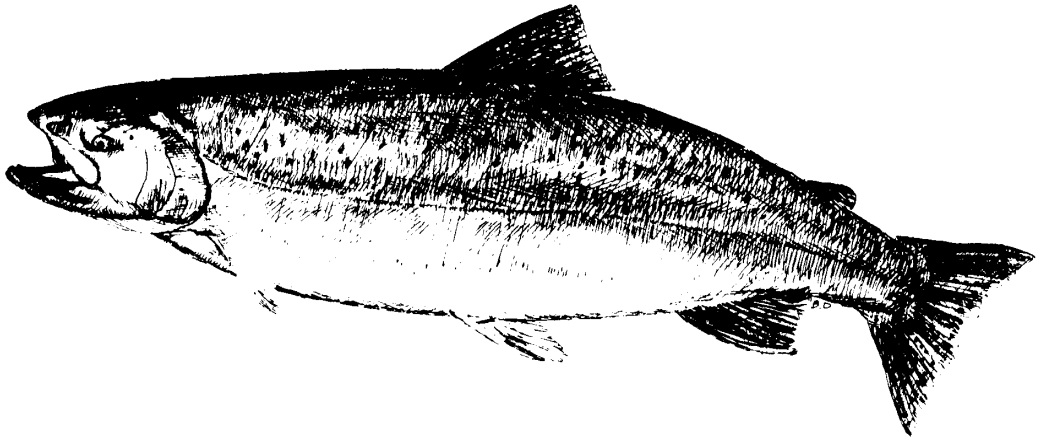

OVERVIEW OF THE SPORT FISHERY
FOR CHINOOK SALMON IN SOUTHEAST ALASKA THROUGH 2008

REPORT TO THE ALASKA BOARD OF FISHERIES

February 2009

SITKA, ALASKA

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF SPORT FISH

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OVERVIEW OF THE SPORT FISHERY FOR CHINOOK SALMON IN SOUTHEAST ALASKA THROUGH 2008

By

Brian Frenette,
Michael Jaenicke,
and
John Der Hovanisian

Alaska Department of Fish and Game
Division of Sport Fish
P.O. Box 110024
Douglas, Alaska 99811-0024

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SYNOPSIS

This report summarizes the sport fishery for Chinook salmon in Southeast Alaska (SEAK) including; historic and current effort and harvest statistics, management practices, and a summary of board proposals and effects of potential regulation changes.

Chinook salmon are probably the most highly preferred species of fish sought after by sport anglers fishing in SEAK, and are equally valued by the commercial fishing industry. Fisheries management for this species is complex, and involves regulatory processes in both international and domestic venues. An all-gear harvest quota is established under the U.S./Canada Pacific Salmon Treaty (PST), which was recently renegotiated for 2009-2018. Since 1999, Alaska's allowable catch under the treaty has been based on coastwide Chinook salmon abundance as measured by the Chinook salmon preseason abundance index (AI). Once that is determined, the Alaska Board of Fisheries (BOF) allocates specific shares of the all-gear quota to the drift gillnet, set gillnet, seine, troll, and sport fisheries. The net fisheries are taken off the top, and the remainder is split between the troll and sport fisheries.

Marine and freshwater sport harvests of Chinook salmon averaged 24,500 from 1977 to 1990, 56, 400 from 1991 to 2000, and 76,300 from 2001 to 2007. Overall increases in harvest were primarily due to growth in outer coast fisheries in Sitka and Prince of Wales Island (PWI). From 2003 to 2007, the Chinook harvest by nonresidents averaged 47,000 or 58% of the total, with the largest harvests by nonresidents in the Sitka and PWI areas. Annual limits and reduced bag limits for nonresidents have been in place since 1997 and have reduced the proportion of the total harvest taken by nonresidents by about 10%. The largest harvests by Alaska residents occur in the Juneau, Sitka, and Ketchikan areas.

The average sport harvest of treaty fish in 2003–2008 was 54,000; and the preliminary estimated treaty harvest of Chinook salmon in 2008 is 25,700. Alaska hatchery fish (as well as selected wild stock harvests) are subtracted from the total harvest to determine the number of Chinook salmon that count toward Alaska's Pacific Salmon Treaty quota (treaty fish). Fisheries in inside waters harvest stocks comprised of much higher percentages of Alaska hatchery Chinook salmon than those in outside waters.

The sport fishery is managed each year under the terms set out in the Southeast Alaska King Salmon Management Plan. The current plan (5AAC 47.055) is a result of modifications to the plan's management measures made by the BOF in 2006 and 2008. The BOF liberalized management measures to increase king salmon harvest at AI levels above 1.5 during the 2006 SEAK BOF meeting. Management measures that restricted the number of lines from charter vessels and increased the minimum king salmon size limit for part of the season for all anglers at AI levels below 1.1 were modified by emergency regulation in 2008. Despite an extremely low abundance level in 2008, the management measures invoked resulted in underharvesting the sport allocation. Based on the preseason AI under the 1999 PST, sport harvest averaged 17.4% of the 20% allocation during 2003 to 2007, the period in which the current plan has been in place. The BOF received 5 proposals for consideration at the February 2009 meeting that, if adopted, would modify management of the Chinook salmon sport fishery under the plan.

INTRODUCTION

Chinook salmon are the species of fish most preferred by sport anglers fishing in Southeast Alaska (SEAK), and are highly valued by the commercial fishing industry as well. The SEAK region consists of Alaskan waters between Dixon Entrance to the south and Cape Suckling to the north (Figure 1).

The U.S./Canada Pacific Salmon Treaty (PST) limits the all-gear harvest of Chinook salmon within SEAK (excluding a majority of the hatchery fish produced in Alaskan hatcheries). Due to this limit on harvest and the high value to both user groups, allocation of Chinook salmon between sport and commercial fisheries has been contentious. Since 1992, the Chinook salmon quota has been allocated on a percentage basis between the sport and commercial fisheries, and several management plans to direct the fishery have been in place.

The objective of this report is to provide an overview of the sport fishery for Chinook salmon in

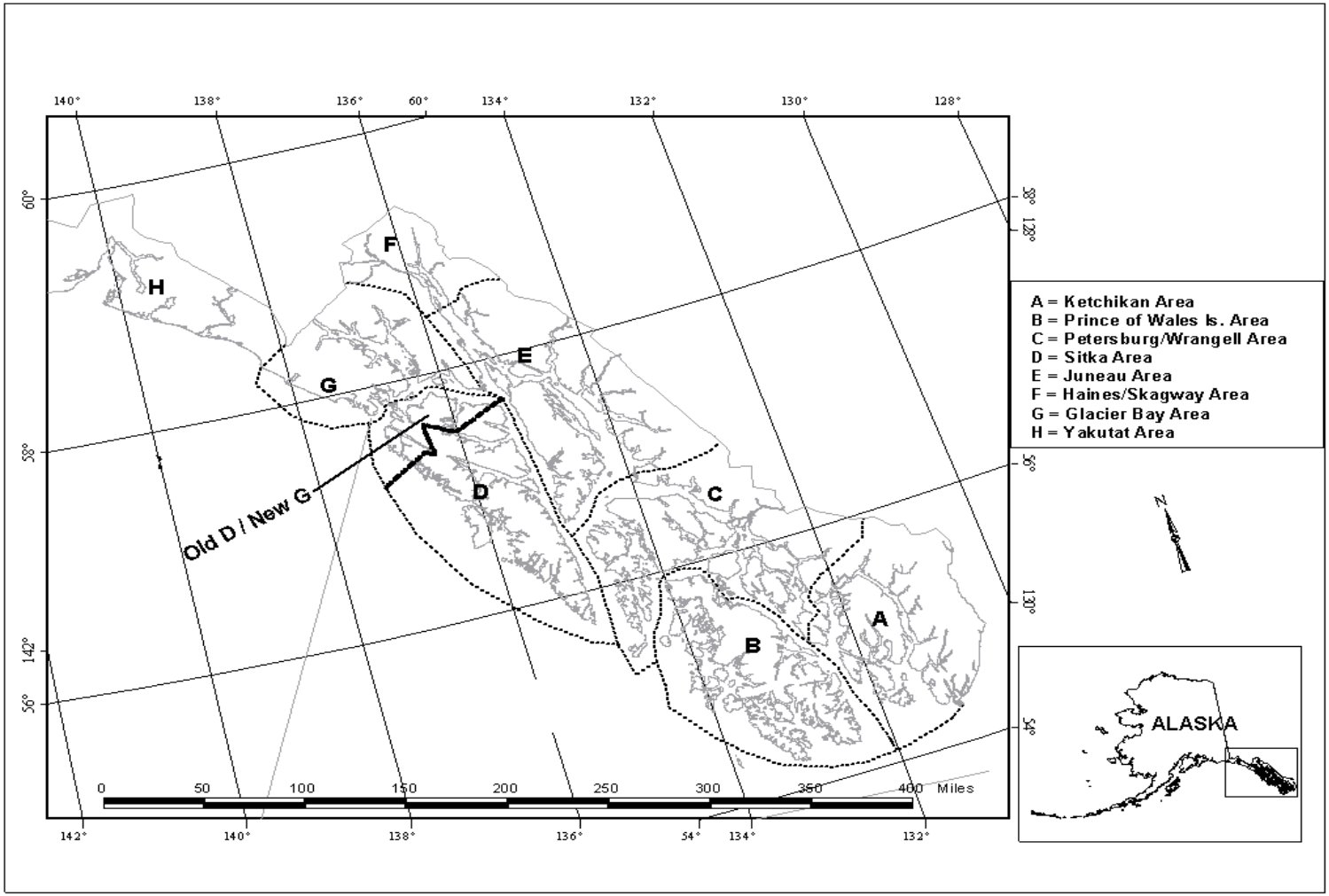

Figure 1.–Areas within the Southeast Alaska region for which sport effort and harvests are estimated through use of the Statewide Harvest Survey (SWHS) postal questionnaire**.** The boundary between the Sitka and Glacier Bay (D & G) areas was modified in 2000**.**

SEAK. A discussion of implementation of the sport fishery management plan since 1992 and an update of fishery status are also provided. Specifically, this report will detail for SEAK:

1. The history of sport fisheries regulations for Chinook salmon and implementation of the various management plans since 1992;
2. Chinook salmon harvest, effort, stock composition, and residency of angler; and
3. A discussion of the management issues to be decided by the BOF.

REGULATORY HISTORY AND MANAGEMENT PLAN

FRESHWATER FISHERIES

The retention of Chinook salmon caught in freshwater has been prohibited year-round in SEAK since 1963, with 3 exceptions: the Yakutat area, and in streams containing only Alaska hatchery fish such as Blind Slough near Petersburg. Freshwater anglers fishing in the Yakutat area may take 1 Chinook salmon over 20 inches in length daily, along with 10 fish under 20 inches. The Situk River, near Yakutat, supports the only freshwater sport fishery for wild Chinook salmon in SEAK. The Situk River management plan (5 AAC 30.365) establishes sport and commercial fisheries regulations based on the projected inriver run to the Situk River weir. In Blind Slough, near Petersburg, Chinook salmon returning to the Crystal Lake Hatchery provide freshwater fishing opportunity. A bag limit of 2 Chinook salmon 28 inches or more in length, and 2 Chinook salmon less than 28 inches in length applies to this system. In all freshwaters draining into the Sitka Sound Special Use Area, the Chinook salmon daily bag limit is 5 fish greater than 28 inches in length and 5 fish less than 28 inches in length (5AAC 47.023(g)(10). Indigenous Chinook salmon populations do not exist in these freshwaters. These regulations were adopted to allow for terminal harvest of hatchery Chinook salmon that stray into Sitka area streams. Since 1989, Alaska Department of Fish and Game (ADF&G) has also opened other freshwater systems by emergency order to provide for the terminal harvest of hatchery Chinook salmon. Other streams that are opened to harvest surplus hatchery Chinook salmon in freshwater include Fish Creek (near Juneau), and Pullen Creek (near Skagway).

MARINE FISHERIES

Regionwide regulations governing harvests of Chinook salmon in marine recreational fisheries of SEAK have changed considerably over the years (Table 1). From 1958 to 1962, the minimum size limit was 26 inches (fork length) and the bag limit was 3 fish. During the period from 1963 to 1975, there was no minimum size limit for Chinook salmon, and the bag limit remained 3 fish. In 1976, a minimum size limit of 26 inches (total length) was put into effect. The minimum size limit was increased to 28 inches (total length) in 1977. Bag and possession limits were reduced to 2 fish in 1983. The general regulations (2 fish bag limit, 28" length limit) have been in effect since, except when modified by emergency order.

Other changes to the regionwide Chinook salmon regulations have occurred at specific times or areas to deal with specific issues. From 1980 to 1983, the minimum size limit was eliminated from April 1 to June 14 to provide for harvest of small mature males known as "jacks." The 28-inch size limit was in effect for the rest of the year. Portions of Behm Canal near Ketchikan, Greys Pass near Wrangell, and upper Taku Inlet near Juneau have been closed to recreational fishing to protect Chinook salmon returning to spawn. Restrictive regulations, including partial area closures and seasonal bag limits, were imposed in the Haines area in 1987 in an attempt to rebuild the Chilkat River stock of Chinook salmon. In 1997, the BOF repealed the seasonal limit regulation.

From 1983 through May 1989, it was legal for marine anglers to keep undersized Chinook salmon (less than 28 inches in length) that had been adipose clipped. This regulation was enacted to increase recoveries of coded wire tags (CWTs). However, retention of these fish caused biased estimates of hatchery contributions and this regulation was repealed in 1989.

Terminal harvest areas play an important role in the SEAK Chinook salmon fishery in that they provide additional opportunities to sport anglers fishing near major communities. Large amounts of effort are expended in these areas which, if directed elsewhere, would increase pressure on wild stocks.

Table 1.–Summary of regional Chinook salmon regulations in Southeast Alaska since 1958.

Years	Bag limit	Possession limit	Minimum size limit	Other regionwide regulations	Areas with additional restrictions
1958–1962	3	3	≥26" fork		Ketchikan
1963–1975	3	3	None	Freshwater - 1st closed	Ketchikan
1976	3	3	≥26" total		Juneau, Ketchikan
1977	3	3	≥28" total		Juneau, Ketchikan
1978–1979	3	3	≥28" total		Juneau, Ketchikan, Haines, Wrangell
1980–1982	3	3	≥28" total	No size limit: 4/01–6/14	Juneau, Ketchikan, Haines, Wrangell
1983–1988	2	2	≥28" total	No size limit -tagged fish	Juneau, Ketchikan, Wrangell
1989–1991	2	2	≥28" total	Terminal Area Mgmt.	Juneau, Ketchikan, Haines, Wrangell
1992–1996	2	2	≥28" total	Management Plan	Juneau, Ketchikan, Haines, Wrangell
1997–2002	2	2	≥28" total	No retention by charter vessel crews 4 fish ≥28" annual limit for nonresidents	Juneau, Ketchikan, Wrangell
2003–2005[a]	2	2	≥28" total	No retention by charter vessel crews 1 fish ≥28" bag limit and possession limit for nonresidents 3 fish ≥28" annual limit for nonresidents	Juneau, Ketchikan, Wrangell
2006-2007	3	3	≥28" total	No retention by charter vessel crews 1 fish ≥28" bag limit and possession limit for nonresidents 3 fish ≥28" annual limit for nonresidents Use of two rods Oct–Mar	Skagway (2007)
2008	1	1	≥28" total	1 fish ≥28" bag limit and possession limit for nonresidents May 1-Jul 15 and Oct 1-Dec 31	
			≥48" total	1 fish ≥48" bag limit and possession limit for nonresidents Jul 16-Sept 30	
				Nonresidents harvest limits: 3 fish Jan 1-Jun 30 2 fish Jul 1-15 1 fish Jul 16-Dec 31	

[a] In 2005, the regional regulation was modified by emergency regulation for a portion of the year. The nonresident annual limit was increased to 5 and the resident bag limit was increased to 3.

Table 2.–Names, locations, and dates of terminal marine harvest areas in Southeast Alaska that had liberalized regulations in 2008 to allow for increased harvests of Alaska hatchery Chinook salmon.

SWHS[a] area	THA[b] name	Location	Dates open
Ketchikan	Mountain Point	Tongass Narrows, Nichols Passage, Revillagigedo Channel	6/13-7/31
	Neets Bay	Neets Bay, Revillagigedo I.	6/13-7/31
Petersburg/Wrangell	Wrangell Narrows	W. Mitkof Island	6/01-7/31
Juneau	Juneau	Gastineau Channel, Auke Bay, Fritz Cove	6/06-8/31
Haines/Skagway	Taiya Inlet	Upper Lynn Canal	6/16-7/31

[a] Statewide Harvest Survey = SWHS

[b] Terminal harvest area = THA

In addition, hatchery fish harvested in terminal areas do not count toward treaty harvest quotas. In 1989, ADF&G was given authority to increase harvest opportunities for Chinook salmon in terminal harvest areas. Since 1989, a number of terminal marine harvest areas have been opened with increased bag limits and/or reduced length limits. Those areas opened in 2008 are listed in Table 2.

In 1992, the Southeast Alaska King Salmon Management Plan (5AAC 47.055) was adopted by the BOF. This plan provided management options to be implemented during the season to meet the sport allocation (see management plan section). Further changes to general regulations were implemented in 1997 and included a 4 fish annual limit for nonresident anglers, a prohibition on charter captains and crew from retaining Chinook salmon while clients were onboard, and a limit on the maximum number of lines fished to no more than the number of paying clients onboard a charter vessel. At the 1998 statewide meeting, the BOF passed a mandatory logbook requirement for charter vessels.

PACIFIC SALMON TREATY

In 1985, the United States and Canada signed the Pacific Salmon Treaty, which included provisions for management and conservation of Chinook salmon stocks that inhabit the Pacific Coast, north of southern Oregon. Stocks for which the treaty applied included those that migrate north and are caught in the fisheries of both countries. Harvest ceilings (quotas) were established for the Chinook salmon fishery in SEAK and other major Chinook fisheries in Canada as part of the initial sharing arrangements. Each of these fisheries was managed to ensure harvests would not exceed the negotiated annual quotas. As an incentive to minimize harvest of wild Chinook salmon, the majority of Chinook salmon produced at Alaska hatcheries does not count toward Alaska's quota.

When the treaty was implemented, only the commercial troll fishery was managed to ensure that annual quotas for treaty fish were not exceeded. But in 1987, the BOF allocated the harvest of treaty fish among the various commercial groups that harvest Chinook salmon in SEAK. By 1992, allocations were in place for the sport fishery as well as the commercial troll and net fisheries.

A management range (±7.5% of the quota) was established to ensure quotas were attained but not exceeded on an annual basis. Under this provision, harvests of treaty fish in excess of the quota but within the management range, or unharvested treaty Chinook within the management range, could be added to or subtracted from the harvest of treaty fish the following year. Cumulative deviations above the upper bound of the management range had to be subtracted from the quota the following year, but the cumulative number of unharvested treaty Chinook salmon below the lower bound of the management range could not be added to future quotas .

In 1999, the Pacific Salmon Commission (PSC) negotiated a new treaty agreement implementing aggregate abundance-based management (AABM) in all Chinook fisheries in both the U.S.

Table 3.–Abundance indices and related all-gear quotas, sport allocations, and commercial allocations for Chinook salmon in Southeast Alaska based on the 1999 treaty agreement.

Abundance index	All-gear quota	20% Sport allocation	80% Troll allocation	Net allocation[a]
0.5	85,000	15,576	62,304	7,120
0.8	124,000	22,814	91,258	9,928
0.9	137,000	25,227	100,909	10,864
1.0	150,000	27,640	110,560	11,800
1.1	178,500	32,930	131,718	13,852
1.2	207,000	38,219	152,877	15,904
1.3	252,044	46,579	186,317	19,147
1.4	269,894	49,892	199,569	20,432
1.5	287,743	53,205	212,820	21,717
1.6	311,989	57,705	230,821	23,463
1.7	348,729	64,524	258,096	26,108
1.8	368,066	68,113	272,452	27,501
1.9	387,403	71,702	286,808	28,893
2.0	406,740	75,291	301,164	30,285

[a] Net allocation = 1,000 for set gillnet, 2.9% of the all-gear quota for drift gillnet, and 4.3% of all-gear quota for seine.

and Canada. Since 1999, SEAK and other fisheries have been managed to achieve a Chinook harvest based on the abundance of Chinook rather than on a fixed ceiling. Under the agreement, the allowable harvest level for the SEAK Chinook salmon fisheries is based on the best available preseason or inseason abundance index as determined by the Chinook Technical Committee (CTC). Since 1999, combinations of both the preseason and inseason indices have been used to set the allowable harvest for SEAK fisheries. The agreement specifies the total allowable catch at given abundance indices (AI), which are based on exploitation levels that increase as abundance increases (Table 3).

While the new AABM approach is very different from ceiling management, the intent of the PSC was to continue the overage/underage provisions. In the agreement, the PSC instructed the CTC to review the 7.5% cumulative management range (Chapter 3 paragraph 7 (a) ii). Following its review in January 2002, the CTC reported to the PSC that application of the previous provisions was not straightforward and would require additional work by the CTC. The PSC requested that the CTC annually provide the PSC with the preseason expected, the actual, and the postseasonallowed catch. An annual review of these by the PSC would be used to determine if the parties were managing outside the intended boundaries.

The sport fishery is managed each year under the terms set out in the plan (5AAC 47.055). With 2008 as an exception, 5 of the past 6 years observed very high levels of Chinook abundance. In 2006 and 2008 the BOF modified the 2003 plan to increase harvest during years of high Chinook abundance (2006) and address department and public concerns with implementation of specific management measures at low Chinook abundance (2008). Since 2003, the sport fishery underharvested its preseason allocation by a total of 49,600 fish (Table 4).

Table 4.–Sport harvest of treaty Chinook salmon and sport overage/underage calculated using allocations based on the preseason abundance indices, 1999-2005. AI = Chinook salmon abundance index.

Year	Preseason AI	Preseason allowable catch	Troll +Sport allowable catch	Preseason troll allocation	Preseason sport allocation	All-gear observed catch	Troll harvest	Sport harvest	Troll deviation from allocation	Sport deviation from allocation	Troll percentage	Sport percentage
1999	1.15	192,800	175,910	140,728	35,182	198,842	132,741	53,158	7,987	-17,976	75.5%	30.2%
2000	1.14	189,900	173,134	138,507	34,627	186,493	133,963	41,439	4,545	-6,812	77.4%	23.9%
2001	1.14	189,900	173,134	138,507	34,627	186,919	128,692	44,725	9,816	-10,098	74.3%	25.8%
2002	1.74	356,500	332,570	266,056	66,514	357,133	298,132	45,504	-32,075	21,010	89.6%	13.7%
2003	1.79	366,100	341,758	273,406	68,352	379,519	307,358	48,774	-33,952	19,578	89.9%	14.3%
2004	1.88	383,400	358,410	286,728	71,682	417,019	321,876	55,413	-35,148	16,269	89.8%	15.5%
2005	2.05	416,400	389,895	311,916	77,979	390,482	305,185	63,345	6,731	14,634	78.3%	16.2%
2006	1.69	346,800	320,830	256,664	64,166	357,678	264,072	69,824	-7,407	-5,658	82.3%	21.8%
2007	1.60	329,400	304,684	243,747	60,937	327,138	240,377	61,851	3,369	-914	78.9%	20.3%
2008	1.07	170,000	156,760	125,408	31,352	164,108	125,772	25,662	-364	5,690	80.2%	16.4%
Average, 03-08		335,367	312,056	249,645	62,411	323,785	260,773	54,145	-11,129	8,267	83.2%	17.4%
Average, 99-08		294,130	272,709	218,167	54,542	283,146	225,817	50,970	-7,650	3,572	81.6%	19.8%

SOUTHEAST ALASKA KING SALMON MANAGEMENT PLAN

Allocation

In March of 1992, the BOF allocated the SEAK Chinook salmon treaty quota between the commercial and sport fisheries. A total of 20,000 Chinook salmon were allocated to the commercial net fisheries, and the rest of the available Chinook salmon were divided as follows: 83% to the commercial troll fishery and 17% to the sport fishery. Prior to this time, the estimated sport harvest of Chinook salmon was subtracted from the allowable quota and the commercial troll fishery was managed to take the balance of the quota available. During a subsequent BOF meeting in early 1994, the allocation to the sport fishery was increased from 17% to 18% in 1994, to 19% in 1995, and to 20% in 1996. The sport allocation has remained at 20% since 1996.

The BOF also directed that the harvest of treaty fish and the "Alaska hatchery add-on" (those Alaska hatchery fish that do not count against the quota) were to be calculated separately for the sport and commercial fisheries. All wild and non-Alaskan hatchery Chinook salmon harvested by the sport fishery are counted against the sport fish quota along with a small portion of the Alaska hatchery fish taken.

Management Plan 1992-2002

The BOF initially adopted the plan in 1992. The plan outlined how ADF&G was to manage the marine sport fishery for its Chinook salmon harvest allocation and provided regulatory authorities to implement the plan. The objectives of the 1992 plan were to: 1) allow uninterrupted sport fishing in marine waters for Chinook salmon, while not exceeding the allocation and; 2) to minimize regulatory restrictions on unguided anglers, who harvest Chinook salmon at a lower catch per unit of effort (CPUE) than do guided anglers fishing from charter vessels. The regulatory authorities to achieve these objectives included several bag limit, size limit, and gear restriction options to increase or reduce the sport harvest to meet the quota as well as options for increased catch reporting. Bag limits of 2 Chinook salmon per day, 2 in possession, with a minimum size limit of 28 inches were to remain in effect in SEAK marine waters until it was projected (either preseason or inseason) that the total harvest would deviate by more than the management range from the allocation. The management range was set by regulation at 7.5%.

The plan was modified at BOF meetings in 1994, 1997, 2000, and 2003. The primary change in 1994 was to increase the sport allocation over a 3-year period from 17% to 20%. In 1997, the BOF determined that stability was important to the sport fishery and that the plan should be modified to minimize inseason regulatory actions. Under the 1997 plan, as soon as the sport quota was determined, the department was to implement a 1, 2, or 3 fish bag limit for all anglers as needed to achieve the sport quota. The projected harvest under the specific bag limit became the new harvest target for the sport fishery. Other significant changes in 1997 were the implementation of a 4-fish annual limit for nonresidents, the prohibition on charter operators and crew from retaining Chinook salmon when clients are onboard, and limiting the number of lines fished from charter vessels to the number of paying clients onboard. The primary changes to the plan in 2000 were to establish the sport fishery regulations prior to May 1 and have the regulations remain in effect for the entire season (except as needed for conservation), provide more specific regulatory actions to be taken at various levels of Chinook salmon abundance, and implement more restrictive regulations on nonresidents and anglers fishing from charter vessels. Under the 2000 plan, the commercial troll fishery continued to be managed to harvest the difference between the all-gear quota less the net allocation and projected sport harvest. Cumulative sport harvests above the sport fishery allocation came out of the troll quota and were to be paid back in future years by not implementing more liberal regulations in the sport fishery, and the cumulative number of unharvested fish (underage) was applied as an offset against excess harvests in prior or future years.

Management Plan 2003-2005

In 2003 the plan was modified to: 1) manage the sport fishery to attain an average harvest of 20 percent of the annual harvest ceiling specified by the PSC after subtracting the commercial net harvest; 2) allow uninterrupted sport fishing in salt waters for Chinook salmon, while not

exceeding the sport fishery harvest ceiling; 3) minimize regulatory restrictions on resident anglers; and 4) provide stability to the sport fishery by eliminating inseason regulatory changes except those needed for conservation. The primary changes to the plan to achieve these objectives were to: require that the sport and troll fisheries be managed separately to achieve their own allocations (uncoupling of the fisheries); not use cumulative overages or underages in the sport fishery to liberalize or restrict regulations; reduce bag and/or annual limits for nonresidents at abundance indices above 1.2; remove additional restrictions to residents fishing on guided vessels; and implement a series of additional restrictions at lower abundance indices.

Management Plan 2006-2008

In 2006 the Chinook salmon abundance index and resulting sport allocation had been at near record levels since 2002. With relatively limited options for expanding the sport fishery at high abundance levels the sport fishery was consistently harvesting under its allocation.

The management measures within the plan were substantially modified by the BOF in 2006 to increase harvest during years when abundance indices were above 1.5. The resident bag limit was increased to 3 fish at abundance indices greater than 1.5. Nonresident bag limits were increased to 2 fish during May and June at abundance indices above 2.0 and in May when abundance indices are above 1.5 to 2.0. Annual limits were also increased to 6 fish at abundance indices above 2.0, to 5 or 6 fish at abundance indices above 1.75 to 2.0, and to 4 or 5 fish at abundance indices greater than 1.5 to 1.75. A management measure allowing the use of 2 rods per angler during March through October was also added to the plan.

Based on preseason estimates of abundance and harvest, the sport fishery took 21.8% in 2006 and 20.3% in 2007 (Table 4) of the all-gear quota less the net harvest under the newly modified plan.

In 2008 the department enacted all management measures in the plan for abundance indices below 1.1 and above 1.0. This was the first time these management measures had been used since they were substantially modified by the BOF in 2003. After implementation of these management measures by emergency order, questions arose within the department and from the public pertaining to the August exception for the Juneau sport fishing derby (the derby dates had changed) and how the 4-line limit should be applied. The department sought clarification on the implementation of these management measures by polling the BOF.

In April of 2008 the BOF convened and modified provisions within the plan by emergency regulation. The BOF eliminated a management measure in the plan that provided exemptions to the prohibition of the retention of Chinook salmon less than 48 inches in length by resident and nonresident anglers fishing in the Juneau derby area August 15 through August 25. The management measure restricting the maximum number of lines that may be fished from a charter vessel to 4 lines was also eliminated. Additionally a resident bag and possession limit of 1 fish, 28 inches or greater in length was added making an exception for residents fishing within the Juneau derby area unnecessary. To balance the increased harvest by these more liberal management measures, the BOF increased the non-retention period by 2 weeks for Chinook salmon less than 48 inches for nonresidents.

Under the various versions of the plan, the department has implemented numerous inseason regulatory actions. These actions are summarized in Table 5. Appendix A provides a detailed description of the allocation, regulatory actions, and fishery harvest results for each year that the plan has been in effect (1992–2008).

Management Actions in 2003

In April 2003, a preseason abundance index of 1.79 was announced. This index resulted in an all-gear quota of 366,100 fish, of which the 20% sport fish allocation totaled 68,352. Given that the preseason abundance was greater than 1.2, the newly revised plan required a 2-fish bag limit for residents and a 1-fish bag limit and 3-fish annual limit for nonresident anglers. These regulations were implemented by an emergency order that became effective on May 1, 2003. These regulations applied to all marine waters in SEAK, including Yakutat, except for terminal harvest areas established by emergency order to harvest

Table 5.–Sport fishery regulatory actions taken under the Southeast Alaska King Salmon Management Plan to adjust Chinook salmon harvests during 1992-2008 sport fisheries.

Year	One fish bag limit	Nonresident annual limit	Ban on take by charter crews	Downrigger ban	Three-fish bag limit
1992	May 15-July 28		May 15–July 28		
1993	June 17-Dec. 31		June 17–Dec. 31	June 17–Aug. 15	
1994	April 15-June 30		April 15–June 30		July 30-Dec. 31
1995	Aug 17-Oct. 3[a]				
1996	June 15-Dec. 31		June 15–Dec. 31		
1997	July 7-Dec. 31	4[b]	Regionwide[b]		
1998	Sept. 9-Dec. 31	4[b]	Regionwide[b]		July 3-Sept. 8
1999	July 3-Dec. 31	4[b]	Regionwide[b]		
2000	May 3-Dec. 31[c]	May 3–June26, 2 June 27–Dec.31, 3	Regionwide[b]		
2001	Jan. 1-Dec. 31	3	Regionwide[b]		
2002	*Nonresidents* Jan. 1-Dec. 31 *Residents* Jan. 1-April 26	3	Regionwide[b]		
2003	*Nonresidents* Jan. 1-Dec. 31	3	Regionwide[b]		
2004	*Nonresidents* Jan. 1-Dec. 31	3	Regionwide[b]		
2005	*Nonresidents* Jan. 1-Dec. 31	May 3-Aug.30, 5[d] Jan. 1–May 2 and Aug.31–Dec.31, 3	Regionwide[b]		*Residents* May 3- Aug.30[d]
2006[e]	*Nonresidents* Jan. 1-Dec. 31[f]	4 4	Regionwide[b]		*Residents* May 1- Dec.31
2007[e]	*Nonresidents* Jan. 1-Dec. 31[f]		Regionwide[b]		*Residents* May 1- Dec.31
2008	Jan. 1-Dec. 31[g]	3–1[h]	Regionwide[b]		

[a] Action taken in response to a court order that closed commercial fisheries and capped additional sport harvest at 2,000 Chinook salmon.

[b] Made a permanent year round regionwide regulation in early 1997 by action of the Board of Fisheries. An annual limit for nonresidents of 4 Chinook salmon ≥28" was also enacted also in 1997. The annual limit for nonresidents was reduced to 3 Chinook salmon ≥28" in 2003.

[c] Additional restrictions included: 1) 4-line limit on charter boats; 2) closure to retention of Chinook salmon on Wednesdays by charter anglers and nonresidents; 3) closure to retention of Chinook salmon for nonresidents and charter anglers during August and September; and 4) closure to retention of Chinook salmon on the outer coast from July 12 to July 31. These additional restrictions were rescinded on June 26.

-continued-

Table 5.–continued (Page 2 of 2).

[d] The bag limit increase for residents and nonresident annual limit increase in 2005 were enacted via emergency regulation.

[e] The use of 2 rods was allowed in March–October.

[f] The bag limit for nonresidents was 2 fish in May greater than 28 inches in length.

[g] One fish 48” or greater in length July 16–September 30.

[h] The nonresident harvest limit (an annual limit that decreases during the year) was 3 fish 28 inches or greater in length January 1-June 30; 2 fish 28 inches or greater in length, July 1-July 15; 1 fish 48 inches or greater in length, July 16 - September 30 and 1 fish 28 inches or greater in length October 1-December 31. Any fish 28 inches or greater in length harvested by a nonresident anger earlier in the year applied toward their harvest limit.

excess Alaska hatchery Chinook salmon. These restrictions were expected to reduce the sport harvest to well below the 20% sport harvest target.

The season-end estimate of treaty harvest for the sport fishery in 2003 was 48,774 fish. This was 19,578 below the 20% allocation based on the preseason abundance index (Table 4). Based on preseason estimates of abundance and harvest, the sport fishery took 14.3% of the all-gear quota less the net harvest.

Management Actions in 2004

The 2004 preseason abundance index of 1.88 was announced on April 6. This level of abundance resulted in an all gear quota of 383,400 and a sport allocation of 71,663. According to the plan, the sport fishery bag limits remained at 2 fish for residents, and 1 fish with a 3 fish annual limit for nonresidents. These regulations applied to all marine waters in SEAK, including Yakutat, except for terminal harvest areas established by emergency order to harvest excess Alaska hatchery Chinook salmon. These restrictions were expected to reduce the sport harvest to well below the 20% sport harvest target.

The season-end estimate of treaty harvest was 66,391 fish, which was 5,272 below the 20% allocation based on the preseason abundance index (Table 4). Based on preseason estimates of abundance and harvest, the sport fishery took 15.5% of the all-gear quota less the net harvest.

Management Actions in 2005

The 2005 preseason abundance index of 2.05 was announced in mid-April. The resulting all-gear quota was 416,400 and the sport allocation was 77,979. Based on the performance of the sport fishery during the prior 3 years of high Chinook abundance (in which the sport fishery underharvested its preseason allocation by a total of 56,900 fish), the department decided to request permission from the BOF to issue an emergency regulation that would implement more liberal regulations than allowed under the plan. The BOF agreed to this approach for increasing harvest opportunity in the sport fishery, and on May 3, 2005 the resident bag limit was increased to 3 fish and the nonresident annual limit was increased from 3 to 5 fish. The nonresident bag and possession limits remained at 1 fish. These regulations were in place throughout SEAK from May 3, 2005 through August 30, 2005. Prior to and after that time the regulations were in effect, the regulations mandated by the plan applied (resident 2-fish bag limit, nonresident 1-fish bag limit, nonresident 3-fish annual limit).

The season-end estimate of treaty harvest for the sport fishery in 2005 was 63,345 fish. This was 14,634 fish below the 20% allocation based on the preseason abundance index (Table 4). Based on preseason estimates of abundance and harvest, the sport fishery took 16.2% of the all-gear quota less the net harvest.

Management Actions in 2006

In April 2008, a preseason abundance index of 1.69 was announced. This index resulted in an all-gear quota of 346,800 fish, of which the 20% sport fish allocation less the net harvest totaled 64,166 fish. Given that the preseason abundance was greater than 1.5, the newly revised plan required a 3-fish bag limit for residents, a 2-fish in May and 1-fish bag limit for the remainder of the year for nonresidents, and a 4-fish annual limit for nonresident anglers. In addition, the use of 2 rods per angler was also allowed from October 2006 through March 2007 as directed by the plan. These regulations were implemented by Emergency Order 1-KS-R-02-06 that became effective on May 1, 2006. These regulations applied to all marine waters in SEAK, including Yakutat, except for terminal harvest areas established by emergency order to harvest excess Alaska hatchery Chinook salmon. These restrictions were expected to maintain the sport harvest within the 20% average sport harvest target.

The estimate of treaty harvest for the sport fishery in 2006 was 69,824 fish. This was 5,658 fish above the 20% allocation based on the preseason abundance index (Table4). Based on preseason estimates of abundance and harvest, the sport fishery took 21.8% of the all-gear quota less the net harvest.

Management Actions in 2007

The 2007 preseason abundance index of 1.60 was announced in April. This level of abundance resulted in an all gear quota of 329,400 and a

sport allocation of 60,937. Given that the preseason abundance was again greater than 1.5, the management plan required a 3-fish bag limit for residents, a 2-fish in May and 1-fish bag limit for the remainder of the year for nonresidents, and a 4-fish annual limit for nonresident anglers. In addition, the use of 2 rods per angler was also allowed from October 2007 through March 2008 as per the plan. These regulations were implemented by Emergency Order 1-KS-R-02-07 that became effective on May 1, 2007. These regulations applied to all marine waters in SEAK, including Yakutat, except for terminal harvest areas established by emergency order to harvest excess Alaska hatchery Chinook salmon. These restrictions were expected to maintain the sport harvest within the 20% average sport harvest target.

The estimate of treaty harvest for the sport fishery in 2007 was 61,851 fish. This was 914 fish above the 20% allocation based on the preseason abundance index (Table4). Based on preseason estimates of abundance and harvest, the sport fishery took 20.3% of the all-gear quota less the net harvest.

Management Actions in 2008

The 2008 preseason abundance index of 1.07 was announced in early April, resulting in an all gear quota of 170,000 fish, of which the 20% sport allocation less the net harvest totaled 31,352 fish. This was a 48% reduction in the number of Chinook salmon allocated to the sport fishery in 2007. The department issued Emergency Order 1-KS-R-03-08 on April 9 which enacted all management measures in the plan for abundance indices below 1.1 and above 1.0. These management measures in the plan were substantially modified by the BOF in 2003; this was the first time any of these management measures had been used. After implementation of the emergency order, questions arose within the department and from the public pertaining to the August exception for the Juneau sport fishing derby (the derby dates had changed) and how the 4-line limit should be applied. The department sought clarification on the implementation of these management measures by polling the BOF, the results of which are detailed above in the section "Management Plan 2006-2008."

According to the modified plan, the sport fish bag limit was 1 fish for resident anglers. The nonresident bag limit was 1 fish 28 inches or greater during May 1-July 15 and October 1-December 31. From July 16-September 30, the nonresident bag limit was 1 fish 48 inches or greater in length.

The nonresident harvest limit (an annual limit that decreases during the year) was 3 fish 28 inches or greater in length January 1-June 30; 2 fish 28 inches or greater in length, July 1-July 15; 1 fish 48 inches or greater in length, July 16 - September 30 and 1 fish 28 inches or greater in length October 1-December 31. Any fish 28 inches or greater in length harvested by a nonresident anger earlier in the year applied toward their harvest limit.

These regulations were implemented by Emergency Order 1-KS-R-09-08 that became effective on May 2, 2008. These regulations applied to all marine waters in SEAK, including Yakutat, except for terminal harvest areas established by emergency order to harvest excess Alaska hatchery Chinook salmon. These restrictions were expected to reduce the sport harvest within the 20% average sport harvest target.

The preliminary harvest estimate (based on expanded creel census data) of treaty harvest is 25,662 treaty fish, which is 5,690 fish below the 20% allocation based on the preseason abundance index (Table4). Based on preseason estimates of abundance and harvest, the sport fishery took 16.4% of the all-gear quota less the net harvest.

CUMULATIVE HARVEST TRACKING, 1999-2008

With the exception of 2008, sport overages occurred in 4 years since 1999, three of which (1999-2001) were considered years of low Chinook abundance (AI < 1.5); sport underages occurred in recent years of high abundance, except in 2008, when the preseason AI was the lowest seen since 1999. Based on the preseason index, sport harvests estimated for 1999 through 2008 equate to 19.8% of the combined sport/troll allocation, and the combined sport underage is 35,700 (Table 4). This value is calculated using the preseason abundance index.

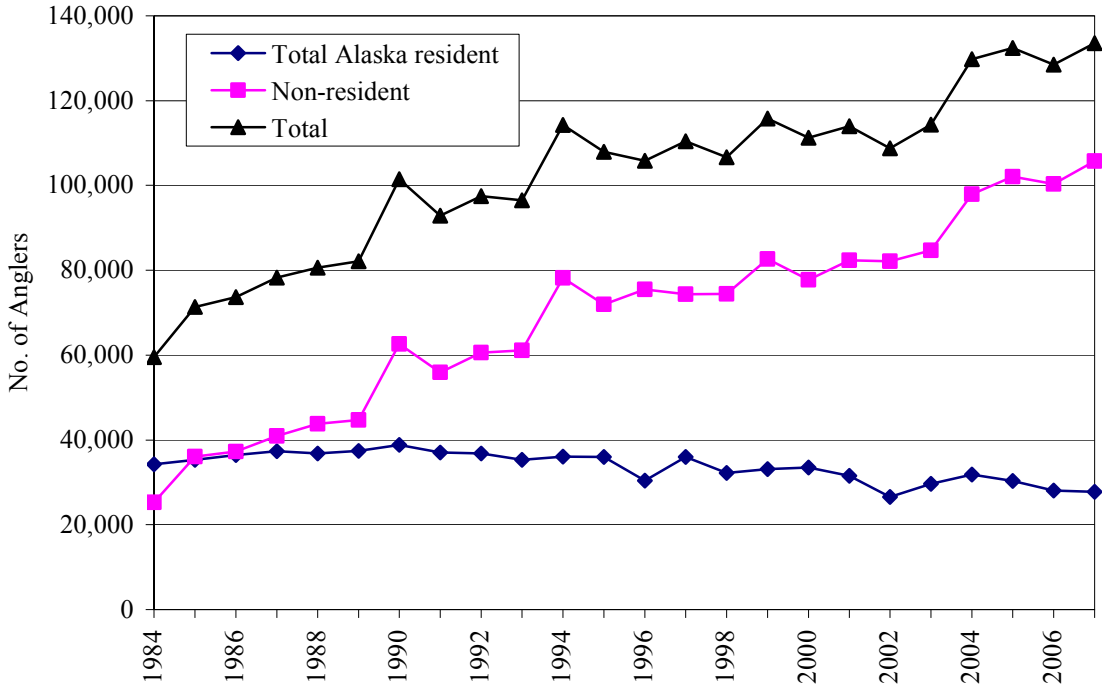

Figure 2.–Number of resident and nonresident anglers who fished in Southeast Alaska, 1984–2007.

EFFORT

TOTAL NUMBER OF ANGLERS

The number of resident anglers who fished in SEAK has decreased 17% since 1990, from a peak of about 39,000 (Figure 2). Since numbers of nonresident anglers were first estimated in 1984, there has been a steady increase from about 25,000 to almost 106,000 in 2007. The total number of anglers fishing in SEAK during the past 10 years has remained fairly constant at about 121,000 annually. During 2007, the year for which the most recent data are available, an estimated 133,560 anglers fished in SEAK.

KING SALMON TAG SALES

The number of king salmon tags sold annually in SEAK has been used in the past as an indicator of Chinook salmon fishing effort in SEAK. From 1993 to 2004, overall tag purchases increased about 82%, from 35,600 to 64,800. However, the sale of tags and licenses became available to customers online in 2000, but where those anglers would be fishing could not be determined. Annual increases in online purchases were minimal up until 2004when the number increased 82%. The number of stamps sold online in 2007 accounted for 22% of all sales making the interpretation of any trend impossible.

CHARTER VESSEL REGISTRATIONS AND LOGBOOK PROGRAM

Since 1999, the number of registered saltwater charter vessels within SEAK has increased (Table 6 and Figure 3). In 1998, a saltwater vessel logbook program was implemented, requiring all charter vessels operating in saltwater with a guide to obtain and complete a logbook. Summary data from the logbook program show that on average 83% of licensed vessels reported taking clients on charter fishing trips (Table 7). From 1999 to 2003, the number of active permits remained relatively stable and averaged about 680, but the average number of active permits increased to around 740 from 2004 to 2007 (Figure 4).

HARVEST

REGIONWIDE HARVEST

Marine and freshwater sport harvest of Chinook salmon in SEAK from 1977 to 1988 was relatively stable, however, harvest began increasing rapidly in 1989 (Table 8). From 1977–1990, the average harvest was 24,500, while the 1991–1995 average was 48,900 and the 1996–2000 average was 63,900. From 2001 to 2005 the total sport harvest was again at record levels, averaging 73,000. The Chinook salmon harvests in 2006 (86,575) and 2007 (82,848) were the largest on record, while the preliminary estimate for 2008 (38,367) is one of the lowest.

Distribution of Chinook harvest by area in SEAK has changed substantially since the 1980s (Figure 5 and Table 8). Average harvest in the Ketchikan remained stable from 1977–1990 to 1996–2000, while during the same time period, average harvest in the PWI, Sitka, Glacier Bay, and Yakutat areas increased 5 to 11 fold. During 1977–1990, 76% of the SEAK harvest was taken in Juneau (34%), Ketchikan (26%) and Petersburg-Wrangell (16%). The proportion of the harvest taken in these 3 ports had dropped to only 40% by 2000. The outer coast fisheries at Sitka and PWI increased from an average of 17% of the total Southeast harvest in 1977–1990 to 51% by 2000. During the most recent 5 years (2003–2007), the portion of the harvest taken on the outer coast has remained relatively steady at 49%.

DISTRICT 8 AND 11 HARVESTS

In February 2005, the U.S. and Canada reached a bilateral terminal harvest sharing agreement for directed Taku and Stikine river Chinook fisheries, and the BOF approved emergency regulations to establish directed sport and commercial fisheries in District 8 and 11. In February 2006, the BOF passed management provisions for District 8 specific to the Stikine River (5 AAC 47.057) and Distict 11 for the Taku River (5 AAC 47.021(e)). The objective of these actions was to allow for additional sport harvest opportunities when projected preseason or inseason abundance levels indicate the presence of an allowable catch under the treaty. Provisions include the use of 2 rods and increased bag and possession limits for resident and nonresident anglers.

In 2006-2008, preseason terminal run forecasts for large (≥660 mm MEF) Stikine River Chinook salmon indicated that U.S. allowable harvests (14,500, 6,100, and 15,400 large fish in 2006-2008, respectively) would be available as determined by the PSC, and sport fishing regulations were liberalized in District 8 consistent with 5 AAC 47.057. Sport harvests of large Chinook salmon were 2,944 in 2006, 3,273 in 2007, and 1,692 in 2008; these harvests compare with the 1995-2004 (the 10-year period prior to directed fisheries) average of 2,638.

In 2006, an inseason terminal run forecast for large fish to the Taku River indicated that a U.S. allowable harvest of 15,803 would be available, and sport fishing regulations were liberalized in District 11 consistent with 5 AAC 47.021(e). The sport harvest of large fish was 2,385, and this compares to the 1995-2004 average of 2,645. In 2007-2008, preseason and inseason forecasts did not indicate that allowable harvests would be available, and the District 11 sport fishery was prosecuted under the regionwide regulations per 5 AAC 47.055. Sport harvests in 2007 and 2008 were 1,416 and 1,255, respectively.

HARVESTS BY RESIDENTS AND NONRESIDENTS

Marine and freshwater harvest of Chinook salmon by both Alaska resident and nonresident anglers have been estimated since 1987 (Table 9 and Figure 6). The proportion of fish taken by nonresident anglers increased from 28% in 1987 to a peak of 68% in 1994. In response to increasingharvest, the BOF implemented annual limits for nonresidents in 1997. Annual limits, as well as lower bag and possession limits for nonresidents, have been effective in reducing the proportion of the total harvest taken by nonresidents. During the last 5 years (2003-2007), nonresidents have accounted for 58% of the total harvest of Chinook salmon.

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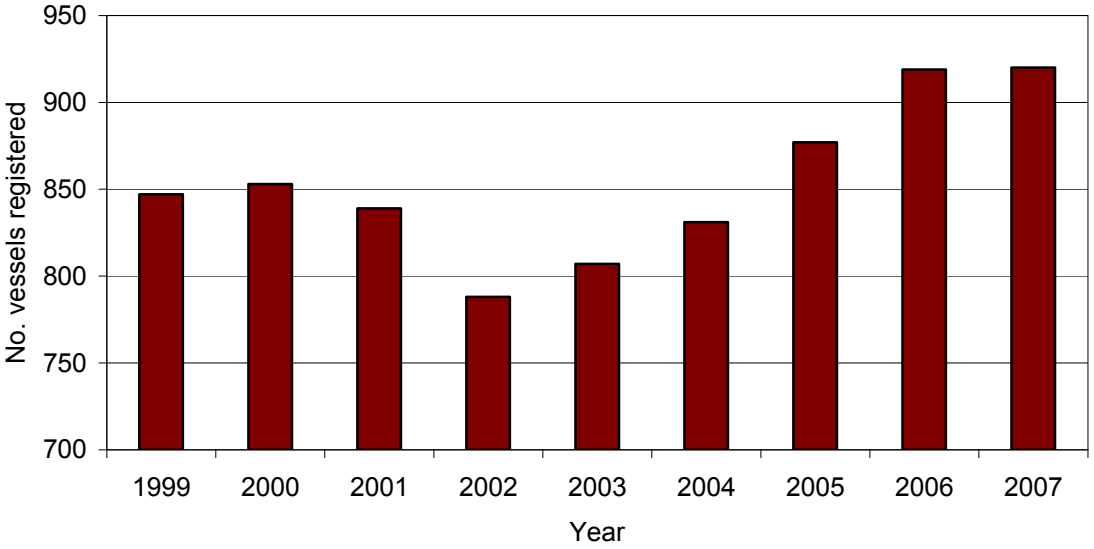

Figure 3.–Number of saltwater charter vessels registered in Southeast Alaska, 1999-2007.

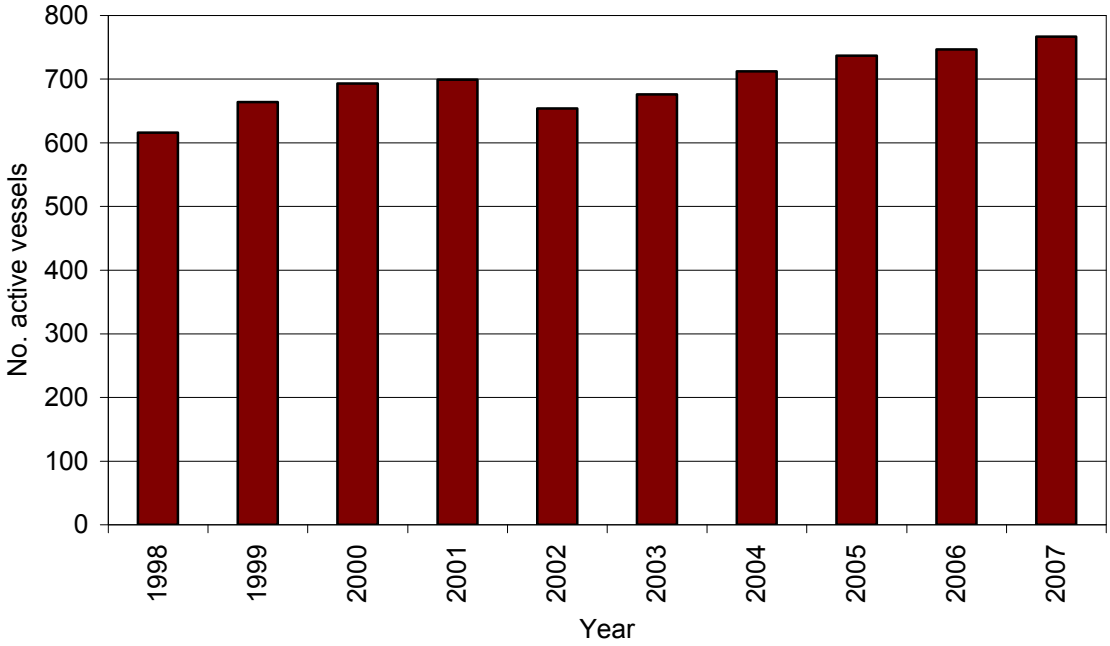

Figure 4.–Number of active marine charter vessels in Southeast Alaska as reported from logbook data during 1998-2007. Active vessels are those that turned in logbook forms with at least 1 trip with clients reported.

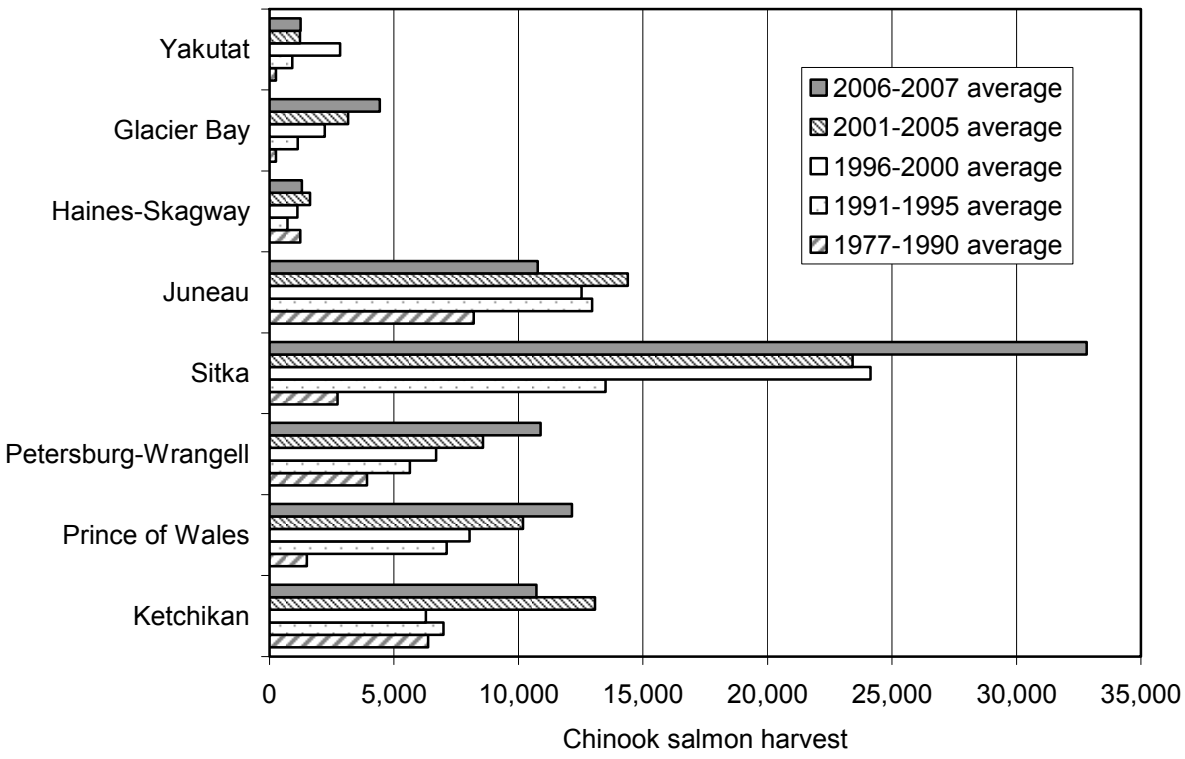

Figure 5.–Average estimated distribution of Chinook salmon sport harvest by area in Southeast Alaska for 1977-1990, 1991–1995, 1996–2000, 2001–2005, and 2006-2007 as determined by the Statewide Harvest Survey.

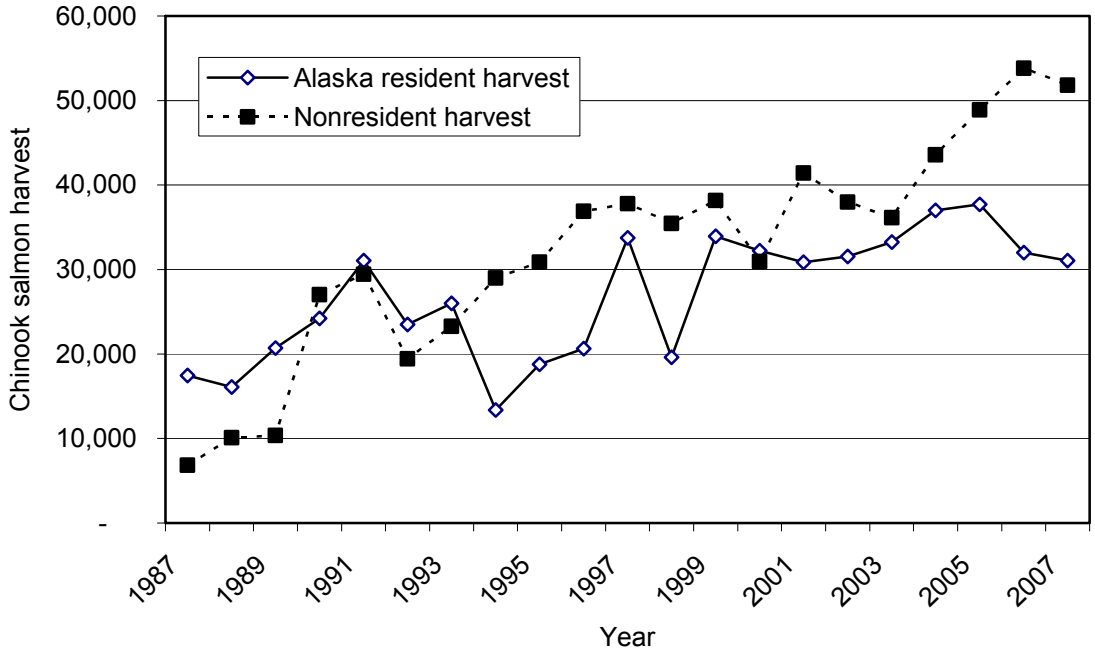

Figure 6.–Estimated harvest of Chinook salmon by resident and nonresident anglers in Southeast Alaska, 1987–2007.

Table 6.–Number of registered (or licensed) saltwater charter vessels in Southeast Alaska by Statewide Harvest Survey (SWHS) area from 1999 to 2007[a].

SWHSarea	1999	2000	2001	2002	2003	2004	2005	2006	2007
Kethikan	137	146	167	188	197	173	172	178	182
Prince of Wales Island	172	171	145	121	125	163	178	194	197
Petesburg/Wrangell	71	59	57	45	52	46	51	56	56
Sitka	222	207	232	214	209	218	239	241	242
Juneau	141	156	131	112	113	109	119	134	119
Skagway	9	9	12	14	8	8	9	9	8
Haines	11	10	6	3	5	9	6	5	3
Glacier Bay	63	75	70	70	74	82	85	83	93
Yakutat	15	16	17	18	19	17	18	19	20
Other[b]	6	4	2	3	5	6	--	--	--
TOTAL	847	853	839	788	807	831	877	919	920

[a] Information for 1998 was incomplete - 915 of 1,504 records were missing a homeport and the majority of the records with a homeport listed were in Southcentral Alaska.

[b] Operated or offloaded in multiple SWHS areas.

Table 7.–Overall number of active saltwater charter vessels in Southeast Alaska by Statewide Harvest Survey (SWHS) area determined from logbook data collected in 1998-2007. Active vessels are those that turned in logbook forms reporting at least 1 trip with clients.

SWHS area	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Average
Ketchikan	94	106	115	136	151	162	150	155	142	156	
Prince of Wales Island	115	147	145	125	103	106	140	223	237	243	
Petersburg/Wrangell	42	50	45	50	35	41	38	120	133	117	
Sitka[a]	162	173	172	196	190	180	190	248	255	259	
Juneau	88	100	126	100	86	93	91	138	137	133	
Skagway	8	9	9	11	13	8	7	12	11	11	
Haines	7	9	6	5	3	5	7	6	4	4	
Glacier Bay[a]	61	52	57	59	56	61	69	116	122	130	
Yakutat	17	12	14	15	14	15	14	14	15	15	
Other[b]	22	6	4	2	3	5	6	--	--	--	
Total	616	664	693	699	654	676	712	737[c]	747[c]	767[c]	
Percent of licensed vessels active, 99-07[d]		78%	81%	83%	83%	84%	86%	84%	81%	83%	83%

[a] Beginning in 2000, the northern section of Chichagof Island (including Pelican, Elfin Cove, Hoonah, and the southern half of Icy Strait and Cross Sound) was re-assigned to SWHS Area G (Glacier Bay) and removed from SWHS Area D (Sitka). This was the primary reason for the dramatic increase in active vessels for Glacier Bay area and decrease in active vessels for the Sitka area between 1999 and 2000.

[b] Operated or offloaded fish and/or clients in more than 1 SWHS area during a given year.

[c] Column is not additive. Some vessels fished in more than 1 SWHS area and were counted more than once, but were not identified as "Other."

[d] Percent of active participants in 1998 could not be calculated because number of registered vessels is unknown.

Table 8.–Estimated annual marine and freshwater sport harvest of Chinook salmon in Southeast Alaska by area. Estimates for 1997–2007 were obtained via the Statewide Harvest Survey, and preliminary 2008 estimates of harvest were determined by expansion of creel survey estimates.

Year	Ketchikan	Prince of Wales	Petersburg-Wrangell	Sitka	Juneau	Haines-Skagway	Glacier Bay	Yakutat	Total
1977	4,672	811	2,671	1,738	6,377	471	356	353	17,449
1978	3,845	1,817	2,109	1,841	5,686	769	315	257	16,639
1979	4,165	863	2,173	2,054	5,935	664	282	445	16,581
1980	5,415	1,274	3,495	1,489	7,068	792	241	439	20,213
1981	5,683	1,294	2,906	1,955	7,722	1,372	184	184	21,300
1982	6,215	933	4,076	1,781	10,614	1,592	147	398	25,756
1983	7,968	1,543	3,332	2,108	5,431	1,426	157	356	22,321
1984	5,063	1,095	3,067	2,251	8,948	1,313	129	184	22,050
1985	6,170	534	4,060	1,430	10,376	2,041	186	61	24,858
1986	6,197	987	3,906	1,902	7,213	2,054	183	109	22,551
1987	5,826	649	3,534	2,537	9,857	1,419	258	244	24,324
1988	7,422	1,135	4,668	3,539	7,884	789	438	285	26,160
1989	7,642	2,599	4,702	5,569	9,375	758	344	82	31,071
1990	12,784	5,564	10,185	8,041	12,349	1,809	369	117	51,218
77–90 average	6,362	1,507	3,920	2,731	8,203	1,234	256	251	24,464
Percent	26%	6%	16%	11%	34%	5%	1%	1%	
1991	11,887	6,749	8,011	13,243	16,914	679	2,385	624	60,492
1992	8,010	4,381	5,746	11,139	11,886	181	1,071	478	42,892
1993	6,028	8,367	6,132	13,464	13,118	844	716	577	49,246
1994	5,448	7,006	4,217	12,263	11,407	636	576	812	42,365
1995	3,543	9,063	4,085	17,342	11,428	1,243	895	2,068	49,667
91–95 average	6,983	7,113	5,638	13,490	12,951	717	1,129	912	48,932
Percent	14%	15%	12%	28%	26%	1%	2%	2%	
1996	5,437	6,833	5,039	19,743	14,684	777	1,384	3,611	57,508
1997	5,257	7,830	6,299	28,986	15,521	1,609	3,093	2,929	71,524
1998	3,242	10,232	3,692	24,547	8,778	691	1,314	2,517	55,013
1999	7,916	8,518	9,502	28,548	11,574	1,168	2,095	2,760	72,081
2000	9,570	6,755	8,926	18,888	12,126	1,342	3,217	2,349	63,173
96–00 average	6,284	8,034	6,692	24,142	12,537	1,117	2,221	2,833	63,860
Percent	10%	13%	10%	38%	20%	2%	3%	4%	
2001	10,348	7,455	9,962	24,205	15,215	1,252	2,711	1,143	72,291
2002	12,366	11,917	8,542	17,994	13,364	1,550	2,838	966	69,537
2003	11,788	7,793	7,465	21,727	13,679	2,117	3,325	1,476	69,370
2004	14,393	10,120	7,958	26,443	14,756	1,895	3,601	1,406	80,572
2005	16,483	13,615	8,988	26,698	14,948	1,359	3,343	1,141	86,575
01–05 average	13,076	10,180	8,583	23,413	14,392	1,635	3,164	1,226	73,110
Percent	18%	14%	12%	32%	20%	2%	4%	2%	
2006	10,084	12,670	10,972	34,751	11,163	1,302	3,488	1,364	85,794
2007	11,370	11,633	10,797	30,879	10,372	1,300	5,363	1,134	82,848
06–07 average	10,727	12,152	10,885	32,815	10,768	1,301	4,426	1,249	84,321
Percent	13%	14%	13%	39%	13%	2%	5%	1%	
Preliminary 2008	7,113	2,135	6,601	12,283	7,342	767	1,468	628	38,367

Table 9.–Estimated marine and freshwater sport harvest of Chinook salmon by Alaska resident and nonresident anglers in Southeast Alaska by area as estimated from the Statewide Harvest Survey, 1987-2007.

Year	Ketchikan	Prince of Wales	Petersburg-Wrangell	Sitka	Juneau	Haines-Skagway	Glacier Bay	Yakutat	Total
Alaska resident harvests									
1987	3,880	465	2,308	2,000	8,580	98	121	18	17,470
1988	2,974	582	2,296	2,406	7,083	218	399	124	16,082
1989	4,690	1,048	2,338	4,222	8,109	256	28	13	20,704
1990	4,466	1,346	4,431	4,681	9,062	142	80	8	24,216
1991	4,984	1,246	4,494	7,018	11,873	203	1,045	200	31,063
1992	3,646	1,195	3,419	5,480	9,245	102	211	189	23,487
1993	3,071	2,300	3,081	6,767	10,228	152	161	230	25,990
1994	1,398	917	1,456	2,035	7,052	228	134	155	13,375
1995	1,309	1,936	2,390	4,722	7,682	208	387	149	18,783
1996	2,303	608	2,036	5,388	9,348	236	352	373	20,644
1997	2,497	2,111	2,803	12,298	11,251	717	1,966	106	33,749
1998	1,117	1,992	1,937	6,992	6,595	100	643	215	19,591
1999	4,527	2,166	5,903	11,648	7,938	421	824	502	33,929
2000	5,555	2,219	5,771	6,908	9,412	403	1,837	111	32,216
2001	5,569	1,091	4,689	6,846	10,881	412	1,147	240	30,875
2002	7,313	2,644	4,966	6,185	8,565	630	995	263	31,561
2003	6,880	1,981	4,663	6,717	9,860	949	2,095	103	33,248
2004	7,519	2,035	3,416	9,641	11,560	983	1,538	299	36,991
2005	8,339	3,314	4,550	8,267	10,796	634	1,581	219	37,700
2006	4,036	3,123	5,307	8,770	8,696	565	1,266	240	32,003
2007	5,050	1,933	4,557	8,356	8,380	460	2,183	132	31,051
Ave 92–02	3,482	1,744	3,496	6,843	8,927	328	787	230	25,836
Ave 03–07	6,365	2,477	4,499	8,350	9,858	718	1,733	199	34,199
Nonresident harvests									
1987	1,946	184	1,226	537	1,277	1,321	137	226	6,854
1988	4,448	553	2,372	1,133	801	571	39	161	10,078
1989	2,952	1,551	2,364	1,347	1,266	502	316	69	10,367
1990	8,318	4,218	5,754	3,360	3,287	1,667	289	109	27,002
1991	6,903	5,503	3,517	6,225	5,041	476	1,340	424	29,429
1992	4,364	3,186	2,327	5,659	2,641	79	860	289	19,405
1993	2,957	6,067	3,051	6,697	2,890	692	555	347	23,256
1994	4,050	6,089	2,761	10,228	4,355	408	442	657	28,990
1995	2,234	7,127	1,695	12,620	3,746	1,035	508	1,919	30,884
1996	3,134	6,225	3,003	14,355	5,336	541	1,032	3,239	36,865
1997	2,760	5,719	3,496	16,688	4,270	892	1,127	2,823	37,775
1998	2,125	8,240	1,755	17,555	2,183	591	671	2,302	35,422
1999	3,389	6,352	3,599	16,900	3,636	747	1,271	2,258	38,152
2000	4,015	4,536	3,155	11,980	2,714	939	1,380	2,238	30,957
2001	4,779	6,364	5,273	17,359	4,334	840	1,564	903	41,416
2002	5,053	9,273	3,576	11,809	4,799	920	1,843	703	37,976
2003	4,908	5,812	2,802	15,010	3,819	1,168	1,230	1,373	36,122
2004	6,874	8,085	4,542	16,802	3,196	912	2,063	1,107	43,581
2005	8,144	10,301	4,438	18,431	4,152	725	1,762	922	48,875
2006	6,048	9,547	5,665	25,981	2,467	737	2,222	1,124	53,791
2007	6,320	9,700	6,240	22,523	1,992	840	3,180	1,002	51,797
Ave 92–02	3,533	6,289	3,063	12,895	3,719	699	1,023	1,607	32,827
Ave 03–07	6,459	8,689	4,737	19,749	3,125	876	2,091	1,106	46,833

Table 10.–Estimated charter harvest of Chinook salmon (clients only) in Southeast Alaska obtained from charter logbook database, 1998-2007.

SWHS Area	1998	1999	2000	2001	2002	2003	2004	2005[a]	2006	2007	98–07 ave.	% of total
Ketchikan	1,144	4,116	2,968	4,807	4,956	6,254	6,256	6,662	4,898	4,621	4,668	10%
Prince of Wales	10,895	7,633	5,440	7,811	11,293	8,750	14,680	14,568	15,016	12,159	10,825	24%
Petersburg Wrangell	1,024	979	651	1,099	831	905	686	1,600	1,693	1,231	1,070	2%
Sitka[b]	18,072	17,462	14,834	19,360	20,954	21,286	27,181	24,658	29,757,	27,187	21,222	47%
Juneau	2,060	3,035	2,601	2,841	2,828	2,504	2,871	2,597	1,640	1,877	2,485	6%
Haines/ Skagway	1,050	1,203	1,461	1,335	998	1,713	1,280	1,056	618	476	1,119	2%
Glacier Bay[b]	525	505	1,672	2,304	2,708	1,912	3,822	2,431	2,865	3,396	2,214	5%
Yakutat	219	239	433	792	542	242	239	262	270	288	353	1%
Total	34,989	35,172	30,060	40,349	45,110	43,567	57,042	5,3834	56,757	51,235	44,812	

[a] In 2005, unique angler identification information was not collected, so harvest is for all anglers. However, crew members were not allowed to retain Chinook salmon.

[b] The boundary between the Sitka and Glacier Bay SWHS areas was modified in 2000.

CHARTER HARVESTS

Mandatory logbooks for marine fishing from charter vessels were implemented for all of Alaska in 1998. The logbook estimates of Chinook salmon harvests for SEAK have varied from 30,000 to over 57,000 during 1998–2004 (Table 10). An average of 47% of the charter harvest from 1998–2007 occurred in the Sitka area, with an additional 24% in the Prince of Wales area

ALASKA HATCHERY COMPOSITION OF MIXED STOCK HARVESTS

Mixed stock sport harvests of Chinook salmon have been extensively sampled for CWTs since 1983. Alaska hatchery contributions for the major mixed stock fisheries have been substantial, especially in Ketchikan, including east PWI harvests, and Juneau (Table 11). The average hatchery percentage in the sport harvest in recent years (2001–2008) has been 55% in Ketchikan 49% in Juneau, and 58% in the Haines/Skagway. The mixed stock hatchery contribution percentage in the Petersburg/Wrangell area declined during the same period because all harvest in the Wrangell Narrows terminal area has been subtracted off as a terminal fishery since 1997. In the outer coast fisheries, the average percentage of Alaska hatchery fish has been much lower (PWI 6%, Sitka 18%).

TIMING OF MARINE HARVEST

The midpoint in the marine harvest of treaty Chinook salmon typically occurs in mid to late June (Figure 7). On average, 46% of the total regional harvest occurs in the 4-week period from approximately May 23 to June 19. This time period encompasses a 3-day weekend, when fishing effort is high due to the Memorial Day holiday and salmon derbies in Sitka, Ketchikan, and Petersburg, as well as the time period when HPUE is at or near its annual peak. In 2008, the midpoint of the harvest occurred in late May to early June (Figure 7), and 38% of the harvest occurred in the 4-week period from approximately May 9 to June 5. This was attributed to the implementation of the nonresident 48-inch minimum size limit for harvestable fish, which dramatically reduced harvests rates in certain ports after mid July, especially Sitka and Craig where nonresident fishing effort represents the majority of the total effort.

Table 11.–Estimated percentages of Alaska hatchery Chinook salmon by area in selected marine sport fisheries (some terminal harvests excluded[a]**).**

Year	Ketchikan/ E. PWI	W. PWI	Petersburg/Wrangell	Sitka	Juneau	Haines/Skagway
1983	6	na[a]	1	na	1	na
1984	18	na	7	na	7	0
1985	33	na	7	na	10	0
1986	33	na	15	na	18	0
1987	21	na	20	2	23	1
1988	27	na	26	2	17	0
1989	36	na	19	na	12	3
1990	46	na	na	na	22	6
1991	55	na	39	na	26	0
1992	46	4	25	11	25	na
1993	42	2	14	11	17	9
1994	41	3	21	12	33	2
1995	22	4	40	36	45	73
1996	39	6	37	17	28	13
1997	34	5	8	11	22	51
1998	49	1	14	4	37	36
1999	48	3	24	12	39	23
2000	51	4	30	9	58	69
2001	74	10	14	15	56	35
2002	63	2	23	10	60	67
2003	51	4	13	14	55	62
2004	51	1	26	7	60	57
2005	61	5	8	9	34	62
2006	40	4	18	4	31	51
2007	47	7	17	10	50	72
2008	56	16	23	12	46	na
83–90 ave	28	na	14	2	14	1
91–00 ave	43	4	25	14	33	31
01–08 ave	55	6	18	10	49	58

[a] Shoreline terminal harvests at Petersburg (Blind Slough) and Juneau (DIPAC) are not included in these estimates and represent a significant proportion of the total Chinook harvest in these areas

HARVEST PER UNIT EFFORT IN MARINE FISHERIES

Over the past 5 years, HPUE for Chinook salmon in Sitka has averaged far above HPUE in Juneau and Ketchikan (Figure 8). HPUE on the West Coast of PWI is also higher than inside ports, but not as high as in Sitka. The higher HPUE in outer coast fisheries is partly due to better access to large numbers of non-Alaskan stocks migrating by the outer coast and the movement of the charter fleet since 1994 to very productive fishing grounds around the outer coast of Kruzof Island near Sitka. Also, guided anglers constitute a larger percentage of the fisheries in Sitka and west PWI. Guided anglers generally have HPUEs for Chinook salmon that are about twice those of nonguided anglers.

Peak HPUE for Chinook salmon generally occurs in June (Figure 8). HPUE generally declines through the month of July and by early August HPUE is generally very low in Juneau and Ketchikan. In Sitka and Craig, however, HPUE often remains high until about August 1, and then declines steadily to low levels by September 1.

During the spring, Chinook salmon is the only species of salmon available to marine anglers in large numbers. In July, HPUE for pink and coho salmon increases rapidly and normally far exceeds HPUE for Chinook salmon (see example for Juneau in Figure 9). As HPUE for other salmon species increases, most anglers begin to target

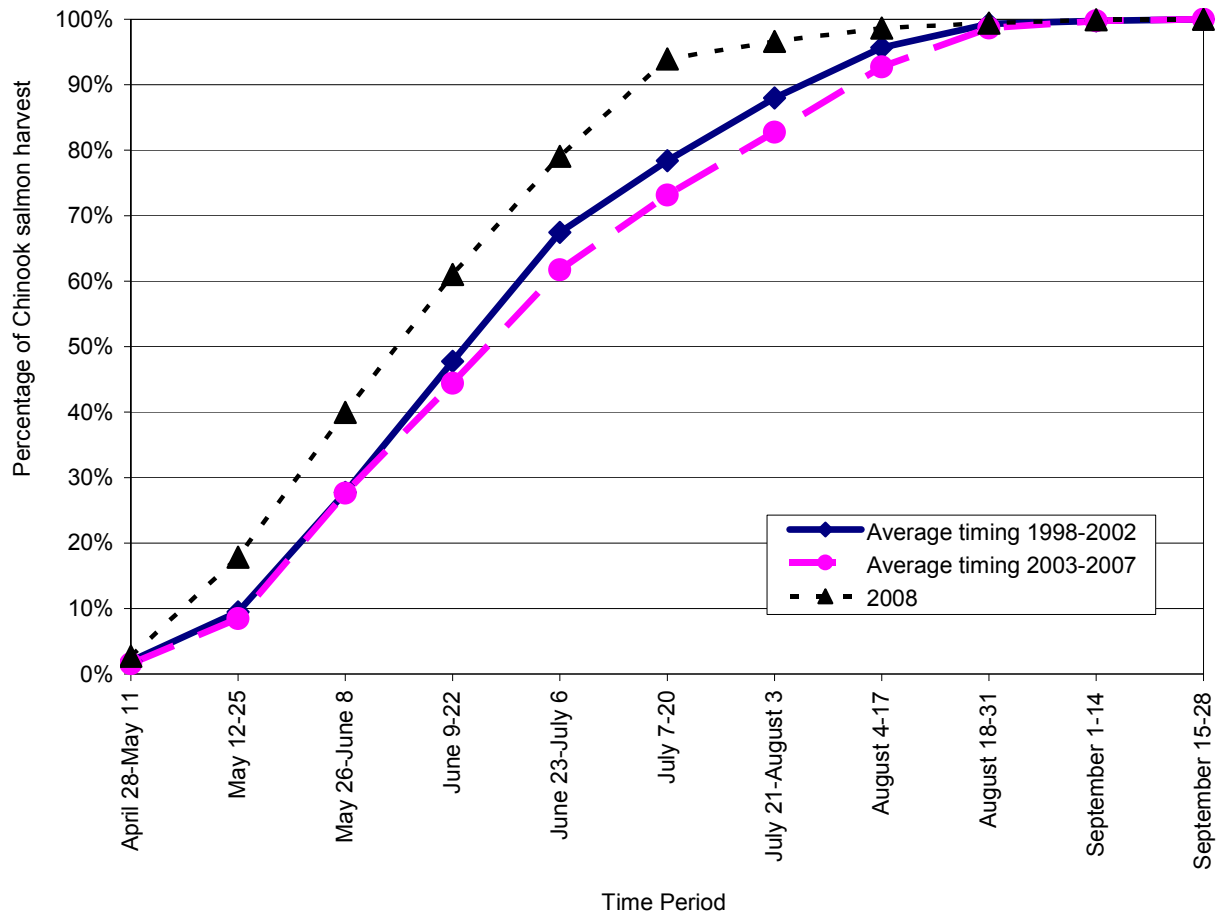

Figure 7.–Average timing of treaty Chinook salmon harvest by 2-week period for the Southeast Alaska marine sport fishery for 1998-2002, 2003-2007, and 2008 as determined by creel surveys.

pink and coho salmon for the balance of the fishing season

CHINOOK SALMON MANAGEMENT ISSUES AND BOARD PROPOSALS

The BOF received 5 proposals for consideration at the February 2009 meeting that, if adopted, would modify management of the Chinook salmon sport fishery under the plan. This is in contrast to the previous Southeast BOF meeting (2006) when 23 proposals were submitted asking for changes to the plan. Four of the 5 proposals up for consideration in 2009 seek to modify the existing management measures. The remaining proposal requests the traking of overages and uderages in the guided sport fishery. Because the sport fishery Chinook salmon allocation is not divided between guided and nonguided anglers, an allocation within the sport fishery between guided and nonguided anglers would be required. There were 3 other proposals received that are relative to Chinook salmon management as well, but outside of the plan.

The past 3 years of Chinook abundance has been both high and low, and 2008 was one of the lowest coastwide Chinook abundance levels on record. Harvests in the sport fishery during the high abundance levels in 2006 and 2007 were 21.8% and 20.3% of the 20% troll/sport allocation, respectively. The 2008 preseason AI of 1.07 triggered some of the most restrictive management measures in the plan implemented to date. Preliminary estimates show that these

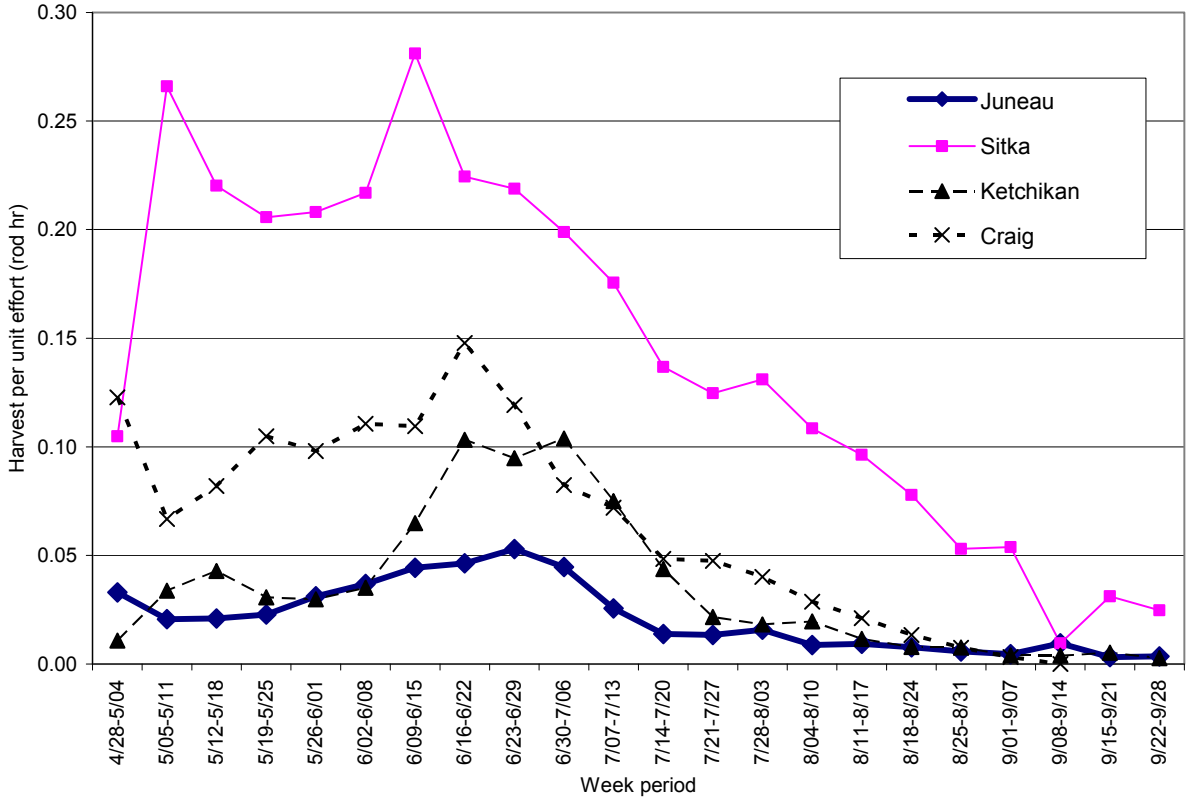

Figure 8.–Average weekly HPUE (harvest per angler-hour of salmon fishing effort) for Chinook salmon in the Juneau, Ketchikan, Sitka, and West Prince of Wales Island marine sport fisheries as determined by creel surveys, 2004-2008.

management actions reduced the sport fishery Chinook salmon harvest below th 20% allocation (16.4%) by approximately 6,000 fish. The recent 3-year (2006-2008) average sport harvest is 19.5% of the 20% troll/sport allocation.

CHANGES AFFECTING THE KING SALMON MANAGEMENT PLAN

The BOF received a proposal (220) that would modify the plan by requiring the department to adjust the guided sport fishery allocation for overages/underages annually. Additionally, it would require the BOF to divide the sport allocation for Chinook salmon into 2 components: guided and nonguided. How this allocation would be set is not addressed in the proposal. However, if current management is modified such that harvests are allocated based on guided/nonguided Chinook harvest, management of the sport fishery would be more complex, and, given the department's existing programs, less precise. In addition, the proposal would require the current management plan to be substantially modified to provide direction to the department in managing each group of users for an allocation; the current plan does not provide the department with the discretion or direction to do so.

Proposal 221 would establish a Chinook salmon bag limit of 1 fish for all anglers. However, one of the existing objectives of the plan ((5 AAC 47.055(3)) is to minimize regulatory restrictions on resident anglers. The nonresident bag limit has never been greater than the resident bag limit under the current plan, nor has it been since implementation of the plan in 1992.

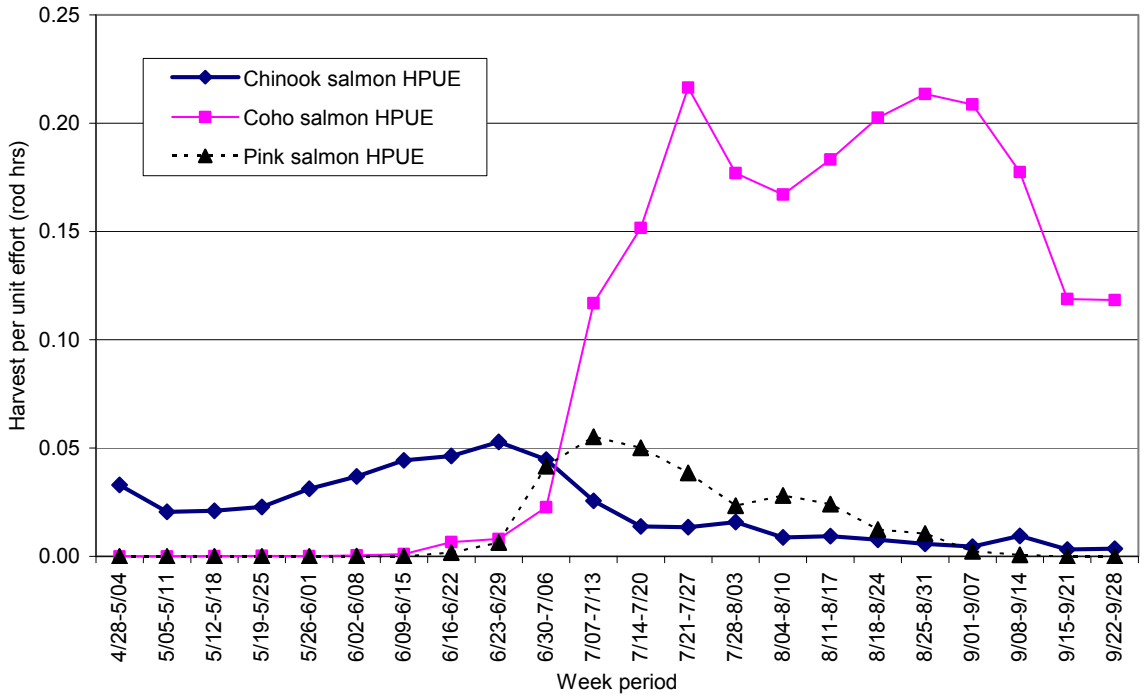

Figure 9.–Average weekly HPUE (harvest per angler-hour of salmon fishing effort) for Chinook, coho, and pink salmon in the Juneau marine sport fishery as determined by creel surveys, 2004–2008.

Proposal 222 seeks to add an additional management measure to the plan for closing the guided sport fishery in areas of high Chinook salmon abundance at AIs below 1.2. This may reduce hook-and-release mortality in the sport fishery. From 2003 to 2007, the nonresident harvest of Chinook salmon in logbook areas that encompass the areas of high Chinook abundance as identified in 5 AAC 29.025 accounted for an average of 28% of the regional total. However since the logbook areas are larger than the areas of high Chinook abundance, the harvest within the high abundance areas is likely less than 28% of the regional total. Furthermore, the plan already directs the department to enact provisions by emergency order during years of very low abundance (<1.0), specifying fishing times during which the retention of Chinook salmon less than 48 inches in length is prohibited by nonresident anglers and, if needed, establish times of non retention by all anglers and additional closures.

Proposal 223 seeks to allow sport anglers fishing during the months of October through March, and during AIs below 1.5 and above 1.0, the use of 2 rods. Approximately 2% of the southeast region Chinook salmon harvest occurs during October through April. The increased Chinook salmon harvest generated by allowing two rods during this time period is expected to be very low. Resident anglers would be the primary beneficiaries of the increased harvest opportunity because few nonresidents fish during this time. However, increased harvest of other fish species could occur.

Proposal 224 would establish a bag and possession limit of 1 Chinook salmon, 28 inches or greater in length for nonresident anglers fishing within the geographical boundaries of

the Golden North Salmon Derby near Juneau from August 1 through August 25 when the preseason AIs are less than or equal to 1.1 and greater than or equal to 1.0. Due to the extremely low preseason AI (1.07) in 2008, the department issued Emergency Order 1-KS-R-03-08 on April 9 that enacted all management measures prescribed in the plan for abundance indices below 1.1 and above 1.0. These management measures had been adopted by the BOF in 2003; it was the first time they were implemented for the sport fishery. Questions quickly arose both within the department, and from the public, pertaining to the 11-day exemption in August intended for the Juneau sport fishing derby and included how the 4 line limit on charter vessels should be applied. The department sought clarification on implementation of these management measures by polling the BOF. The BOF convened and modified provisions within the plan whereby a management measure for the plan that provided exemptions to the prohibition of the retention of Chinook salmon less than 48 inches in length by resident and nonresident anglers fishing in the derby area August 15 through August 25 was eliminated. The management measure restricting the maximum number of lines that may be fished from a charter vessel to 4 lines was also eliminated. Additionally a resident bag and possession limit of 1 Chinook salmon, 28 inches or greater in length was added making an exception for residents fishing the derby area unnecessary. To offset the increased harvest by these more liberal management measures, the BOF increased the nonresident 48 inch minimum size limit for Chinook salmon by 2 weeks. The 2003-2007 average Chinook salmon harvest in the derby area from August 1- August 25 was 469 fish, with about 40% of them from Alaska hatcheries. This equates to an average harvest of about 280 treaty Chinook salmon in the Golden North Salmon Derby area during the proposed time period.

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AREA-SPECIFIC PROPOSALS

The BOF received 3 proposals (225, 226 and 229) that seek to either increase or decrease sport harvests that are area specific. Proposals 225 and 226 are variations of the same that propose doubling the sport daily bag limit along hatchery access troll corridors within the Ketchikan area.

More specifically, Proposal 225 would increase the harvest of Chinook salmon by both resident and nonresident anglers fishing within the Ketchikan area; a variation of that is Proposal 226 that would do the same, but only during the months of May and June. Regardless, the additional harvest occurring from both proposals would include both the targeted Alaska hatchery stocks (non-treaty) and treaty stocks (wild non-Alaska hatchery). However, the treaty portion of the increased harvest would contribute to the harvest allowed in the sport fishery Chinook salmon allocation for that year.

Proposal 229 would increase the annual limit from 5 to 8 Chinook salmon 28 inches and greater in length during years when the District 8 Chinook salmon fishery is liberalized under the existing Stikine River King Salmon Management Plan. An estimated 2% increase would occur in the District 8 sport Chinook salmon harvest. In the last 3 seasons this would have equated to between 35 and 70 additional Stikine River Chinook salmon taken by nonresident anglers in each of the years.

APPENDIX A

APPENDIX A

History of Chinook Salmon Management in SE Alaska –1980-1999

Prior to 1992, the sport fishery for Chinook salmon was managed using general regionwide regulations to conserve wild stocks and provide an opportunity to harvest SEAK wild and hatchery stocks. During this time period, bag limits, established by emergency order, ranged from 2 to 3 fish and length limits ranged from no length limit to 28 inches.

Monitoring the sport fisheries in SEAK was accomplished primarily by creel survey programs, which provided inseason and postseason harvest estimates and hatchery contribution estimates by fishery. Estimates of final harvests were obtained in approximately late June of the following year from the Statewide Harvest Survey (SWHS), which is a postal survey sent to a random sample of license holders. Creel surveys were conducted in Juneau through the entire time period, Ketchikan from 1985–1991, and in Petersburg and Wrangell from 1983–1989. In 1986, surveys were initiated in Sitka with support from US/Canada funds, but surveys in Sitka, Petersburg, and Wrangell were discontinued midseason in 1989 when these funds became unavailable. Salmon derbies were sampled for coded wire tags in 1990 in Sitka and in 1991 in Petersburg, Wrangell, and Sitka.

Sport harvest of Chinook salmon was fairly stable from 1985–1988, averaging about 24,500 fish (including Alaska hatchery fish). In 1989, however, sport harvest began a rapid increase due primarily to increases in fishing effort and harvest in outer coastal areas in Sitka and PWI as well as increases in hatchery returns. Total harvest increased from 31,100 in 1989 to 60,500 in 1991. Unfortunately these increases occurred at a time when monitoring of sport fisheries had been virtually eliminated in Sitka and coded wire tag sampling in the Petersburg and Wrangell fisheries was also reduced or eliminated (1990). Due to the rapid increase in harvest, coupled with a decline in fishery monitoring, the 1990 sport harvest estimate obtained from creel surveys, 38,200 fish, was 25% below the final estimate of 51,200 obtained from the SWHS. In 1990, the final treaty harvest estimate of 41,360 fish was about double the average harvest for the previous 5 years (22,283 treaty Chinook). This trend continued in 1991, when the sport treaty harvest increased to 45,144.

Due to the rapid rise in sport harvest, the Alaska Trollers Association submitted a request to the BOF in November 1991 to allocate a fixed percentage of the quota to the troll fleet and establish an allocation for the sport fishery. The BOF subsequently met in 1992 and provided an allocation (17% of the quota after subtracting the net allocation of 20,000 fish) to the sport fishery. At the same time, the BOF also adopted the Southeast Alaska King Salmon Management Plan, which directed ADF&G to manage the marine sport fishery for its allocation and provided regulatory authorities and guidelines to implement the plan. The regulatory authorities included options to change bag limits, size limits, and gear restrictions to increase or reduce the sport harvest to meet the allocation. The objectives of this plan were to: 1) allow uninterrupted sport fishing in marine waters for Chinook salmon, while not exceeding the allocation and; 2) to minimize regulatory restrictions on unguided anglers, who harvest Chinook salmon at a lower CPUE than do guided anglers fishing from charter vessels. Under the plan, limits of 2 Chinook salmon per day, 2 in possession, with a minimum size limit of 28 inches were to remain in effect in SEAK/Yakutat marine waters until it was projected (either preseason or inseason) that the total harvest would deviate by more than the management range from the inseason management target. The management range was set by regulation at 7.5% (e.g., 3,100 fish for an allocation of 41,310 fish). The inseason management target was defined as the current year's allocation plus or minus cumulative deviations from past allocations.

Management of the Sport Fishery under the Original Southeast Alaska King Salmon Management Plan – 1992-1993

In order to implement the new management plan, the creel survey program was expanded to more extensively monitor the sport fishery and improve inseason and postseason estimates of harvest. Surveys in Sitka, Wrangell, and Petersburg were reinstated and a creel survey was initiated in Craig (which was converted to a catch sampling program in 1993 to provide better stock composition estimates). Coded wire tags were recovered during creel surveys and by voluntary programs at remote lodges scattered throughout the region to estimate the contribution of Alaska hatchery stocks. Time series analysis was also used to make preseason forecasts of sport harvests.

Data from the creel surveys were used to project the total sport harvest of treaty Chinook salmon on an inseason basis. Harvest and hatchery contribution estimates were made every 2 weeks. The biweekly estimates were combined with the following data to project the total harvest of Chinook salmon in SEAK sport fisheries:

1) harvest timing data for the Chinook fisheries from past onsite surveys,
2) ratios of past SWHS harvest estimates within a given area to the creel survey estimates for the same area,
3) the ratio of the total SWHS harvest, including areas not sampled in onsite programs (Yakutat, Glacier Bay, and Haines/Skagway), to the areas sampled in onsite programs (Ketchikan, Prince of Wales, Petersburg/Wrangell, Sitka, and Juneau).
4) comparisons of past hatchery contribution data for surveyed fisheries to current year data as collected.

The most important dates for the inseason harvest projections were June 15, July 1, and July 15. Because the bulk of the Chinook salmon fishery occurs between the middle of May and the middle of July, early season projections were necessary to effectively limit the harvest. Harvest per unit effort (HPUE) for Chinook salmon was also determined every week and compared with past averages.

Overview of Management Decisions–1992

In 1992, the preseason harvest forecast exceeded the 7.5% management range. Therefore, on May 15, a 1 fish bag limit was implemented for all anglers and charter boat operators and crew were prohibited from retaining Chinook salmon. These restrictions were subsequently repealed on July 28 when it was determined by inseason monitoring that the sport harvest would not reach the management target. The final treaty harvest, 35,346 fish, was below the sport allocation by 5,964 fish.

Overview of Management Decisions–1993

In 1993, the preseason harvest projection indicated that a 2 fish bag limit was the appropriate regulation to stay within the allocation. However, an inseason harvest projection exceeded the management range and a 1 fish bag limit for all anglers, downrigger ban on all anglers, and prohibition on retention of Chinook salmon by charter boat operators and crew were implemented on June 17. The downrigger ban was rescinded on August 16, 1993 to allow anglers to use downriggers to fish for coho salmon. The final treaty harvest, 42,677 exceeded the sport allocation by 3,067. The emergency order reducing the bag limit to 1 Chinook salmon and banning take by charter operators and crew expired on December 31, 1993.

The following table summarizes the sport fishery quota and harvest that occurred under the original Southeast Alaska King Salmon Management Plan, 1992–1993. Over the 2 years of the plan, the sport fishery harvested 2,897 fish fewer than its allocation.

Year	Sport quota	Sport treaty harvest	Deviation from quota	Cumulative deviation from quota/target	Alaska hatchery add-on	Total sport harvest	Total Alaska hatchery	Basis of quota (after subtracting net allocation)
1992	41,310	35,346	5,964	5,964	7,546	42,892	9,464	17% of 243,000
1993	39,610	42,677	-3,067	2,897	6,569	49,246	8,321	17% of 243,000 minus 1,700

Management of the Sport Fishery under the revised Southeast Alaska King Salmon Management Plan –1994-1996

In early 1994, the BOF increased the allocation to the sport fishery from 17% to 18%, and then to 19% in 1995, and 20% in 1996. Other than the increase in allocation, the management plan remained essentially unchanged. During this period, PSC negotiations to arrive at the treaty quota were protracted and generally were not completed until late June. By late June, as much as 85% of the sport harvest had already been taken, making it very difficult to manage the sport fishery to achieve the objectives of the management plan.

Creel survey monitoring for 1994–1996 generally continued as during 1992–1993, however, the Petersburg and Wrangell surveys were converted to catch sampling programs to provide better stock composition estimates. Sampling in the Sitka area was also increased to provide better estimates of harvests and stock contributions.

Summary of Management Decisions–1994

The preseason harvest forecast for 1994 with a 2 fish bag limit was 50,000 fish. Since the sport allocation had not yet been negotiated, the early season sport fishery had to be managed based on a guess of what the quota would be. Based on a combined sport underage of 2,897 fish from the previous seasons and an expected quota of 263,000, the 18% sport allocation would have been 47,000. Under this scenario, no inseason actions would have been necessary because the projected harvest of 50,000 was within the ±7.5% management range of the expected allocation. However, preseason consultations for a Section 7 Permit under the Endangered Species Act (ESA) were ongoing with National Marine Fisheries Service (NMFS). With the results of the consultations unknown, it was decided to manage conservatively. On April 15, a 1 fish bag limit and prohibition on retention of Chinook salmon by charter boat operators and crew were implemented. The final quota was set in late June at 240,000 fish, which made the sport fish allocation 39,000. The more restrictive regulations were rescinded on July 1 when sport harvest was lower than expected. A 3 fish bag limit was implemented on July 30 but did little to increase harvest. The final sport harvest, 35,467, was below the sport allocation by 4,133 fish.

Summary of Management Decisions–1995

The preseason forecast for 1995 with a 2 fish bag limit was 40,000 Chinook salmon. ESA consultations were again ongoing and the allocation was unknown in early May when the sport fishery commenced. Therefore, early season management decisions were made based on an anticipated all-gear quota of 230,000 fish. Based on this quota and an allocation of 19%, the sport allocation of 40,000 matched closely with the preseason forecast and therefore no management actions were taken. Alaska continued managing for this quota until August 17 when the commercial Chinook salmon fisheries were closed by court order (and a harvest cap of 2,000 additional Chinook salmon was placed on the sport fishery). In response to the court order, the bag limit for the sport fishery was reduced to 1 fish from August 17 through October 3. The postseason sport treaty harvest was 35,496. But, because of the court order, actual allocations for the sport and commercial fisheries were never established. One interpretation is that the sport allocation would be determined by taking 19% of the actual combined sport and troll harvest–or about 29,500. Under this scenario, the sport harvest

exceeded its quota by 5,996. Another interpretation is that each fishery's, allocation would equal their actual harvest. It is unclear to this day how to interpret results from this fishing season.

Summary of Management Decisions–1996

For the 1996 season, Chinook availability was forecast to be similar to 1995, and so it was expected that about 35,000 treaty Chinook salmon would be taken with a 2 fish bag limit. At the beginning of the season, a number of scenarios were discussed with all-gear quotas ranging from 120,000 to 180,000. No quota was announced, however, and the season began with a 2 fish bag limit and early season catches were below normal. Although no quota was finalized, it was decided in early June that harvests should be limited by a 1 fish bag limit because indications were that the quota would be less than the harvest of 175,000 in 1995. Therefore on June 15, the bag limit was reduced to 1 fish and charter boat operators and crews were prohibited from retaining Chinook salmon. The postseason harvest was 38,975 treaty Chinook salmon. The final quota was established as a range between 140,000 and 155,000 fish. The 20 percent sport allocation ranged from 24,000 to 27,000 with a mid-point of 25,500. Assuming the mid-point allocation, the sport overage in 1996 was about 13,475 treaty fish.

The following table summarizes the sport fishery quota and harvest that occurred under the revised SEAK King Salmon Management Plan, 1994-1996. Because no quota was ever established for 1995, it is difficult to assess the cumulative harvest deviation for the sport fishery. However, assuming that the 1995 quota was equal to the harvest, the sport fishery exceeded its cumulative quota by 9,342 fish over the 3 years that this plan was in effect.

Year	Sport quota	Sport treaty harvest	Deviation from quota	Cumulative deviation from quota	Alaska hatchery add-on	Total sport harvest	Total Alaska hatchery	Basis of quota (after subtracting net allocation)
1994	39,600	35,467	4,133	4,133	6,898	42,365	9,083	18% of 220,000
1995	[a]	35,496	[a]	[a]	14,171	49,667	16,524	[a]
1996	25,500	38,975	-13,475	-9,342	13,177	57,508	14,511	20% of 127,500

[a] There was no negotiated quota in 1995.

Management of the Sport Fishery under the second revision of the Southeast Alaska King Salmon Management Plan –1997-1999

In June of 1996, Alaska and the treaty representatives for the Southern U.S. signed a letter of agreement (LOA) to manage Chinook fisheries based primarily upon abundance. Under this approach, an initial quota is set based upon a preseason abundance forecast. After the first opening in the troll fishery, the quota could be modified in late July based on catch rates in the troll fishery, which were believed to be a more reliable indicator of abundance. Although fishery managers supported this approach, it meant that the final quota would not be known until after most sport harvest had occurred, and therefore adjustments would be ineffective in managing the sport fishery to achieve its share of the quota. Therefore, there was a need to modify the Southeast Alaska King Salmon Management Plan to make it more workable under this abundance-based approach.

In early 1997, concerns with the existing management plan were brought to the attention of the BOF, who subsequently revised the management plan and allocation scheme. Under the revised management plan a 2 fish bag limit was in place until the preseason abundance index was established. Once a preseason index and initial quota were obtained, ADF&G staff were to project what the annual sport harvest would be under 1, 2, and 3 fish bag limits and then implement the bag limit that came closest to obtaining the 20% allocation (based on the preseason abundance index). The harvest projected for the selected bag limit then became the sport fishery allocation, and additional management measures (as listed in the previous

management plan) were to be implemented only if the sport harvest deviated more than 7.5% (approximately ±3,000 fish) from this 'adjusted harvest target.' Inseason adjustments to the all-gear Chinook quota based on commercial troll fishery performance were to have no affect on management of the sport fishery. The commercial troll fishery was to be managed to harvest the difference between the adjusted harvest target for the sport fishery and the all-gear quota less the net allocation. Only the portion of the deviation from the management target that is within the ±7.5% management range was to be carried forward to future years.

The BOF also prohibited retention of Chinook salmon by charter vessel operators and crew while chartering (year-round) and prohibited the number of lines fished from a vessel engaged in charter activities from exceeding the number of paying clients on board. A 4 Chinook salmon (28 inches or more) annual limit for nonresident anglers was also passed by the BOF, with a provision that it would be increased to five if the abundance index was 1.5 or greater. A management plan for Wrangell Narrows/Blind Slough fisheries for returns of Chinook salmon to Crystal Lake hatchery was also implemented.

Creel survey monitoring generally continued as during 1994–1996. Estimates of stock contribution were improved by an increase in CWT sampling rates in 1998 when anglers were prohibited, by emergency order, from heading or filleting Chinook (and coho) salmon on the fishing grounds at ports monitored with creel survey or catch sampling programs. Sampling rates for CWTs were also increased in some ports due to addition of samplers dedicated to this task.

Summary of Management Decisions–1997

In 1997, the "preseason" abundance index was not announced until June 17. The "initial" 20% allocation from the quota of 277,000 was 51,300 treaty fish. At this time, enactment of a 1 fish bag limit was projected to limit the treaty harvest to 53,800 treaty fish, which became the management target. A 1 fish bag limit was implemented on July 7 and remained in effect through December 31. Subsequently, the quota was increased to a range from 277,000 to 302,000. The postseason harvest estimate of 53,305 was 495 fish below the harvest target, but less than the lower bound of the 7.5% management range and therefore not carried over to the 1998 fishery.

Summary of Management Decisions–1998

The 1998 fishery began with below average sport harvests in the inside fisheries and the "preseason" abundance index (resulting in a 263,000 fish quota) was not announced until June 25. At this time, it was projected that 41,200 treaty Chinook salmon would be harvested by continuing with a 2 fish bag limit while a 3 fish bag limit would result in a harvest of 41,700 fish, both below the 20% allocation of 48,600. As directed under the management plan, the harvest target for the season became 41,700, and the bag limit was increased to 3 fish on July 3. Due to higher than expected harvest of Chinook salmon during August in Craig and Sitka, the upper bound of the harvest target management range was exceeded. Therefore on September 9, the bag limit was reduced to 1. The postseason estimate of 46,303 exceeded the harvest target by 4,603 fish. Therefore the 1,475 treaty fish above the 7.5% management range of 3,126 were subtracted from the initial 20% allocation in 1999 prior to setting bag limits and harvest targets.

Summary of Management Decisions–1999

In 1999, the preseason abundance index was released June 28. In late June, the new Treaty Agreement was also signed, which resulted in a significant reduction of the Chinook salmon quota for SEAK, especially at the lower abundance indices. A preseason all-gear quota of 192,750 resulted in a 20% sport allocation of 35,172, which was reduced to 33,697 after subtraction of the 1,475 fish from the 1998 overage. When the abundance index was received in late June, the sport fishery was projected to take 42,800 treaty fish under a 1 fish bag limit. Therefore, a 1 fish bag limit was implemented on July 3, and 42,800 became the sport harvest target for 1999. Harvests in the sport fishery were again higher than

expected. The 1999 postseason harvest was estimated at 53,158 treaty fish or 10,358 fish above the harvest target. The final quota for 1999 based on the postseason abundance index was 184,200.

The following table summarizes the sport fishery quota and harvest that occurred under the revised Southeast Alaska King Salmon Management Plan, 1997–1999. Over the 3 years of the plan, the sport fishery harvest exceeded the harvest target of treaty fish by a cumulative total of 14,466 fish. Because "preseason" abundance indices were not obtained prior to mid-June during 1997-1999, regulation changes made in early July when sport harvests were declining rapidly did not have an appreciable affect on harvests. Also, projections of final sport harvests made inseason were inaccurate and unreliable at predicting postseason harvest. Over the 3 years of the plan, the sport fishery harvest exceeded the harvest target of treaty fish by a cumulative total of 14,466 fish.

Year	Sport quota	Adjusted harvest target	Sport treaty harvest	Deviation from harvest target	Cumulative deviation from target	Alaska hatchery add-on	Total sport harvest	Total Alaska hatchery	Basis of quota (after subtracting net allocation)
1997	51,300	53,800	53,305	495	495	11,858	71,524	13,522	20% of 256,500
1998	48,600	41,700	46,303	-4,603	-4,108	7,094	55,013	8,361	20% of 243,000
1999	35,172	42,800	53,158	-10,358	-14,466	17,578	72,081	19,657	20% of 161,000

Management of the Sport Fishery under the third revision of the Southeast Alaska King Salmon Management Plan –2000-2002

In 2000 the BOF modified the management plan for the third time. The objectives of this plan were to: 1) manage the sport fishery to attain a harvest of 20% of the annual harvest ceiling specified by the PSC, after the subtraction of commercial net harvest; 2) allow uninterrupted sport fishing in salt waters for king salmon, while not exceeding the sport fishery harvest ceiling; 3) minimize regulatory restrictions on resident anglers not fishing from a charter vessel; and 4) provide stability to the sport fishery by eliminating inseason regulatory changes, except those needed for conservation.

The primary changes to the plan to achieve these objectives were to: establish the sport fishery regulations prior to May 1 and have the regulations remain in effect for the entire season (except as needed for conservation); provide more specific regulatory action at various levels of Chinook salmon abundance; and implement more restrictive regulations on nonresidents and anglers fishing from charter vessels. Under this plan, the commercial troll fishery continued to be managed to harvest the difference between the all-gear quota less the net allocation and projected sport harvest. Cumulative sport harvests above the sport fishery allocation came out of the troll quota and were to be paid back in future years by not implementing more liberal regulations in the sport fishery, and the cumulative number of unharvested fish (underage) was to be applied as an offset against excess harvests in prior or future years.

Management Actions in 2000

In late April 2000, a preseason abundance index of 1.01 was announced. This index resulted in an all-gear quota of 152,850 fish, of which the 20% sport fish allocation totaled 27,535. Given that the preseason abundance was less than 1.1, the newly revised management plan required that bag limits for all anglers and annual limits for nonresident anglers be reduced. Therefore, the Chinook salmon bag and possession limit in marine waters of SEAK was decreased to 1 fish 28 inches or more in length on May 3, 2000. In addition, the annual limit for nonresident anglers was decreased from 4 to 2. It was projected that these regulatory changes would decrease the sport harvest to 34,100 treaty Chinook salmon.

Since the 20% allocation of 27,535 would still be exceeded, additional regulations were needed to reduce the harvest from 34,100. Therefore, on June 3, 4 additional harvest restrictions were imposed:

1. retention and possession of Chinook salmon was prohibited if more than 4 lines were being fished from a chartered vessel from June 3 through June 30;
2. nonresident anglers and anglers fishing from a chartered vessel could not retain Chinook salmon on any Wednesday from June 3 through July 31;
3. nonresident anglers and anglers fishing from a chartered vessel could not retain Chinook salmon from August 1 through September 30; and
4. nonresident anglers and anglers fishing from a chartered vessel could not retain Chinook salmon within 2 areas of the outside coast around Sitka and the west and south coasts of PWI from July 12 through July 31.

The first 3 restrictions applied to all marine waters in SEAK, including Yakutat, except for terminal harvest areas established by emergency order to harvest excess Alaska hatchery Chinook salmon. In aggregate, these 4 restrictions were projected to reduce the harvest down to the harvest target. Normally, these restrictions would have been placed into effect by May 1; however, implementation was delayed in 2000 because the revised management plan was not officially in effect until late May.

On June 5, the Alaska Sportfish Council filed for a temporary restraining order (TRO) to block implementation of the 4 restrictions on nonresident anglers and anglers fishing from a chartered vessel that went into effect on June 3. The request for a TRO was denied and then a "preliminary injunction" hearing was held in Juneau on June 14 based on the filing. The motion for a preliminary injunction was also denied.

In late June, review of results from the Chinook model used to estimate coastwide abundance indicated that prior changes to the model were incorrect. Correction of the straying rates and a "recalibration" of the model resulted in a revised abundance index for SEAK of 1.14. Because, under the management plan, an abundance index of 1.1 to 1.2 results in a 1 fish bag limit and 3 fish nonresident annual limit, the 4 restrictions detailed above concerning the charter and nonresident fishery were rescinded on June 27. In addition, the nonresident annual limit for Chinook salmon was increased from 2 to 3. The 1 fish bag limit for all anglers and 3 fish annual limit for nonresident anglers remained in place for the rest of the year.

The late June revision of the preseason abundance index (1.14) resulted in a 34,627-fish allocation to the sport fishery. The postseason estimate of treaty harvest was 41,439 fish, which was 6,812 fish above the 20% allocation based on the preseason abundance index. The postseason abundance index resulted in a sport fishery allocation of 32,445, and a sport harvest overage of 8,994 fish. Based on postseason estimates of abundance and harvest, the sport fishery took 26% of the all-gear quota less the net harvest (24% based on the preseason abundance index).

Management Actions in 2001

The 2001 preseason abundance index of 1.14 was announced by May 1. This level of abundance resulted in an all gear quota of 189,940 and a sport allocation of 34,635. According to the plan, the sport regulations remained at 1 fish for all anglers with a 3 fish annual limit for nonresidents. Despite the reduced bag limit, harvests remained higher than expected, especially late in the season. The estimated harvest was 44,725, and based on the preseason abundance index, exceeded the sport allocation by 10,098 fish. The postseason abundance index (1.29) was significantly higher than the preseason index. The resulting sport allocation, 46,180, was higher than the sport harvest by 1,455.

Management Actions in 2002

The 2002 preseason abundance index, 1.74, was significantly higher than the prior 2 years. This level of abundance resulted in an all gear quota of 356,500 and a sport allocation of 66,514. According to the plan, when the preseason abundance index is greater than 1.5 the bag limit for resident anglers is 2 fish. However, because the sport fishery had a cumulative overage from prior years, nonresidents were limited

to a 1 fish bag limit and a 3 fish annual limit. These regulations became effective by emergency order on April 27, 2002. The estimated sport harvest of treaty Chinook was 45,504 fish, which was 21,010 below the 20% allocation based on the preseason abundance index. The postseason abundance index increased to 1.82. This resulted in a revised sport fishery allocation of 69,462, and a sport harvest underage of 23,958 fish. Based on postseason estimates of abundance and harvest, the sport fishery took 13.1% of the all-gear quota less the net harvest (13.7% based on the preseason abundance index).

The following table summarizes the sport fishery allocation and harvest that occurred since the implementation of the abundance-based treaty agreement (1999–2002). This time period encompasses 2 different versions of the Southeast Alaska King Salmon Management Plan (1999 and 200–2002). During the first 2 years of the treaty agreement, Chinook abundance was low, and the sport fishery exceeded its allocation by a combined total of 28,501 fish. During the next 2 years, Chinook abundance increased and the cumulative sport overage was reduced to 3,081 fish. The cumulative sport harvest during this time period was very near its 20% allocation (20.4%).

Year	Sport allocation	Sport treaty harvest	Deviation from quota	Cumulative deviation from quota	Sport percentage	Cumulative sport percentage
1999	33,536	53,158	-19,622	-19,622	31.7%	31.7%
2000	32,445	41,439	-8,879	-28,501	25.5%	28.7%
2001	46,187	44,725	1,462	-27,039	19.4%	24.8%
2002	69,462	45,504	23,958	-3,081	13.1%	20.4%

Management Actions in 2003

In April 2003, a preseason abundance index of 1.79 was announced. This index resulted in an all-gear quota of 366,100 fish, of which the 20% sport fish allocation totaled 68,352. Given that the preseason abundance was greater than 1.2, the newly revised management plan required a 2 fish bag limit for residents and a 1 fish bag limit and 3 fish annual limit for nonresident anglers. These regulations were implemented by an emergency order that became effective on May 1, 2003. These regulations applied to all marine waters in SEAK, including Yakutat, except for terminal harvest areas established by emergency order to harvest excess Alaska hatchery Chinook salmon. These restrictions were expected to reduce the sport harvest to well below the 20% sport harvest target.

The estimate of treaty harvest for the sport fishery in 2003 was 48,774 fish. This was 19,578 below the 20% allocation based on the preseason abundance index. The postseason abundance index was a record high, 2.17. This resulted in a revised sport fishery allocation of 82,419, and a sport harvest underage of 33,645 fish. Based on preseason estimates of abundance and harvest, the sport fishery took 14.3% of the all-gear quota less the net harvest (11.8% based on the postseason abundance index).

Management Actions in 2004

The 2004 preseason abundance index of 1.88 was announced on April 6. This level of abundance resulted in an all gear quota of 383,400 and a sport allocation of 71,682. According to the plan, the sport fishery bag limits remained at 2 fish for residents, and 1 fish with a 3 fish annual limit for nonresidents. These regulations applied to all marine waters in SEAK, including Yakutat, except for terminal harvest areas established by emergency order to harvest excess Alaska hatchery Chinook salmon. These restrictions were expected to reduce the sport harvest to well below the 20% sport harvest target.

The end-of-season estimate of treaty harvest was 55,413 fish, which was 16,269 fish below the 20% allocation based on the preseason abundance index. The postseason abundance index was significantly higher at 2.06. This resulted in a revised sport fishery allocation of 78,343, and a sport harvest underage

of 22,930 fish. Based on preseason estimates of abundance and harvest, the sport fishery took 15.5% of the all-gear quota less the net harvest (14.1% based on the postseason abundance index).

Management Actions in 2005

The 2005 preseason abundance index of 2.05 was announced in mid April. The resulting all-gear quota was 416,400 and the sport allocation was 77,979. Based on the performance of the sport fishery during the prior 3 years of high Chinook abundance (in which the sport fishery under harvested its allocation by a total of 69,086 fish), the department decided to request permission from the BOF to issue an emergency regulation that would implement more liberal regulations than allowed under the Southeast Alaska King Salmon Management Plan. The BOF agreed to this approach for increasing harvest opportunity in the sport fishery, and on May 3, 2005 the resident bag limit was increased to 3 fish and the nonresident annual limit was increased from 3 to 5 fish. The nonresident bag and possession limits remained at 1 fish. These regulations were in place throughout SEAK from May 3, 2005 through August 30, 2005. Prior to and after that time the regulations were in effect, the regulations mandated by the Southeast Alaska King Salmon Management Plan applied (resident 2 fish bag limit, nonresident 1 fish bag limit, nonresident 3 fish annual limit).

The end-of-season estimate of treaty harvest was 63,345 fish, which was 14,634 fish below the 20% allocation based on the preseason abundance index. The postseason abundance index was significantly lower at 2.06. This resulted in a revised sport fishery allocation of 72,428, and a sport harvest underage of 9,083 fish. Based on preseason estimates of abundance and harvest, the sport fishery took 16.2% of the all-gear quota less the net harvest (17.5% based on the postseason abundance index).

Management Actions in 2006

In April 2008, a preseason abundance index of 1.69 was announced. This index resulted in an all-gear quota of 346,800 fish, of which the 20% sport fish allocation less the net harvest totaled 64,166 fish. Given that the preseason abundance was greater than 1.5, the newly revised management plan required a 3 fish bag limit for residents, a 2 fish in May and 1 fish bag limit for the remainder of the year for nonresidents, and a 4 fish annual limit for nonresident anglers. In addition, the use of 2 rods per angler was also allowed from October 2006 through March 2007 as directed by the plan. These regulations were implemented by Emergency Order 1-KS-R-02-06 that became effective on May 1, 2006. These regulations applied to all marine waters in SEAK, including Yakutat, except for terminal harvest areas established by emergency order to harvest excess Alaska hatchery Chinook salmon. These restrictions were expected to maintain the sport harvest within the 20% average sport harvest target.

The estimate of treaty harvest for the sport fishery in 2006 was 69,824 fish. This was 5,658 fish above the 20% allocation based on the preseason abundance index (Table 4). Based on preseason estimates of abundance and harvest, the sport fishery took 21.8% of the all-gear quota less the net harvest.

Management Actions in 2007

The 2007 preseason abundance index of 1.60 was announced in April. This level of abundance resulted in an all gear quota of 329,400 and a sport allocation of 60,937. Given that the preseason abundance was again greater than 1.5, the management plan required a 3 fish bag limit for residents, a 2 fish in May and 1 fish bag limit for the remainder of the year for nonresidents, and a 4 fish annual limit for nonresident anglers. In addition, the use of 2 rods per angler was also allowed from October 2007 through March 2008 as per the plan. These regulations were implemented by Emergency Order 1-KS-R-02-07 that became effective on May 1, 2007. These regulations applied to all marine waters in SEAK, including Yakutat, except for terminal harvest areas established by emergency order to harvest excess Alaska hatchery Chinook salmon. These restrictions were expected to maintain the sport harvest within the 20% average sport harvest target.

The estimate of treaty harvest for the sport fishery in 2007 was 61,851 fish. This was 914 fish above the 20% allocation based on the preseason abundance index (Table 4). Based on preseason estimates of abundance and harvest, the sport fishery took 20.3% of the all-gear quota less the net harvest.

Management Actions in 2008

The 2008 preseason abundance index of 1.07 was announced in early April, resulting in an all gear quota of 170,000 fish, of which the 20% sport allocation less the net harvest totaled 31,352 fish. This was a 48% reduction in the number of king salmon allocated to the sport fishery in 2007. The department issued Emergency Order 1-KS-R-03-08 on April 9 which enacted all management measures in the plan for abundance indices below 1.1 and above 1.0. These management measures in the plan were substantially modified by the BOF in 2003; this was the first time any of these management measures had been used. After implementation of the emergency order, questions arose within the department and from the public pertaining to the August exception for the Juneau sport fishing derby (the derby dates had changed) and how the 4 line limit should be applied. The department sought clarification on the implementation of these management measures by polling the BOF.