880	891	16,583	288	142,834	158,704
1997	15,250	114,938	26,996	157,184	1,878	8,100	586	2,970	1,406	528	738	16,206	357	173,747	193,052
1998	4,621	31,039	25,968	61,628	924	3,675	974	4,132	2,021	364	446	12,536	132	74,296	82,551
1999	11,597	20,545	19,947	52,089	1,461	2,271	1,210	3,914	2,544	848	968	13,216	300	65,605	72,894
Average	13,647	55,352	29,065	98,064	1,573	5,023	1,107	4,127	2,111	793	886	15,117	211	113,392	126,738
2000	8,295	30,014	27,531	65,840	1,785	2,035	1,380	5,872	4,141	924	913	17,050	137	83,027	92,252
2001	11,022	41,179	63,523	115,724	656	4,517	2,108	10,541	5,177	816	1,029	24,844	147	140,715	156,350
2002	11,410	48,848	50,000	110,258	1,014	4,050	1,752	6,988	5,378	896	1,233	21,311	153	131,722	146,358
Average	10,242	40,014	47,018	97,274	1,152	3,534	1,747	7,800	4,899	879	1,058	21,068	146	118,488	131,653

2002 CHANGE FROM 2001															
Number	388	7,669	(13,523)	(5,466)	358	(467)	(356)	(3,553)	201	80	204	(3,533)	6	(8,993)	(9,992)
Percent	3%	16%	-27%	-5%	35%	-12%	-20%	-51%	4%	9%	17%	-17%	4%	-7%	-7%
Goals	c														
Lower	4,400	30,000	14,000	48,400	450	1,750	650	3,250	2,327	1,000	750	10,177	120	58,697	5,218
Point	6,800	36,000	17,500	60,300	734	2,200	800						150		
Upper	9,200	55,000	28,000	92,200	1,100	3,500	1,500	7,000	4,653	2,000	1,500	21,253	240	113,693	126,326
AVERAGE PERCENT OF POINT GOAL															
Year	Alsek	Taku	Stikine	Major SubT.	Situk	Chilkat	Andrew	Unuk ^d	Chickamin ^d	Blossom ^d	Keta ^d	Med. SubT. ^d	King Salmon	TOTAL ALL ^d	
75-79	173%	59%	50%	65%	179%		52%	136%	64%	42%	107%	67%	75%	79%	
80-89	153%	92%	140%	113%	148%		101%	219%	189%	230%	261%	174%	145%	146%	
90-99	201%	154%	166%	163%	214%	228%	138%	127%	91%	79%	118%	149%	141%	193%	
00-02	151%	111%	269%	161%	157%	161%	218%	240%	211%	88%	141%	207%	97%	202%	

^a From Stock Status and Escapement Goals for Chinook Salmon Stocks in Southeast Alaska (McPherson et al. 2003).

^b Index escapements are expanded for survey counting rates and unsurveyed tributaries; numbers in bold type are wier counts or mark-recapture estimates and not expanded; the total is expanded to the entire region, by 84% without Chilkat River escapement, by 90% with Chilkat River escapement included.

^c Escapement goals for Alsek, Unuk, Chickamin, Blossom, and Keta have yet to be formalized.

^d Average percent of the lower end of the escapement goal range, because there are no point goals for the four Behm Canal systems: Unuk, Chickamin, Blossom, and Keta Rivers.

Table 2. Southeast Alaska winter troll fishery chinook catches (including Annette Island catches), vessel landings, and catch per landing, by troll accounting year (October to September), years 1980 to 2002.

Year	Early Winter (Oct. to Dec.)			Late Winter (Jan. to Apr. 14)			Total Winter (Oct. to Apr. 14)			Annual Troll Total	Winter % of Annual Total
	Chinook	Landings	Catch/ Landing	Chinook	Landings	Catch/ Landing	Chinook	Landings	Catch/ Landing		
1980	4,002	528	8	3,608	406	9	7,610	934	8	303,874	3%
1981	1,737	279	6	7,027	744	9	8,764	1,023	9	248,791	4%
1982	4,865	535	9	6,857	764	9	11,722	1,299	9	242,315	5%
1983	12,517	926	14	17,340	1,424	12	29,857	2,350	13	269,790	11%
1984	14,223	1,217	12	17,153	1,980	9	31,376	3,197	10	235,699	13%
1985	14,235	1,016	14	7,234	1,090	7	21,469	2,106	10	216,089	10%
1986	16,779	1,202	14	6,147	832	7	22,926	2,034	11	237,698	10%
1987	18,453	1,404	13	10,075	994	10	28,528	2,398	12	242,562	12%
1988	44,774	2,626	17	15,684	1,784	9	60,458	4,410	14	231,185	26%
1989	24,426	2,354	10	9,872	1,402	7	34,298	3,756	9	235,609	15%
1990	17,617	1,128	16	15,513	1,476	11	33,130	2,604	13	287,100	12%
1991	19,920	1,094	18	20,622	1,915	11	40,542	3,009	13	263,091	15%
1992	28,277	1,952	14	43,554	2,673	16	71,831	4,625	16	183,354	39%
1993	20,275	1,210	17	42,447	2,365	18	62,722	3,575	18	226,561	28%
1994	35,193	1,132	31	21,175	1,498	14	56,368	2,630	21	186,167	30%
1995	10,382	642	16	7,486	871	9	17,868	1,513	12	138,115	13%
1996	6,008	430	14	3,393	447	8	9,401	877	11	141,334	7%
1997	13,252	627	21	7,705	524	15	20,957	1,151	18	246,462	9%
1998	9,783	578	17	23,021	1,423	16	32,804	2,001	16	191,983	17%
1999	13,989	594	24	16,988	1,432	12	30,977	2,026	15	145,898	21%
2000	17,494	813	22	18,561	1,486	12	36,055	2,299	16	158,717	23%
2001	11,198	939	12	11,384	1,359	8	22,582	2,298	10	153,218	15%
2002	17,178	755	23	12,237	1,361	9	29,415	2,116	14	325,335	9%

Table 3. The number of salmon harvested and permits fished in the 2002 spring (Experimental and Terminal) troll fisheries.

DIST	SUB	FISHERY NAME	OPEN	CLOSE	PERMITS	CHINOOK	AK %
101	21	West Rock Exp Troll	29-Apr	2-May	11	Confidential ^a	6%
			6-May	9-May			
			13-May	16-May			
			20-May	23-May			
			27-May	30-May			
			3-Jun	6-Jun			
			10-Jun	13-Jun			
			17-Jun	20-Jun			
			24-Jun	29-Jun			
			30-Jun	30-Jun			
West Rock Exp Troll TOTAL					11	923	19%
101	23	Felice Strait Exp Troll	29-Apr	2-May	Confidential ^a	Confidential ^a	
			6-May	9-May			
			13-May	16-May			
			20-May	23-May			
			27-May	30-May			
			3-Jun	6-Jun			
			10-Jun	13-Jun			
			17-Jun	20-Jun			
			24-Jun	27-Jun			
			Felice Strait Exp Troll TOTAL				
101	29	Gravina Is. Exp Troll	15-Apr	20-Apr	47	Confidential ^a	63%
			21-Apr	27-Apr			
			28-Apr	4-May			
			5-May	11-May			
			12-May	18-May			
			19-May	25-May			
			26-May	1-Jun			
			2-Jun	8-Jun			
			9-Jun	15-Jun			
			16-Jun	22-Jun			
			23-Jun	29-Jun			
			30-Jun	30-Jun			
			Gravina Is. Exp Troll TOTAL				
101	45	Mountain Point Exp Troll	15-Apr	20-Apr	24	Confidential ^a	62%
			21-Apr	27-Apr			
			28-Apr	4-May			
			5-May	11-May			
			12-May	18-May			
			19-May	25-May			
			26-May	1-Jun			
			2-Jun	8-Jun			
			9-Jun	15-Jun			
			16-Jun	22-Jun			
			23-Jun	29-Jun			
			30-Jun	30-Jun			
			Mountain Point Exp Troll TOTAL				

Table 3. Cont.

DIST	SUB	FISHERY NAME	OPEN	CLOSE	PERMITS	CHINOOK	AK %
101	90	West Behm Canal Exp Troll	29-Apr	2-May			
			6-May	9-May			
			13-May	16-May		Confidential ^a	
			20-May	23-May			
			27-May	30-May		Confidential ^a	
			3-Jun	6-Jun		Confidential ^a	
			10-Jun	13-Jun		Confidential ^a	
			17-Jun	20-Jun		Confidential ^a	
			24-Jun	29-Jun			
			30-Jun	30-Jun			
West Behm Canal Exp Troll TOTAL					6	157	37%
101	95	Neets Bay Terminal Troll	1-May	4-May			
			5-May	11-May			
			12-May	18-May		Confidential ^a	
			19-May	25-May			
			26-May	1-Jun		Confidential ^a	
			2-Jun	8-Jun		Confidential ^a	
			9-Jun	15-Jun		Confidential ^a	
			16-Jun	20-Jun		Confidential ^a	
Neets Bay Terminal Troll TOTAL						Confidential ^a	100%
102	80	Ship Is. Shore Exp Troll	29-Apr	2-May			
			6-May	9-May			
			13-May	16-May			
			20-May	23-May			
			27-May	30-May			
			3-Jun	6-Jun			
			10-Jun	13-Jun			
			17-Jun	20-Jun		Confidential ^a	
			24-Jun	27-Jun			
			Ship Is. Shore Exp Troll TOTAL				
105	41	Sumner St. Exp Troll	22-Apr	25-Apr	6	72	15%
			29-Apr	2-May	6	111	
			6-May	9-May	10	155	
			13-May	16-May	9	124	
			20-May	22-May	8	158	53%
			27-May	27-May	3	7	
			3-Jun	5-Jun		Confidential ^a	
			10-Jun	12-Jun	4	81	15%
			17-Jun	19-Jun	3	12	
			24-Jun	27-Jun	6	90	
Sumner St. Exp Troll TOTAL					24	843	13%
106	30	Steamer Point Exp Troll	29-Apr	2-May		Confidential ^a	
			6-May	9-May			
			13-May	16-May			
			20-May	23-May		Confidential ^a	
			27-May	30-May		Confidential ^a	
			3-Jun	6-Jun		Confidential ^a	
			10-Jun	13-Jun		Confidential ^a	
			17-Jun	20-Jun	3	66	
24-Jun	29-Jun	3	53				
Steamer Point Exp Troll TOTAL					8	284	18%

Table 3. Cont.

DIST	SUB	FISHERY NAME	OPEN	CLOSE	PERMITS	CHINOOK	AK %
106	41	Snow Passage Exp Troll	29-Apr 6-May 13-May 20-May 27-May 3-Jun 10-Jun 17-Jun 24-Jun	2-May 9-May 16-May 23-May 30-May 6-Jun 13-Jun 20-Jun 27-Jun		Confidential ^a	
Snow Passage Exp Troll TOTAL						Confidential ^a	
106	44	Wrangell Narrows Term. Troll	1-Jun 2-Jun 9-Jun	1-Jun 8-Jun 10-Jun	5 28 22	30 573 314	
Wrangell Narrows Term. Troll TOTAL					32	917	100%
107	45	Earl West Cove Term. Troll	15-Jun 16-Jun 23-Jun 30-Jun 7-Jul 14-Jul 21-Jul 28-Jul 4-Aug 11-Aug 18-Aug 25-Aug 1-Sep 8-Sep 15-Sep 22-Sep 29-Sep 6-Oct 13-Oct 20-Oct 27-Oct 3-Nov 10-Nov	15-Jun 22-Jun 29-Jun 6-Jul 13-Jul 20-Jul 27-Jul 3-Aug 10-Aug 17-Aug 24-Aug 31-Aug 7-Sep 14-Sep 21-Sep 28-Sep 5-Oct 12-Oct 19-Oct 26-Oct 2-Nov 9-Nov 10-Nov			
Earl West Cove Term. Troll TOTAL					0	0	0%
108	30	Baht Harbor Exp Troll	29-Apr 6-May 13-May 20-May 27-May 3-Jun 10-Jun 17-Jun 24-Jun 30-Jun	2-May 9-May 16-May 23-May 30-May 6-Jun 13-Jun 20-Jun 29-Jun 30-Jun		Confidential ^a 38 27 66 40 97 Confidential ^a Confidential ^a Confidential ^a	46% 32%
Baht Harbor Exp Troll TOTAL					16	323	27%

Table 3. Cont.

DIST	SUB	FISHERY NAME	OPEN	CLOSE	PERMITS	CHINOOK	AK %
108	40	Craig Point Exp Troll	29-Apr	2-May			
			6-May	9-May		Confidential ^a	
			13-May	16-May		Confidential ^a	
			20-May	23-May		Confidential ^a	
			27-May	30-May	3	10	
			3-Jun	6-Jun	8	244	5%
			10-Jun	13-Jun			
			17-Jun	20-Jun		Confidential ^a	
		24-Jun	27-Jun				
Craig Point Exp Troll TOTAL					10	279	5%
109	10	Little Port Walter Exp Troll	29-Apr	2-May		Confidential ^a	
			13-May	16-May			
			20-May	23-May			
			27-May	30-May			
			3-Jun	6-Jun			
			10-Jun	13-Jun		Confidential ^a	
			17-Jun	20-Jun		Confidential ^a	
			24-Jun	27-Jun			
Little Port Walter Exp Troll TOTAL					4	31	0%
109	51	Kingsmill Point Exp Troll	15-Apr	20-Apr	3	21	
			21-Apr	27-Apr	3	35	
			28-Apr	4-May		Confidential ^a	
			5-May	11-May	9	147	7%
			12-May	18-May	9	104	1%
			19-May	25-May	13	437	22%
			26-May	1-Jun	10	388	30%
			2-Jun	8-Jun	15	601	77%
			9-Jun	15-Jun	17	367	63%
			16-Jun	22-Jun	10	179	19%
			23-Jun	29-Jun	7	77	
	30-Jun	30-Jun					
Kingsmill Point Exp Troll TOTAL					40	2376	41%
109	62	Tebenkof Bay Exp Troll	15-Apr	18-Apr			
			22-Apr	25-Apr	5	40	70%
			29-Apr	2-May			
			6-May	9-May			
			13-May	16-May		Error!	
			20-May	23-May		Confidential ^a	
			27-May	30-May		Confidential ^a	
			3-Jun	6-Jun			
			10-Jun	14-Jun			
			17-Jun	22-Jun			
			23-Jun	29-Jun		Confidential ^a	
	30-Jun	30-Jun					
Tebenkof Bay Exp Troll TOTAL					8	125	25%

Table 3. Cont.

DIST	SUB	FISHERY NAME	OPEN	CLOSE	PERMITS	CHINOOK	AK %
110	31	Frederick Sound Exp Troll	15-Apr	20-Apr			
			21-Apr	27-Apr			
			28-Apr	4-May		Confidential ^a	
			5-May	11-May			
			12-May	18-May			
			19-May	25-May			
			26-May	1-Jun		Confidential ^a	
			2-Jun	8-Jun	9	150	27%
			9-Jun	15-Jun		Confidential ^a	
			16-Jun	22-Jun	5	34	33%
			23-Jun	29-Jun		Confidential ^a	
			30-Jun	30-Jun			
Frederick Sound Exp Troll TOTAL					12	216	24%
112	12	Chatham Strait Exp Troll	15-Apr	20-Apr			
			21-Apr	27-Apr			
			28-Apr	4-May			
			5-May	11-May			
			12-May	18-May		Confidential ^a	
			19-May	25-May		Confidential ^a	
			26-May	1-Jun	3	30	34%
			2-Jun	8-Jun	17	641	48%
			9-Jun	15-Jun	19	500	46%
			16-Jun	22-Jun	15	230	42%
			23-Jun	29-Jun	4	23	
			30-Jun	30-Jun			
Chatham Strait Exp Troll TOTAL					47	1,435	45%
112	22	Hidden Falls Term. Troll	15-Apr	20-Apr			
			21-Apr	27-Apr			
			28-Apr	4-May			
			5-May	11-May			
			12-May	18-May			
			19-May	25-May	4	240	
			26-May	1-Jun	4	309	
			2-Jun	8-Jun	15	371	
			9-Jun	15-Jun	16	463	
			16-Jun	22-Jun	33	1034	
			23-Jun	29-Jun	32	1375	
			30-Jun	6-Jul	8	808	
			7-Jul	13-Jul			
			14-Jul	20-Jul			
			21-Jul	27-Jul			
			28-Jul	31-Jul			
Hidden Falls Term. Troll TOTAL					57	4,600	100%

Table 3. Cont.

DIST	SUB	FISHERY NAME	OPEN	CLOSE	PERMITS	CHINOOK	AK %
113	01	Western Channel Exp Troll	22-Apr	23-Apr		Confidential ^a	
			29-Apr	30-Apr	3	15	
			6-May	7-May	10	44	66%
			13-May	16-May	6	50	16%
			20-May	21-May	13	78	31%
			27-May	29-May	10	283	57%
			3-Jun	7-Jun	40	1820	37%
			10-Jun	12-Jun	26	766	34%
			17-Jun	17-Jun	40	1238	38%
Western Channel Exp Troll TOTAL					77	4299	38%
113	30	Redoubt Bay Exp Troll	22-Apr	23-Apr			
			29-Apr	30-Apr			
			6-May	7-May		Confidential ^a	
			13-May	14-May		Confidential ^a	
			20-May	21-May		Confidential ^a	
			27-May	29-May		Confidential ^a	
			3-Jun	5-Jun		Confidential ^a	
			10-Jun	12-Jun	3	49	32%
			17-Jun	19-Jun	3	36	
Redoubt Bay Exp Troll TOTAL					6	97	24%
113	31	Biorka Island Exp Troll	22-Apr	23-Apr	6	26	
			29-Apr	30-Apr	14	222	7%
			6-May	7-May	14	56	63%
			13-May	14-May	11	59	100%
			20-May	21-May	7	114	13%
			27-May	29-May	5	44	
			3-Jun	5-Jun	14	802	24%
Biorka Island Exp Troll TOTAL					34	1323	29%
113	35	Eastern Channel Exp Troll	15-Apr	20-Apr	3	6	
			21-Apr	27-Apr	5	12	
			28-Apr	4-May	11	63	85%
			5-May	11-May	22	187	12%
			12-May	18-May	21	177	33%
			19-May	25-May	28	367	53%
			26-May	1-Jun	41	780	58%
			2-Jun	8-Jun	37	984	69%
			9-Jun	15-Jun	59	1911	85%
			16-Jun	22-Jun	45	1693	67%
			23-Jun	29-Jun	43	1121	69%
			30-Jun	30-Jun	3	613	
			Eastern Channel Exp Troll TOTAL				

Table 3. Cont.

DIST	SUB	FISHERY NAME	OPEN	CLOSE	PERMITS	CHINOOK	AK %
113	37	Inner Silver Bay Exp Troll	15-Apr	20-Apr			
			21-Apr	27-Apr			
			28-Apr	4-May			
			5-May	11-May			
			12-May	18-May			
			19-May	25-May	4	58	86%
			26-May	1-Jun	10	271	100%
			2-Jun	8-Jun	10	280	75%
			9-Jun	15-Jun	12	600	100%
			16-Jun	22-Jun	29	1426	57%
			23-Jun	29-Jun	15	494	49%
			30-Jun	30-Jun			
			Inner Silver Bay Exp Troll TOTAL				
113	41	Middle Island Exp Troll	15-Apr	20-Apr		Confidential ^a	
			21-Apr	27-Apr	3	23	
			28-Apr	4-May	15	108	13%
			5-May	11-May	14	133	20%
			12-May	18-May	24	155	27%
			19-May	25-May	10	66	100%
			26-May	1-Jun	9	76	
			2-Jun	8-Jun	9	96	
			9-Jun	15-Jun	20	701	45%
			16-Jun	22-Jun	21	562	19%
			23-Jun	29-Jun	18	359	66%
			30-Jun	30-Jun			
			Middle Island Exp Troll TOTAL				
113	62	Salisbury Sound Exp Troll	15-Apr	18-Apr		Confidential ^a	
			22-Apr	25-Apr			
			29-Apr	2-May			
			6-May	9-May			
			13-May	16-May	11	146	39%
			20-May	23-May	11	91	68%
			27-May	31-May		Confidential ^a	
			3-Jun	7-Jun	6	120	39%
			10-Jun	15-Jun	6	282	100%
			16-Jun	21-Jun	7	207	35%
			23-Jun	29-Jun	9	236	43%
			30-Jun	30-Jun			
			Salisbury Sound Exp Troll TOTAL				
113	95	Lisianski Inlet Exp Troll	13-May	16-May	18	534	14%
			20-May	23-May	23	671	16%
			27-May	27-May	12	154	40%
			3-Jun	3-Jun	11	125	33%
Lisianski Inlet Exp Troll TOTAL					30	1,484	19%

Table 3. Cont.

DIST	SUB	FISHERY NAME	OPEN	CLOSE	PERMITS	CHINOOK	AK %			
113	97	Stag Bay Exp Troll	13-May	16-May		Confidential ^a				
			20-May	23-May						
			27-May	30-May						
						3-Jun	6-Jun			
						10-Jun	14-Jun	4	33	
						17-Jun	21-Jun	5	54	
						23-Jun	29-Jun	4	69	
			30-Jun	30-Jun						
Stag Bay Exp Troll TOTAL					9	159	0%			
114	21	Cross Sound Pink/Chum Exp Troll	10-Jun	14-Jun						
			17-Jun	21-Jun	7	31				
			24-Jun	28-Jun	8	40	4%			
Cross Sound Pink/Chum Exp Troll TOTAL					10	71	2%			
114	23	South Passage Exp Troll	13-May	16-May		Confidential ^a				
			20-May	23-May						
			27-May	30-May						
						3-Jun	6-Jun	3	25	100%
						10-Jun	14-Jun		Confidential ^a	
						17-Jun	22-Jun			
						23-Jun	29-Jun			
			30-Jun	30-Jun						
South Passage Exp Troll TOTAL					5	59	73%			
114	25	Homeshore Exp Troll	15-Apr	18-Apr		Confidential ^a				
			22-Apr	25-Apr						
			29-Apr	2-May	11	50	32%			
			6-May	9-May	8	84	51%			
			13-May	16-May	8	104	81%			
			20-May	24-May	14	146	23%			
			27-May	31-May	12	267	40%			
			2-Jun	8-Jun	7	77	42%			
			9-Jun	15-Jun	8	73	53%			
						16-Jun	22-Jun		Confidential ^a	
						23-Jun	29-Jun		Confidential ^a	
						30-Jun	30-Jun			
Homeshore Exp Troll TOTAL					36	824	43%			
114	27	Pt. Sophia Exp Troll	15-Apr	20-Apr		Confidential ^a				
			21-Apr	27-Apr	6		25	4%		
			28-Apr	4-May						
			5-May	11-May	4	15				
			12-May	18-May	4	10				
			19-May	25-May		Confidential ^a				
			26-May	1-Jun	6	54	85%			
			2-Jun	8-Jun	10	89	75%			
			9-Jun	15-Jun	15	209	60%			
			16-Jun	22-Jun	9	72	4%			
			23-Jun	29-Jun	4	13				
						30-Jun	30-Jun		Confidential ^a	
Pt. Sophia Exp Troll TOTAL					28	513	49%			

Table 3. Cont.

DIST	SUB	FISHERY NAME	OPEN	CLOSE	PERMITS	CHINOOK	AK %
114	50	Port Althorp Exp Troll	13-May	16-May	11	316	28%
			20-May	23-May	9	221	1%
			27-May	29-May	17	433	20%
			3-Jun	4-Jun	15	253	44%
			10-Jun	12-Jun	17	476	25%
			17-Jun	19-Jun	17	764	19%
Port Althorp Exp Troll TOTAL					38	2,463	22%
SPRING EXP SUBTOTAL					397	37610	48%
SPRING TERMINAL SUBTOTAL					91	5612	100%
GRAND TOTAL					434	43222	54%

^a Catches omitted from weeks where less than 3 permits made landings, and therefore, Totals may not reflect the sum of weekly values.

Table 4. Estimated harvest and Alaska hatchery add-on/terminal exclusion of chinook salmon by commercial and sport fisheries in Southeast Alaska, 2002.

WILD TERMINAL EXCLUSION CATCHES				Alaska Wild Total Contribution				Terminal	
Fishery		Total Catch	Common Property Catch	General Fisheries	Terminal	Subtotal	Exclusion	Exclusion Base	Treaty Catch
Gillnet	Stikine	0	0	0	0	0	0	0	0
	Taku	1,465	1,465	0	0	0	0	1,708	1,465
Setnet	Yakutat	2,510	2,000	0	510	510	510	2,000	2,000
Sport	Stikine	1,860	1,860	0	0	0	0	2,302	1,860
	Taku	2,471	1,857	0	614	614	614	1,857	1,857
	Yakutat	124	124	0	0	0	0	200	124
Total Terminal Exclusion		8,430	7,306	0	1,124	1,124	1,124		7,306

ANNETTE ISLAND CATCHES				Alaska Hatchery Total Contribution				Treaty Catch
Fishery		Total Catch	Common Property Catch	General Fisheries	Terminal	Subtotal	Addon	
Seine		550	550	0	0	0	0	550
Gillnet		1,268	1,268	734	0	734	608	660
Trap		0	0	0	0	0	0	0
Troll		0	0	0	0	0	0	0
Total Annette Island		1,818	1,818	734	0	734	608	1,210

GENERAL PURSE SEINE AND GILLNET CATCHES				Alaska Hatchery Total Contribution				Terminal	
Fishery		Total Catch	Common Property Catch	General Fisheries	Terminal	Subtotal	Addon	Exclusion Base	Treaty Catch
Seine		17,145	6,382	953	10,763	11,716	11,553	322	5,592
Gillnet		8,751	4,417	1,439	4,334	5,773	5,526		3,225
Setnet		0	0	0	0	0	0		0
Total Net Fisheries (including Annette Island) *		31,689	16,082	3,126	15,607	18,734	18,196		13,493

Table 4. Cont.

TROLL CATCHES		Alaska Hatchery Total Contribution				Terminal	
Fishery	Total Catch	General Fisheries	Terminal	Subtotal	Addon	Exclusion Base	Treaty Catch
Winter Fishery							
Oct. 11–Dec. 31	17,152	743	0	743	616		16,536
Jan. 1–Apr. 14	12,237	1,215	0	1,215	1,006		11,231
Winter Total	29,389	1,958	0	1,958	1,622		27,767
Spring Fishery							
Spring Hatchery	37,610	17,035	0	17,035	14,107		23,503
Hatchery Access	0	0	0	0	0		0
Terminal	6,040	0	5,862	5,862	5,862	178	178
Spring Total	43,650	17,035	5,862	22,896	19,968		23,682
Summer Fishery							
July 1–18	186,998	4,872	0	4,872	4,035		182,963
Aug. 12–Sep. 2	65,266	1,563	0	1,563	1,294		63,972
	0	0	0	0	0		0
	0	0	0	0	0		0
Summer Total	252,264	6,435	0	6,435	5,329		246,935
Total Troll (including Annette Island)	325,303	25,428	5,862	31,290	26,919		298,384

SPORT CATCH			Alaska Hatchery Total Contribution				Terminal	
Fishery	Total Catch	Common Property Catch	General Fisheries	Terminal	Subtotal	Addon	Exclusion Base	Treaty Catch
Traditional	82,602	70,902	19,731	11,700	31,431	28,040		54,562
Total Sport *	87,057	74,743	19,731	12,314	32,045	28,654		58,403

GRAND TOTALS *	444,049		48,286	33,783	82,069	73,769	8,567	370,280
			HATCHERY BASE					5,000
			Risk Adjustment Factor					3,299
			Wild Terminal Exclusion					1,124
			Alaska Hatchery Add-on					72,645

* The net, sport, and grand hatchery contribution totals include the contributions from the wild terminal exclusion areas.

Table 5. Chinook salmon catch per fleet day (rounded to nearest hundred) in the Southeast Alaska troll fishery during the general summer season, from April 15 to September 30, 1984 to 2002.^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	
	Total	45	207,000	4,600	
1985	Jun 3–12	10	66,000	6,600	1.27
	Jul 1–22	22	114,000	5,200	
	Aug 25–26	2	13,000	8,300	
	Total	34	193,000	5,700	
1986	Jun 20–Jul 15	26	155,000	6,000	1.48
	Aug 21–26	6	31,900	5,300	
	Sep 1–9	9	27,500	3,000	
	Total	41	214,400	5,200	
1987	Jun 20–Jul 12	23	209,000	9,100	1.78
1988	Jul 1–12	12	162,000	13,500	2.04
1989	Jul 1–13	13	167,000	12,800	1.85
1990	Jul 1–22	22	200,000	9,100	1.84
	Aug 23–24	2	12,000	3,000	
	Total	24	212,000	8,800	
1991	Jul 1–8	8	154,000	20,500	1.82
1992	Jul 1–4	4	66,000	18,900	1.65
	Aug 23	1	7,000	7,000	
	Total	4.5	73,000	16,200	
1993	Jul 1–6	6	101,000	16,800	1.71
	Aug 21–25	5	25,000	5,000	
	Sep 12–20	9	19,000	2,100	
	Total	20	145,000	7,200	
1994	Jul 1–7	7	98,000	14,000	1.55
	Aug 29–Sep 2	5	20,000	4,000	
	Total	12	118,000	9,800	
1995	Jul 1–10	10	76,000	7,600	0.99
	Jul 30–Aug 5	7	21,000	3,000	
	Total	17	97,000	5,700	
1996	Jul 1–10	10	76,000	7,600	0.9
	Aug 19–20	2	8,000	4,000	
	Total	12	84,000	7,000	
1997	Jul 1–7	7	122,000	17,400	1.37
	Aug 18–24	7	38,000	5,400	
	Aug 30–Sep 5	7	22,000	3,100	
	Total	21	182,000	8,700	
1998	Jul 1–11	11	103,000	9,400	1.25
	Aug 20–Sep 30	42	36,000	960	
	Total	53	139,000	2,600	
1999	Jul 1–6	6	78,000	13,000	1.16
	Aug 18–Aug 22	5	16,000	3,200	
	Total	11	94,000	8,500	

Table 5. Cont.

Year	Fishing period	Number of days	Chinook catch	Fish per fleet day	Chinook abundance index ^b
2000	Jul 1–5	5	52,100	10,420	
	Aug 11–12	2	11,300	5,650	
	Aug 23–30	8	24,900	3,113	
	Sep 12–20	9	5,500	611	
	Total	24	93,800	3,908	1.14
2001	July 1–6	6	64,854	10,809	
	Aug 18–Sept 5	19	30,509	1,606	
	Total	25	95,363	3,815	1.14
2002	July 1–18	18	186,998	10,389	
	Aug 12–Sept 2	22	65,261	2,966	
	Total	40	252,259	6,306	1.74

^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. 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, from April 15 to September 30, 1978 to 2002.

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	76,691	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	18,385
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
1985	33.6	135.4	June 3–Jun 12 July 1–Jul 22 Aug 25–Aug 26 ^c	10 22 1.6	30,628	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	35,725
1986	41	128	Jun 20–Jul 15 Aug 21–Aug 26 Sept 1–Sep 09	26 6 9	33,079	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	34,173
1987	23	146	Jun 20–Jul 12	23	19,077	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	37,214

Table 6. Cont.

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	
1988	12	157	July 1–Jul 12	12	9,507	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 ^d 10 (all)	47	27,275	
1989 ^e	13	156	Jul 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	38,404	
1990 ^e	24	145	Jul 1–Jul 22 Aug 23–Aug 24	22 2	17,172	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	29,525	
1991 ^e	7.5	161.5	Jul 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	32,565	
1992 ^e	4.5	164.5	Jul 1–Jul 04 Aug 23–Aug 24	3.5 1	2,881	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 ^e	20	149	Jul 01–Jul 06 Aug 21–Aug 25 Sep 1–Sep 20	6 5 9	12,036	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	30,502	
1994 ^e	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	35,716	
1995	17	152	Jul 01–Jul 10 Jul 30–Aug 05	10 7	8,420	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	23,435	
1996	12	157	Jul 01–Jul 10 Aug 19–Aug 20	10 2	5,282	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	23,167	

Table 6. Cont.

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
1997	21	148	Jul 01–Jul 07	7	9,126	Apr 15–Jun 30	77(all)	49	17,653
			Aug 18–Aug 24	7		Jul 08–Aug 07	30		
			Aug 30–Sep 05	7		Aug 08–Aug 17	10(all)		
						Aug 25–Aug 29	5		
1998	53	116	Jul 01–Jul 11	11	12,517	Apr 15–Jun 30	77(all)	30	11,928
			Aug 20–Sep 30	42		Jul 12–Aug 11	30		
						Aug 12–Aug 19	8(all)		
1999	11	158	Jul 01–Jul 06	6	4,678	Apr 15–Jun 30	77(all)	75	21,879
			Aug 18–Aug 22	5		Jul 07–Aug 12	36		
						Aug 13–Aug 17	5(all)		
						Aug 23–Sep 30	39		
2000	24		Jul 01–Jul 05	5	6,784	Apr 15–Jun 30	77(all)	48	15,422
			Aug 11–Aug 12	2		Jul 06–Aug 10	36		
			Aug 23–Aug 30	8		Aug 13–Aug 22	10(all)		
			Sep 12–Sep 20	9		Aug 31–Sep 11	12		
2001	25		Jul 01–Jul 06	6	7,364	Apr 15–Jun 30	77(all)	58	15,413
			Aug 18–Sep 05	19		Jul 07–Aug 12	37		
						Aug 13–Aug 17	5(all)		
						Sep 06–Sep 30	25		
2002	40		Jul 01–Jul 18	18	10,457	Apr 15–Jun 30	77(all)	50	10,211
			Aug 12–Sep 02	22		Jul 19–Aug 09	22		
						Aug 10–Aug 11	2(all)		
						Sep 02–Sep 30	28		

^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 In 1988, the southern areas of southeast Alaska were closed due to coho conservation concerns.

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

^f In 1997, the northern areas of southeast Alaska were closed due to coho conservation concerns.

Table 7. Contribution in numbers and percent of Alaska hatchery chinook salmon in the winter, experimental, terminal, hatchery access, and general summer troll fisheries, from 1989 to 2002.

Fishery	Year	Total Catch ^a	Alaskan Hatcheries	
			Number	Percent
Winter	1989	34,300	4,915	14%
	1990	33,100	4,433	13%
	1991	42,600	10,246	24%
	1992	71,800	6,977	10%
	1993	62,700	3,862	6%
	1994	56,400	1,957	3%
	1995	17,900	2,131	12%
	1996	9,400	1,653	18%
	1997	20,900	1,740	8%
	1998	32,800	2,362	7%
	1999	31,000	2,172	7%
	2000	36,100	3,067	8%
	2001	22,600	2,806	12%
	2002	29,400	2,000	7%
		<i>average</i>		<i>11%</i>
Experimental	1989	2,500	854	34%
	1990	7,100	4,250	60%
	1991	14,000	6,159	44%
	1992	11,200	5,378	48%
	1993	15,800	6,574	42%
	1994	11,300	4,922	44%
	1995	21,700	13,987	64%
	1996	31,000	14,900	48%
	1997	33,200	13,500	41%
	1998	19,200	5,000	26%
	1999	21,000	8,800	42%
	2000	21,005	11,300	54%
	2001	28,200	13,700	49%
	2002	37,600	17,000	45%
		<i>average</i>		<i>46%</i>
Terminal ^b	1989	900	900	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%
	1998	1,300	1,300	100%
	1999	2,400	2,400	100%
	2000	8,000	8,000	100%
	2001	7,100	7,100	100%
	2002	6,000	6,000	100%
		<i>average</i>		<i>100%</i>

Table 7. Cont.

Fishery	Year	Total Catch ^a	Alaskan Hatcheries	
			Number	Percent
Hatchery Access	1989	30,500	3,800	12%
	1990	35,000	6,800	19%
	1991	46,500	8,600	18%
	1992	23,600	6,500	28%
		<i>average</i>		<i>19%</i>
General Summer	1989	167,000	5,225	3%
	1990	212,000	14,281	7%
	1991	154,000	6,606	4%
	1992	72,600	2,460	3%
	1993	145,200	4,931	3%
	1994	118,400	5,341	5%
	1995	97,200	9,724	10%
	1996	84,600	4,800	6%
	1997	182,800	4,200	2%
	1998	138,700	3,800	3%
	1999	94,500	3,700	4%
	2000	93,800	6,900	7%
	2001	95,400	5,000	5%
	2002	252,300	6,400	3%
	<i>average</i>		<i>5%</i>	
Total ^c	1989	235,200	15,700	7%
	1990	287,216	29,800	10%
	1991	263,000	37,500	14%
	1992	183,300	25,400	14%
	1993	226,500	18,200	8%
	1994	186,200	12,300	7%
	1995	138,100	27,100	20%
	1996	141,400	37,800	27%
	1997	246,400	28,900	12%
	1998	192,000	12,500	7%
	1999	148,900	17,100	11%
	2000	158,905	29,300	18%
	2001	153,300	28,600	19%
	2002	325,300	31,400	10%
	<i>average</i>		<i>13%</i>	

^a Does not include Annette Island catches

^b Terminal areas are accounted as 100% Alaskan hatchery.

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

Table 8. Minimum estimated contribution of hatchery chinook salmon to sampled marine boat sport fisheries of Southeast Alaska, 2002.

Region/Hatchery	Ketchikan 4/29–9/29	Craig 4/29–9/15	Petersburg 5/06–7/07	Gustavus 5/27–9/15	Sitka 4/29–9/29	Juneau 4/29–9/29	Total
British Columbia	147	111	0	0	2,261	0	2,519
Conuma (WCVI) ^a	124	53	0	0	693	0	870
Nitinat (WCVI)	23	8	0	0	766	0	797
Robertson Creek (WCVI)	0	50	0	0	802	0	852
Other Non-Alaska	328	178	6	18	2,799	120	3,449
Non Alaska Total	475	289	6	18	5,060	120	5,968
Alaska							
Crystal Lake	27	13	275				315
Crystal Lake/Earl West			10	13			23
Crystal Lake/Neets Bay	259	9			91	50	409
Deer Mountain	12				5		17
Macaulay (Gastineau)				10	57	3,295	3,362
Hidden Falls				31	12	453	496
Little Port Walter				1	33	20	54
Medvejie				11	1,785	12	1,808
Neets Bay	264	22	10		61		357
Sheldon Jackson					7		7
Tamgas Creek	1,451				20		1,471
Whitman Lake	2,587				306	9	2,902
Alaska Total	4,600	44	295	66	2,377	3,839	11,221
All area total	5,075	333	301	84	7,437	3,959	18,875
Creel Survey Harvest^b	7,346	11,133	1,122	1,375	24,834	6,430	52,240
Percent Alaska Hatchery	63%	0%	26%	5%	10%	60%	21%
Percent Alaska Hatchery 5- year average	53%	4%	24%	12%	11%	39%	18%
Percent Total Hatchery	69%	3%	27%	6%	30%	62%	33%

^a WCVI = West Coast Vancouver Island hatchery stock.

^b Not all expanded to entire area. Craig, Petersburg, and Wrangell estimates are based on catch sampling programs only. Additional terminal area Alaska hatchery harvests included about 1212 fish (Gastineau/Snettisham) in the Juneau area and 3685 fish (Crystal Lake) in the Petersburg area.

Table 9. Annual Southeast Alaska commercial and recreational chinook salmon harvests and Alaska hatchery contributions, in thousands of fish, from 1965 to 2002.

Year	Commercial Fisheries			Sport Fisheries ^c	Total	AK Hatchery Harvest	Percent AK Hatchery	Total Less AK Hatchery
	Troll ^a	Net ^b	Subtotal					
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	33	252	25	276	13	5%	263
1986	238	22	260	23	283	17	6%	265
1987	243	16	258	24	282	24	9%	258
1988	231	22	252	26	278	29	10%	248
1989	236	24	260	31	291	29	10%	257
Ave. 1985-89	233	23	256	26	282	22	8%	258
1990	288	28	316	51	367	56	15%	311
1991	264	35	299	60	359	66	18%	293
1992	184	32	216	43	259	44	17%	215
1993	227	28	255	49	304	41	13%	263
1994	186	36	222	42	264	37	14%	227
Ave. 1990-94	230	32	262	49	311	49	16%	262
1995	138	48	186	50	236	69	29%	167
1996	141	37	178	58	236	88	37%	148
1997	246	25	271	72	343	62	18%	281
1998	192	24	216	55	271	33	12%	238
1999	146	33	179	72	251	58	23%	193
Ave. 1995-99	173	33	206	61	267	62	24%	205
2000	159	41	200	63	263	84	32%	179
2001	153	38	191	68	259	79	31%	180
2002	325	32	357	87	444	77	17%	367

^a Troll catches prior to 1980 are reported by calendar year. From 1981 to 2002, catches are for the catch accounting year, from October 1 to September 30.

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

^c Estimates of sport catches for 1965 to 76 based on 1977 to 80 average catch per capita data. Sport catches for 1977 to 2001 based on statewide postal harvest surveys. Sport harvest for 2002 is based on preliminary creel survey data, pending compilation of statewide postal harvest surveys.

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

FRY		Brood Year																									
Facility	Release Site	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
BEAVER FALLS	BRENNAN LK						109.3																				
BIG BOULDER INSTREAM	BIG BOULDER CR															25.5	24.3	45.1	62								
CRYSTAL LAKE	FARRAGUT LK							21.5	12						66.5	95.8	125.1										
CRYSTAL LAKE	FARRAGUT R						22.8	23.8																			
CRYSTAL LAKE	GEN GEN LK OHMER CR						13.4																				
CRYSTAL LAKE	HARDING R									30.5				31.2		41.8											
CRYSTAL LAKE	TAHINI R							43	46.5																		
DEER MOUNTAIN	BOLD IS LK							27.9																			
DEER MOUNTAIN	BRENNAN LK							225.7																			
MACAULAY	BIG BOULDER CR														44.8	23.4	28.1										
MACAULAY	TAHINI R														62.6												
HIDDEN FALLS	ELIZA LK								130																		
HIDDEN FALLS	FARRAGUT LK												29.4														
HIDDEN FALLS	INDIAN R								51							122.1											
JERRY MYERS	TAHINI R												30.1	36.3													
LITTLE PORT WALTER	BANNER LK							96.1																			
LITTLE PORT WALTER	LARRY LK				15.5																						
LITTLE PORT WALTER	OSPREY LK						141.9																				
LITTLE PORT WALTER	TRANQUIL LK				6.6																						
NEETS BAY	LONG LK																				29.8	273.6	248.7	301	257	250	
SNETTISHAM	INDIAN LK																283										
SNETTISHAM	INDIAN R										269																
SNETTISHAM	REDOUBT LK							911																			
WHITMAN LAKE	CARROLL R				78.3																						
	<i>Total Fry Releases</i>				100		287	438	1,151	31	269		91	36	216	241	461	45	62		30	274	249	301	257	250	

AGE 0 SMOLTS		Brood Year																									
Facility	Release Site	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
DEER MOUNTAIN	CRAB BAY								71	48																	
DEER MOUNTAIN	WARD COVE									171																	
CRYSTAL LAKE	CRYSTAL CR	14.6	13.7		59.1																						
DEER MOUNTAIN	KETCHIKAN CR																										
DEER MOUNTAIN	THOMAS BASIN					20.6	304.9	227	284																		
DEER MOUNTAIN	THORNE BAY								68	83																	
LITTLE PORT WALTER	L PORT WALTER	28.9							102.4	90.2	4.2																
MEDVEJIE	BEAR COVE																						205.6	309.5	0	250	
NEETS BAY	NEETS BAY						152.1	407.2	2299.7	2733	8.5			29.5													
PORT ARMSTRONG	JETTY CR									75.6																	
TAMGAS CREEK	TAMGAS CR						70	150	555.4	1947.3	1756.3			770.6	179	968	996.4	411.1	964	197.1			102.2	187.5	300	271	
WHITMAN LAKE	CARROLL INLET								281	435				27.3													
WHITMAN LAKE	HERRING COVE							12.6																			
WHITMAN LAKE	NEETS BAY							53.9																			
	<i>Total Age 0 Smolt Releases</i>	44	14		59	21	581	797	3,662	5,583	1,769		27	800	179	968	996	411	964	197			308	497	300	521	

AGE 1 & 2 SMOLTS

Facility	Release Site	Brood Year																									
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
BELL ISLAND NET PENS	BELL ISLAND												5.9	5.3	5.7	5.3											
BURNETT INLET	BURNETT INLET									170	192.4	100.2	54.2														
BURRO CREEK	BURRO CR												7.1								16.4						
BURRO CREEK	TAIYA INLET													8.6	8.7	1.9	34.9	12.8	16								
CRYSTAL LAKE	ANITA BAY																						369	0	450	450	
CRYSTAL LAKE	CRYSTAL CR		42.2	273.8	137.9	566	135	351	432.5	550	479.4	542.3	434.1	520.4	463	443.4	451.9	501.3	540	610.1	670.9	713.6	595.7	554.1	600	600	
CRYSTAL LAKE	EARL WEST COVE							98	251.9	482.7	394.2	486.5	399.6	368.1	436.3	316.1	203.6	241.6	396.8	386.4	364.4	441					
CRYSTAL LAKE	NEETS BAY																	338.8	404.3	347.3	421.8	416.3	452.6	450	450		
CRYSTAL LAKE	OHMER CR				100		201				228.6	342.5															
DEER MOUNTAIN	BIG SALT									51			25														
DEER MOUNTAIN	KETCHIKAN CR	72.1	65.7	118.8	127.9			46.4	42	70	166.8	85.6	79.1	127.8	71.3	85.1	98.7	80.8	97.9	101.3	51.4	90.3	89.5	96	100	100	
DEER MOUNTAIN	THOMAS BASIN				18.7																						
DEER MOUNTAIN	THORNE BAY									24.3	35.5	24.4															
MACAULAY	AUKE BAY																193.5	106.3	176.2	174.2	173.2		157.4	85		95	
MACAULAY	FISH CR																196.5	109.3	179.2	179.1	183.7	223.6	183.2	180	120	285	
MACAULAY	GASTINEAU CH											43.6	191.8	207.5	241.4	158.7	64.4	171.9	212.3	221.4	208.6	213.2	213	120	220		
MACAULAY	SHEEP CR																28.5	35.4	44.7								
MACAULAY	PULLEN CR																					91.6	32.1	95	59	130	
HIDDEN FALLS	KASNYKU BAY			80.5	70	97	92.1	98	159	337.9	310.8	184.1	1554	1755	1053	923.5	888.5	944.5	1070.9	1104.4	1232.7	1214.6	1145.8	1200	1200		
HIDDEN FALLS	LUTAK INLET												38.7														
HIDDEN FALLS	TAIYA INLET													30.2	56.4	38.8											
JERRY MYERS	TAIYA INLET							6.1	4.7	1.7	6.4	7.2	11.9	12.9	1.7	5.6	1.5		8.6	1.9				3	3	3	
LITTLE PORT WALTER	L PORT WALTER	166.7	30.6	20.3	120.2	175.3	215.1	207	212.2	287.1	142.1	173.5	186.8	275.5	215.3	150.4	208.4	152.2	202.2	107.7	106.5	134.1	109	0	200	150	
MEDVEJIE	BEAR COVE				26.6	21.9	108	227.5	174.6	743.5	921	866.8	1144.7	762.4	1083.4	1130.2	1004.9	1053	1119.5	1596.9	2043.1	1872.6	1953.4	1840	2100		
NEETS BAY	NEETS BAY					131.7	930.1	731.2	708.2	691.1	1608	388.2	728.5	377.4	215		556.8	1	138.1	194.1							
PORT ARMSTRONG	JETTY CR							69.9		89.9	144.3	62.2	110												120	90	
SHELDON JACKSON	CRESCENT BAY														89.4	103.4	78.4	57.8	79.1	41.3	11.4	88.1	53	28	0	0	
SHELDON JACKSON	SITKA SOUND						54.2	45.6	32.3	96.7	100.5	50.6	103.1														
SNETTISHAM	AUKE BAY						58.7	40	92	117	276.4	46	50.1	100.5	141												
SNETTISHAM	AUKE CR						26.9	50.5																			
SNETTISHAM	FISH CR						60.3	62.7	74	67	254.5	45.2	345	105.7	143												
SNETTISHAM	GASTINEAU CH											11	101.5														
SNETTISHAM	MONTANA CR						28.3	30.7	52	33																	
SNETTISHAM	PORT ARMSTRONG													308.8	1264.4												
SNETTISHAM	SHEEP CR						30.3	31.1	31.6	120	222.7																
SNETTISHAM	SPEEL ARM	26.7	39.2	234.1	286.2	109.1	192.7	832.4	181.4	876	1075.8																
TAMGAS CREEK	TAMGAS CR				48	391.2	424	2445.7	164.4	888.1	1233.8	671	527.2	338.6	284	142.2	167.2	381.7	523.3	501.2	485.6	369.3	540	245	340		
WHITMAN LAKE	CARROLL INLET						51.3	816.6	892.3	702.5	1004.8	1100	1217.8	1062.7	1147.9	513.3											
WHITMAN LAKE	HERRING COVE			145.6			27.2	119.1	98	151	55	75.4	73.7	106.2	109	123.2	233.6	239	697.2	713.3	741.9	779.8	782.6	689.6	706.9	750	
WHITMAN LAKE	NEETS BAY				135.2	144.2	100.2																				
	<i>Total Age 1&2 Smolt Releases</i>	239	165	598	854	1,416	1,224	3,079	6,525	4,158	6,366	9,175	4,813	7,788	7,442	5,585	4,460	4,242	5,317	5,707	6,314	6,954	6,458	6,036	6,214	6,963	

Table 11. Chinook smolt capacity of Southeast Alaska hatcheries, from 1996 to 2003.

Facility	Age at Release	Thousands of smolts							
		1996	1997	1998	1999	2000	2001	2002	2003
Burro Creek	1	40	50	100	100	100	100	0	0
Crystal Lake	1	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Deer Mountain	1	100	100	100	100	100	100	100	100
Macaulay	1	590	590	600	600	600	600	600	600
Hidden Falls	1	1,100	1,100	1,100	1,100	1,100	1,100	2,100	2,100
Jerry Myers	1	10	10	10	10	10	10	10	10
Klawock River	1				250	250	250	250	250
Little Port Walter	1	200	200	200	200	200	200	200	200
Medvejie Creek	0						300	300	300
Medvejie Creek	1	1,100	1,100	2,000	2,000	2,000	2,000	2,000	2,000
Neets Bay	1	325	325	325	325	325	325	325	250 ^a
Port Armstrong	1	200	200	200	200	200	200	200	200
Sheldon Jackson	1	100	100	100	100	100	100	100	100
Tamgas	0	250	250	250	250	250	250	300	300
Tamgas	1	500	500	500	500	500	500	500	500
Whitman Lake	1	775	775	775	775	775	775	775	775
Subtotal	0	250	250	250	250	250	550	600	600
Subtotal	1	6,840	6,850	7,810	8,060	8,060	8,360	9,260	9,185
Grand total		7,090	7,100	8,060	8,310	8,310	8,910	9,860	9,785

^a Planted into Long Lake as pre-smolts; volitional outmigration from Long Lake into Neets Bay as age-1 smolts.

Table 12. Estimated harvest and escapement of chinook salmon from Southeast Alaska enhancement sites in 2002.

Release Site	Harvest							Rack returns ³		Total
	Net ¹			Sport ²	Terminal Sport ³	Canadian ⁴	Cost recovery ³	Adults	Jacks	
	Troll ¹	Adults	Jacks							
Auke Bay	333	221	13	1,493	491 ⁵		0	0	0	2,551
Burro Creek	0	0	0	0	0		0	46	0	46
Crystal Lake	771	79	62	315	3,685	63	0	2,000	0	6,974
Deer Mountain	113	6	0	17	250		0	341	0	727
Earl West Cove	271	5,460 ³	0	23	0		0	0	0	5,754
Fish Creek	351	35	43	1,410	313 ⁵		0	500 ⁶	25	2,677
Macaulay	1,764	411	81	3,362	1,212		1,068	3,559	241	11,698
Hidden Falls	3,222	6,672	442	496	50		3,767	3,868	87	18,605
Jerry Meyers	1	0	0	0						1
Little Port Walter	413	154	12	54	0	15	0	1,001	220	1,869
Long Lake	253	0	6	140	0		300	0	0	699
Medvejie Creek	14,117	1,304	26	1,808	49	80	16,243	6,797	27	40,452
Neets Bay ³	1,629	1,000 ³	0	766	0	249	6,660	543	0	10,847
Pullen Creek	4	23	0	10	0		0	20	0	57
Sheldon Jackson	24	5	0	7	0		0	0	0	36
Tamgas Creek	1,713	400	11	1,471	600	384	5,040	540	30	10,189
Whitman Lake	4,601	551	11	2,902	0	484	4,589	9,038	945	23,121
Totals	29,581	16,321	707	14,274	6,650	1,275	37,667	28,253	1,575	135,027

¹ From reports generated 08/13/03 on the Alaska Department of Fish and Game's Mark, Tag, and Age website at <http://www.taglab.org/>.

² From 'Harvest estimates for selected marine sport fisheries in Southeast Alaska during 2002', except the Long Lake estimate provided by the hatchery operator.

³ Reported by hatchery operators.

⁴ Provided by the Alaska Department of Fish and Game's Mark, Tag, and Age Lab.

⁵ From statewide postal creel survey, Alaska Department of Fish and Game Sport Fish Division.

⁶ Personal communication with Michael Jaenicke, Alaska Department of Fish and Game, Sport Fish Division.

Selected marine sport fisheries in Southeast Alaska during 2002; except Long Lake estimate provided by the hatchery operator.

Table 13. Estimated harvest and escapement of Alaska hatchery-produced chinook salmon in Southeast Alaska, from 1980 to 2002.

Year	Gear Type			Cost	Brood	Total Return ^b
	Troll	Net ^a	Sport	Recovery ^a	Escapement ^a	
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
1998	11,504	9,749	8,014	17,413	28,886	75,566
1999	17,203	19,049	11,250	17,249	20,022	84,773
2000	28,944	31,184	24,500	38,106	16,995	139,729
2001	24,700	12,505	16,469	69,425	18,169	141,268
2002	29,581	17,028	20,924	37,667	29,828	135,027

^a Includes jacks

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

Table 14. Percent distribution of troll catch of hatchery chinook by Pacific Salmon Marine Fishery Council (PSMFC) area, from 1979 to 2002.

Facility/Stock	Fishery	PSMFC Area ¹									Catch	%
		LYNN	NOUT	COUT	CNTR	STEP	SNTR	CIN	SOUT	SIN		
<u>Bell Island Net Pens</u>												
Unuk River	Summer	0%	0%	36%	16%	0%	20%	0%	0%	28%	8	100%
<u>Burro Creek</u>												
Tahini River	Summer	0%	0%	0%	100%	0%	0%	0%	0%	0%	16	100%
<u>Carroll Inlet</u>												
Chickamin River	Summer	0%	6%	11%	4%	0%	12%	4%	14%	48%	21,810	83%
	Winter	0%	0%	30%	7%	0%	38%	5%	3%	17%	4,481	17%
<u>Crystal Lake</u>												
Andrew Creek	Summer	0%	2%	8%	12%	2%	62%	11%	2%	1%	39,481	68%
	Winter	0%	0%	7%	6%	1%	79%	5%	0%	0%	18,256	32%
<u>Earl West</u>												
Andrew Creek	Summer	0%	4%	9%	10%	0%	35%	24%	6%	12%	8,177	68%
	Winter	0%	0%	19%	8%	2%	60%	6%	1%	5%	3,885	32%
<u>Deer Mountain</u>												
Unuk River	Summer	0%	3%	14%	6%	0%	10%	5%	9%	53%	2,786	83%
	Winter	0%	0%	15%	7%	0%	39%	7%	3%	29%	577	17%
<u>Hidden Falls</u>												
Andrew Creek	Summer	0%	3%	12%	69%	0%	16%	0%	0%	0%	31,987	91%
	Winter	0%	0%	33%	18%	3%	45%	1%	0%	0%	3,193	9%
<u>Jerry Myers</u>												
Tahini River	Summer	17%	0%	5%	78%	0%	0%	0%	0%	0%	69	78%
	Winter	0%	0%	33%	67%	0%	0%	0%	0%	0%	20	22%
<u>Little Port Walter</u>												
Unuk River	Summer	0%	3%	12%	16%	0%	65%	1%	2%	0%	15,863	45%
	Winter	0%	0%	14%	11%	1%	73%	1%	0%	0%	4,708	13%
Chickamin River	Summer	0%	4%	15%	17%	1%	62%	0%	1%	0%	9,517	27%
	Winter	0%	0%	23%	4%	2%	69%	2%	0%	0%	3,630	10%
King Salmon River	Summer	0%	1%	15%	21%	0%	62%	0%	0%	0%	980	3%
	Winter	0%	0%	22%	1%	1%	70%	6%	0%	0%	464	1%
<u>Medvejie</u>												
Andrew Creek	Summer	0%	1%	93%	1%	0%	3%	0%	1%	0%	65,303	79%
	Winter	0%	0%	85%	10%	0%	5%	0%	0%	0%	4,865	6%
Chickamin River	Summer	0%	3%	90%	1%	0%	4%	1%	1%	0%	11,656	14%
	Winter	0%	0%	91%	0%	0%	9%	0%	0%	0%	755	1%
<u>Neets Bay</u>												
Unuk River	Summer	0%	5%	5%	11%	0%	17%	14%	12%	37%	15,517	70%
	Winter	0%	0%	16%	19%	0%	49%	6%	0%	8%	4,161	19%
Chickamin River	Summer	0%	4%	52%	0%	0%	17%	4%	4%	19%	1,836	8%
	Winter	0%	0%	76%	0%	3%	11%	8%	0%	2%	631	3%
<u>Port Armstrong</u>												
Unuk River	Summer	0%	1%	9%	16%	0%	71%	2%	1%	0%	2,138	73%
	Winter	0%	1%	21%	30%	2%	46%	0%	0%	0%	803	27%

Table 14. Cont.

Facility/Stock	Fishery	PSMFC Area ¹									Catch	%
		LYNN	NOUT	COUT	CNTR	STEP	SNTR	CIN	SOUT	SIN		
Sheldon Jackson												
Andrew Creek	Summer	0%	0%	96%	1%	0%	2%	0%	0%	0%	3,444	99%
	Winter	0%	0%	100%	0%	0%	0%	0%	0%	0%	32	1%
Snettisham												
Andrew Creek	Summer	0%	3%	7%	28%	1%	59%	0%	1%	0%	4,409	62%
	Winter	0%	0%	12%	28%	3%	56%	1%	0%	0%	2,207	31%
King Salmon River	Summer	1%	0%	1%	18%	15%	60%	0%	5%	0%	296	4%
	Winter	0%	0%	0%	3%	5%	92%	0%	0%	0%	177	3%
Tamgas Creek												
Unuk/Chickamin	Summer	0%	3%	12%	3%	0%	7%	3%	8%	65%	10,547	82%
	Winter	0%	0%	41%	8%	0%	36%	2%	1%	12%	2,383	18%
Whitman Lake												
Unuk	Summer	0%	0%	11%	7%	0%	23%	6%	18%	35%	516	2%
	Winter	0%	0%	12%	13%	0%	40%	12%	9%	15%	359	2%
Chickamin River	Summer	0%	4%	20%	3%	0%	8%	4%	7%	54%	17,279	78%
	Winter	0%	0%	48%	3%	0%	19%	4%	4%	22%	4,125	19%
Big Boulder Instream												
	Summer	0%	0%	74%	26%	0%	0%	0%	0%	0%	6	56%
	Winter	0%	0%	0%	60%	0%	40%	0%	0%	0%	5	44%
Crystal Lk/Neets Bay												
Andrew Creek	Summer	0%	8%	33%	2%	0%	12%	2%	4%	39%	3,335	84%
	Winter	0%	0%	71%	0%	3%	18%	5%	0%	3%	620	16%
Macaulay												
Andrew Creek	Summer	1%	3%	18%	65%	0%	14%	0%	0%	0%	3,455	89%
	Winter	0%	0%	17%	7%	8%	68%	0%	0%	0%	402	10%
King Salmon River	Summer	0%	0%	0%	100%	0%	0%	0%	0%	0%	12	0%
Burnett Inlet												
Andrew Creek	Summer	0%	4%	5%	6%	0%	15%	31%	9%	31%	622	74%
	Winter	0%	0%	7%	30%	0%	63%	0%	0%	0%	221	26%

¹ PSMFC Areas

Name	Abbreviation	Districts
Lynn Canal	LYN	115
Northern Outside	NOUT	116, 157, 181, 183, 185, 189
Central Outside	COUT	113, 154
Central Intermediate	CNTR	112, 114
Stephens Passage	STEP	111
Southern Intermediate	SNTR	105, 109, 110
Central Inside	CIN	106, 107, 108
Southern Outside	SOUT	103, 104, 152
Southern Inside	SIN	101, 102, 150

Table 15. Total return of chinook salmon released from various enhancement sites in Southeast Alaska, by return year. ^a

Return Year	Auke Bay ^b	Big Boulder ^c	Burro Creek	Carroll Inlet ^d	Crystal Lake	Deer Mountain	Earl West Cove ^e	Fish Creek ^b	Gastineau Channel	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				18	
1985					8,879	3,144				83	
1986					7,081	2,511				257	
1987	21				16,681	565		3		661	
1988	257			653	10,076	539	384	52		573	
1989	580			5,003	11,213	1,541	2,807	441	5	571	
1990	865			22,045	18,693	1,370	11,226	536	11	1,566	60
1991	1,959			28,810	15,657	1,324	15,595	1,648	113	2,179	91
1992	1,001			9,868	12,676	1,002	9,570	690	87	2,613	32
1993	1,545			3,008	8,361	1,171	9,264	1,083	707	2,784	55
1994	636		1	1,409	6,143	1,113	8,523	1,077	2,471	10,185	250
1995	515	3	7	2,775	6,558	841	4,516	1,136	3,771	32,295	214
1996	1,035	35	34	1,999	10,310	483	4,678	885	3,075	40,813	29
1997	361	9	46	2,758	7,474	614	1,866	809	3,985	25,440	
1998	246	22	76	1,906	5,394	761	3,183	337	2,687	11,913	6
1999	3,005	6	40	275	8,583	1,322	4,771	1,198	1,239	23,629	
2000	2,585	4	73		5,784	1,216	10,547	1,353	849	37,197	
2001	2,706	4	60		8,795	1,020	1,195	1,767	3,828	32,975	28
2002	2,551		46		6,974	727	5,754	2,677	11,678	18,605	1

Return Year	L. Port Walter	Lynn Canal ^f	Medvejie Creek	Montana Creek ^g	Neets Bay ^h	Port Armstrong ⁱ	Sheep Creek ^j	Sheldon Jackson	Snettisham	Tamgas Creek	Whitman Lake
1980	1,877										
1981	896										
1982	1,441								14		2,672
1983	1,577								34		
1984	2,670				400				265		3,356
1985	3,363		686		2,796				431		3,815
1986	6,338		86		9,872				1,016	529	770
1987	9,517		426		7,126		2		3,373	1,829	2,987
1988	7,592		775	2	17,320		136		1,099	1,821	4,220
1989	5,144		680	12	26,148	2,069	407	176	507	2,562	8,730
1990	7,271	11	3,829	95	15,217	1,163	671	351	1,407	2,571	39,169
1991	7,587	74	7,589	156	9,470	846	1,309	490	1,130	8,617	3,800
1992	3,026	189	17,382	95	8,908	1,355	858	467	1,614	7,233	714
1993	2,995	267	28,980	17	11,326	1,515	2,040	892	2,493	3,008	428
1994	3,873	295	21,462	14	3,254	1,241	1,180	1,280	1,969	2,163	399
1995	5,190	200	45,921	14	2,279	1,270	406	1,194	293	1,940	1,019
1996	4,270	201	37,868		715	2,526	4	1,316		1,834	1,039
1997	3,953	138	37,077		765	1,086	7	638		3,926	1,508
1998	2,121	60	21,031		874	17	5	273		4,638	19,949
1999	3,195	0	20,109		2,456		170	352		6,268	8,122
2000	2,861		29,020		4,536			392		16,335	15,905
2001	2,413		32,718		12,795			46		20,448	20,302
2002	1,869		40,452		10,847			36		10,189	23,121

^a Includes all ages and Canadian recoveries.

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

^e Reared at Crystal Lake Hatchery.

^g Reared at Snettisham.

ⁱ Includes smolts reared at Snettisham and released at Port Armstrong.

^b Reared at Snettisham (BY 84–92) and Gastineau (BY 93–97).

^d Reared at Whitman Lake Hatchery.

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

^h Includes smolts reared at Crystal Lake and released at Neets Bay.

^j Brood years 1984 to 1988 reared at Snettisham; brood year 1993 reared at Gastineau.

Table 16. Common property exploitation rate (%) of chinook salmon returning to enhancement sites with reasonably complete counts in terminal areas and at the rack, by return year. Excludes 0-ocean and 1-ocean fish in cost recovery fisheries, escapements, and/or Canadian fisheries.

Return Year	Crystal Lake	Deer Mountain	Hidden Falls	L. Port Walter	Medvejie Creek	Neets Bay	Port Armstrong	Sheldon Jackson	Tamgas Creek	Whitman Lake
1980	86.4			97.0						
1981	66.3	79.2		67.5						
1982	40.6	62.2		66.0						
1983	28.4	51.0		46.5						
1984	51.6	47.7		39.2						39.5
1985	58.2	51.1	79.1	60.1		47.9				34.7
1986	63.6	40.8	95.7	44.1		61.1				25.0
1987	63.2	59.7	81.0	44.4		44.9			94.6	38.0
1988	43.4	34.7	52.5	36.2	26.1	42.6			51.7	52.2
1989	42.0	34.9	38.6	37.5	43.0	32.8			54.2	42.2
1990	51.4	47.5	59.0	63.9	44.0	23.4	54.2	25.5	48.8	66.2
1991	88.1	38.1	63.2	70.5	25.8	46.2	47.9	23.3	39.5	54.5
1992	85.1	19.9	46.9	50.9	38.0	35.0	53.3	58.0	38.4	30.5
1993	92.0	57.6	58.0	44.1	34.8	28.7	26.4	43.5	50.9	41.4
1994	20.1	49.3	40.0	49.2	41.4	32.0	64.5	43.2	39.9	41.1
1995	80.9	61.5	63.1	59.5	50.5	51.3	35.5	73.2	30.4	41.4
1996	85.1	31.1	80.4	62.1	26.0	82.5	73.1	88.6	11.0	39.6
1997	75.0	21.6	61.5	69.5	35.5	28.8	98.3	53.6	18.5	47.6
1998	63.5	53.6	65.7	69.2	28.7	78.1	100.0	42.9	12.2	47.9
1999	56.8	52.3	74.5	55.9	44.3	43.6		80.1	23.0	53.9
2000	76.1	64.1	67.9	53.7	26.3	46.6		96.4	35.1	95.0
2001	65.2	84.4	48.2	41.3	27.5	24.4		68.2	19.7	41.1
2002 ^a	71.1	53.1	58.8	38.7	42.9	32.0		100.0	42.9	37.2

^a Preliminary data.

Table 17. Chinook salmon egg takes in southeast Alaska in 2002 (numbers of eggs in thousands).

Facility	Stock	Females Spawmed	Green Eggs	Disposition of Eggs		
				Facility	Total Adjusted No. of Green Eggs	Total No. of Eyed Eggs
Burro Creek	Tahini River	43	154.2	Macaulay	154.2	139.7
Crystal Lake	Andrew Creek	950	2,143.8	Crystal Lake	1,808.5	1,459.4
Macaulay	Andrew Creek	350	720.4	Macaulay	720.4	649.3
Deer Mountain	Unuk River	31	154.0	Deer Mountain	154.0	133.8
Hidden Falls	Andrew Creek	489	1,980.5	Hidden Falls	1,980.5	1,700.4
Little Port Walter	Unuk River	53	295.0	Little Port Walter	95.0	61.8
Little Port Walter	Chickamin River	120	780.0	Little Port Walter	425.0	255.0
Medvejie	Andrew Creek	736	3,200.0	Medvejie	3,200.0	2,953.0
Sheldon Jackson	Andrew Creek	16	75.2	Sheldon Jackson	70.5	68.4
Tamgas Creek	Unuk/Chickamin	170	1,100.0	Tamgas Creek	530.0	530.0
Whitman Lake	Chickamin River	748	1,903.4	Whitman Lake	1,903.4	1,254.1
Whitman Lake	Chickamin River			Crystal Lake ^a		545.0
Port Armstrong	Unuk River			Port Armstrong ^b	172.9	107.9
Totals	Hatchery Return		12,506.6		11,041.5	9,857.7

^a Transferred to Crystal Lake Hatchery from Whitman Lake Hatchery for eventual release into Neets Bay.

^b Transferred to Port Armstrong Hatchery from Little Port Walter Hatchery for eventual release into Port Armstrong.

Table 18. Rearing strategies and release sites of 2002 brood chinook salmon eggs in enhancement programs (numbers in thousands).

Rearing Facility	Stock	Eyed Eggs	Release Site	Fry Plants	Age-0 Smolts	Age-1 Smolts			
						FW-R ^a	FW-I ^b	SW-R ^c	SW-I ^b
Crystal Lake	Chickamin River	545.0	Neets Bay						450.0
Crystal Lake	Andrew Creek	1,459.4	Crystal Creek			600.0			
Crystal Lake	Andrew Creek		Anita Bay						450.0
Deer Mountain	Unuk River	133.8	Ketchikan Creek			100.0			
Little Port Walter	Chickamin River	61.8	Little Port Walter					50.0	
Little Port Walter	Unuk River	255.0	Little Port Walter					200.0	
Macaulay	Tahini River	139.7	Pullen Creek				130.0		
Macaulay	Andrew Creek	705.4	^d Gastineau Channel					220.0	
Macaulay	Andrew Creek		^e Auke Bay						95.0
Macaulay	Andrew Creek		^e Fish Creek						285.0
Hidden Falls	Andrew Creek	1,700.4	Hidden Falls					1,500.0	
Jerry Myers	Tahini River		^f Taiya Inlet			2.7			
Medveje	Andrew Creek	2,953.0	Bear Cove		300.0			2,000.0	^g
Port Armstrong	Unuk River	107.9	Port Armstrong					100.0	
Sheldon Jackson	Andrew Creek	68.4	Crescent Bay					50.0	^h
Tamgas Creek	Unuk/Chickamin	530.0	Tamgas Creek		295.0			340.0	
Whitman Lake	Chickamin River	1,254.1	Herring Cove			750.0			
Whitman Lake	Chickamin River		ⁱ Long Lake	250.0					
Total		9,857.7		250.0	595.0	1,452.7	130.0	4,460.0	1,280.0

^a Released from fresh water rearing.

^b Smolt transport to release site for imprinting

^c Released from salt water rearing.

^d The number of eggs surviving to eyed stage was 705,400, but 56,100 eggs from BKD-positive parents were destroyed.

^e Apportioned from the 649.3 Andrew Creek stock at the Macaulay facility.

^f Apportioned from the 139.7 Tahini River stock at the Macaulay facility.

^g Includes the Green Lake project.

^h Released from saltwater-filled onshore ponds.

ⁱ Apportioned from the 1254.1 Chickamin River stock at the Whitman Lake facility; volitional outmigration from Long Lake as age-1 smolts.

Table 19. Incidence of hatchery strays in ten wild stock streams in Southeast Alaska.

Stream	Years Examined	Total # years	Number Examined	Hatchery Tags	Hatchery Fish	% from hatcheries
Chickamin	1985–1993;1995–2002	17	4,912	10	70	1.43%
Chilkat	1983–1987;1989–2002	19	11,164	7	7	0.06%
Farragut	1983–1985;1989;1991–1993	7	617	34	51	8.27%
Harding	1986;1989–1993	6	363	2	4	1.10%
King Salmon	1979;1981–1992;1998–2002	18	725	0	0	0.00%
Stikine ^a	1979–1992;1997–2002	20	34,284	18	119	0.35%
Taku	1979–1990;1994–2002	21	56,438	0	0	0.00%
Unuk	1985–2002	18	16,071	8	33	0.21%
Keta	1998–2002	5	1,691	2	40	2.37%
Blossom	1998–2002	5	410	1	8	1.95%
Total			126,675	82	332	0.26%

^a includes Andrew Creek

s

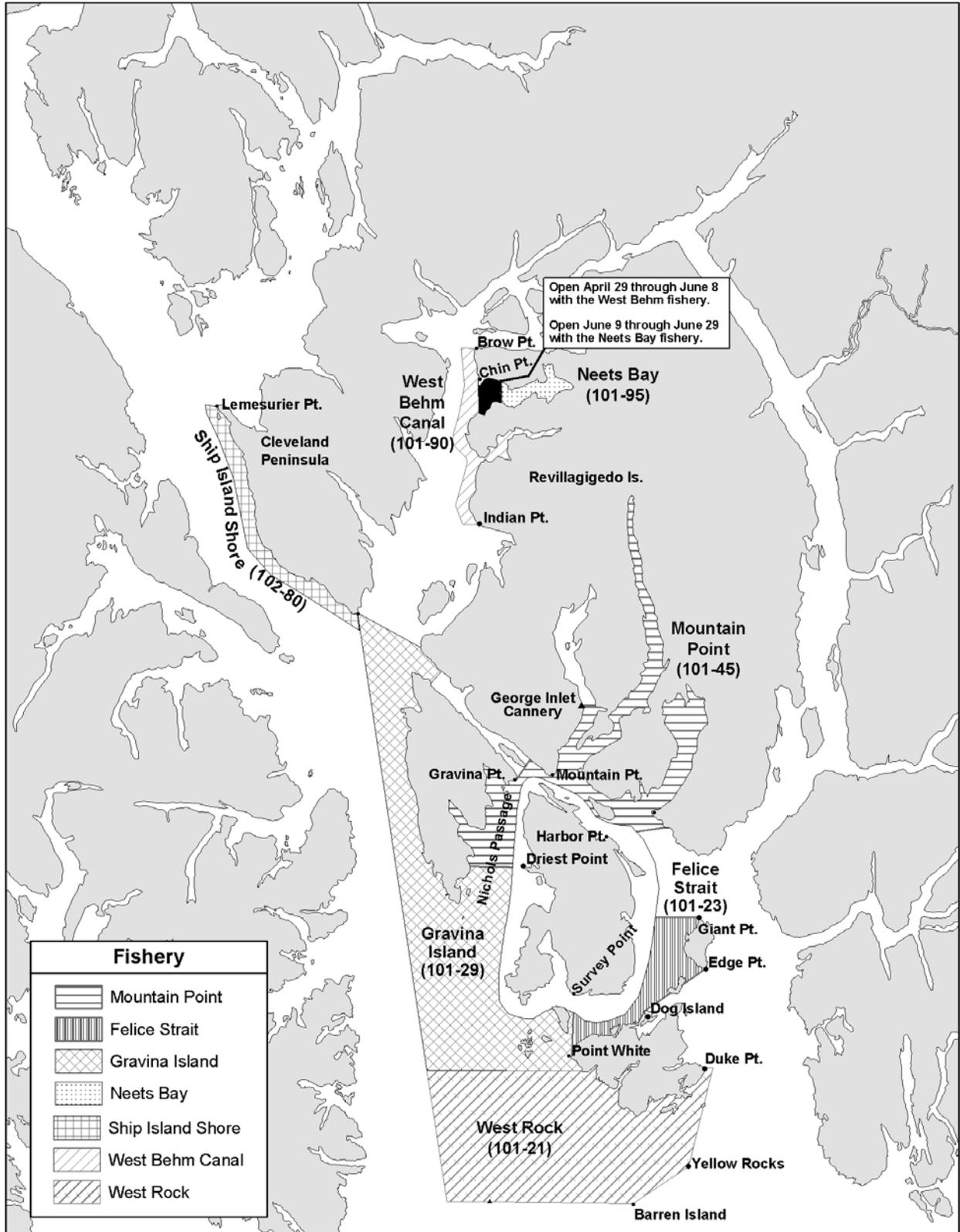


Figure 1. Ketchikan area spring trolling areas, 2002.

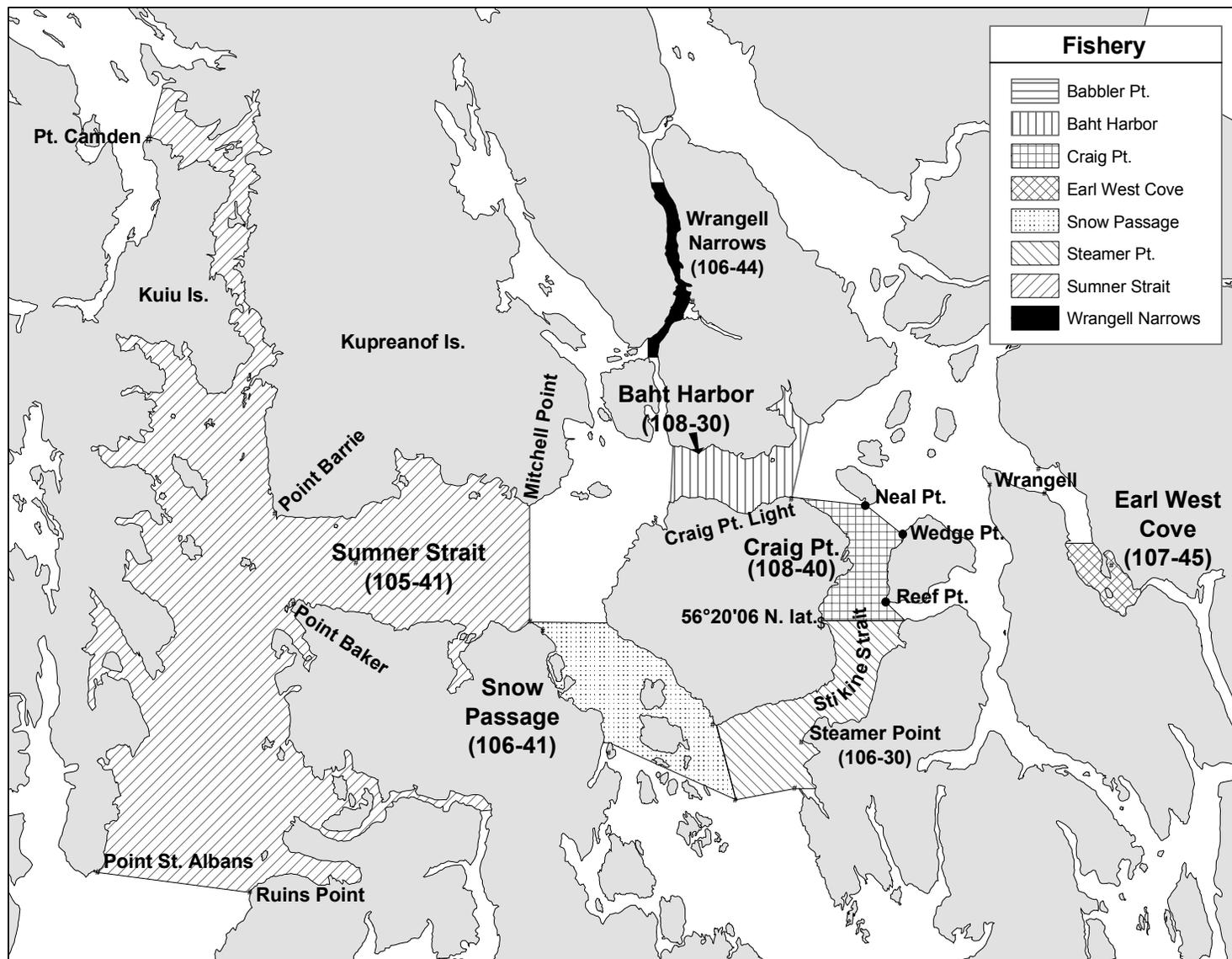


Figure 2. Wrangell and Prince of Wales spring trolling areas, 2002.

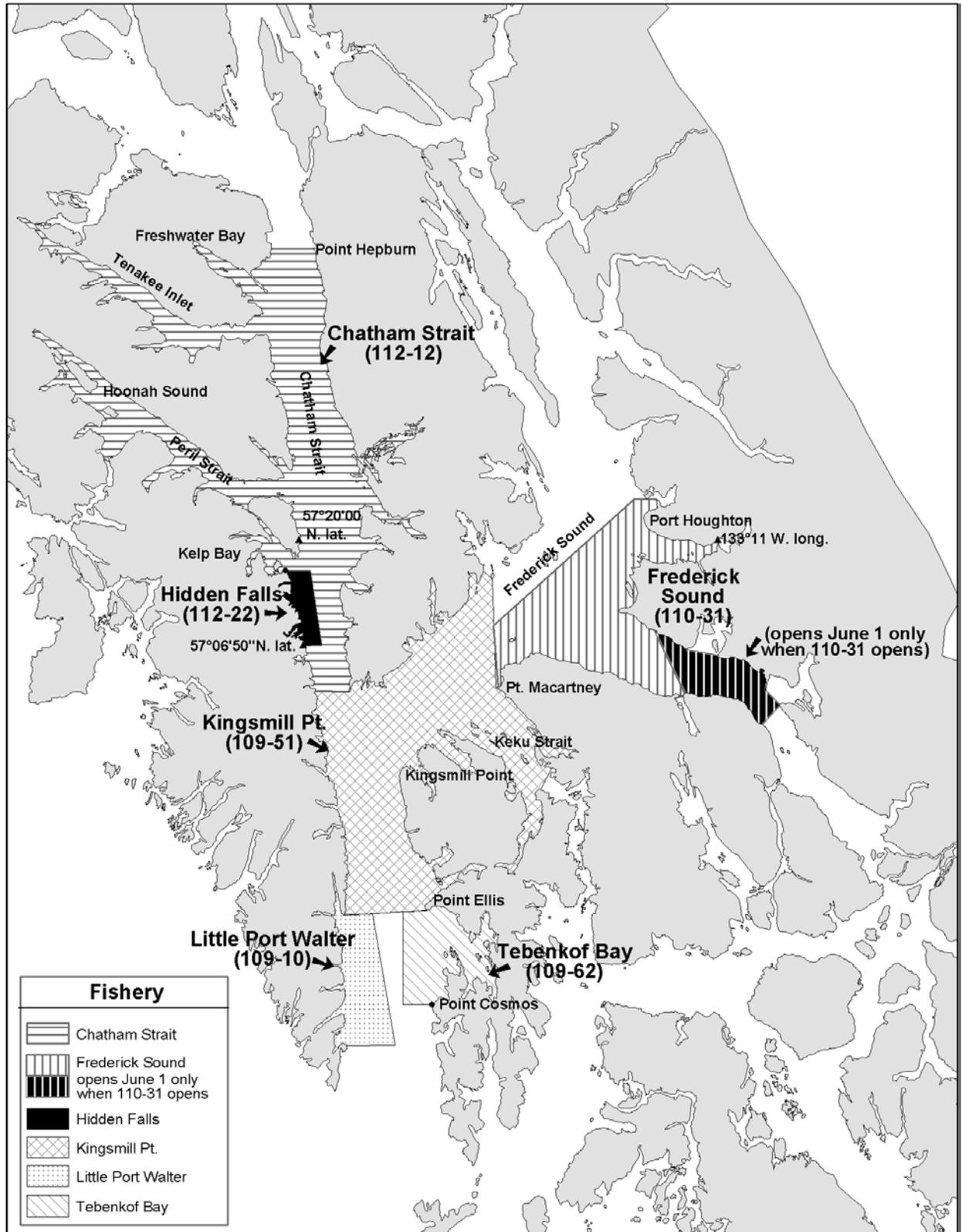


Figure 3. Chatham Strait and Frederick Sound spring trolling areas, 2002.

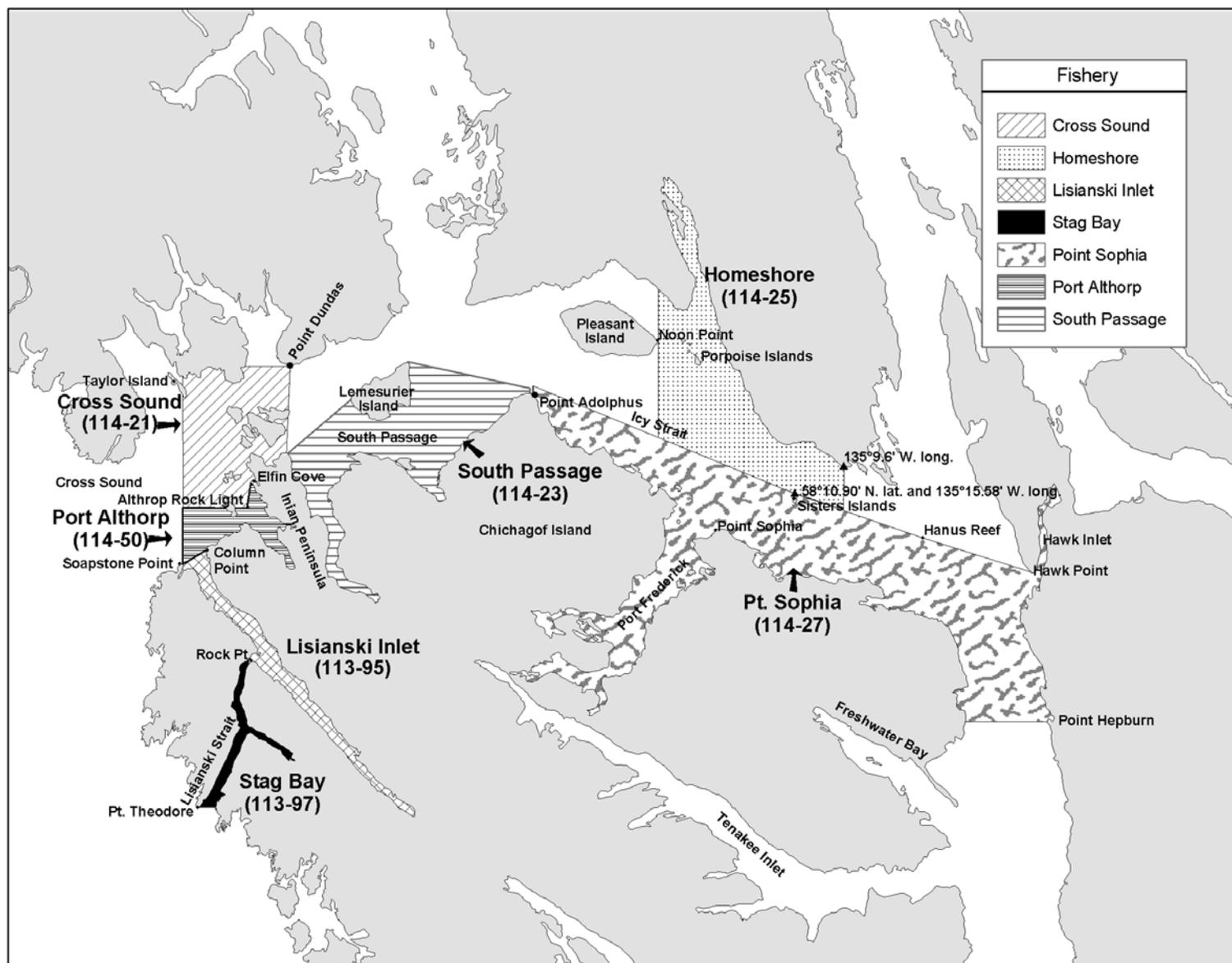


Figure 4. North Chatham and Icy Strait spring troling areas, 2002.

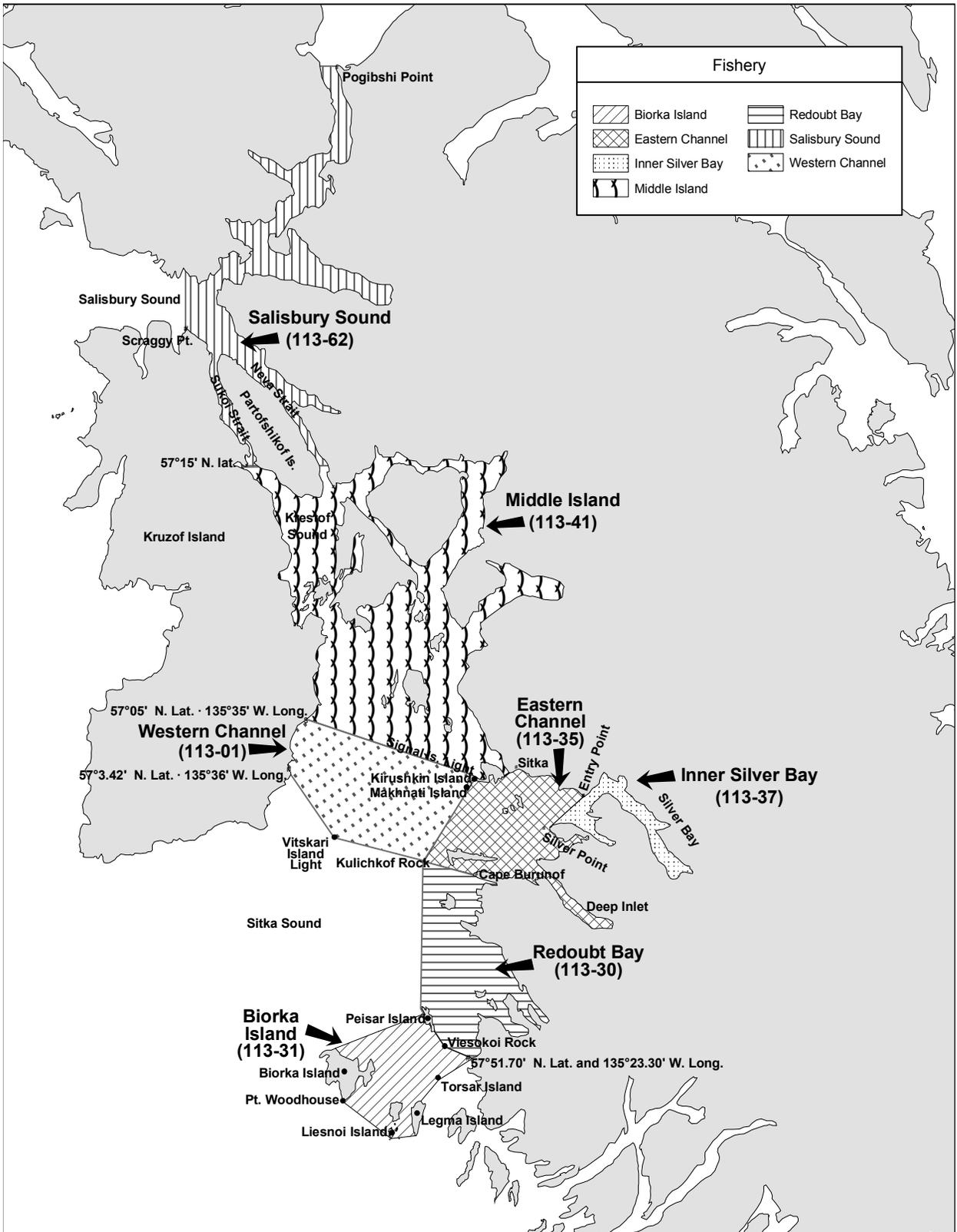


Figure 5. Sitka area spring trolling areas, 2002.

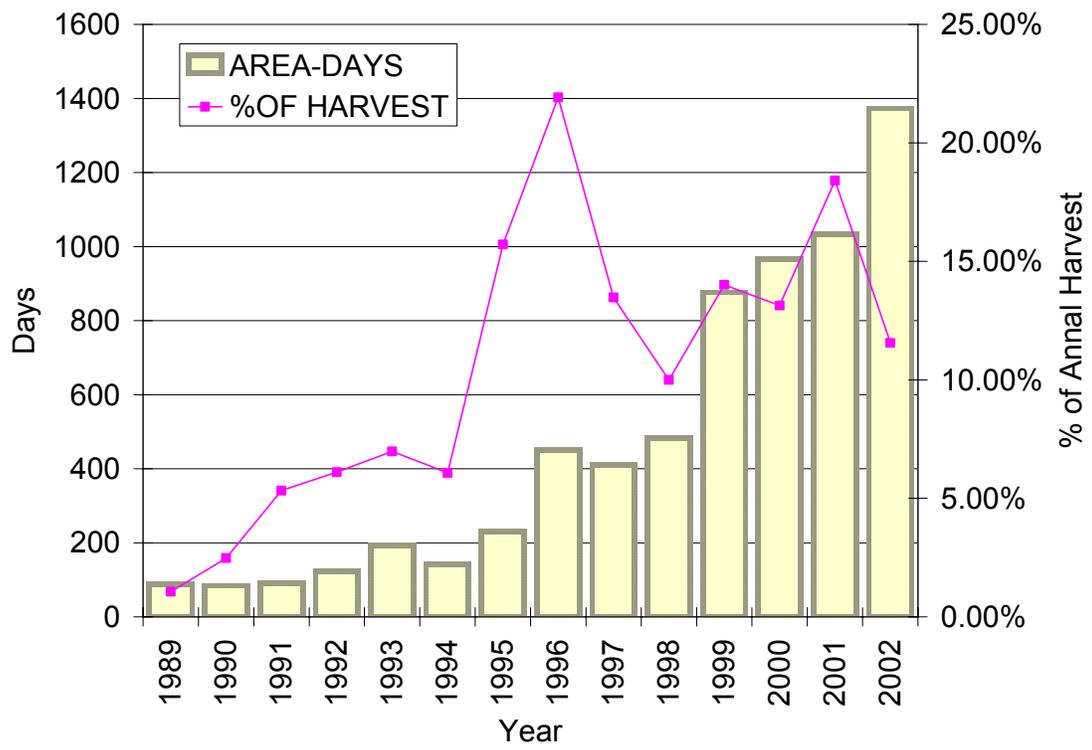


Figure 6. Number of days and percent of annual harvests taken in experimental fisheries, from 1989 to 2002.

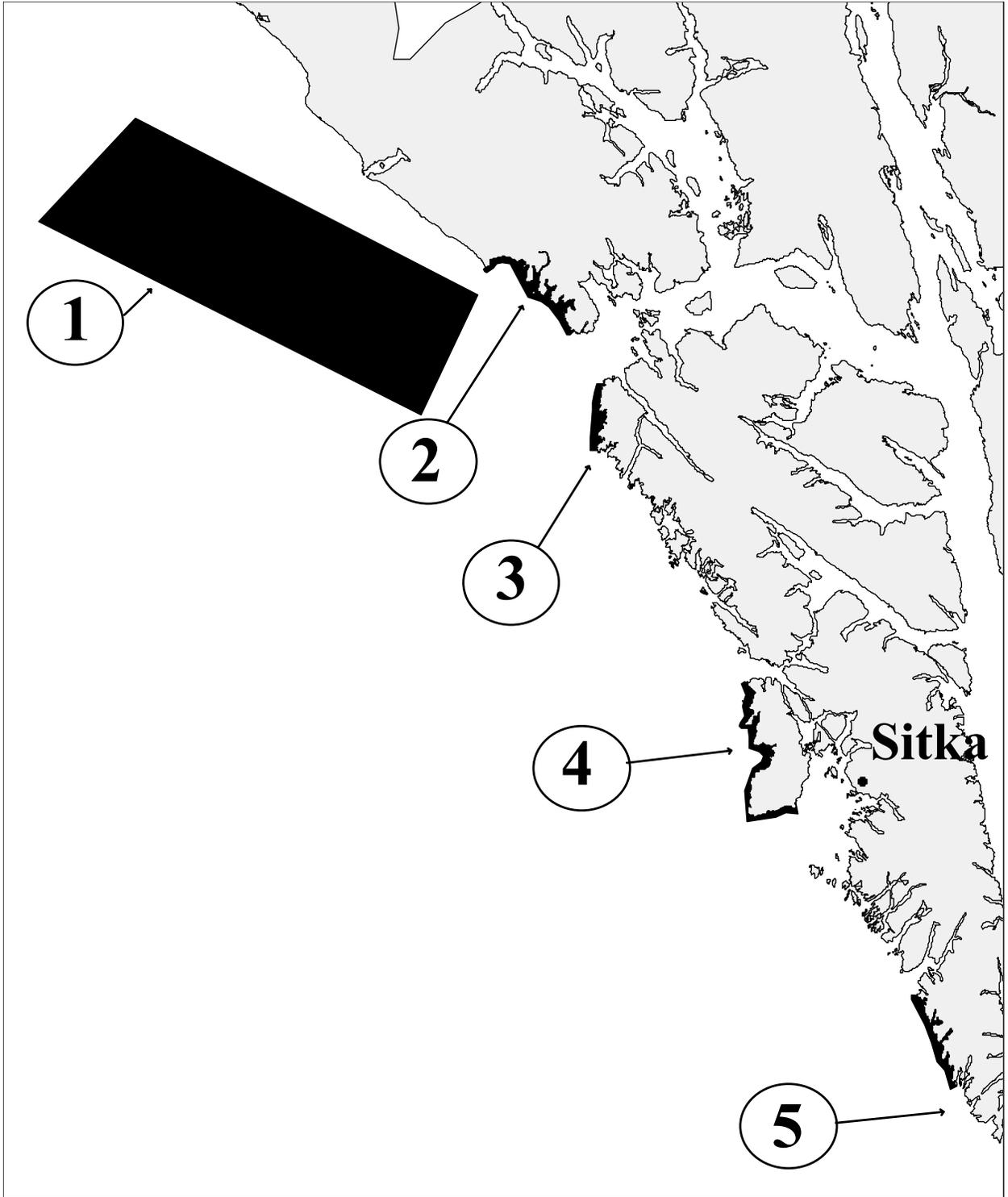


Figure 7. Southeast Alaska areas closed to trolling for all species following the initial chinook salmon opening in the Southeast Alaska summer troll season .

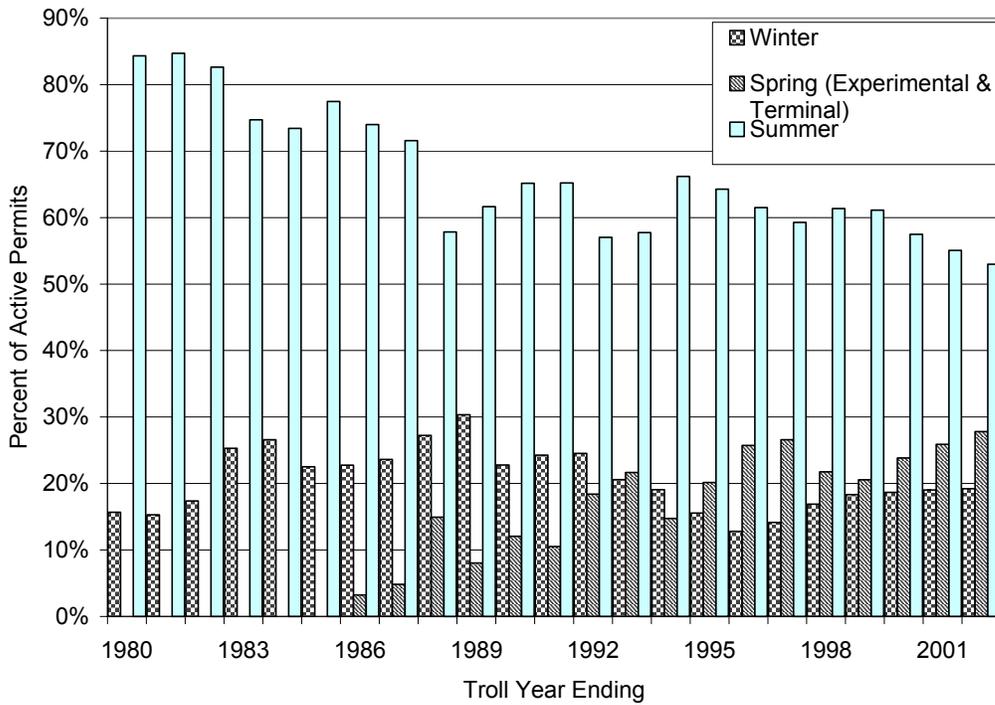


Figure 8. Percent of active troll permits fished by season, from 1980 to 2002.

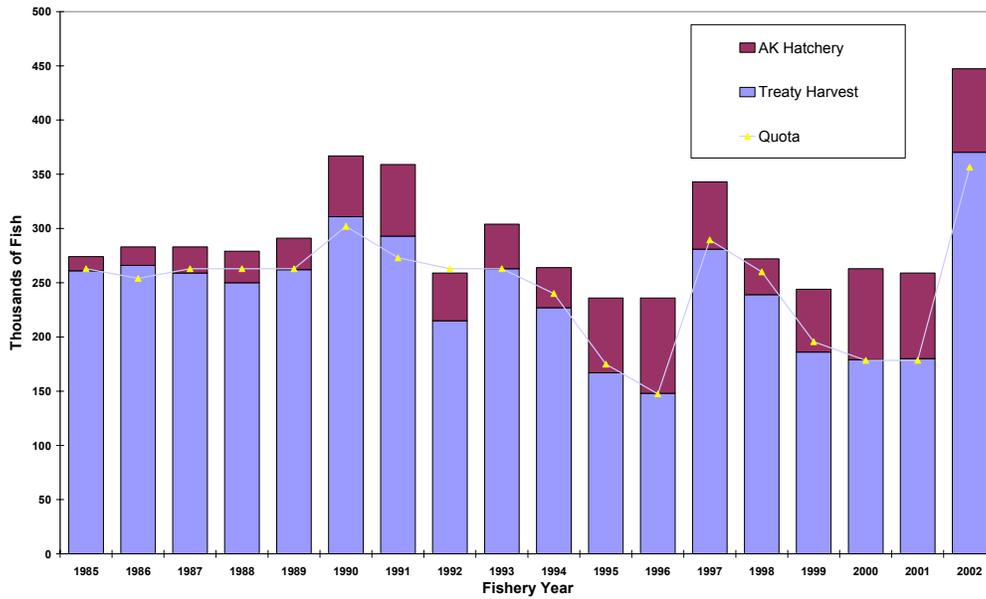


Figure 9. Number of chinook salmon harvested under the Pacific Salmon Treaty quota, from 1985 to 2002.

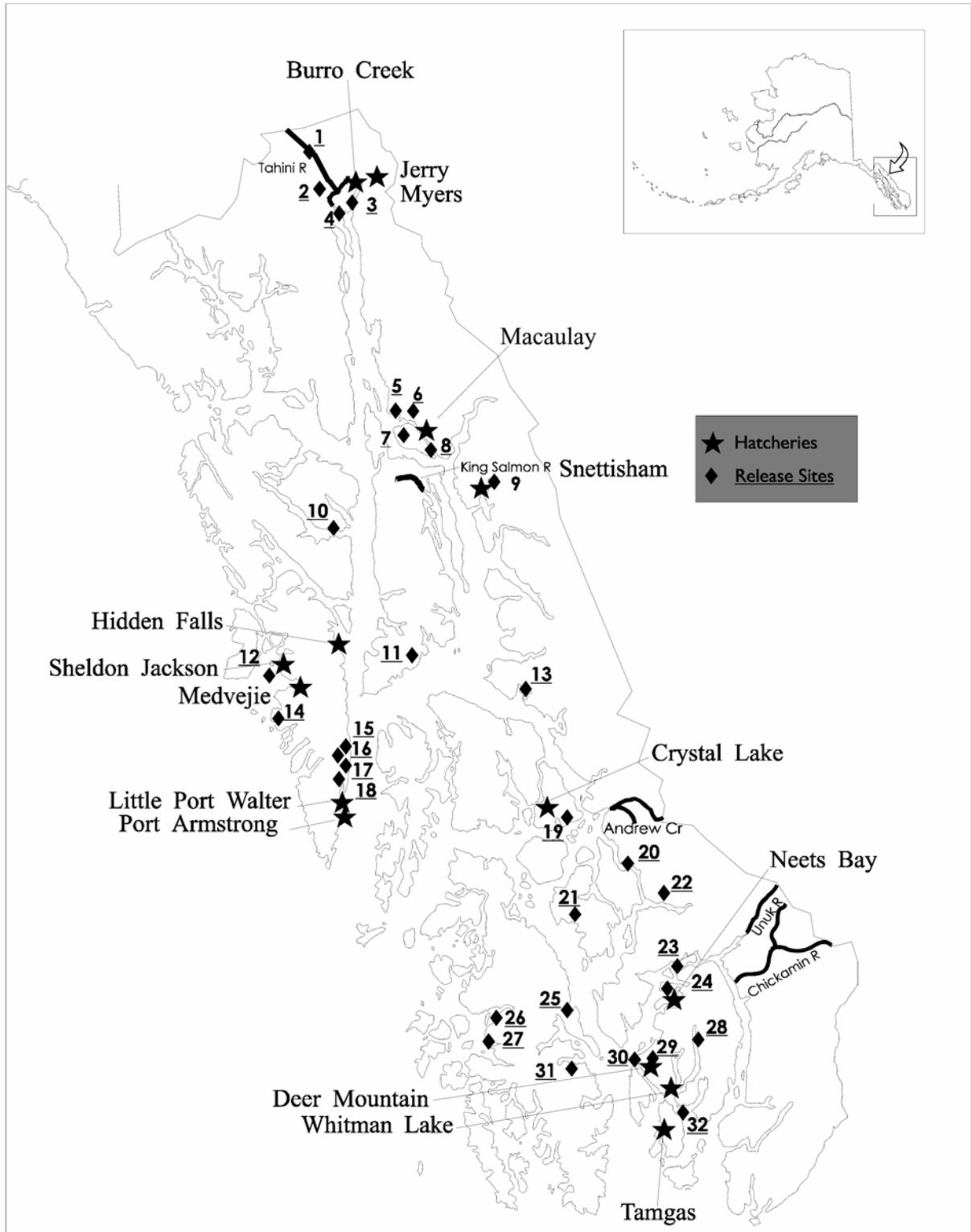


Figure 10. Location of chinook salmon hatcheries, remote release sites, and primary ancestral stock rivers in Southeast Alaska.

Key to remote release sites shown in Figure 10, and stream numbers of chinook salmon release sites and ancestral stocks.

Remote Release Sites

Hatchery Release Sites

<u>Site No.</u>	<u>Site</u>	<u>District</u>	<u>Sub-district</u>	<u>Stream</u>	<u>Site</u>	<u>Hatchery</u>	<u>Site</u>	<u>District</u>	<u>Sub-district</u>	<u>Stream</u>
5	Auke Bay	111	50	0 ¹		Deer Mountain	Ketchikan Cr	101	47	10250
5	Auke Cr	111	50	10420		Port Armstrong	Jetty Creek	109	10	0
16	Banner Lk	109	10	na ²		Sheldon Jackson	Crescent Bay	113	41	0
23	Bell Island	101	80	0		Whitman Lake	Herring Cove	101	45	0
2	Big Boulder Cr	115	32	10250		Neets Bay	Neets Bay	101	90	0
26	Big Salt	103	60	0		Tamgas Creek	Tamgas Cr	101	25	10250
32	Bold Island Lk	101	41	10070		Hidden Falls	Kasnyku Bay	112	11	0
31	Brennan Lk	102	40	10280		Snettisham	Speel Arm	111	33	0
21	Burnett Inlet	106	22	0		Macaulay	Gastineau Channel	111	40	0
28	Carroll Inlet	101	45	0		Crystal Creek	Crystal Cr	106	44	0
28	Carroll R	101	45	10780		Jerry Myers	Pullen Cr	115	34	10310
27	Crab Bay	103	60	0		Burro Creek	Burro Cr	115	34	10230
20	Earl West Cove	107	40	0		Medvejje	Bear Cove	113	37	0
11	Eliza Lk	109	30	10060		Little Port Walter	Little Port Walter	109	10	0
13	Farragut Lk	110	14	10070	na					
13	Farragut R	110	14	10070						
7	Fish Cr	111	50	0						
19	Gengen Lk	108	40	10500	2002					
						<u>Ancestral Stocks</u>				
						<u>River</u>	<u>District</u>	<u>Sub-district</u>	<u>Stream</u>	<u>Site</u>
22	Harding R	107	40	10490						
9	Indian Lk	111	33	10300		Andrew Creek	108	40	10150	2008
10	Indian R	112	42	10080		Big Boulder Creek	115	32	10250	
15	Larry Lk	109	10	na		Chickamin River	101	71	10040	2018
24	Long Lk	101	95	na		Farragut River	110	14	10070	
4	Lutak Inlet	115	33	0		Harding River	107	40	10490	
6	Montana Cr	111	50	10520		King Salmon River	111	17	10100	
19	Ohmer Cr	108	40	10500		Tahini River	115	32	10250	2175
17	Osprey Lk	109	10	na		Unuk River	101	75	10300	2030
14	Redoubt Lk	113	41	10430						
8	Sheep Cr	111	40	10280						
12	Sitka Sound	113	41	0						
1	Tahini R	115	32	10250	2175					
3	Taiya Inlet	115	34	0						
30	Thomas Basin	101	47	10250						
25	Thorne Bay	102	70	0						
18	Tranquil Lk	109	10	na						
29	Ward Cove	101	47	0						

¹ Stream = 0 indicates return to a terminal harvest site or hatchery
² non-anadromous; site is barriered and adults are unable to access.

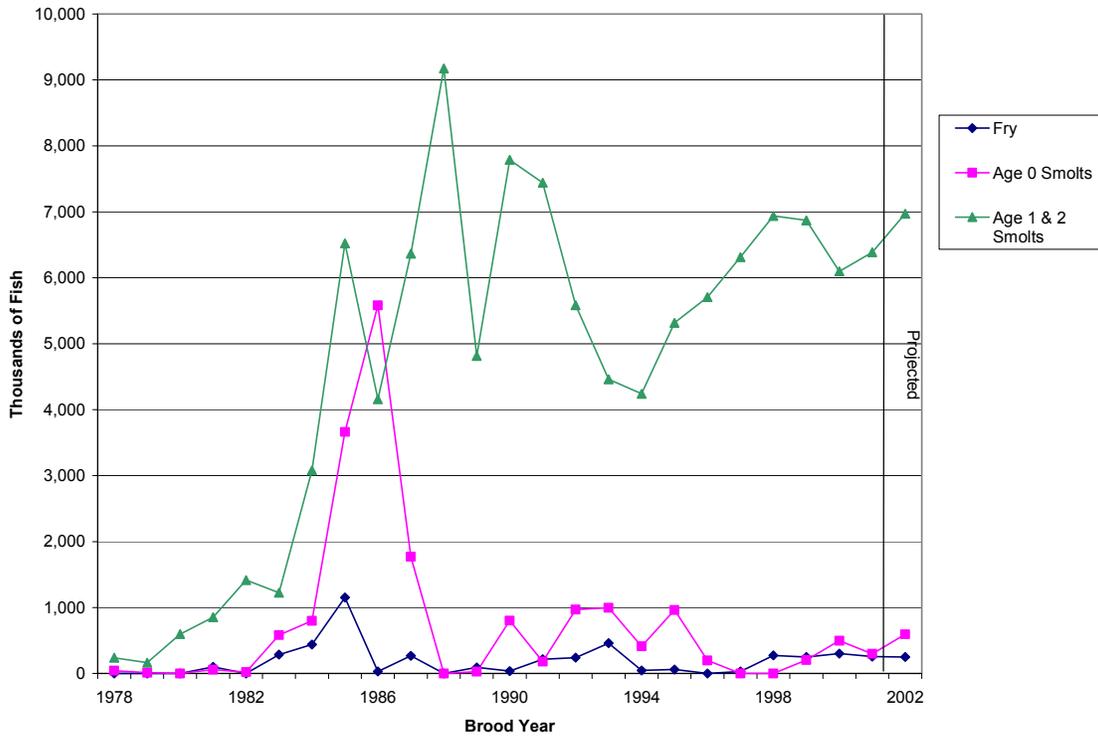


Figure 11. Actual and projected releases of hatchery-produced chinook salmon in Southeast Alaska by brood year, from 1978 to 2002.

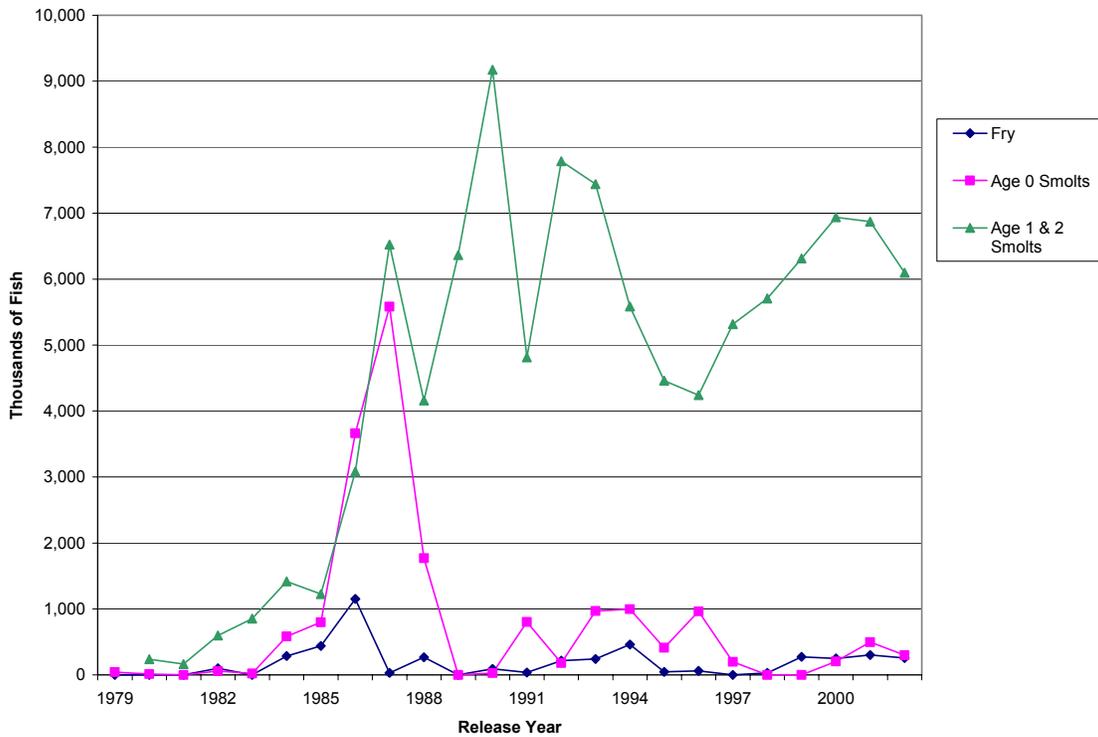


Figure 12. Actual and projected releases of hatchery-produced chinook salmon in Southeast Alaska by calendar year, from 1979 to 2002.

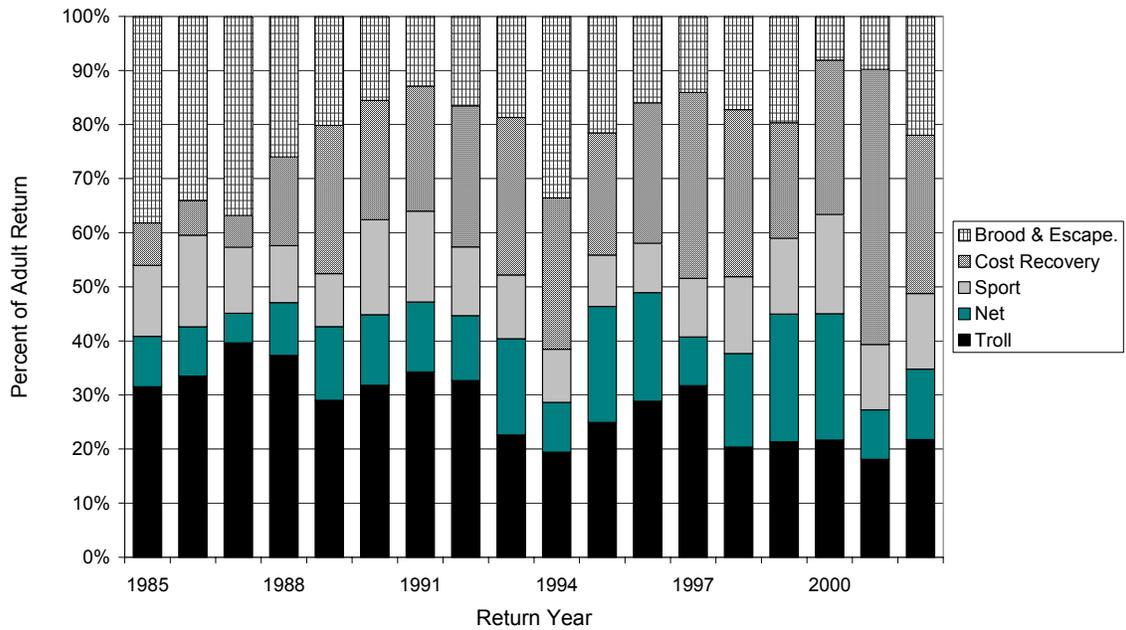


Figure 13. Percentages of Alaska hatchery-produced chinook salmon harvested in common property fisheries and utilized by hatchery operators for cost recovery or broodstock and escapement, from 1985 to 2002.

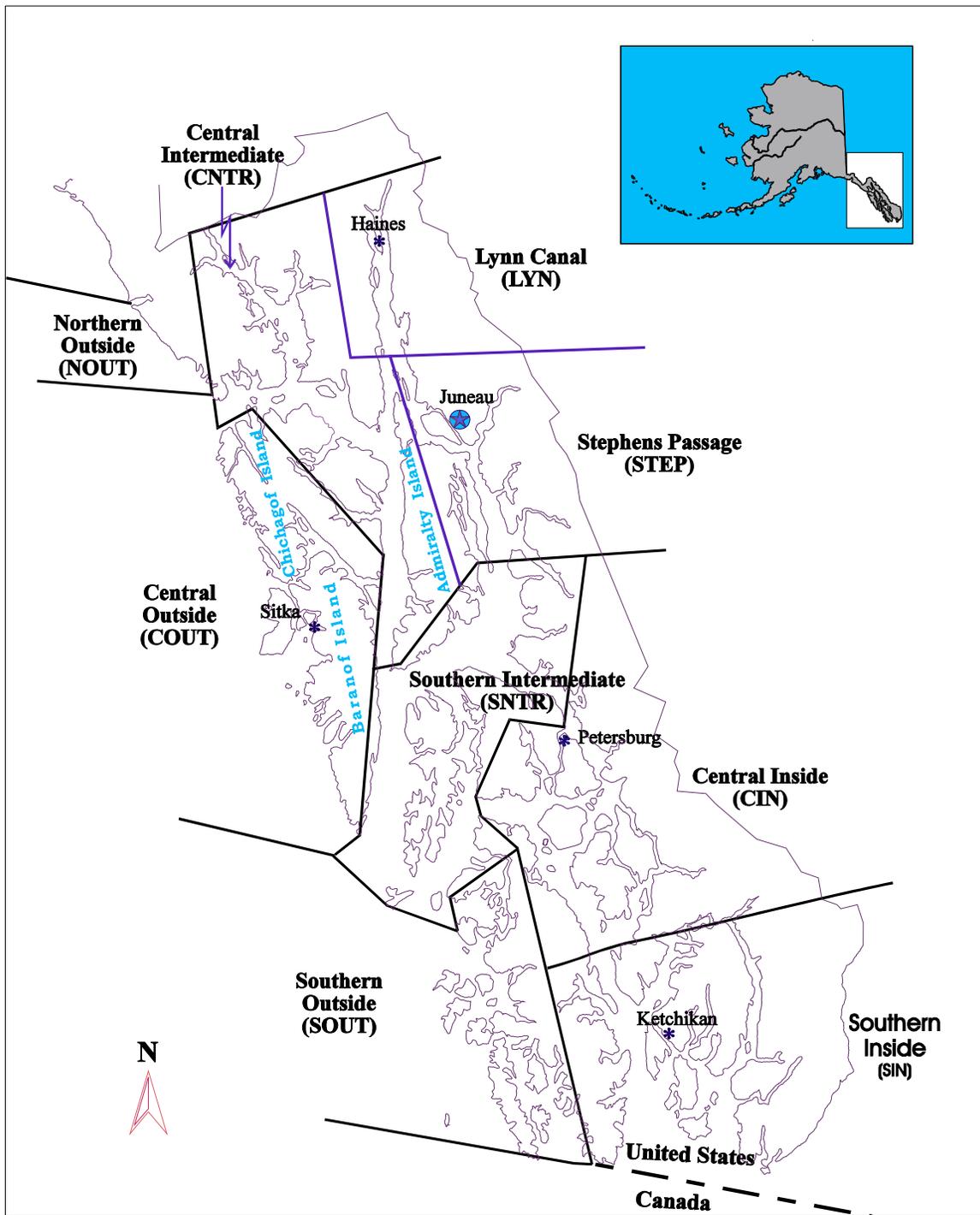


Figure 14. Pacific States Marine Fisheries Commission areas in Southeast Alaska.

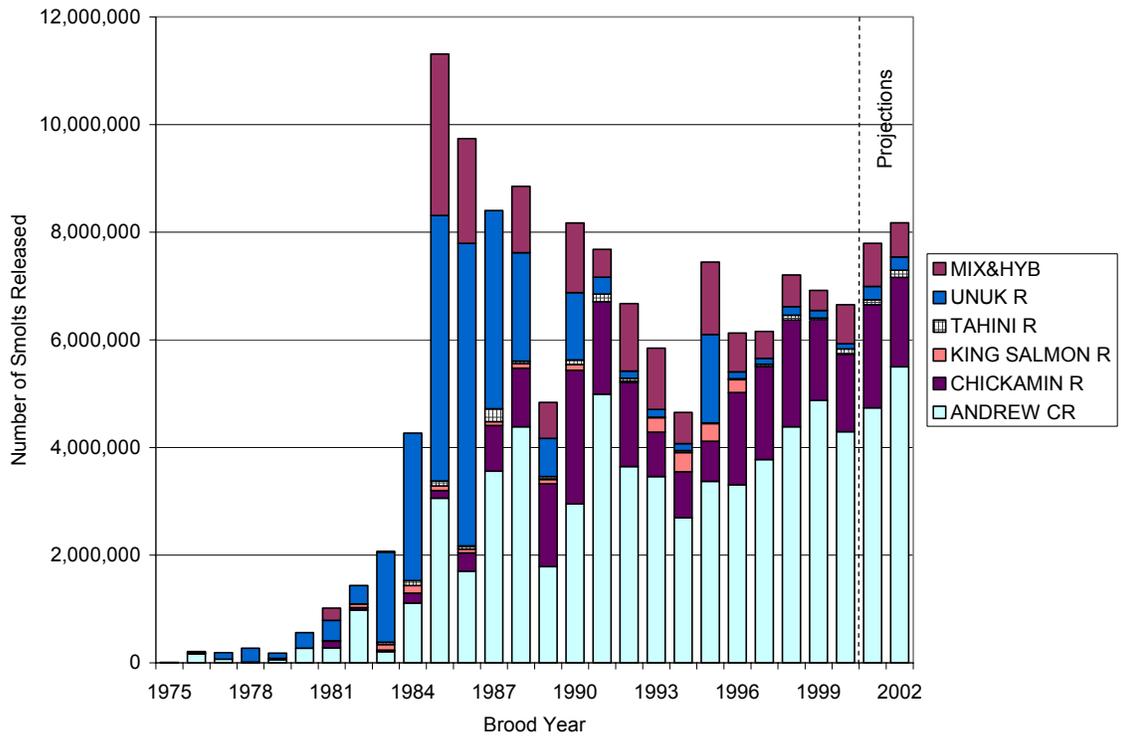


Figure 15. Number of chinook salmon released by Southeast Alaska hatcheries, by ancestral stock, brood years 1976 to 2002.

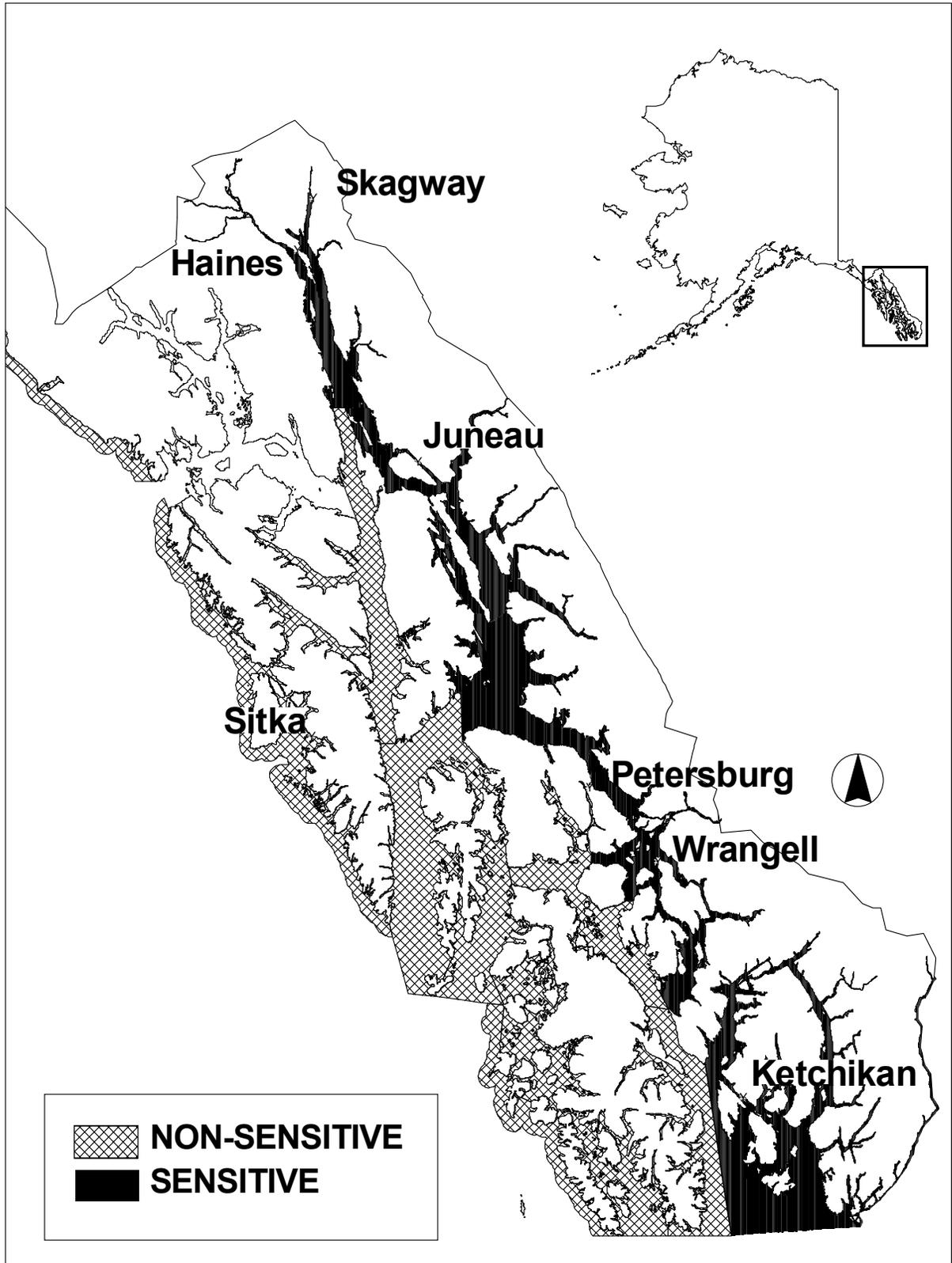


Figure 16. Chinook salmon sensitive and non-sensitive areas in Southeast Alaska.

Figure 17. Troll harvest rate and marine survival of chinook salmon released from Southeast Alaska enhancement sites.

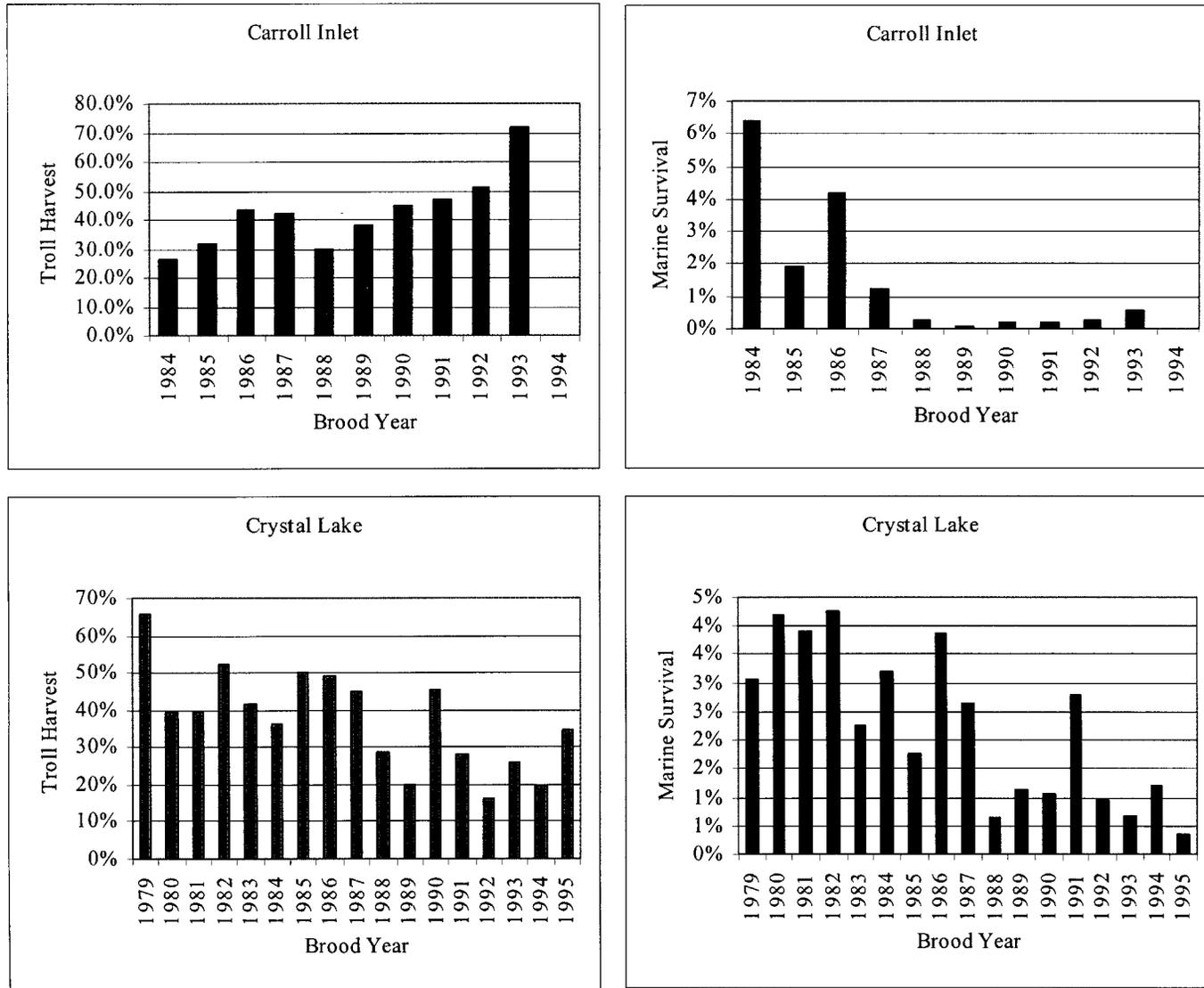


Figure 17. cont.

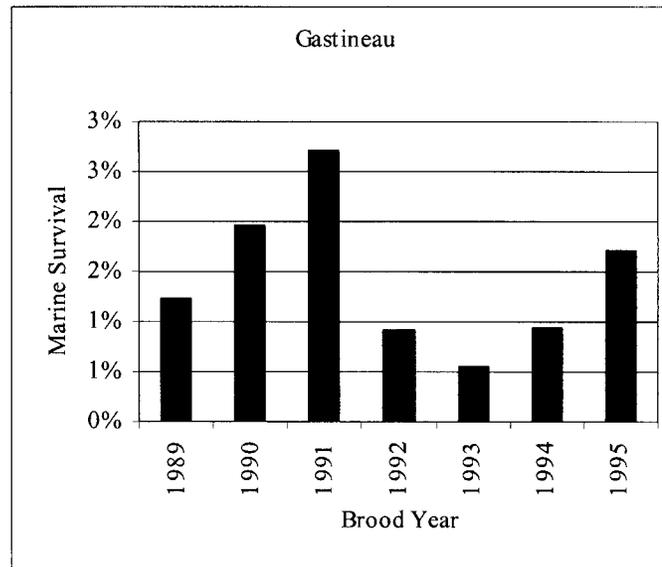
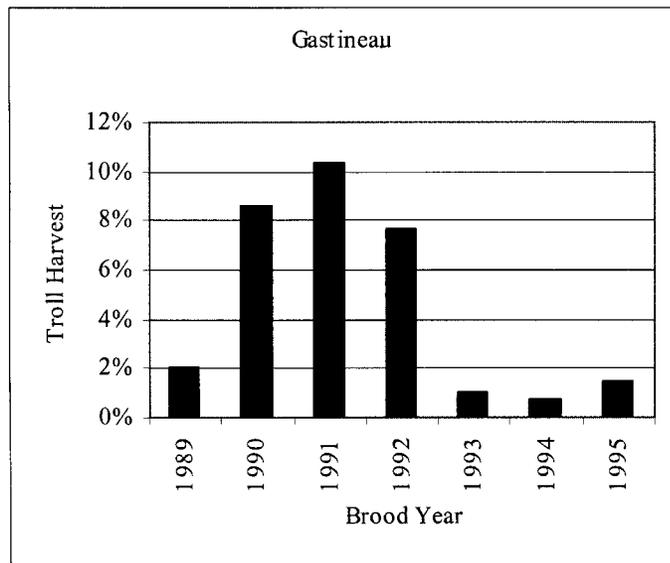
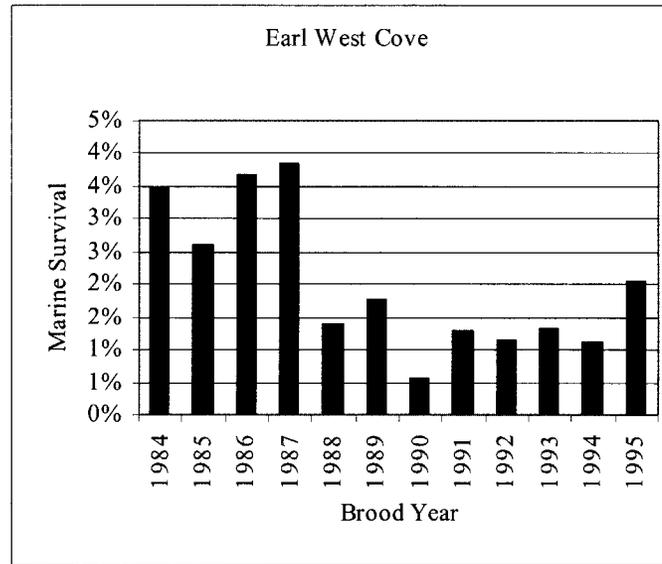
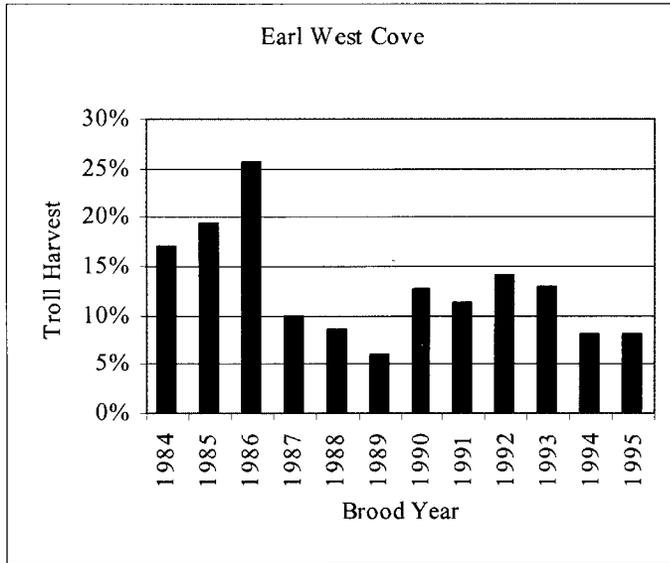


Figure 17. cont.

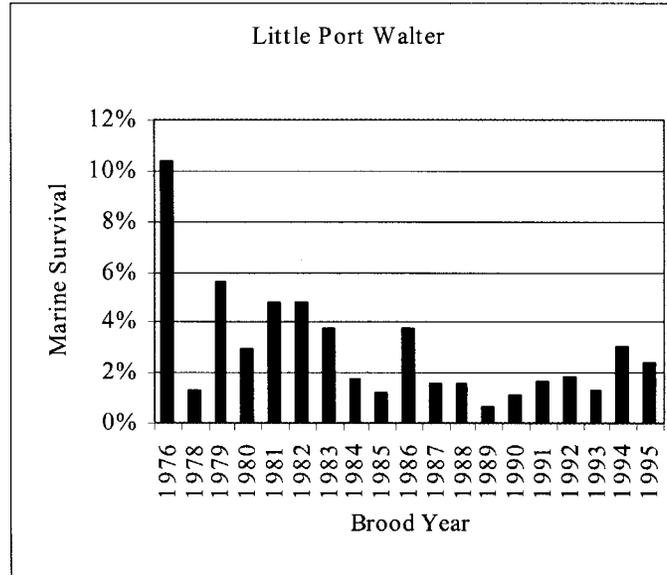
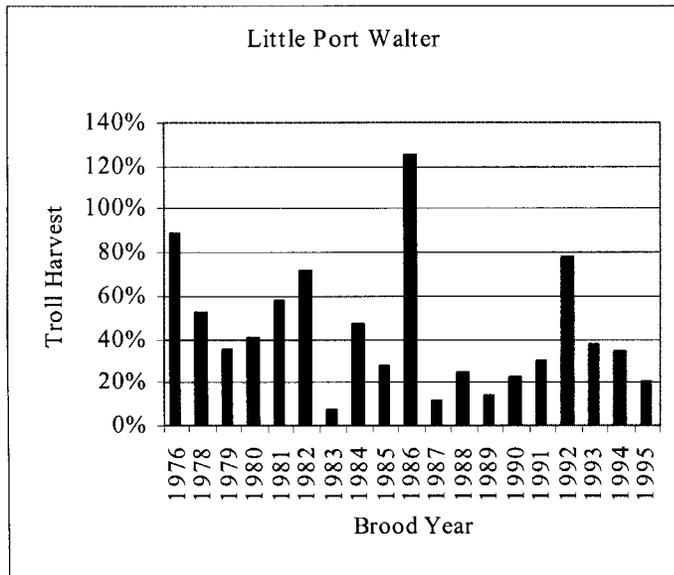
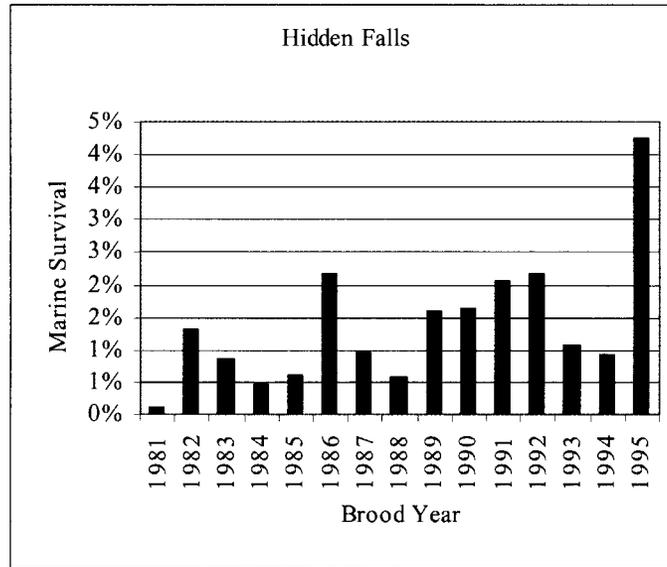
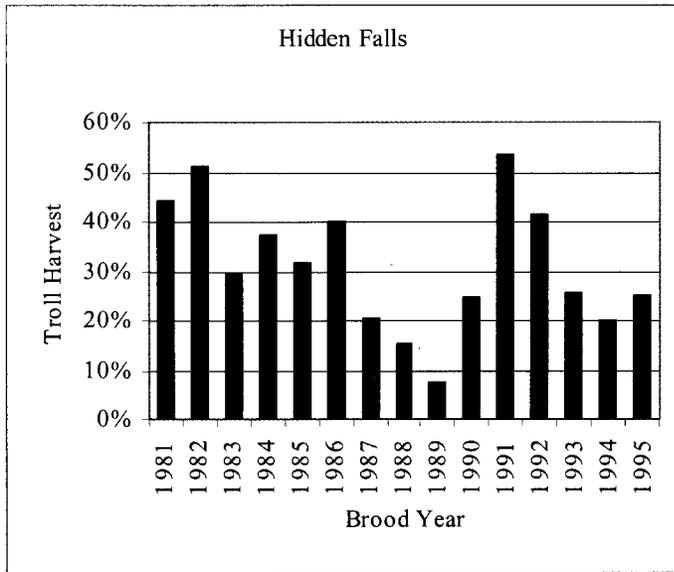


Figure 17. cont.

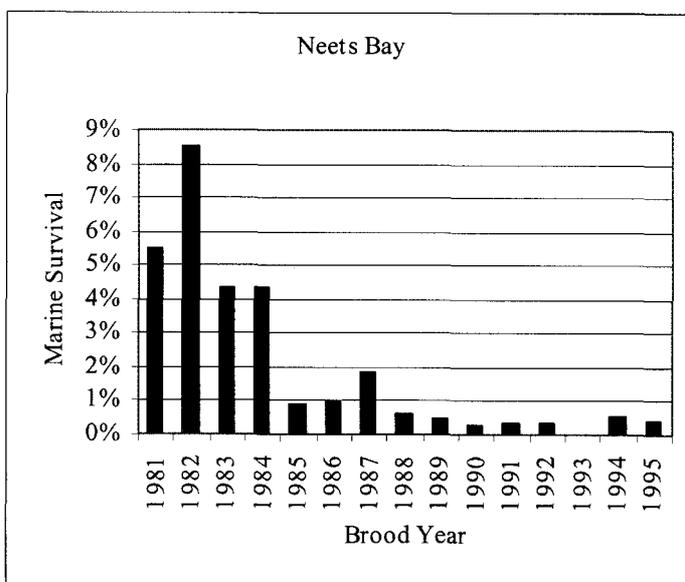
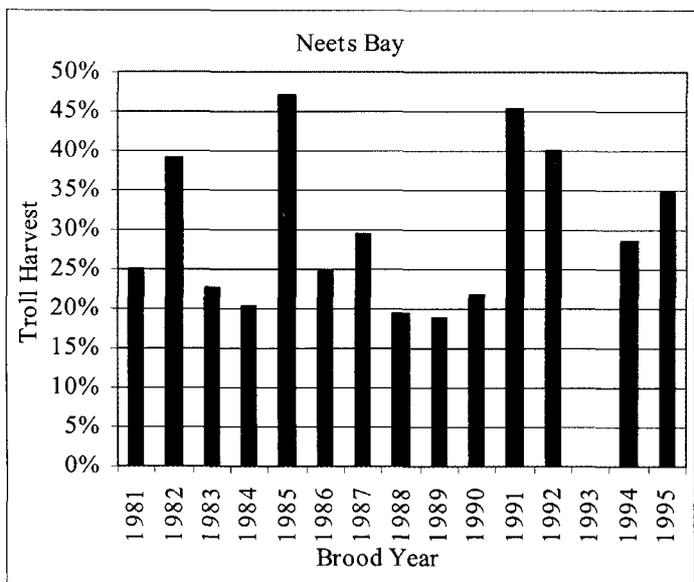
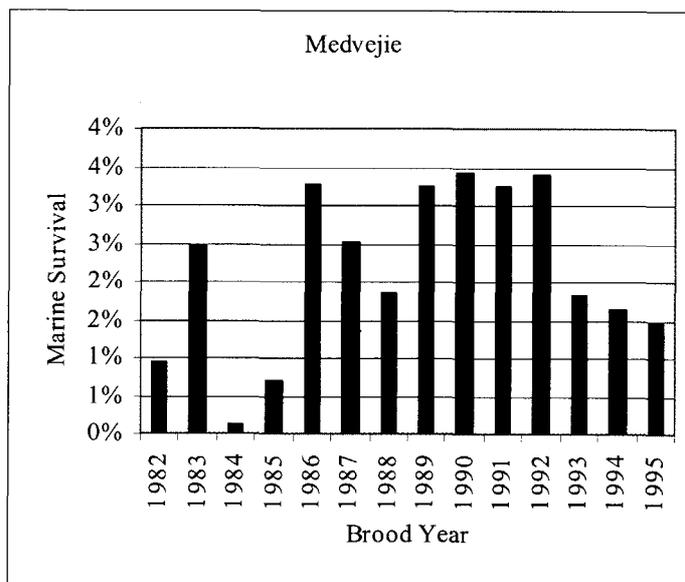
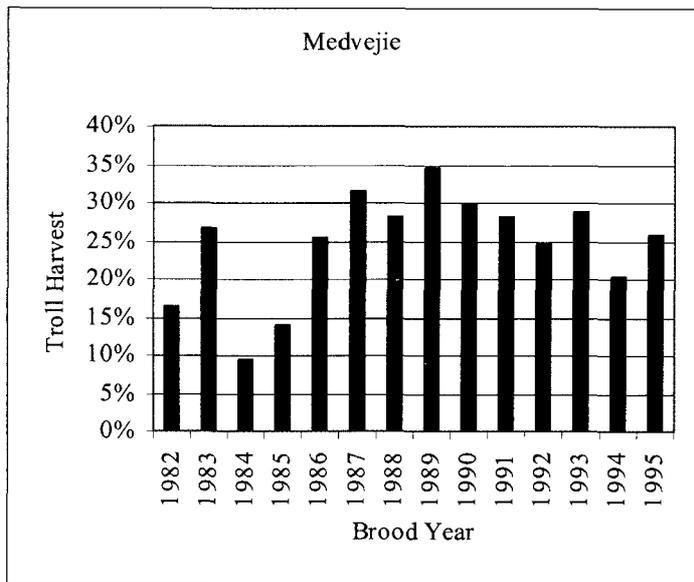


Figure 17. cont.

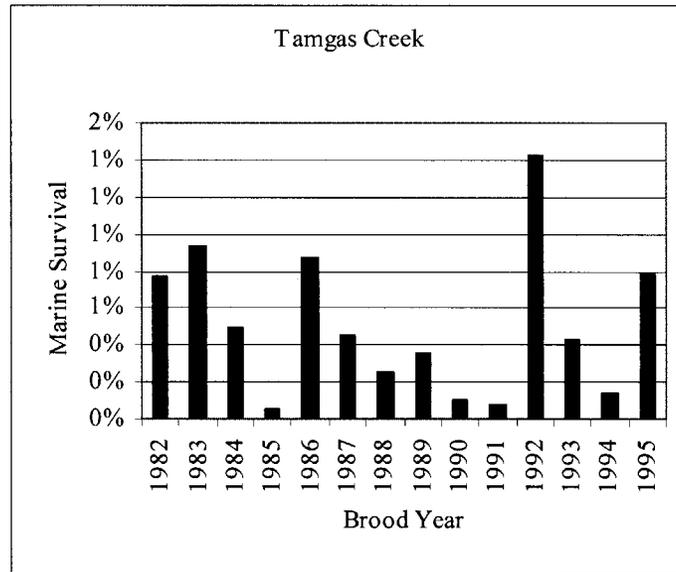
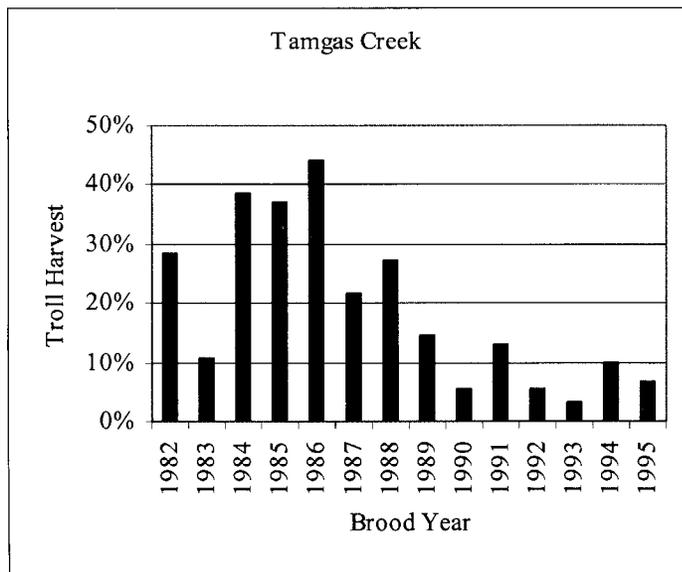
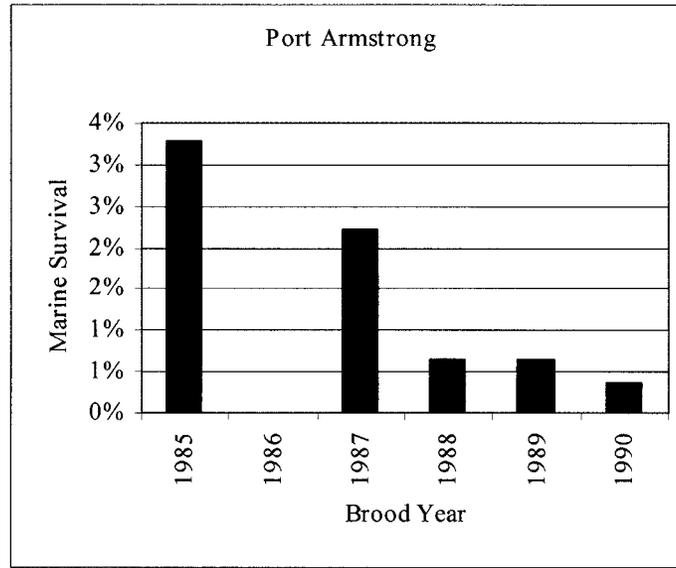
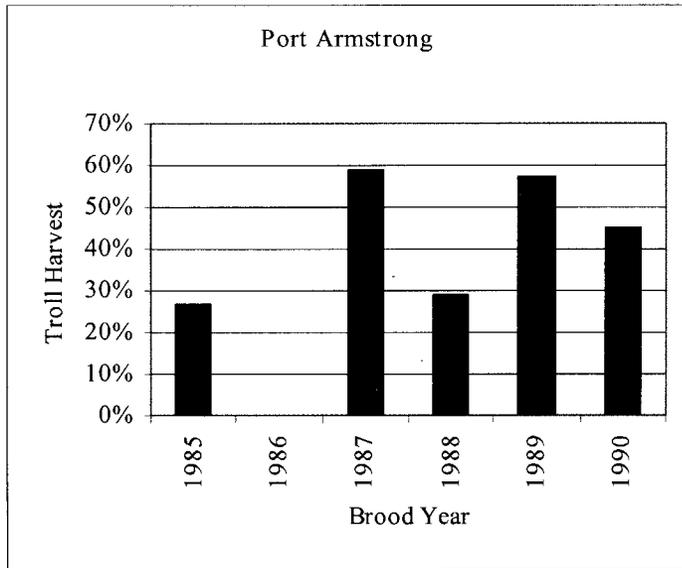
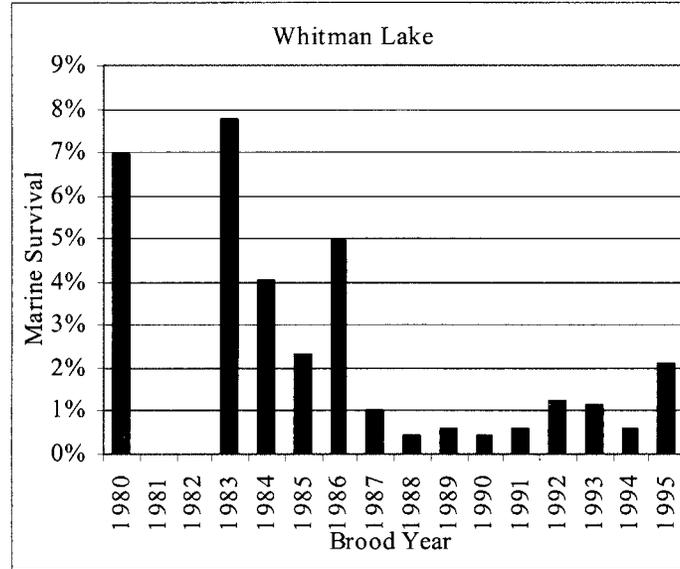
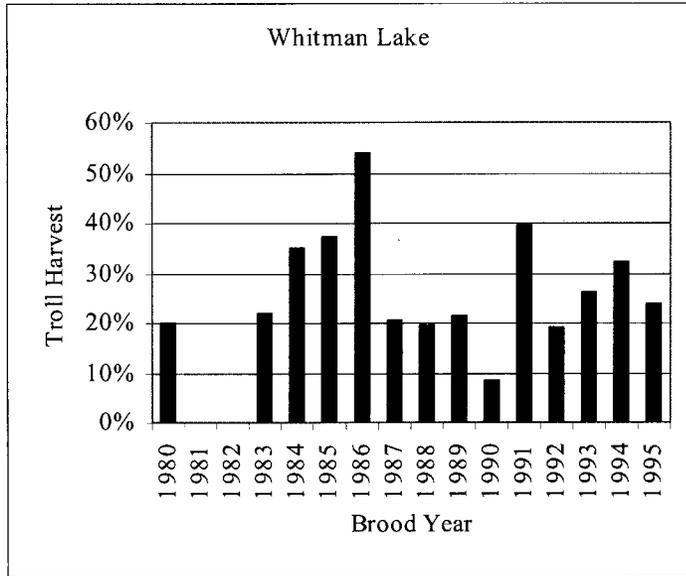


Figure 17. cont.



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

If you believe you have been discriminated against in any program, activity, or facility, or if you desire further information please write to ADF&G, P.O. Box 25526, Juneau, AK 99802-5526; U.S. Fish and Wildlife Service, 4040 N. Fairfield Drive, Suite 300, Arlington, VA 22203 or O.E.O., U.S. Department of the Interior, Washington DC 20240.

For information on alternative formats for this and other department publications, please contact the department ADA Coordinator at (voice) 907-465-4120, (TDD) 907-465-3646, or (FAX) 907-465-2440.