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Overview of the Sport Fisheries for King Salmon in Southeast Alaska through 2017: A Report to the Alaska Board of Fisheries

by

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Alaska Department of Fish and Game **Divisions of Sport Fish and Commercial Fisheries**

Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat or long
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	*e*
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	*E*
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$\log_2$, etc.
minute (angular)	'
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	"
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

SPECIAL PUBLICATION NO. 17-15

OVERVIEW OF THE SPORT FISHERIES FOR KING SALMON IN SOUTHEAST ALASKA THROUGH 2017: A REPORT TO THE ALASKA BOARD OF FISHERIES

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TABLE OF CONTENTS

Page

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF TABLES (Continued)

LIST OF FIGURES

LIST OF APPENDICES

ABSTRACT

King salmon (*Oncorhynchus tshawytscha*) are highly sought after by sport anglers and the commercial fishing industry in Southeast Alaska (SEAK). Fisheries management for the species is complex and involves an all-gear harvest limit established under the U.S.–Canada Pacific Salmon Treaty (PST). Since 1999, SEAK's annual PST harvest level has been based on the coastwide king salmon abundance to generate a preseason abundance index (AI). Once the AI is determined, the Alaska Board of Fisheries (board) allocates domestic shares of the all-gear harvest level to various fisheries. SEAK sport fisheries are allocated 20% of the harvest. Marine and freshwater sport harvests of king salmon have increased from approximately 24,500 for 1977–1990 to 67,400 for 2011–2016. Overall increases in harvest were primarily due to growth in outer coast fisheries in Sitka and Prince of Wales Island (PWI). From 2011 to 2016, the king salmon harvest by nonresidents averaged 44,200, or 65% of the total sport harvest, with the largest harvests by nonresidents occurring in the Sitka and PWI areas. The largest harvest by Alaska residents continues to occur in the Juneau, Sitka, and Ketchikan areas. The average sport harvest of PST fish during 2011–2017 was 53,800; based on the preseason AI under the PST, sport harvest averaged 21.3% of the total Alaska allocation during that period. The board received six proposals for consideration at the January 2018 meeting that, if adopted, would modify management of the king salmon sport fishery in SEAK, including two which seek modification of the Southeast Alaska King Salmon Management Plan.

Key words: king salmon, Chinook salmon, *Oncorhynchus tshawytscha*, Southeast Alaska, SEAK, Pacific Salmon Treaty, abundance index, AI, Southeast Alaska King Salmon Management Plan

INTRODUCTION

King salmon (*Oncorhynchus tshawytscha*) 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 king salmon within SEAK (excluding a majority of the hatchery fish produced in Alaskan hatcheries). Due to this limit on SEAK harvest and the high value to both commercial and sport fisheries, establishing an allocation of king salmon between the two user groups has been contentious. Since 1992, the king salmon harvest limit 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.

This report will provide an overview of the sport fishery for king salmon in SEAK and includes a discussion of the *Southeast Alaska King Salmon Management Plan* implemented in 1992, and an update of fishery status. Specifically, this report will provide the following details for SEAK:

1) the history of sport fisheries regulations for king salmon and implementation of the various management plans since 1992
2) king salmon harvest, effort, stock composition, and residency of angler
3) SEAK wild king salmon stock management
4) a discussion of management issues to be decided by the Alaska Department of Fish and Game (department) by February 2018.

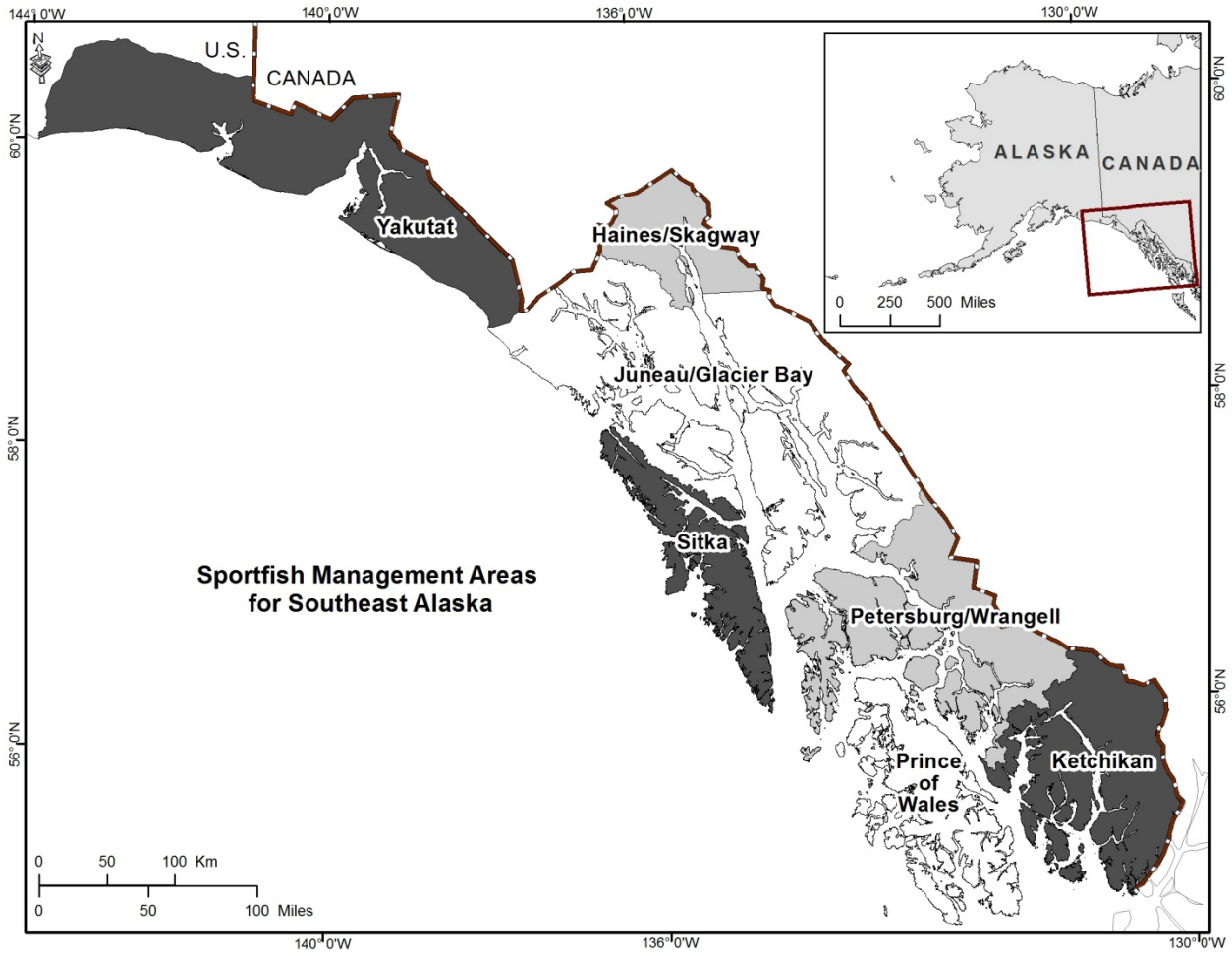

Figure 1.–Sportfish Management Areas within the Southeast Alaska (SEAK) region for which sport effort and harvests are estimated through use of the Statewide Harvest Survey (SWHS) postal questionnaire.

REGULATORY HISTORY

FRESHWATER FISHERIES

Sport fishing for king salmon in the fresh waters of SEAK east of the longitude of Cape Fairweather (including the Taku River drainage) has been closed since 1963, with three exceptions: 1) rivers and streams in the Yakutat Area, 2) streams containing only Alaska hatchery fish such as Blind Slough near Petersburg or Fish Creek pond near Juneau, and 3) all freshwaters draining into the Sitka Sound Special Use Area.

Freshwater anglers fishing in the Yakutat Area may take one king 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 king salmon in SEAK. The Situk River management plan (Alaska Administrative Code 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, king salmon returning to Crystal Lake Hatchery provide angling opportunity. A bag limit of two king salmon 28 inches or more in length and two king salmon less than 28 inches in length applies to this system. King salmon returning to Fish Creek Pond originate from hatchery

releases. In Fish Creek Pond from June 1 through August 31, the king salmon bag and possession limit is four fish of any size and snagging is allowed. In all freshwaters draining into the Sitka Sound Special Use Area, the king salmon bag limit is five fish greater than 28 inches in length and five fish less than 28 inches in length. Indigenous king salmon populations do not exist in the Sitka Sound Special Use Area freshwater drainages and fish caught in this area originate from hatchery releases.

Since 1989, the department has also opened other freshwater systems by emergency order to provide harvest opportunities for these terminal area hatchery king salmon. Other streams that are opened to harvest surplus hatchery king salmon in freshwater systems include all freshwaters along the Juneau road systems, and Pullen Creek in Skagway.

MARINE FISHERIES

Regionwide regulations governing harvests of king salmon in the marine sport fisheries of SEAK have changed considerably over the years (Table 1).

Minimum Size

From 1958 to 1962, the minimum size limit was 26 inches (fork length) and during the period from 1963 to 1975, there was no minimum size limit for king salmon. In 1976, a minimum size limit of 26 inches (total length) was put into effect but was increased shortly thereafter (1977) to 28 inches (total length). From 1980 to 1983, the minimum size limit was eliminated from April 1 to June 14 to provide for the harvest of small mature males known as "jacks," but the 28-inch size limit was in effect for the remainder of the year. From 1983 through May 1989, it was legal for marine anglers to keep undersized king salmon (less than 28 inches in length) that were missing adipose fins. This regulation was enacted to increase recoveries of coded wire tags (CWTs). However, retention of these fish caused biased estimates of hatchery contributions and the regulation was repealed in 1989 with the minimum size limit reverting to 28 inches regardless of missing adipose fins unless otherwise stated through emergency order.

Bag and Possession Limits

The bag limit was three fish from 1958 to 1975, but bag and possession limits were reduced to two fish in 1983 and remained (generally) in effect until 1992 at which time the regional king salmon bag limits were set under the direction of the *Southeast Alaska King Salmon Management Plan*, except when modified by emergency order. Portions of Behm Canal near Ketchikan, Greys Pass near Wrangell, and upper Taku Inlet near Juneau have been closed to sport fishing to protect king salmon milling in these near-terminal areas. 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 king salmon.

Table 1.–Summary of regional king salmon regulations in the marine waters of Southeast Alaska since 1958.

Years	Bag limits	Possession limit	Minimum size limit (inches)	Other regionwide regulations	Areas with additional restrictions
1958–1962	3	3	≥26 fork		Ketchikan
1963–1975	3	3	None	•Freshwater–first 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: 1 Apr–14 Jun	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 in) annual limit for nonresidents	Juneau, Ketchikan, Wrangell
2003–2005 [a]	2	2	≥28 total	•No retention by charter vessel crews •1 fish (≥28 in) bag and possession limit for nonresidents	Juneau, Ketchikan, Wrangell
2006–2007	3	3	≥28 total	•No retention by charter vessel crews •1 fish (≥28 in) bag and possession limit for nonresidents •3 fish (≥28 in) annual limit for nonresidents •Use of 2 rods Oct–Mar	Skagway (2007)
2008	1	1	≥28 total and ≥48 total	•1 fish (≥28 in) bag and possession limit for nonresidents May 1–Jul 15 and Oct 1–Dec 31 •1 fish (≥48 in) bag and possession limit for nonresidents July 16–Sep 30 •Nonresident harvest limits: 3 fish Jan 1–Jun 30 2 fish Jul 1–15 1 fish Jul 16–Dec 31	
2009	2	2	≥28 total	•1 fish (≥28 in) bag and possession limit for nonresidents •3 fish annual limit for nonresidents	Skagway, Petersburg–Wrangell

-continued-

Table 1.–Page 2 of 3.

Years	Bag limits	Possession limit	Minimum size limit (inches)	Other regionwide regulations	Areas with additional restrictions
2010	2	2	≥28 total	•From Oct 1–Mar 31 residents may use 2 rods •1 fish (≥28 in) bag and possession limit for nonresidents • 3 fish annual limit for nonresidents	Ketchikan, Petersburg–Wrangell
2011	3	3	≥28 total	•From Oct1 to Mar 31 all anglers may use 2 rods •1 fish (≥28 in) bag and possession limit for nonresidents except 2 fish (≥28 in) bag and possession limit for nonresidents May 1–May 31 •5 fish annual limit for nonresidents	Skagway, Petersburg–Wrangell
2012	3	3	≥28 total	•From Oct 1-Mar 31 all anglers may use 2 rods •1 fish (≥28 in) bag and possession limit for nonresidents except 2 fish (≥28 in) bag and possession limit for nonresidents May 1–May 31 •4 fish annual limit for nonresidents	Skagway, Petersburg–Wrangell
2013	1	1	≥28 total	•1 fish (≥28 in) bag and possession limit for nonresidents nonresident harvest limits: 3 fish Jan 1–Jun 30 2 fish Jul 1–15 1 fish Jul 16–Dec 31	Haines/Skagway, Petersburg–Wrangell
2014	3	3	≥28 total	•From Oct 1 to Mar 31 all anglers may use 2 rods •1 fish (≥28 in) bag and possession limit for nonresidents except 2 fish (≥28 in) bag and possession limit for nonresidents May 1–Jun 30 •6 fish annual limit for nonresidents	Skagway, Petersburg–Wrangell, Ketchikan
2015 (all)	3	3	≥28 total	•From Oct 1 to Mar 31 all anglers may use 2 rods •1 fish (≥28 in) bag and possession limit for nonresidents except 2 fish (≥28 in) bag and possession limit for nonresidents May 1–Jun 30 •6 fish annual limit for nonresidents	Juneau, Ketchikan

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Table 1.–Page 3 of 3.

Years	Bag limits	Possession limit	Minimum size limit (inches)	Other regionwide regulations	Areas with additional restrictions
2015 (Jul 1–Dec 31)	2	2	≥28 total	•From Oct 1–Mar 31 resident anglers may use 2 rods •1 fish (≥28 in) bag and possession limit for nonresidents •3 fish annual limit for nonresidents	
2016	3	3	≥28 total	•From Oct 1–Mar 31 all anglers may use 2 rods •1 fish (≥28 in) bag and possession limit for nonresidents except 2 fish (≥28 in) bag and possession limit for nonresidents May 1–Jun 30 •6 fish annual limit for nonresidents	Haines–Skagway, Juneau, Petersburg–Wrangell, Ketchikan
2017 (all)	2	2	≥28 total	•From Oct 1 to Mar 31 all anglers may use 2 rods •1 fish (≥28 in) bag and possession limit for nonresidents •3 fish annual limit for nonresidents •Retention of king salmon prohibited Aug 10–Sep 30	Haines–Skagway, Juneau, Petersburg–Wrangell, Ketchikan
2017 (Aug 10–Sep 30)				Southeast Alaska closed to king salmon retention	

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

Alaska Hatchery Origin Harvest

Terminal marine harvest areas established for king salmon harvest play an important role in the SEAK sport fishery because they provide additional opportunities for anglers fishing near major communities and in areas with poor existing harvest rates. Large amounts of angler effort are expended in these areas which, if directed elsewhere, could increase pressure on wild stocks. In addition, Alaska hatchery fish do not count toward treaty harvest limits and help keep the sport fishery within the domestic allocation. In 1989, the department was given authority to increase harvest opportunities for king salmon in hatchery terminal harvest areas. Since 1989, a number of hatchery terminal harvest areas have been opened with either increased bag limits, reduced size limits, or both. In recent years, the king salmon returns to several hatchery terminal areas have been poor. In 2017, hatchery returns were not expected to be strong. Although terminal areas are generally opened to provide additional angling opportunity, many of these areas were closed in 2017 because of broodstock concerns. The five hatchery terminal harvest areas that were opened in 2017 with liberalized king salmon regulations are listed in Table 2.

Table 2.–Names, locations, and dates of terminal marine harvest areas in Southeast Alaska that had liberalized regulations in 2017 to allow for increased harvests of Alaska hatchery king salmon.

Management area	Hatchery Terminal Harvest Areas	Location	Dates open in 2017
Ketchikan	Herring Cove/Bay	Herring Cove/Bay, Revillagigedo Is.	Jun 1–July 31
	Thomas Basin	Ketchikan Creek, Thomas Basin	Jun 14–Dec 31
Petersburg–Wrangell	Blind Slough	W. Mitkof Island	Jun 1–Jul 31
Haines–Skagway	Taiya Inlet	Pullen Creek and Pond	Jul 22–Sep 14
Juneau	Juneau	Gastineau Channel–Thane, Auke Bay, Fritz Cove, Lena Cove	Jun 15–Aug 10

PACIFIC SALMON TREATY

In 1985, the United States and Canada signed the PST, which includes provisions for management and conservation of king salmon stocks along the Pacific Coast, north of southern Oregon up to Cape Suckling in Southeast Alaska. The treaty also applies to stocks that migrate north and are intercepted in the fisheries of both countries. The PST is renegotiated amongst party members every 10 years. Harvest ceilings (harvest limits) were established for the king salmon fishery in SEAK and other major fisheries in Canada as part of the initial catch-sharing arrangements. Each of these fisheries is to be managed to ensure harvests will not exceed the negotiated annual harvest limits. Upon initial implementation, only the commercial troll fishery was subject to the annual harvest limits for treaty fish. But in 1987, the Alaska Board of Fisheries (board) allocated the harvest of treaty fish across all commercial users harvesting king salmon in SEAK, and by 1992 allocations were in place for the sport fishery as well. As an incentive to minimize harvests of wild king salmon, king salmon produced from Alaska hatcheries do not count against Alaska's PST quota.

In 1998, the Pacific Salmon Commission (PSC) negotiated a new agreement for 1999–2008 that implements abundance-based management for all king salmon fisheries in both the U.S. and Canada. Since 1999, SEAK and other fisheries have been managed to achieve a king salmon harvest level based on the annual coastwide abundance rather than on a fixed ceiling. The allowable harvest level for the SEAK king salmon fisheries is based on the best available

preseason abundance index (AI) as determined by the Chinook Technical Committee (CTC) of the PSC. However, the harvest level under the latest agreement is now 15% lower for SEAK and is the result of concessions made by Alaska during the last set of negotiations with Canada and the southern U.S. in 2008 and became effective in 2009. The AI is released in early spring prior to the commencement of most fishing. Per the agreement, the AI specifies the all-gear harvest level for SEAK fisheries, and increases as the various indicator stock abundances increase (Table 3).

Table 3.–Abundance indices and related all-gear harvest limits, sport allocations, and commercial allocations for king salmon in Southeast Alaska based on the 2009–2018 treaty agreement.

Abundance index	All-gear harvest limit	Commercial net allocation [a]	80% Commercial troll allocation [b]	20% Sport allocation [b]
0.5	72,250	6,202	52,838	13,210
0.8	105,400	8,589	77,449	19,362
0.9	116,450	9,384	85,652	21,413
1	127,500	10,180	93,856	23,464
1.1	151,725	11,924	111,841	27,960
1.2	175,950	13,668	129,825	32,456
1.3	214,237	16,425	158,250	39,562
1.4	229,409	17,517	169,514	42,378
1.5	244,582	18,610	180,777	45,194
1.6	279,983	21,159	207,060	51,765
1.7	296,420	22,342	219,262	54,815
1.8	312,856	23,526	231,464	57,866
1.9	329,293	24,709	243,667	60,917
2	345,729	25,892	255,869	63,967
2.1	362,200	27,078	268,097	67,024
2.2	378,600	28,259	280,273	70,068
2.3	395,000	29,440	292,448	73,112
2.4	411,500	30,628	304,698	76,174
2.5	427,900	31,809	316,873	79,218
2.6	444,300	32,990	329,048	82,262

[a] Commercial net allocation is 1,000 for set gillnet, 2.9% of the all-gear harvest limit for drift gillnet, and 4.3% of the all-gear harvest limit for seine.

[b] The 80% commercial troll allocation and 20% sport allocation is applied after the commercial net allocation is subtracted from the all-gear harvest limit.

Catch accounting of the SEAK king salmon harvest is tracked by Alaska members of the CTC and takes into account various provisions of the PST. All harvested Alaska hatchery fish are discounted from the total all-gear harvest. In addition, king salmon harvested in "terminal exclusion" fisheries when directed fishing is allowed, are discounted to the base catch level before counting against the treaty harvest. In 2011, Alaska members of the CTC realized that there may have been an accounting error in the terminal exclusion fisheries and therefore treaty harvest calculations had to be redone from the year implemented (2005) to present. The retrospective adjustment increased the all-gear treaty harvest by about 12% since 2005 (Table 4).

Under Alaska's general harvest ceiling regulations for king salmon in SEAK (5AAC 29.060), each gear group, including the sport fishery, is allocated a share of the all-gear harvest limit allowed under the treaty.

Table 4.–Harvest of treaty king salmon and commercial troll and sport overage and underage calculations using allocations based on preseason abundance indices, 1999–2017.

Year	Preseason abundance index	Preseason allowable catch	Troll + sport allowable catch	Preseason troll allocation	Preseason sport allocation	All-gear observed catch	Troll catch	Sport harvest	Troll deviation	Sport deviation	Troll (%) [a]	Sport (%) [b]
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	−4,544	+6,812	77.4	23.9
2001	1.14	189,900	173,134	138,507	34,627	186,919	128,692	44,725	−9,815	+10,098	74.3	25.8
2002	1.74	356,500	332,570	266,056	66,514	357,133	298,132	45,504	+32,076	−21,010	89.6	13.7
2003	1.79	366,100	341,758	273,406	68,352	380,152	307,380	49,239	+33,974	−19,113	89.9	14.4
2004	1.88	383,500	358,409	286,727	71,682	417,019	321,876	55,413	+35,149	−16,269	89.8	15.5
2005	2.05	416,400	389,895	311,916	77,979	388,640	304,891	63,330	−7,025	−14,649	78.2	16.2
2006	1.69	346,800	320,830	256,664	64,166	360,094	263,980	69,375	+7,315	+5,209	82.3	21.6
2007	1.60	329,400	304,683	243,746	60,937	328,268	240,474	62,298	−3,273	+1,361	78.9	20.4
2008	1.07	170,000	156,764	125,411	31,352	172,905	126,352	32,603	+944	+1,251	80.6	20.8
2009	1.33	218,800	202,047	161,638	40,409	227,954	159,126	48,120	−2,511	+7,711	78.8	23.8
2010	1.35	221,800	204,829	163,863	40,966	230,611	177,982	44,315	+14,118	+3,349	86.9	21.6
2011	1.69	294,800	272,574	218,059	54,515	291,161	220,787	53,964	+2,728	−551	81.0	19.8
2012	1.52	266,800	246,590	197,272	49,318	242,821	191,553	37,722	−5,719	−11,596	77.7	15.3
2013	1.20	176,000	162,328	129,862	32,466	191,388	134,580	43,304	+4,718	+10,838	82.9	26.7
2014	2.57	439,400	406,763	325,411	81,353	435,195	340,015	73,951	+14,604	−7,402	83.6	18.2
2015	1.45	237,000	218,936	175,149	43,787	335,026	251,086	65,174	+75,941	+21,387	114.7	29.8
2016	2.06	355,600	328,997	263,197	65,799	350,939	266,172	59,503	+2,975	−6,296	80.9	18.1
2017 [c]	1.27	209,700	193,602	154,881	38,720	178,348	123,417	47,470	−31,463	+8,750	63.7	24.5
Average												
2012–2017		280,750	259,536	207,629	51,907	288,953	217,804	53,732	+10,176	+2,613	83.9	22.1
2008–2017		258,990	239,343	191,474	47,869	265,635	199,107	50,140	+7,633	+2,744	83.1	21.9

[a] Troll (%), which has a target of 80%, is calculated by dividing "troll catch" by the combined "troll + sport allowable catch" for any given year.

[b] Sport (%), which has a target of 20%, is calculated by dividing "sport harvest" by the combined "troll + sport allowable catch" for any given year

[c] Preliminary estimate for catches and harvest.

SOUTHEAST ALASKA KING SALMON MANGEMENT PLAN

In 1992, the *Southeast Alaska King Salmon Management Plan* (5AAC 47.055) was adopted by the board. The plan provided management options to be implemented during the season to meet the sport allocation. Further changes to general regulations were implemented in 1997 and included the following: 1) a four-fish annual limit for nonresident anglers, 2) a prohibition on charter captains and crew from retaining king salmon while clients were onboard, and 3) a limit on the maximum number of lines fished from a charter vessel to be no more than the number of paying clients onboard. At the 1998 statewide meeting, the board passed a mandatory logbook requirement for charter vessels. In 2003, the board rescinded general regulations for specific king salmon bag, possession, and annual limits and set general regulations that require the department to establish king salmon bag, possession, and annual limits by emergency order as specified by the *Southeast Alaska King Salmon Management Plan*. In 2006, the board substantially modified management measures in the plan by increasing bag limits, annual limits, and allowing the use of two rods during March through October in years when the abundance index (AI) was above 1.5. In 2008, the board eliminated a management measure in the plan that provided exemptions to the prohibition of the retention of king salmon less than 48 inches in length and extended the nonretention period. The management measure restricting the maximum number of lines that may be fished from a charter vessel to four lines was also eliminated. Additionally, a resident bag and possession limit of one fish, 28 inches or greater in length, was added making an exception for residents fishing within the Juneau derby area unnecessary. In 2009, to address the reduction of an allowable catch in the sport fishery, the board reduced harvest limits when the AI is less than 1.1, and at AI levels above 1.5, the board allowed residents to use two rods from October through the following March. In 2012, the board modified the plan to state clearly that the use of two rods was allowed while fishing for king salmon only. The plan was not modified during the 2015 board cycle.

ALLOCATION

In March of 1992, the board allocated the SEAK king salmon treaty harvest limit between the commercial and sport fisheries. A total of 20,000 king salmon were allocated to the commercial net fisheries, and the rest of the available king 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 king salmon was subtracted from the allowable harvest limit and the commercial troll fishery was managed to take the balance of the harvest limit available. During a subsequent board meeting in early 1994, the allocation to the sport fishery was increased from 17% to 18%, then to 19% in 1995, and then up to 20% in 1996, where it has remained to present day.

The board also directed that the harvest of treaty fish and the "Alaska hatchery add-on" (those Alaska hatchery fish that do not count against the harvest limit) were to be calculated separately for the sport and commercial fisheries. All wild and non-Alaska hatchery king salmon harvested by the sport fishery are counted against the sport fish allocation.

MANAGEMENT PLAN 1992–2002

The board initially adopted the *Southeast Alaska King Salmon Management Plan* in 1992. The plan outlined how the department was to manage the marine sport fishery for its king salmon harvest allocation and provided regulatory authorities to implement the plan. The core objectives

of the 1992 plan were as follows: 1) allow uninterrupted sport fishing for king salmon in marine waters while not exceeding the allocation and 2) minimize regulatory restrictions on unguided anglers, who harvest king salmon at a lower catch per unit effort (CPUE) than guided anglers fishing from charter vessels. The regulatory authorities implemented to achieve these objectives included several bag limit, size limit, and gear restriction options to increase or reduce the sport harvest to meet the allocation as well as options for increased harvest recording. Bag limits of two king salmon per day, two 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 board meetings in 1994, 1997, and 2000. The primary change in 1994 was to increase the sport allocation over a three-year period from 17% to 20%. In 1997, the board determined that stability was important to the sport fishery and modified the plan to minimize inseason regulatory actions. Under the 1997 plan, as soon as the sport allocation was determined, the department was to implement a one, two, or three fish bag limit for all anglers as needed. The projected harvest under the specific bag limit became the new harvest target for the sport fishery. Other significant changes in 1997 were implemented as follows: 1) a four-fish annual limit for nonresidents, 2) a prohibition on charter operators and crew from retaining king salmon when clients are onboard, and 3) a limit to the number of lines fished from charter vessels based on the number of paying clients onboard but not to exceed the six line maximum. The primary changes to the plan in 2000 were as follows: 1) 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), 2) provide more specific regulatory actions to be taken at various levels of king salmon abundance, and 3) 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 harvest limit less the net allocation and projected sport harvest. Cumulative sport harvests above the sport fishery allocation came out of the troll allocation and were to be paid back in future years by not implementing more liberal regulations in the sport fishery, and the cumulative number of fish not harvested (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 include the following core objectives: 1) manage the sport fishery to attain an average harvest of 20% of the annual harvest limit specified by the CTC after subtracting the 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, 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 as follows: 1) require that the sport and troll fisheries be managed separately to achieve their own allocations (uncoupling of the fisheries), 2) cumulative overages or underages in the sport fishery would not be used to liberalize or restrict regulations, 3) at AIs above 1.2, reduce either bag limits, annual limits, or both for nonresidents, 4) remove additional restrictions to residents fishing on guided vessels, and 5) implement a series of additional restrictions at lower AIs.

MANAGEMENT PLAN 2006–2008

In 2006, the king salmon AI 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 board in 2006 to increase harvest during years when AIs were above 1.5. Those changes include the following: 1) the resident bag limit was increased to three fish at AIs greater than 1.5; 2) the nonresident bag limits increased to two fish during May and June at AIs above 2.0, and in May when AIs are above 1.5 to 2.0; 3) annual limits for nonresidents were increased to six fish at AIs above 2.0, to five or six fish at AIs above 1.75 to 2.0, and to four or five fish at AIs greater than 1.5 to 1.75; and 4) a management measure allowing the use of two rods per angler during March through October was also added to the plan to benefit resident anglers.

In 2008, the department enacted all management measures in the plan for AIs below 1.1 and above 1.0 due to a severely a low AI. This was the first time these management measures were used since being substantially modified by the board 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; questions also arose as to how the four-line limit should be applied. The department sought clarification on implementation of these management measures by polling the board.

In April of 2008, the board convened and modified provisions within the plan by emergency regulation. The board eliminated a management measure in the plan that provided exemptions to the prohibition of the retention of king 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 four lines was also eliminated. Additionally, a resident bag and possession limit of one 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 board increased the non-retention period by two weeks for king salmon less than 48 inches for nonresidents.

MANAGEMENT PLAN 2009–2015

A new agreement on fishery arrangements under the PST was reached between the U.S. and Canada in May 2008. One of the key elements to reaching that agreement was a 15% reduction to the all-gear harvest limit of king salmon in the SEAK aggregate abundance-based management (AABM) fishery. This reduction had significant implications for management of the sport fishery, especially at lower levels of abundance. To address this resulting reduction of allowable catch in the sport fishery, the board modified harvest limits at the 2009 board meeting for nonresident anglers in years when the AI is 1.1 or lower. Additionally, the board modified management measures to allow resident anglers the use of two rods from October through the following March when the AI is less than or equal to 1.5.

In 2012, the board modified the plan to clearly articulate that when the use of two rods is allowed, it is only for the fishing of king salmon. No changes to the plan have been made to the plan since 2012.

Under the various versions of the plan, the department has implemented numerous inseason regulatory actions. These actions are summarized in Table 5. Appendices A2–A5provide a detailed description of the allocation, regulatory actions, and fishery harvest results for each year that the plan has been in effect (1992–2017) with the most recent three years discussed immediately below.

Table 5.–Sport fishery regulatory actions taken under the *Southeast Alaska King Salmon Management Plan* to adjust king salmon harvests during 1992–2017 sport fisheries.

Year	One fish bag limit	Nonresident annual limit	Ban on take by charter crews	Two rods	Resident three-fish bag limit
1992	May 15–Jul 28		May 15–Jul 28		
1993 [a]	Jun 17–Dec 31		Jun 17–Dec 31		
1994	Apr 15–Jun 30		Apr 15–Jun 30		Jul 30–Dec 31 *Nonresident also*
1995	Aug 17–Oct 3 [b]				
1996	Jun 15–Dec 31		Jun 15–Dec 31		
1997	Jul 7–Dec 31	4 [c]	Regionwide [d]		
1998	Sep 9–Dec 31	4	Regionwide		Jul 3–Sep 8
1999	Jul 3–Dec 31	4	Regionwide		*Nonresident also*
2000	May 3–Dec 31 [e]	May 3–Jun 26, 2 Jun 27–Dec 31, 3	Regionwide		
2001	Jan 1–Dec 31	3	Regionwide		
2002	*Nonresidents* Jan 1–Dec 31 *Residents* Jan 1–Apr 26	3	Regionwide		
2003	*Nonresidents* Jan 1–Dec 31	3 [c]	Regionwide		
2004	*Nonresidents* Jan 1–Dec 31	3	Regionwide		
2005	*Nonresidents* Jan 1–Dec 31	May 3–Aug 30, 5 [f] Jan 1–May 2 and Aug 31–Dec 31, 3	Regionwide		*Yes*
2006	*Nonresidents* Jan 1–Dec 31 [g]	4	Regionwide	*Residents* Oct–Mar	*Yes*
2007	*Nonresidents* Jan 1–Dec 31 [g]	4	Regionwide	*Residents* Oct–Mar	*Yes*
2008 [h]	Jan 1–Dec 31	1–3 [i]	Regionwide		

-continued-

Table 5.–Page 2 of 2.

Year	One fish bag limit	Nonresident annual limit	Ban on take by charter crews	Two rods	Resident three-fish bag limit
2009	*Nonresidents* Jan 1–Dec 31	3	Regionwide	*Residents* Oct–Mar	
2010	*Nonresidents* Jan 1–Dec 31	3	Regionwide	*Residents* Oct–Mar	
2011	*Nonresidents* Jan 1–Dec 31 [g]	5	Regionwide	*Residents* Oct–Mar	*Yes*
2012	*Nonresidents* Jan 1–Dec 31 [g]	4	Regionwide	*All anglers* Oct–Mar	*Yes*
2013	*Nonresidents* Jan 1–Dec 31	1-3 [i]	Regionwide	*Residents* Oct–Mar	
2014	*Nonresidents* Jan 1–Dec 31 [j]	6	Regionwide	*All anglers* Oct–Mar	*Yes*
2015	*Nonresidents* Jan 1–Dec 31 [j] *Nonresidents* Jul 1–Dec 31	6 3	Regionwide Regionwide	*All anglers* Oct–Mar *Residents* Oct–Mar	*Yes*
2016	*Nonresidents* Jan 1–Dec 31 [j]	6	Regionwide	*All anglers* Oct–Mar	*Yes*
2017	*Nonresidents* Jan 1–Dec 31	3	Regionwide	*Residents* Oct–Mar	
(10 Aug – 30 Sep) Southeast Alaska closed to retention of king salmon					

[a] Downrigger ban, June 17–August 15.

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

[c] An annual limit for nonresidents of four king salmon ≥28 inches was enacted in 1997. The annual limit for nonresidents was reduced to three king salmon ≥28 inches in 2003.

[d] Made a permanent year-round regionwide regulation in early 1997 by action of the Board of Fisheries.

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

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

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

[h] One fish 48 inches or greater in length July 16–September 30.

[i] The nonresident harvest limit (an annual limit that decreases during the year) was three fish 28 inches or greater in length, January 1–June 30; two fish 28 inches or greater in length, July 1–July 15; one fish 48 inches or greater in length, July 16–September 30; and one 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.

[j] The bag limit for nonresidents was two fish in May and June greater than 28 inches in length.

MANAGEMENT ACTIONS IN 2015

The 2015 preseason AI was not available prior to May 1 and required that the 2015 SEAK sport fishery regional king salmon regulations be based on the previous year AI of 2.57, as mandated by the plan. Given that the 2014 preseason AI was greater than 2.0, the management plan required a three-fish bag limit for residents. Nonresidents were allowed a two-fish bag limit in May and June and one fish per day the remainder of the year; a six-fish nonresident annual limit applied. In addition, the use of two rods per angler was allowed from October 2015 through March, 2016 as per the plan. These regulations were implemented by Emergency Order 1-KS-R-08-15 which became effective on April 30, 2015.

Technical discussions among the PSC–CTC members continued through May and into June between PSC representatives of Alaska, Washington, Oregon, and Canada concerning an AI that accurately reflected the true abundance of king salmon along the Pacific coast in 2015. Although a preseason AI was not bilaterally agreed to by PSC members of the CTC, the PSC Commissioner for Alaska committed to the other Treaty Parties that management of the SEAK king salmon fisheries would be managed for an all-gear harvest based on the 2015 draft AI (calibration 1503) of 1.45, with the understanding that the model that is used to calculate the AI would be reviewed to address the Alaska delegation's concerns with the inaccuracy of the model.

The 2015 agreement to manage the 2015 SEAK king salmon fisheries for a preseason AI of 1.45 was announced on June 26, 2017, resulting in an all-gear harvest limit of 237,000 fish, of which the 20% sport allocation less the net harvest totaled 43,787 fish. Given that the preseason AI was greater than 1.2 and less than or equal to 1.5, the management plan required a two-fish bag limit for residents. Nonresidents were allowed a bag limit of one fish for the remainder of the year; a three-fish annual limit also applied to nonresidents under this regime. In addition, the use of two rods by resident anglers was allowed from October 2015 through April 2016 as per the plan. These regulations were implemented by Emergency Order 1-KS-R-16-15 which became effective on July 1, 2015. These regulations applied to all marine waters in SEAK, including Yakutat. Terminal harvest areas established by emergency order to harvest excess Alaska hatchery king salmon were excluded.

The 2015 estimate of treaty harvest was 65,174 king salmon which was 21,387 fish above the 20% allocation based on the preseason AI (Table 4). Based on preseason estimates of abundance and final harvest estimates, the sport fishery took 29.8% of the all-gear harvest limit less the net harvest. In 2015 the sport fishery took 21% of the combined sport and troll fishery treaty king salmon harvest.

More restrictive sport fishery king salmon were established in the Yakutat, Haines–Skagway, Juneau, Petersburg–Wrangell, and Ketchikan Management areas compared to the regional regulations to protect Alaska wild king salmon stocks. These management actions are outlined here in the "Wild Stock Management" section.

MANAGEMENT ACTIONS IN 2016

The 2016 preseason AI of 2.06 was announced in April. This level of abundance resulted in an all-gear harvest limit of 355,600 yielding the 20% sport allocation less the net allocation of 65,799 king salmon. Given that the 2016 preseason AI was greater than 2.0, the management plan required a three-fish bag limit for residents. Nonresidents were allowed a two-fish bag limit in May and June and one fish per day the remainder of the year; a six-fish nonresident annual

limit applied. In addition, the use of two rods per angler was allowed from October 2016 through March 2017 as per the plan. These regulations were implemented by Emergency Order 1-KS-R-06-16 which became effective on April 12, 2016 and applied to all marine waters in SEAK, including Yakutat. Terminal harvest areas established by emergency order to harvest excess Alaska hatchery king salmon were exempt.

The estimated treaty harvest in the sport fishery for 2016 was 59,503 fish, which was 6,296 fish below the 20% allocation based on the preseason AI (Table 4). Based on preseason estimates of abundance and final harvest estimates, the sport fishery took 18.1% of the all-gear harvest limit less the net harvest.

More restrictive sport fishery king salmon regulations were established in the Yakutat, Haines–Skagway, Juneau, Petersburg–Wrangell, and Ketchikan Management areas compared to regional regulations to protect Alaska wild king salmon stocks. These management actions are outlined in the "Wild Stock Management" section.

MANAGEMENT ACTIONS IN 2017

The 2017 preseason AI of 1.27 was announced in April. This level of abundance resulted in an all-gear harvest limit of 209,700 yielding the 20% sport allocation less the net allocation of 38,720 king salmon. Given that the preseason AI was greater than 1.2 and less than or equal to 1.5, the management plan required a two-fish bag limit for residents, a nonresident bag limit of one fish and a nonresident annual limit of three fish. In addition, the use of two rods per resident angler was allowed from October 2017 through March 2018 as per the plan. These regulations were implemented by Emergency Order 1-KS-R-11-17 and became effective on April 12, 2017. These regulations applied to all marine waters in SEAK, including Yakutat. Terminal harvest areas established by emergency order to harvest excess Alaska hatchery king salmon were excluded.

Nine of the 11 SEAK wild king salmon indicator stocks did not achieve their escapement goals in 2016 indicating low production for king salmon stocks in 2017. In March 2017, to protect SEAK wild king salmon stocks, more restrictive sport fishery king salmon regulations than the regional king salmon regulations were established in the Yakutat, Haines–Skagway, Juneau, Petersburg–Wrangell, and Ketchikan Management areas in concert with conservative management in the commercial fisheries. These management actions are outlined in the "Wild Stock Management" section.

By early August 2017, initial surveys indicated that SEAK king salmon runs would be lower than anticipated indicating that additional conservative management measures in all SEAK king salmon fisheries were needed to protect wild SEAK king salmon stocks. To provide this additional protection, the department Deputy Commissioner coordinated the implementation of prohibiting the retention of king salmon in all SEAK fisheries. Under Emergency Order 1-KS-R-28-17, the retention of king salmon in the SEAK marine sport fishery was prohibited from August 10 to September 30, 2017.

On October 1, 2017, given that effort and the subsequent harvest of king salmon in the sport fishery from October through the end of March is usually low, the SEAK king salmon sport fishery was reopened under Emergency Order 1-KS-R-30-17, mirroring the king salmon regulations implemented in April under Emergency Order 1-KS-R-17; this was a management

prescription outlined in *Southeast Alaska King Salmon Management Plan* and was based on a preseason king salmon AI of 1.27.

The preliminary estimated treaty harvest in the sport fishery for 2017 is 47,470 fish which was 8,750 fish above the 20% allocation based on the preseason AI (Table 4). Based on preseason estimates of abundance and preliminary harvest estimates, the sport fishery took 24.5% of the all-gear harvest limit less the net harvest.

EFFORT

TOTAL NUMBER OF ANGLERS

The number of resident anglers who fished in SEAK has averaged 30,000 from 2007 to 2016, which is slightly below the preceding ten-year average (1997–2006) of 33,000 (Figure 2). Evaluation of nonresident angler numbers shows a steady increase since 1984 from about 25,000 to a peak of almost 106,000 in 2007. However, since that peak, the numbers of nonresident anglers decreased by 26% to around 78,000 in 2010 and 2011. From 2012 to 2015, the number of nonresident anglers increased from just over 80,000 to approximately 91,000. An estimated total of 122,000 anglers fished in SEAK during 2016 of which 74% were nonresident anglers.

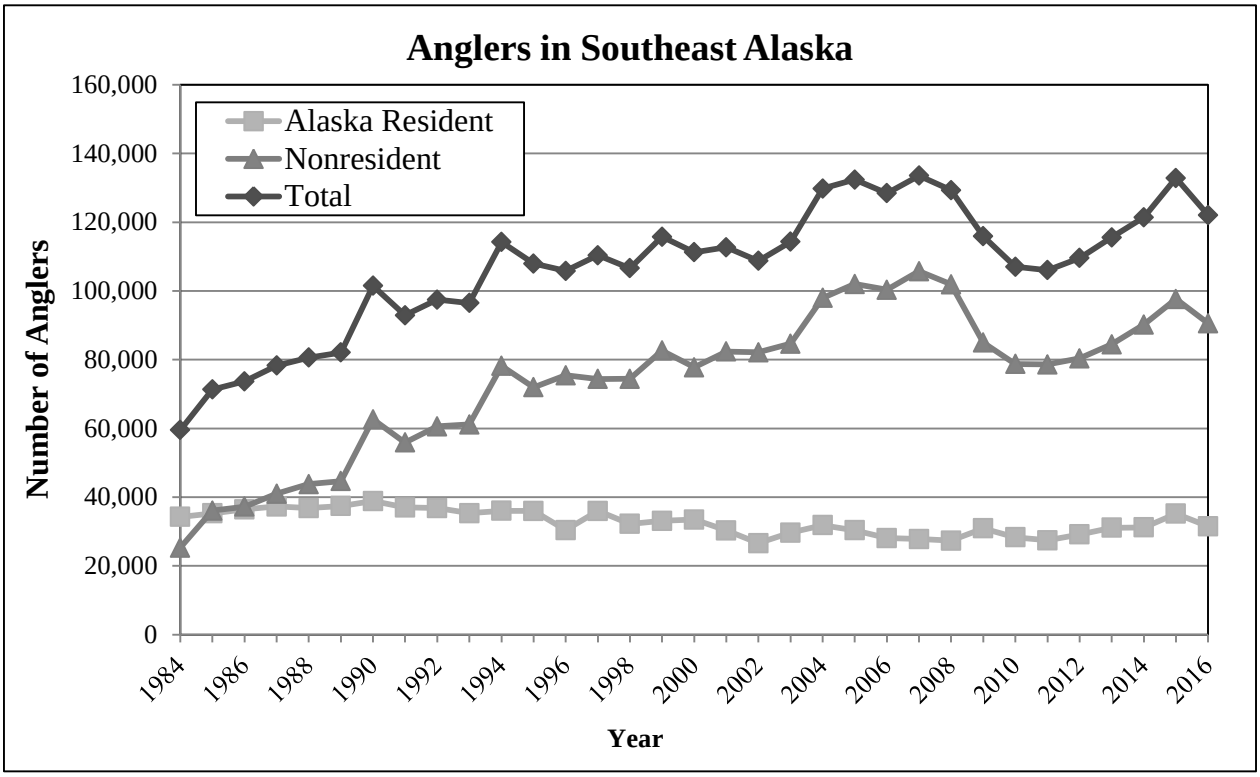

Figure 2.–Number of resident and nonresident anglers who fished in Southeast Alaska, 1984–2016.

CHARTER VESSEL REGISTRATIONS AND LOGBOOK PROGRAM

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. Registration of vessels used to provide sport fishing guide services in marine waters occurs when a logbook is issued to a vessel. The number of registered saltwater charter vessels within SEAK from 2007 to 2011 declined from 918 in 2007 to 715 in 2011 while averaging 824 vessels (Figure 3 and Table 6). The number of vessels registered from 2012 to 2016 was relatively stable, averaging 700 vessels and ranging from 678 in 2013 to 719 in 2016; however, this represents a decline of 16% from the 1999–2010 average of registered vessels (Figure 3). Even if a charter vessel is registered, it might not be utilized in the guided sport fishery. Summary data from the logbook program shows that on average from 2007 to 2016, 85% of registered vessels reported taking clients on at least one charter fishing trip, indicating that they were active during that year (Table 7 and Figure 4). From 2007 to 2010, the number of active saltwater charter vessels within SEAK remained relatively stable, averaging 690 vessels and 84% of registered vessels. The number of active vessels from 2011 to 2013 mirrors the decline in registered vessels, averaging 600 vessels and 86% of registered vessels (Table 7 and Figure 4).

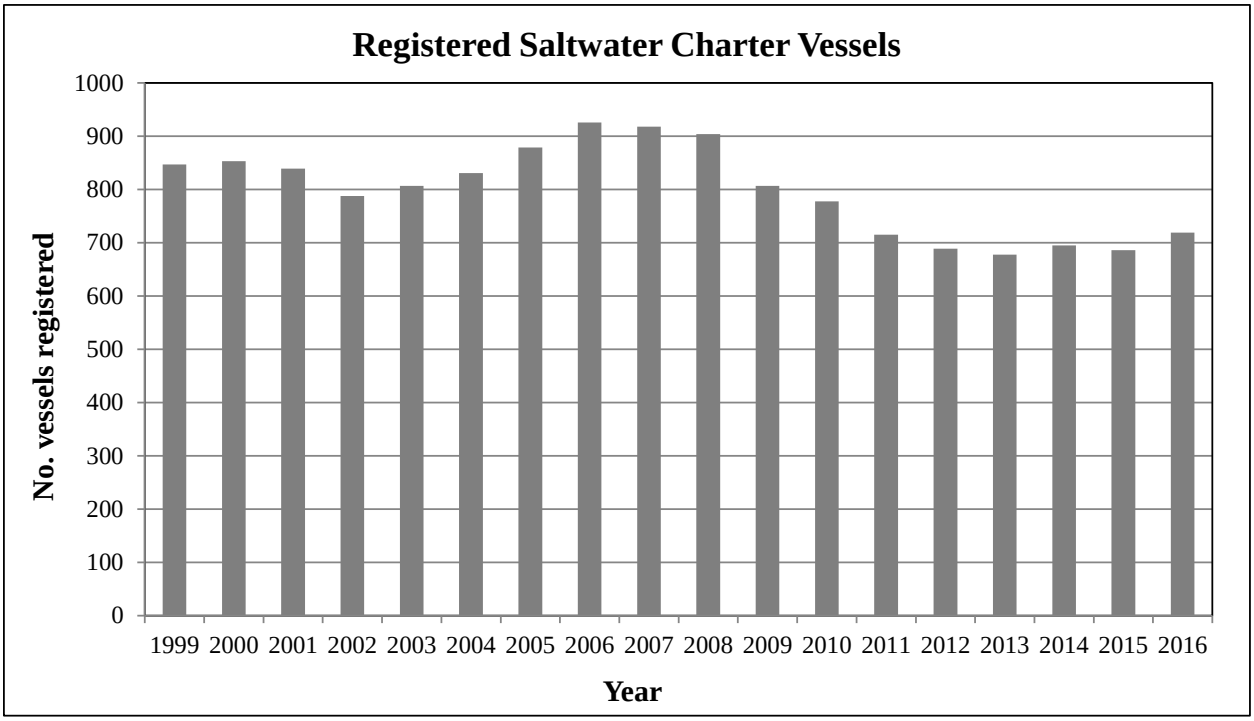

Figure 3.–Number of saltwater charter vessels registered in Southeast Alaska as determined from saltwater logbook and vessel registration data collected from 1999–2016.

Table 6.–Number of registered (or licensed) saltwater charter vessels in Southeast Alaska by Statewide Harvest Survey (SWHS) area determined from saltwater logbook and vessel registration data collected from 2005–2016.

SWHS area [a]	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Ketchikan	172	178	182	184	157	155	141	140	144	145	145	141
Prince of Wales Island	178	196	197	175	168	161	136	135	130	135	144	165
Petersburg–Wrangell	51	56	56	61	53	53	50	39	43	40	35	42
Sitka [b]	239	241	242	232	202	194	194	185	173	168	162	166
Juneau	119	134	119	117	110	109	96	88	89	99	103	108
Skagway	9	9	8	7	8	4	4	6	4	7	7	5
Haines	6	5	3	4	3	3	3	3	3	1	2	2
Glacier Bay [b]	85	83	93	108	93	85	81	80	77	80	75	78
Yakutat	18	19	20	17	13	13	12	14	16	17	15	13
Other [c]	2	7	2	2	2	2	2	2	2	5	1	1
Total [d]	879	926	918	904	807	778	715	689	678	695	686	719

[a] SWHS area is assigned based on port of offloading, bottomfish statistical area, and salmon statistical area, in that order.

[b] Beginning in 2000, the northern section of Chichagof Island (including Pelican, Elfin Cove, Hoonah, and the southern half of Icy Straight and Cross Sound) was reassigned 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 the Glacier Bay Area and the decrease in active vessels for the Sitka Area between 1999 and 2000.

[c] Operated or offloaded fish or clients at an unknown location or didn't write the port of offloading.

[d] Columns are not additive. Some vessels fished in more than one SWHS area and were counted more than once, but were not identified as “Other.”

Table 7.–Overall number of active saltwater charter vessels in Southeast Alaska by Statewide Harvest Survey (SWHS) area determined from logbook data collected in 2005–2016.

SWHS area [a]	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Ketchikan	152	143	154	141	130	129	129	120	121	128	134	127
Prince of Wales Island	162	171	182	183	162	146	126	128	127	132	134	145
Petersburg–Wrangell	62	53	59	53	54	52	44	43	41	37	38	39
Sitka [b]	223	228	223	222	194	180	172	168	162	163	157	166
Juneau	120	117	113	112	105	88	101	97	101	105	102	111
Skagway	9	9	7	6	8	5	4	6	4	7	6	5
Haines	5	4	4	4	3	4	2	3	2	2	2	2
Glacier Bay [b]	79	80	87	96	84	91	76	75	72	78	69	72
Yakutat	14	15	16	14	10	11	12	12	13	13	15	12
Other [c]	–	–	–	–	–	–	–	–	–	–	–	–
Total [d]	738	747	768	757	670	644	610	592	579	601	601	618
Percent of licensed vessels active, 1999-2016	84%	81%	84%	84%	83%	83%	85%	86%	85%	86%	88%	86%

Note: Active vessels are those that turned in logbook forms reporting at least one trip with clients.

[a] SWHS area is assigned based on port of offloading, bottomfish statistical area, and salmon statistical area, in that order.

[b] Beginning in 2000, the northern section of Chichagof Island (including Pelican, Elfin Cove, Hoonah, and the southern half of Icy Straight 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 the decrease in active vessels for the Sitka Area between 1999 and 2000.

[c] Operated or offloaded fish or clients at an unknown location or did not write the port of offloading.

[d] Columns are not additive. Some vessels fished in more than one SWHS area and were counted more than once, but were not identified as “Other.”

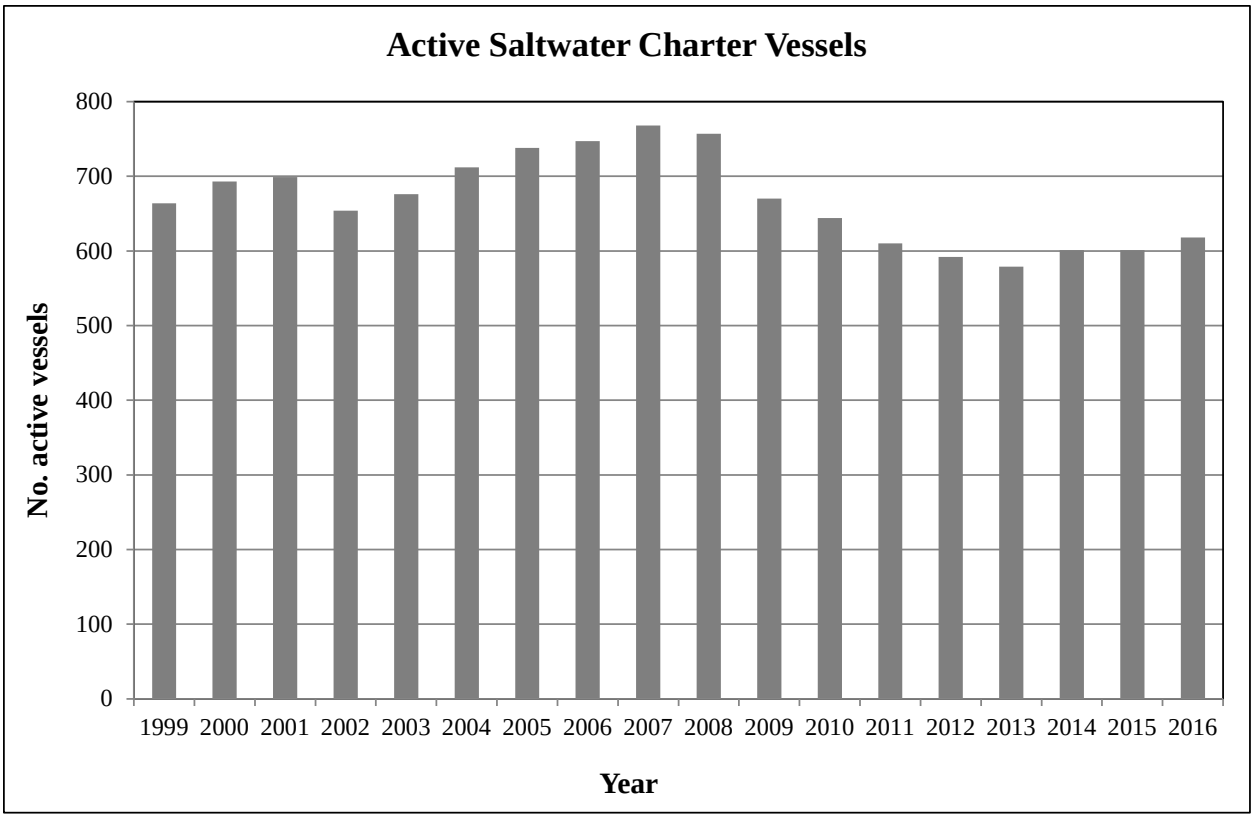

Figure 4.–Number of active saltwater charter vessels in Southeast Alaska as reported in logbook data, 1999–2016.

Note: Active vessels are those that turned in logbook forms reporting at least one trip with clients.

HARVEST

REGIONWIDE HARVEST

Marine and freshwater sport harvest of king salmon in SEAK from 1977 to 1988 was relatively stable; however, harvest began increasing rapidly in 1989 (Table 8). From 1977 to 1990, the average harvest was approximately 24,500 fish, whereas the 1991–2000 average was about 56,400 fish. From 2001 to 2010, the total sport harvest averaged nearly 72,400 king salmon. The king salmon harvest in 2012 (about 46,500 fish) was the lowest observed in 19 years. In 2014, the sport harvest was the largest observed in nearly 40 years (1977–2016) with nearly 87,000 fish. The average regionwide harvest during 2011–2016 was about 67,400 king salmon.

Distribution of king salmon harvest by area in SEAK has changed substantially since the 1980s (Figure 5 and Table 8). Average harvest in the Glacier Bay, Sitka, and Prince of Wales Island areas displayed similar trends across four time periods, which amounted to an increase in harvest for each subsequent time period, resulting in the highest harvest during the latest period (2011–2016). Ketchikan, Petersburg–Wrangell, and Juneau displayed somewhat similar trends (increased harvest through the 1st three time periods) until 2011–2016, when harvest levels decreased. During the most recent time period (2011–2016), the outer coast fisheries of Sitka and Prince of Wales Island accounted for over 60% of the regionwide harvest. Ketchikan (14%), Juneau (10%), and Petersburg-Wrangell (7%) collectively accounted for about 30% of the remaining harvest from 2011 to 2016.

Table 8.–Estimated annual saltwater and freshwater sport harvest of king salmon in Southeast Alaska by area, 1977–2016.

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	644	282	445	16,561
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
1977–1990 Average	6,362	1,507	3,920	2,731	8,203	1,232	256	251	24,462
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
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
1991–2000 Average	6,634	7,573	6,165	18,816	12,744	917	1,675	1,873	56,396
Percent	12%	13%	11%	33%	23%	2%	3%	3%	
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
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
2008	11,030	3,894	5,669	15,337	10,524	450	1,671	690	49,265
2009	22,633	5,793	5,328	18,336	12,169	735	3,277	1,294	69,565
2010	10,128	7,014	3,987	23,515	10,085	742	2,072	960	58,503
2001–2010 Average	13,062	9,190	7,967	23,989	12,628	1,270	3,169	1,157	72,432
Percent	18%	13%	11%	33%	17%	2%	4%	2%	

-continued-

Table 8.–Page 2 of 2.

Year	Ketchikan	Prince of Wales	Petersburg–Wrangell	Sitka	Juneau	Haines–Skagway	Glacier Bay	Yakutat	Total
2011	12,387	10,385	3,843	27,909	6,839	1,254	3,155	803	66,575
2012	4,831	7,390	3,679	21,927	6,038	561	1,778	291	46,495
2013	11,039	7,335	3,657	19,974	8,105	645	4,947	690	56,392
2014	13,878	12,784	5,214	40,748	7,224	446	5,264	1,384	86,942
2015	10,197	16,472	5,045	31,878	9,986	172	4,777	1,232	79,759
2016	5,740	15,112	6,897	33,674	3,868	115	2,001	940	68,347
2011–2016 Average	9,679	11,580	4,723	29,352	7,010	532	3,654	890	67,418
Percent	14%	17%	7%	44%	10%	1%	5%	1%	

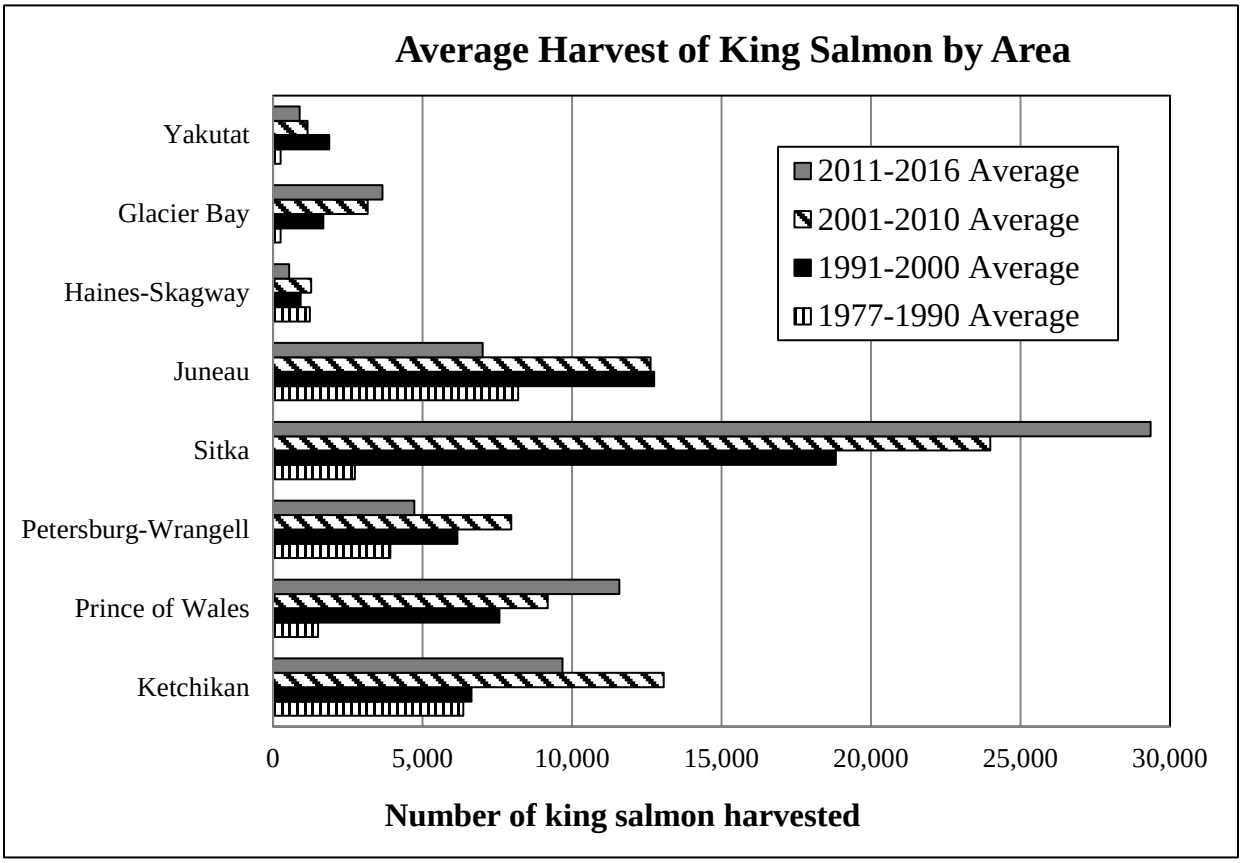

Figure 5.–Average estimated distribution of king salmon harvest in Southeast Alaska for 1977–1990, 1991–2000, 2001–2010, and 2011–2016 as estimated by the Statewide Harvest Survey.

HARVEST BY RESIDENT AND NONRESIDENT ANGLERS

Marine and freshwater harvests of king salmon by both Alaska resident and nonresident anglers have been estimated since 1987 (Figure 6, Tables 9 and 10). The proportion of fish taken by nonresident anglers increased from 28% in 1987 to a peak of 68% in 1994. In response to increasing harvest in the sport fishery, the board implemented annual limits for nonresidents in 1997. Annual limits, as well as lower bag and possession limits for nonresidents, were effective in reducing the proportion of the total harvest taken by nonresidents up through 2010; with the exception of 2013, however, the nonresident harvest proportion increased again to levels averaging approximately 67% of the total harvest since 2011. Generally speaking, the resident harvest proportion has decreased steadily from the highest value observed in 1987 (72%) to the lowest 5-year percentage of any time period (35%) observed during 2012 to 2016.

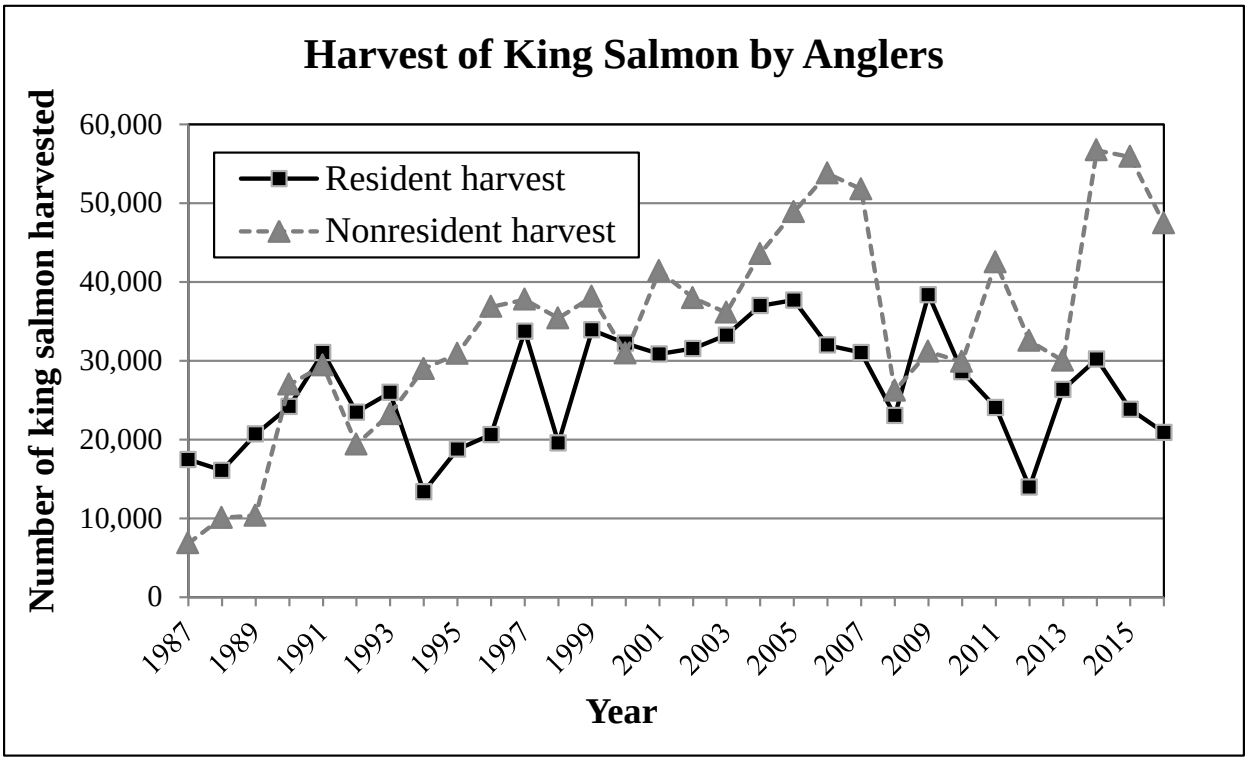

Figure 6.–Estimated harvest of king salmon by resident and nonresident anglers in Southeast Alaska, 1987–2016.

Table 9.–Marine and freshwater sport harvests of king salmon by Alaska resident anglers in Southeast Alaska (by area) as estimated by the Statewide Harvest Survey, 1987–2016.

Year	Ketchikan	Prince of Wales	Petersburg–Wrangell	Sitka	Juneau	Haines–Skagway	Glacier Bay	Yakutat	Total
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
2008	5,300	1,316	3,468	3,292	8,808	159	453	250	23,046
2009	17,024	1,697	3,670	4,402	9,784	456	909	455	38,397
2010	6,487	1,550	2,780	7,540	8,859	441	779	190	28,626
2011	5,915	2,037	2,227	7,165	5,223	1,065	336	106	24,074
2012	1,034	1,255	1,722	4,727	4,655	282	227	51	13,953
2013	6,796	2,336	2,596	6,409	5,691	86	2,468	0	26,382
2014	7,591	2,035	2,485	11,854	5,302	161	659	141	30,228
2015	4,193	3,602	2,339	5,427	7,601	16	438	242	23,858
2016	2,780	2,719	3,425	8,572	2,579	100	367	359	20,901
Average									
1987–1996	3,272	1,164	2,825	4,472	8,826	184	292	146	21,181
1997–2006	5,335	2,268	4,401	8,427	9,555	581	1,389	230	32,186
2007–2016	6,217	2,048	2,927	6,774	6,688	323	882	193	26,052

Table 10.–Marine and freshwater sport harvests of king salmon by nonresident anglers in Southeast Alaska (by area) as estimated by the Statewide Harvest Survey, 1987–2016.

Year	Ketchikan	Prince of Wales	Petersburg-Wrangell	Sitka	Juneau	Haines-Skagway	Glacier Bay	Yakutat	Total
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
2008	5,730	2,578	2,201	12,045	1,716	291	1,218	440	26,219
2009	5,609	4,096	1,658	13,934	2,385	279	2,368	839	31,168
2010	3,641	5,464	1,207	15,975	1,226	301	1,293	770	29,877
2011	6,472	8,348	1,616	20,744	1,616	189	2,819	697	42,501
2012	3,797	6,135	1,957	17,200	1,383	279	1,551	240	32,542
2013	4,243	4,999	1,061	13,565	2,414	559	2,479	690	30,010
2014	6,287	10,749	2,729	28,894	1,922	285	4,605	1,243	56,714
2015	6,004	12,870	2,706	26,451	2,385	156	4,339	990	55,901
2016	2,960	12,393	3,472	25,102	1,289	15	1,634	581	47,446
Average									
1987–1996	4,131	4,070	2,807	6,216	3,064	729	552	744	22,313
1997–2006	4,810	7,423	3,830	16,852	3,557	847	1,513	1,575	40,407
2007–2016	5,106	7,733	2,485	19,643	1,833	319	2,549	749	40,418

CHARTER HARVESTS

Mandatory logbooks for charter vessels fishing in marine waters were implemented for all of Alaska in 1998. The logbook estimates of king salmon harvests for SEAK have varied from 30,000 to over 57,000 during 1998–2016 (Table 11). From 2008 to 2016, the total regionwide estimated charter harvest of king salmon averaged about 35,500 fish, which was a 21% decrease compared to the 1998–2007 time period. During the 2008–2016 time period, an average of 81% of the charter harvest occurred in the outer coast fisheries (Sitka and Prince of Wales Island) with an average of 56% occurring off of Sitka and 24% off of the west coast of Prince of Wales Island.

Table 11.–Estimated charter harvest of king salmon (clients only) in Southeast Alaska from the charter logbook database, 1998–2016.

	SWHS Area [a]								
Year	Ketchikan	Prince of Wales	Petersburg–Wrangell	Sitka [b]	Juneau	Haines–Skagway	Glacier Bay [b]	Yakutat	Total
1998	1,144	10,895	1,024	18,072	2,060	1,050	525	219	34,989
1999	4,116	7,633	979	17,462	3,035	1,203	505	239	35,172
2000	2,968	5,440	651	14,834	2,601	1,461	1,672	433	30,060
2001	4,807	7,811	1,099	19,360	2,841	1,335	2,304	792	40,349
2002	4,956	11,293	831	20,954	2,828	998	2,708	542	45,110
2003	6,254	8,750	905	21,286	2,504	1,713	1,912	242	43,566
2004	6,256	14,680	686	27,181	2,871	1,280	3,822	239	57,015
2005 [c]	6,662	14,568	1,600	24,658	2,597	1,056	2,431	262	53,834
2006 [d]	4,913	15,372	1,727	30,078	1,650	638	2,926	273	57,577
2007 [d]	4,630	12,189	1,232	27,201	1,894	476	3,399	288	51,309
2008 [d]	2,405	3,099	429	13,093	807	153	900	312	21,198
2009 [d]	2,772	4,137	345	15,509	1,035	235	1,868	405	26,306
2010 [d]	2,499	5,579	356	16,415	605	193	1,595	113	27,355
2011 [d]	3,460	9,887	465	22,545	658	159	2,742	197	40,113
2012 [d]	2,537	6,672	329	15,207	1,012	207	1,166	197	27,327
2013 [d]	2,323	6,779	477	13,230	883	196	2,341	240	26,469
2014	4,238	12,762	1,098	31,009	916	135	3,817	414	54,389
2015	3,844	14,092	855	26,663	1,238	131	3,732	362	50,917
2016	2,286	15,258	819	25,693	416	63	1,148	138	45,821
Average 1998–2007	4,671	10,863	1,073	22,109	2,488	1,121	2,220	353	44,898
2008–2016	2,929	8,696	575	19,929	841	164	2,145	264	35,544
Percent of total 2008–2016	8%	24%	2%	56%	2%	0%	6%	1%	

Note: "SWHS" is Statewide Harvest Survey.

[a] SWHS area is assigned based on salmon statistical area, bottomfish statistical area, and port of offloading, in that order.

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

[c] Unique angler identification information was not collected, so harvest is for all anglers; crew members were not allowed to retain king salmon.

[d] From 2006 forward, comped and crew harvest is not included; however, in 2006 comped harvest information was collected. From 2007 to 2009, only angler type information could be collected (resident, nonresident, comped, or crew). Starting in 2010, we collected both a residency status (resident vs. nonresident) as well as comped or crew status.

ALASKA HATCHERY COMPOSITION OF MIXED-STOCK HARVESTS

Mixed-stock sport harvests of king salmon have been extensively sampled in SEAK for CWTs since 1983. Alaska hatchery contributions for the major mixed-stock fisheries have been substantial; especially in Ketchikan, east PWI, and Juneau (Figure 7 and Table 12). From 2011 to 2013, the average hatchery percentage in the sport harvest was 39% in Ketchikan, 52% in Juneau, and 41% in the Haines–Skagway Area. 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 (west PWI 8%, Sitka 10%).

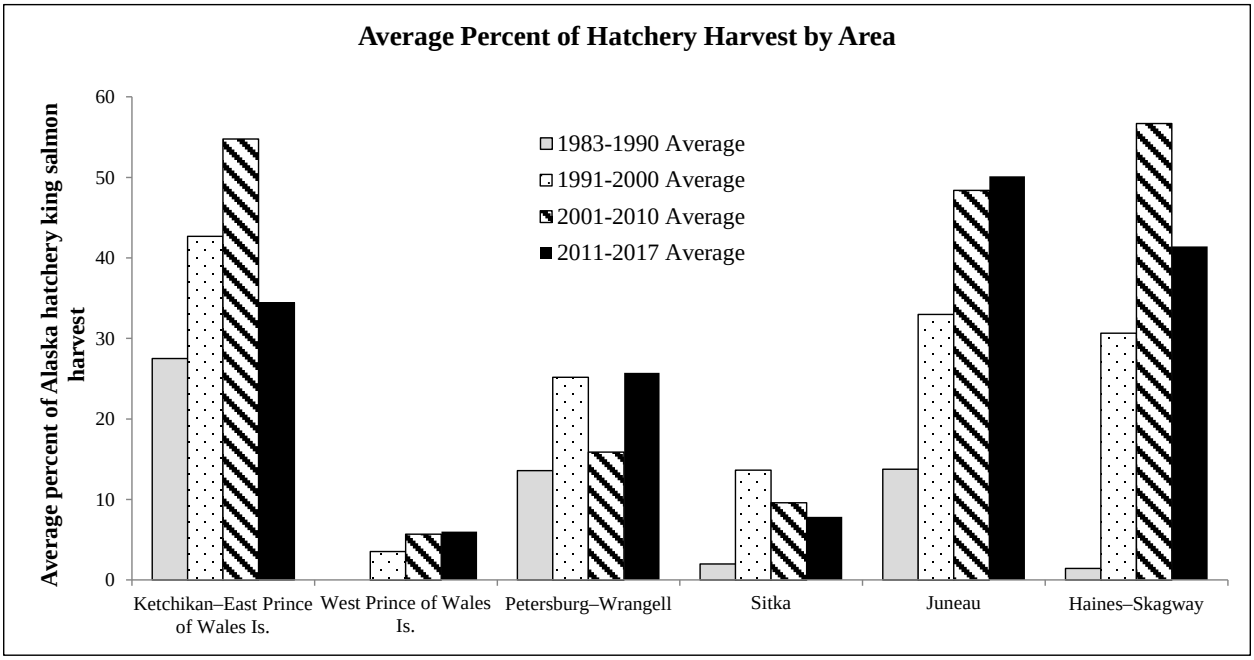

Figure 7.–Estimated percentages of Alaska hatchery king salmon in selected marine sport fishery areas in Southeast Alaska during 4 time periods.

Table 12.–Estimated percentages of Alaska hatchery king salmon in selected marine sport fishery areas in Southeast Alaska, 1983–2017.

Year	Ketchikan–East Prince of Wales Is.	West Prince of Wales Is.	Petersburg–Wrangell	Sitka	Juneau	Haines–Skagway
1983	6	NA	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	55	14	14	12	46	39
2009	49	4	15	7	56	57
2010	57	6	11	8	36	65
2011	36	7	24	9	42	39
2012	40	11	17	8	13	64
2013	42	6	8	13	64	55
2014	28	3	33	4	45	27
2015	34	6	26	8	64	75
2016	28	4	21	7	38	30
2017	33	5	51	6	85	0
Average						
1983–1990	28	NA	14	2	14	1
1991–2000	43	4	25	14	33	31
2001–2010	55	6	16	10	48	57
2011–2017	34	6	26	8	50	41

Note: Some terminal harvest areas (THAs) are excluded. These include Wrangell Narrows THA in Petersburg, shoreline fisheries near hatcheries, and release sites in Juneau and Ketchikan THAs.

Note: "NA" means data are not available.

TIMING OF MARINE HARVEST

The midpoint of the marine waters harvest of treaty king salmon typically occurs in mid to late June (Figure 8). On average, 38% of the total regional harvest occurs in the 4-week period from approximately May 22 to June 18. 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 harvest per unit of effort (HPUE) is at or near its annual peak. In 2017, the midpoint of the harvest occurred in early to mid-June (Figure 8), and 35% of the harvest occurred in the four-week period from approximately May 23 to June 19.

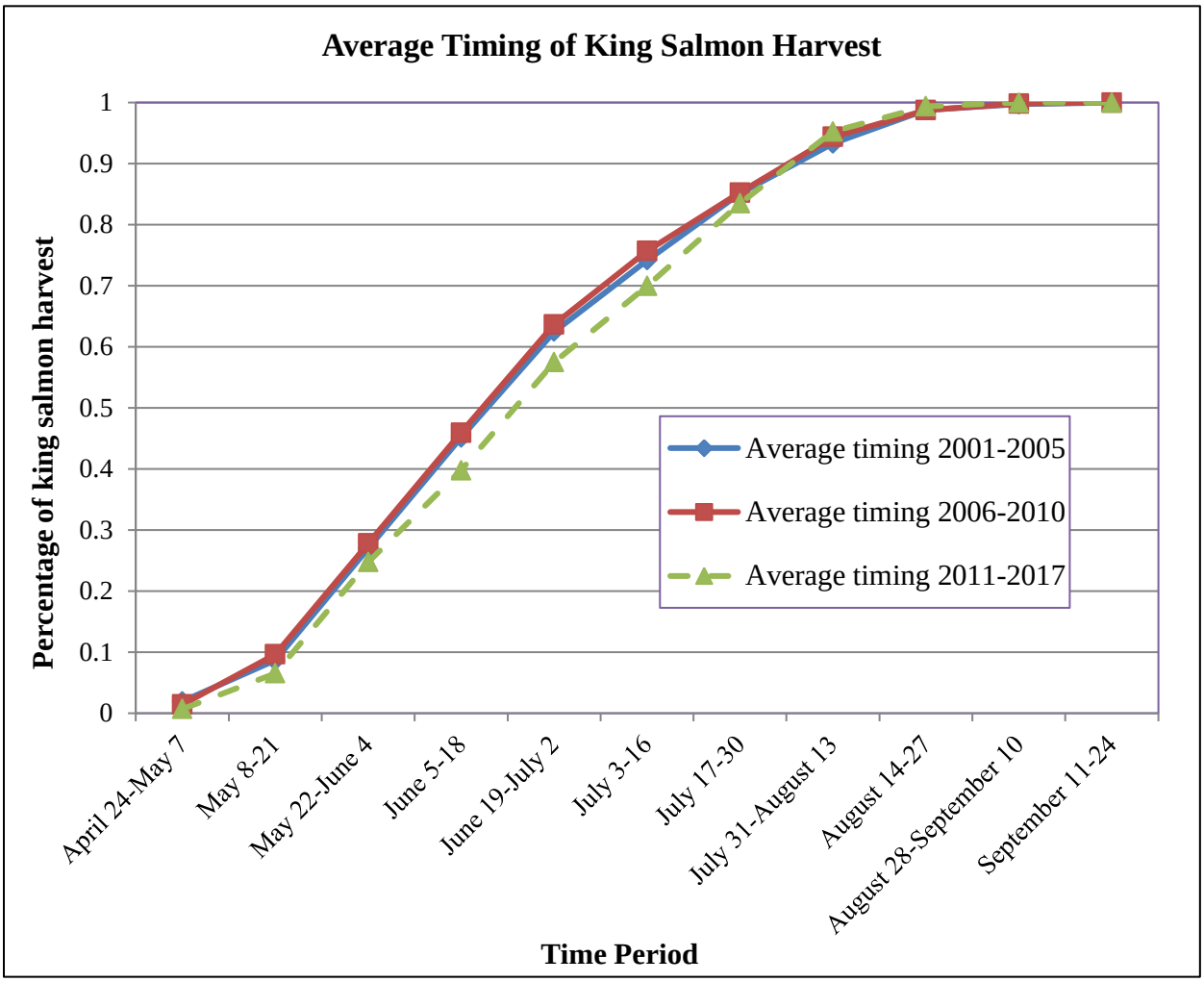

Figure 8.–Average timing of treaty king salmon harvest by 2-week periods for the Southeast Alaska marine sport fishery for 2001–2005, 2006–2010, and 2011–2017 as determined by marine creel surveys.

HARVEST PER UNIT EFFORT IN MARINE FISHERIES

Over the past five years, HPUE for king salmon in Sitka has averaged far above the HPUE in Juneau and Ketchikan (Figure 9). HPUE on the west coast of Prince of Wales Island 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 Prince of Wales Island. Guided anglers generally have HPUEs for king salmon that are about twice as high as those of unguided anglers.

Peak HPUE for king salmon generally occurs in June (Figure 9). 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, king salmon is the only species of salmon readily available to marine anglers. In July, HPUE for pink and coho salmon increases rapidly and normally far exceeds HPUE for king salmon (Figure 10). As HPUE for other salmon species increases, most anglers begin to target pink and coho salmon for the balance of the fishing season.

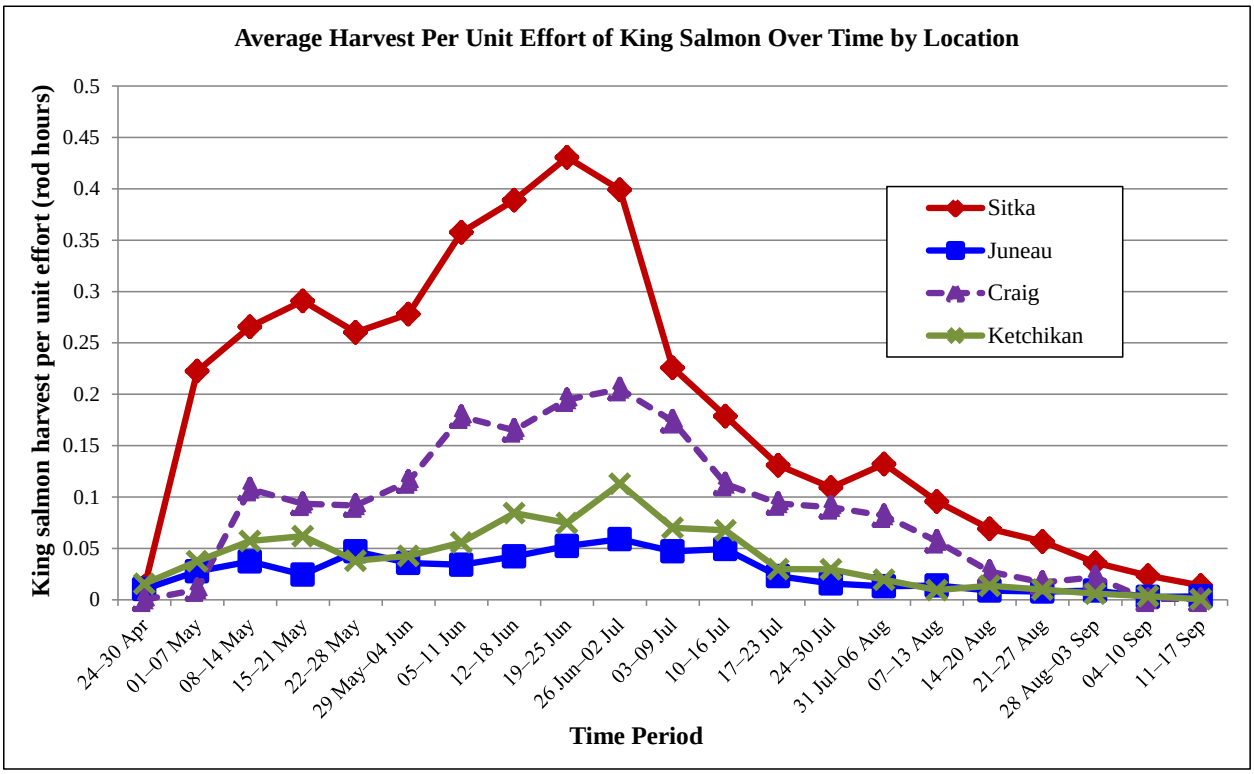

Figure 9.–Average weekly HPUE for king salmon in Juneau, Ketchikan, Sitka, and West Prince of Wales Island (Craig) during 2011–2016.

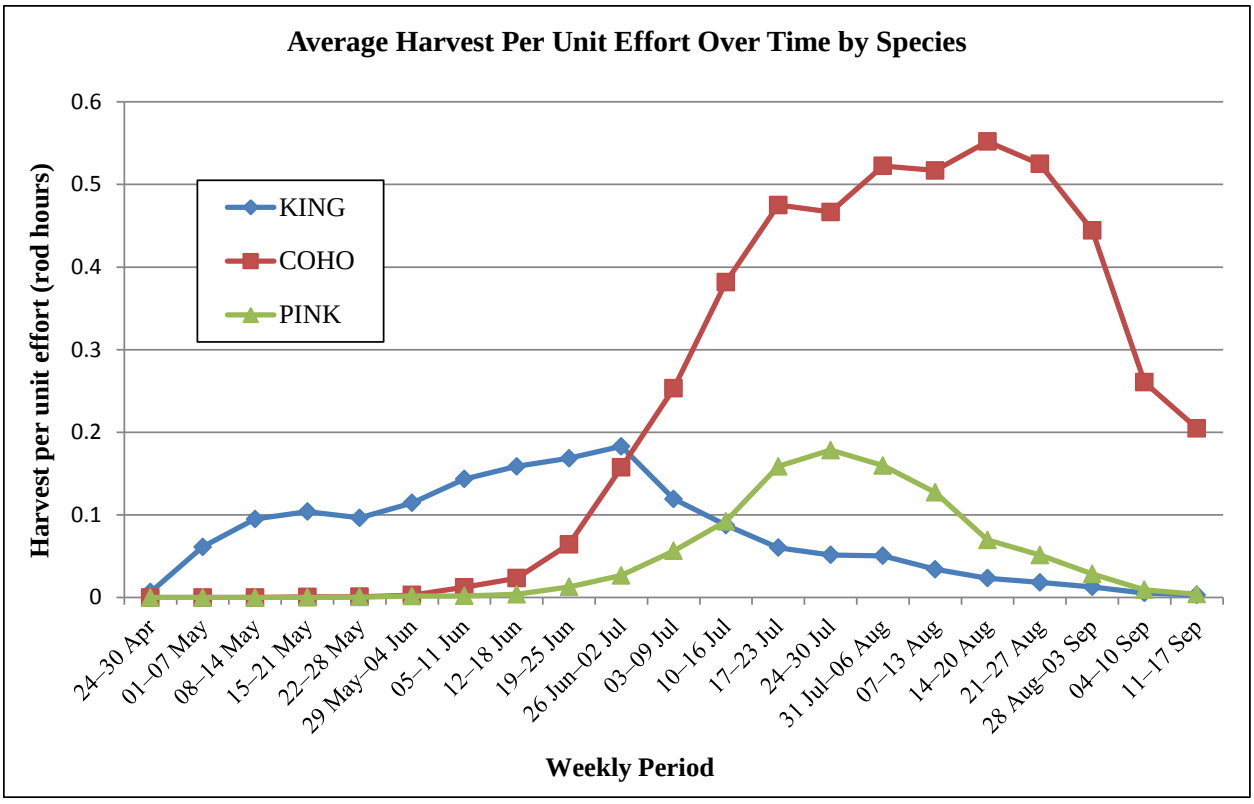

Figure 10.–Average weekly HPUE (harvest per angler-hour of salmon fishing effort) for king, coho, and pink salmon in the Southeast Alaska marine sport fishery as determined by marine creel surveys, 2012–2017.

SOUTHEAST ALASKA WILD STOCKS AND MANAGEMENT

There are 34 identified king salmon stocks in SEAK; among those there are 11 indicator stocks that the department manages for to ensure escapement under 5 AAC 39.222 (Figure 11 and Table 13). Three of the stocks originate in the Alsek, Taku, and Stikine rivers which are considered transboundary rivers (TBRs) and subject to bilateral catch sharing arrangements with Canada under the pretext of the PST as well as bilaterally agreed-to escapement goals. In addition to the TBRs, the remaining 8 king salmon systems across SEAK also have established escapement goals and are monitored using various stock assessment methods (mark–recapture, aerial–foot surveys, and weirs) to ensure those goals are achieved.

In February 2005, the U.S and Canada reached a bilateral terminal harvest sharing agreement for Taku and Stikine river king salmon fisheries to occur in years when an allowable catch (AC) of large king salmon (≥660 mm mid eye to tail fork) exists (Figure 12). Further, the determination of an AC would be decided by December 1 of each year, following conclusion of the fisheries, and made available in ample time for preparations for the upcoming season. The decision would be a bilateral assessment between Alaska and Canada based on the best available information to date. An AC would exist when the preseason forecast (and inseason forecast after commencement of inriver returns) is estimated to exceed the escapement target plus the

combined Canada, U.S., and test fishery base level harvests (based on average harvests seen from 1985 to 2003).

In March 2005 and immediately after the harvest sharing agreement was established with Canada, the board approved emergency regulations containing domestic management measures that would be implemented for directed sport and commercial king salmon fisheries in District 8 and District 11 marine waters. At the February 2006 SEAK finfish meeting, the board adopted management provisions for directed king salmon sport fisheries in District 8 specific to the Stikine River (5 AAC 47.057) and District 11 for the Taku River (5 AAC 47.021(e)). These liberalized sport fishing regulations included the use of two rods per angler for resident and nonresident anglers, increased bag and possession limits for resident anglers, and increased bag, possession, and annual limits for nonresident anglers.

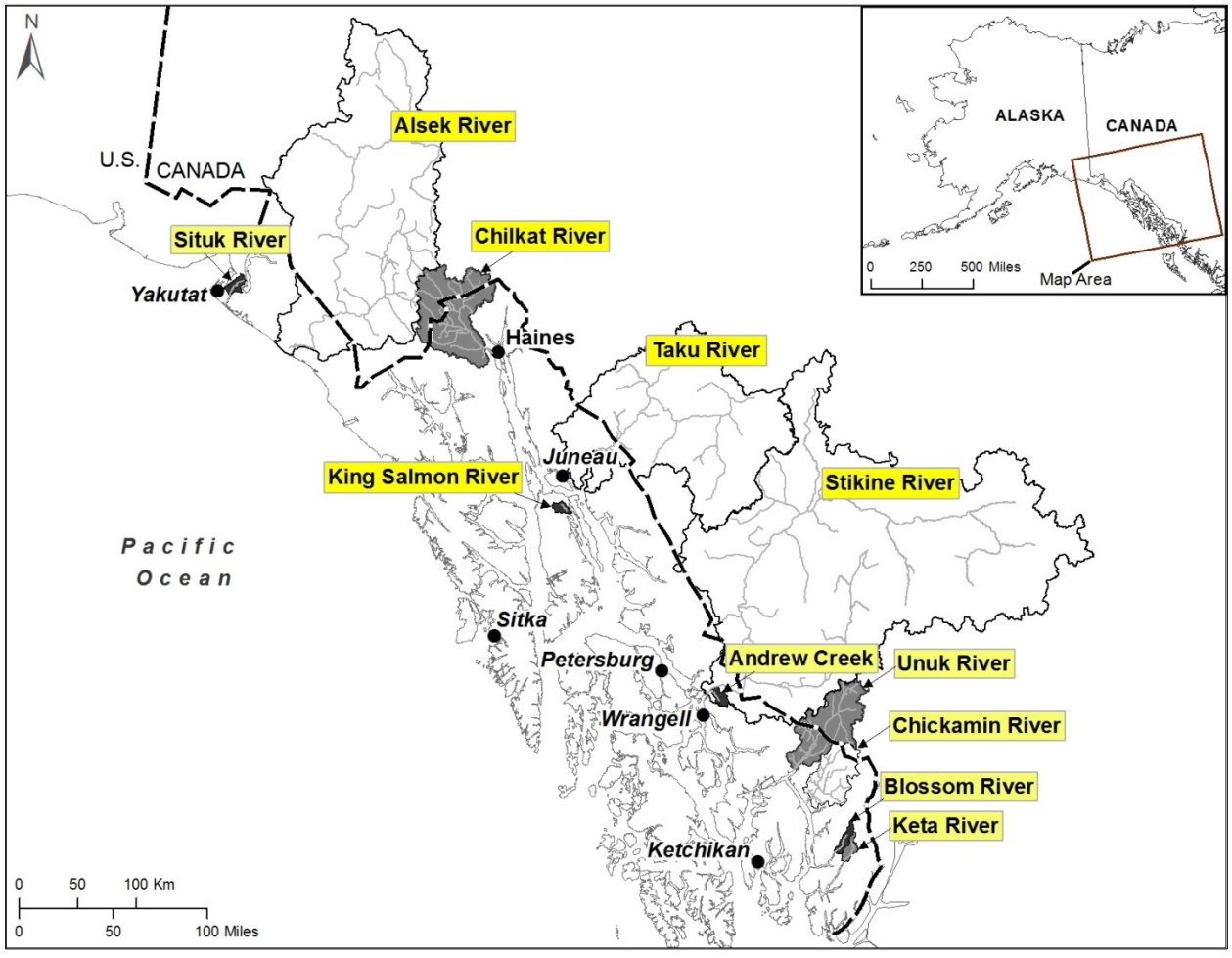

Figure 11.–Locations of the 11 king salmon indicator stocks in Southeast Alaska.

Table 13.–Southeast Alaska king salmon escapement goals and escapement estimates for 2012–2016 and the preliminary estimates for 2017.

System	Assessment method	Goal type	Escapement goal [a]	Year established	Escapement					
					2012	2013	2014	2015	2016	2017
Blossom River [b]	HS, IE	BEG	150–300	2012	205	255	217	166	135	88 [c]
Keta River [b]	HS, IE	BEG	175–400	2012	241	493	439	304	446	222 [c]
Unuk River	HS/FS expansion	BEG	1,800–3,800	2009	956	1,135	1,691	2,623	1,463	1,203 [c]
Chickamin River [b]	HS/FS, IE	BEG	450–900	1997	444	468	652	581	203	152 [c]
Andrew Creek	AS/HS/FS expansion	BEG	650–1,500	1998	587	920	1,261	796	402	349 [c]
Stikine River	MR	BEG	14,000–28,000	2000	22,327 [c,d]	16,783 [c,d]	24,366 [c,d]	21,597 [c,d]	10,343 [c,d]	10,000 [c,d]
King Salmon River	HS expansion	BEG	120–240	1997	155	94	68	50	149	85 [c]
Taku River	MR, HS expansion	BEG	19,000–36,000	2009	19,538 [c,d]	18,002 [c,e]	23,532 [c,d]	28,827 [c,d]	12,381 [c,d]	7,000 [c,d]
Chilkat River [f]	MR	BEG	1,750–3,500	2003	1,723 [c,d]	1,719 [c,d]	1,529 [c,d]	2,456 [c,d]	1,380 [c,d]	1,231 [c,d]
Alsek River [g]	Weir expansion	BEG	3,500–5,300	2013	3,027	4,992	3,357	5,697 [c]	2,574 [c]	1,762 [c]
Klukshu (Alsek) River [g]	Weir	BEG	800–1,200	2013	693	1,227	832	1,388	646	448 [c]
Situk River	Weir	BEG	450–1,050	2003	322	912	475	174	329	1,187 [c]

Note: AS = aerial survey, FS = foot survey, HS = helicopter survey, IE = index escapement, MR = mark-recapture, BEG= biological escapement goal; gray cells indicate the lower bound of the escapement goal was not met.

[a] Goals and escapement numbers for king salmon are for large fish (≥660 mm mid eye to fork length, or fish age 1.3 and older), except Alsek and Klukshu goals which are germane to fish age 1.2 and older and can include fish <660 mm mid eye to fork length.

[b] Escapement goals for Blossom, Keta, and Chickamin river king salmon are index counts expanded to estimates of total escapements based on factors developed from mark–recapture studies.

[c] Preliminary estimate pending publication of final report.

[d] Estimates are based on mark–recapture studies.

[e] Estimates are based on expanded peak aerial survey counts.

[f] The Chilkat River king salmon escapement is the mark–recapture estimate of inriver run minus reported subsistence harvest. The inriver goal of 1,850–3,600 (5 AAC 33.384) is directly measured through mark–recapture and is not discounted for inriver subsistence harvests that average less than 100 fish.

[g] Alsek and Klukshu river king salmon escapement goals were bilaterally agreed upon in 2013 (TTC 2014). Escapement to the Alsek River is calculated through expansion of the Klukshu River inriver run by a factor of 4.0 and subtraction of any inriver harvests above Dry Bay in the lower Alsek River.

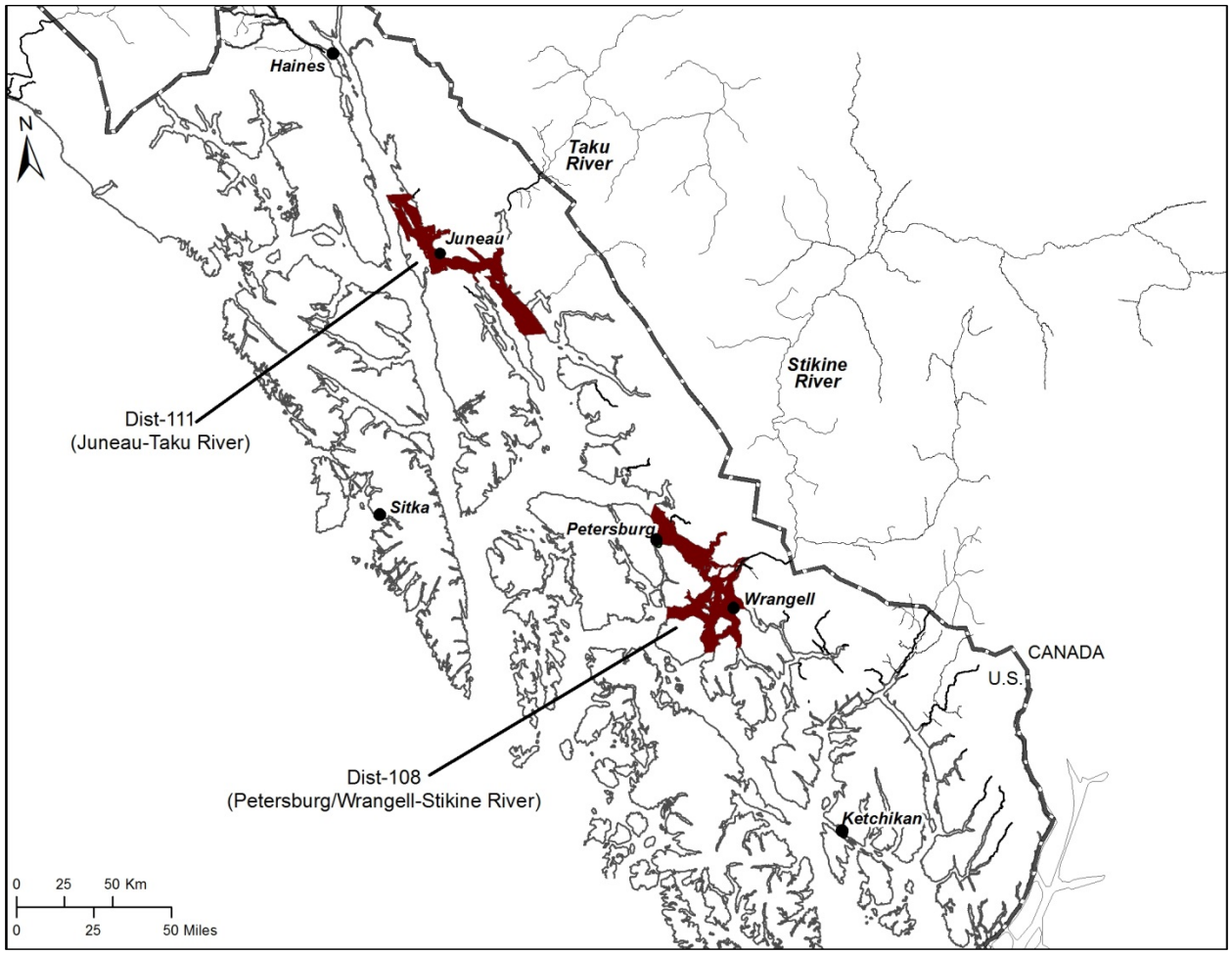

Figure 12.–Directed fishery areas in Southeast Alaska for king salmon when an allowable catch exists in District 8 or District 11 rivers based on preseason forecasts and inseason projections of the Stikine and Taku river stocks of king salmon.

STIKINE RIVER

The Stikine River is a TBR glacial system that supports an "outside-rearing" stock of king salmon (i.e., a stock that rears and matures mostly outside SEAK marine waters). The Stikine River originates in British Columbia and flows into central SEAK near the towns of Petersburg and Wrangell, and it is the largest river flowing into Southeast Alaska. Wild juvenile king salmon have been coded-wire-tagged since 2000 to estimate smolt and adult production and harvest rates. Since 2007, U.S. harvest has mostly occurred in the commercial troll fishery (44%), followed by the commercial gillnet fishery (36%) and sport fisheries (20%). Since 2007, the average harvest rate on the Stikine River king salmon run over all fisheries has been 37% of which the U.S. and Canada account for 21% and 16%, respectively.

A biological escapement goal (BEG) range of 14,000–28,000 large king salmon was established for the Stikine River in 2000 (Bernard et al. 2000) and escapements were within the BEG range from 2010 to 2015 (Heinl et al. 2014) and below the BEG range in 2016 and 2017 (Heinl et al. 2017).

The sport harvest of large Stikine River king salmon in 2012, 2013, 2014, 2015, and 2016 was 708, 1,112, 697, 988, and 825, respectively, with an average over the same period of 866; all of these harvests were significantly lower than the average harvest of 2,636 fish taken during the first three years of directed fishing (2005–2007). From 2012 to 2014, the Stikine River king salmon preseason forecasts projected runs that would support an allowable catch and a directed fishery in two of the last six years. Stikine River area sport fishery management measures taken to conserve Stikine River king salmon from 2012 to 2017 are in Table 14.

Despite good conditions in 2017 and after 20 consecutive years of successful mark–recapture estimates on the Stikine River, insufficient numbers of fish were tagged and ultimately recovered to produce a reliable estimate in 2017. A catch-per-unit-effort model projected escapement of less than 10,000 large fish, which was well below the escapement goal range of 14,000 to 28,000. Counts through a weir operated on the Little Tahltan River in the upper Stikine River drainage were 538 large fish, which was below the recent 10-year average of 1,100 large fish and well below the average of 4,600 large fish seen since 1985. Available information suggests the 2017 run was the lowest on record with detailed information dating back to 1975.

Table 14.–Stikine River area sport fishery management measures, sport harvest, and escapement of Stikine River king salmon, 2012–2017.

Year	Petersburg–Wrangell Area sport fishery management actions for Stikine River king salmon	District 8 king salmon sport harvest	Stikine River king sport harvest		Stikine River king escapement (age 1.3 and older) [c]
			District 8 [a]	Remainder of SEAK [b]	
2012	The preseason forecast indicated an allowable catch was present; in accordance with the management plan the following directed king salmon regulations in District 8 were established: resident bag limit 3 fish ≥28 inches, possession limit 6; nonresident bag and possession limit of 2 fish ≥28 inches, annual limit 6; two rods per angler May 1 through June 3 (EO 1-KS-C-05-12). Inseason information indicated an allowable catch was no longer present but the BEG would be met requiring that directed District 8 king salmon regulations be rescinded, reverting District 8 regulations back to the following regional king salmon regulations on June 4: resident bag and possession limit of 3 fish ≥28 inches; nonresident bag and possession 1 fish ≥28 inches with an annual limit of 4 (EO 1-KS-C-14-12). Updated inseason information indicated an allowable catch was once again present and the directed fishing regulations were reestablished in District 8 from June 22 through July 15 (EO 1-KS-C-17-12).	1,396	608	100	22,327 [d]
2013	Since the preseason forecast indicated no allowable catch was present but the BEG would be met, the following regional king salmon regulations applied in District 8: bag and possession limit of 1 fish ≥28 inches; nonresident harvest limit of 3 fish ≥28 inches through June 30, 2 fish ≥28 inches July 1 through July 15; and 1 fish ≥28 inches July 16 through December 31; and two rods for resident anglers October through March (EO 1-KS-R-2-13).	1,297	636	476	16,783 [d]
2014	Since the preseason forecast indicated no allowable catch was present but the BEG would be met, the following regional king salmon regulations applied in District 8: resident bag and possession limit of 3 fish ≥28 inches; nonresidents bag and possession limit of 1 fish ≥28 inches except in May and June the nonresident bag and possession limit was 2 fish ≥28 inches, nonresident annual limit of 6 fish; and two rods October through March for all anglers (EO 1-KS-R-03-14)..	1,968	697	0	24,366 [d]
2015	The preseason forecast indicated an allowable catch was present; in accordance with the management plan the following directed king salmon regulations were established in District 8 from May 1 through July 15: resident bag limit 3 fish ≥28 inches, possession limit 6. Nonresident bag limit 2 fish ≥28 inches, possession limit 6.	1,739	781	207	21,597 [d]

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Table 14.–Page 2 of 2.

Year	Petersburg–Wrangell Area sport fishery management actions for Stikine River king salmon	District 8 king salmon sport harvest	Stikine River king sport harvest		Stikine River king escapement (age 1.3 and older) [c]
			District 8 [a]	Remainder of SEAK [b]	
	The preseason forecast indicated an allowable catch was present; in accordance with the management plan the following directed king salmon regulations were established May 1 through June 1 in District 8: resident bag limit 3 fish ≥28 inches, possession limit 6; nonresident bag limit 2 fish ≥28 inches, possession limit 6.				
2016	Inseason data indicated an allowable catch was no longer present but the BEG would be met requiring that directed District 8 king salmon regulations be rescinded reverting District 8 regulations back to the following regional king salmon regulations: resident bag and possession limit of 3 fish ≥28 inches, nonresident bag and possession of 2 fish during May and June, 1 fish bag and possession for the remainder of the year, annual limit of 6.	1,442	438	387	10,343 [d]
2017	The preseason forecast indicated no allowable catch was present and lower end of the BEG was unlikely to be met unless harvest of Stikine River king salmon was reduced. To reduce harvest, the District 8 bag and possession limit was reduced to 1 king salmon ≥ 28 inches for all anglers and nonresident annual limit of 3 king salmon ≥28 inches was enacted from May 1 through July 15 (EO 1-KS-C-7-17). Inseason information then indicated the BEG was not likely to be achieved. Further conservative management action was taken by closing a portion of District 8 from May 25 through July 15 to the fishing for king salmon (EO 1-KS-C-14-17).	655 [e]	139	394	10,000 [d]

[a] Based on GSI sampling.

[b] Based on CWT recoveries and expansions.

[c] The Stikine River king salmon BEG is 14,000–28,000 large (age 1.3 and older) fish.

[d] Preliminary estimate.

[e] Preliminary creel harvest estimate subject to postseason data processing.

TAKU RIVER

The Taku River is a TBR glacial system that supports an outside-rearing stock of king salmon. The Taku River originates in British Columbia and drains over 17,000 square kilometers before its terminus at Taku Inlet approximately 40 km northeast of Juneau. Starting in 2005, during years of surplus production to the Taku River, directed king salmon fisheries were allowed in the marine waters in District 11 near Juneau and in Canada. Wild juvenile king salmon were coded-wire-tagged from 1976 to 1981 and from 1993 to present.

Since 2007, U.S. harvest has mostly occurred in the commercial troll fishery (67%), followed by the sport fishery (20%) and the commercial gillnet fishery (13%). Since 2007, the average harvest rate on the Taku River king salmon runs over all fisheries has been 26% of which the U.S. and Canada account for 16% and 10%, respectively.

Juneau Area sport fishery management measures taken to conserve Taku River king salmon from 2012 to 2017 are in Table 15.

In 2000, a BEG range of 30,000–55,000 large fish was established for the Taku River stock of king salmon in 2000. The board adopted a new BEG range of 19,000 to 36,000 large spawners in 2009 after the analysis was updated using more recent data (McPherson et al. 2010). Escapements were above the lower bound of the BEG range from 2009 to 2012 and 2014 to 2015 but were below the BEG range in 2013, 2016 and 2017 (Heinl et al. 2017). Available information suggests the 2017 run was the lowest on record with detailed information dating back to 1973.

ALSEK RIVER

The Alsek River is a TBR glacial system that originates in southwestern Yukon and northwestern British Columbia and flows into the Gulf of Alaska about 80 km southeast of Yakutat. The Alsek River supports an outside-rearing stock of king salmon. Canadian sport and Aboriginal king salmon fisheries operate in the upper drainage and some bycatch occurs in Alaska in the directed sockeye salmon fisheries in the lower Alsek River. Unlike the other 10 SEAK indicator stocks in which escapement estimates or counts are germane to large fish, the Alsek River king salmon estimates include ocean-age-2 (4-year old) fish.

The BEG range of 800–1,200 king salmon is based on a weir count and subsequent escapement seen in the Klukshu River, an upriver tributary of the Alsek River. Using the relationship seen between inriver runs to the Klukshu and Alsek rivers, an expansion factor of 4.0 was developed that equates to a drainagewide BEG range of 3,500–5,300 king salmon (Bernard and Jones III 2010). In 2017–2018, the escapement goal review committee will recommend that the board eliminate the Klukshu River king salmon BEG range and replace it with the Alsek River king salmon drainagewide BEG range based on the following logic: 1) the Klukshu River BEG range is redundant with the Alsek River drainagewide BEG range, and 2) escapement performance for the Alsek River, as with all other SEAK king salmon stocks, has been reported to the Pacific Salmon Commission in terms of total drainagewide escapement.

Table 15.–Taku River area sport fishery management measures, sport harvest, and escapement of Taku River king salmon, 2012–2017.

Year	Juneau Area sport fishery management actions for Taku River king salmon	Taku River king sport harvest		Taku River king escapement (age 1.3 and older)
		District 11 [a]	Remainder of SEAK [b]	
	The preseason forecast indicated an allowable catch was present, in accordance with District 11 king salmon sport fishery regulations the following king salmon regulations were established April 25 through June 30 in District 11: resident bag and possession limit of 3 fish ≥28 inches; nonresident bag and possession limit of 2 fish ≥28 inches, annual limit 5; two rods per angler (EO 1-KS-E-03-12).			
2012	By late May inseason information indicated that the BEG would not be achieved and the liberalized sport fishing regulations based on an allowable catch were no longer justified and therefore were rescinded June 1 (EO 1-KS-E-13-12).	671	0	19,538 [c]
	From June 1 through August 31, a bag and possession limit of 4 king salmon with no size or annual limit was established in a designated sport harvest area to provide increased opportunity for king salmon in excess of hatchery broodstock requirements (EO 1-KS-E-10-12).			
	The following regional king salmon regulations applied in the Juneau Area including District 11: bag and possession limit of 1 fish ≥28 inches; nonresident harvest limit of 3 fish ≥28 inches through June 30, 2 fish ≥28 inches July 1 through July 15; and 1 fish ≥28 inches July 16 through December 31; and two rods for resident anglers October through March (EO 1-KS-R-2-13).			
2013		257	0	18,002 [c]
	From June 1 through August 31, a bag and possession limit of 4 king salmon with no size or annual limit was established in a designated sport harvest area to provide increased opportunity for king salmon in excess of hatchery broodstock requirements (EO 1-KS-E-7-13)			

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Table 15.–Page 2 of 3.

Year	Juneau Area sport fishery management actions for Taku River king salmon	Taku River king sport harvest		Taku River king escapement (age 1.3 and older)
		District 11 [a]	Remainder of SEAK [b]	
2014	The following regional king salmon regulations applied in the Juneau Area including District 11: resident bag and possession limit of 3 fish ≥28 inches; nonresident bag and possession limit of 1 fish ≥28 inches except in May and June; the nonresident bag and possession limit was 2 fish ≥28 inches, nonresident annual limit of 6 fish; and two rods October through March for all anglers (EO 1-KS-R-03-14). From June 1 through August 31, a bag and possession limit of 4 king salmon with no size or annual limit was established in a designated sport harvest area to provide increased opportunity for king salmon in excess of hatchery broodstock requirements (EO 1-KS-E-9-14).	714	0	23,532 [c]
2015	The preseason forecast indicated no allowable catch was present and unless harvest of Taku River king salmon was reduced it was unlikely the BEG would be achieved. To reduce harvest, the bag and possession limit for District 11 was reduced to 1 king salmon ≥28 inches for all anglers with an nonresident annual limit of 3 king salmon ≥28 inches from April 4 through June 30 and king salmon north of a line from Cooper Point to the mouth of Dorothy Creek could not be retained until after July 1 (EO 1-KS-E-4-15). From June 1 through August 31 a bag and possession limit of 4 king salmon with no size or annual limit was established in a designated sport harvest area to provide increased opportunity for king salmon in excess of hatchery broodstock requirements (EO 1-KS-E-13-15)	463	308	28,827 [c]

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Table 15.–Page 3 of 3.

Year	Juneau Area sport fishery management actions for Taku River king salmon	Taku River king sport harvest		Taku River king escapement (age-1.3 and older)
		District 11 [a]	Remainder of SEAK [b]	
	The preseason forecast indicated unless harvest of Taku king salmon was reduced it was unlikely the BEG would be achieved. To reduce harvest, the bag and possession limit for District 11 and District 15 south of Sherman Rock was reduced to 1 king salmon ≥28 inches for all anglers from April 15 through June 30 and king salmon north of a line from Cooper Point to the mouth of Dorothy Creek could not be retained until after July 1 (EO 1-KS-E-4-16).			
2016	Inseason information then indicated the BEG was not likely to be achieved. Further conservative management action was taken by closing a portion of District 11 from June 4 through June 30 to the retention of king salmon (EO 1-KS-E-18-16).	635	0	12,381 [c]
	From June 1 through August 31 a bag and possession limit of 4 king salmon with no size or annual limit was established in a designated sport harvest area to provide increased opportunity for king salmon in excess of hatchery broodstock requirements (EO 1-KS-E-13-16).			
2017	The preseason forecast indicated that unless harvest of Taku River king salmon was reduced it was unlikely the BEG would be achieved. To reduce harvest sport fishing for king salmon in District 11, Sections 12 B and 15 C was closed form April 15 through June 14 (EO 1-KS-E-6-17).	34 [d]	0	7,000 [c]

[a] Sport harvest includes terminal D111 based on GSI.

[b] Sport harvest outside terminal D111 based on CWT. If no CWT were recovered then 0 was entered.

[c] Preliminary estimate.

[d] Preliminary creel harvest estimate subject to post season data processing.

UNUK RIVER

The Unuk River is a glacial river originating in British Columbia that flows into the northeast corner of Behm Canal, 85 km north of Ketchikan. Historically, the Unuk River is the fourth largest producer of king salmon in SEAK (Pahlke 2010). Unuk River king salmon are caught in the sport fishery throughout the marine waters of SEAK, primarily in the Ketchikan Management Area. The department conducts an annual stock assessment of Unuk River king salmon and expanded peak aerial survey counts are used to estimate total escapement.

The current BEG range of 1,800–3,800 large spawners was established in 2009, based on a stock-recruit analysis of the 1982 to 2001 brood years (Hendrich et al. 2008). This stock has experienced some of the sharpest declines in production (Heinl et al. 2017). Escapement goals were met for 35 consecutive years, but since 2012, the lower bound of the BEG range has been missed in 5 out of 6 years (Heinl et al. 2017), justifying the department's recommendation in 2017 that this stock be considered a stock of concern for management purposes. Current sport fishing regulations protect Unuk River king salmon with a year-round closure to salmon fishing in northern Behm Canal and contiguous bays, and with a limited salmon fishing season in southern Behm Canal from August 15 to April 30.

Given poor escapement projections in 2016 and 2017, management measures were implemented in the Ketchikan spring sport fishery in an effort to reduce the harvest of Unuk River king salmon (EO 1-KS-A-05-14). In addition, the area of northern Behm Canal already closed to sport salmon fishing was expanded in size from May 27 to June 30. Further, the west Behm Canal king salmon bag and possession limit was reduced to one fish from May 27 to June 30, and liberalization of king salmon regulations in the Herring Bay Sport Terminal Harvest Area was postponed until July 1. Information suggests the sport fishery harvests about 5% of the Unuk River run annually. However, conservative management measures were implemented beginning in 2014 that essentially cut the sport fish harvest rates in half (2.5%). Ketchikan Area sport fishery management measures taken to conserve Unuk River king salmon from 2012 to 2017 are in Table 16. Since 2007, the average harvest rate of Unuk River king salmon runs by all fisheries has been 41%, of which the U.S. commercial troll and net fisheries account for 26% and 10%, respectively, and the U.S. sport fishery takes 5%.

BLOSSOM, KETA, AND CHICKAMIN RIVERS

The Blossom, Keta, and Chickamin river systems empty into east Behm Canal where near-terminal waters are closed to all fishing year round and there are no directed fishing efforts on these stocks. Escapements are monitored by aerial and foot surveys and each of these stocks have BEG ranges (Heinl et al. 2017). The BEG ranges in these systems are indices of spawning abundance based on peak observer index counts. In the Chickamin River, the BEG is 450 to 900 large index spawners (McPherson and Carlile 1997) and in the Blossom and Keta rivers, the BEGs are 150–300 and 175–400 large index spawners (Fleischman et al. 2011), respectively. From 1999 to 2015, the BEGs were met most of the time; however, in 2016 and 2017, the Blossom and Chickamin River stocks of king salmon failed to attain the lower bound of the BEG range. The one bright spot for king salmon escapement goal performance in SEAK is the Keta River stock which has attained the lower bound of the BEG range every year since 1976. There are no deliberate management actions taken to reduce harvest rates on these stocks, although actions taken to protect the Unuk River stock and other stocks in the region, inevitably protect these stocks.

Table 16.–Ketchikan Area sport fishery management measures, sport harvest, and escapement of Unuk River king salmon, 2012–2017.

Year	Ketchikan Area sport fishery management actions for Unuk River king salmon	Ketchikan total king salmon sport harvest [a]	Unuk River king sport harvest		Unuk River king escapement (age 1.3 and older) [d]
			Ketchikan [b]	Remainder of SEAK [c]	
2012	Regionwide regulations applied: resident bag and possession limit of 3 king salmon and a nonresident bag and possession limit 1 king salmon ≥28 inches, except during May when the bag and possession limit was 2 king salmon ≥28 inches; nonresident annual limit of 4 king salmon (EO 1-KS-R-2-12). The Ketchikan Sport Terminal Harvest Area opened by regulation and Neets Bay Terminal Harvest Area was also opened: June 1–July 31, bag and possession limit of 6 king salmon any size, no nonresident annual limit (EO 1-KS-A-12-12).	3,879	217	32	956 [e]
2013	Regionwide regulations applied: bag and possession limit of 1 king salmon ≥28 inches. Nonresident annual harvest limit: 3 king salmon ≥28 inches January 1 through June 30; 2 king salmon ≥28 inches July 1 through July 15; 1 king salmon ≥28 inches July 16 through December 31 (EO 1-KS-R-2-13). The Ketchikan Sport Terminal Harvest Area opened by regulation and Neets Bay Terminal Harvest Area was also opened: June 1 through July 31, bag and possession limit of 6 king salmon any size, no nonresident annual limit (EO 1-KS-A-6-13).	9,410	102	30	1,135 [e]
2014	Northern Behm Canal was closed to salmon fishing May 27 through June 30. West Behm Canal was reduced to one king salmon for all anglers with a nonresident annual limit of 6 king salmon from May 27 through June 30. The Ketchikan Sport Terminal Harvest Area was postponed until July 1 (EO 1-KS-R-5-14). Small terminal areas within Herring Bay and Neets Bay were opened June 1–July 31, with a bag and possession limit of 6 king salmon any size; no nonresident annual limit (EO 1-KS-R-6-14).	12,040	21	81	1,691 [e]

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Table 16.–Page 2 of 2.

Year	Ketchikan Area sport fishery management actions for Unuk River king salmon	Ketchikan total king salmon sport harvest [a]	Unuk River king sport harvest		Unuk River king escapement (age1.3 and older) [d]
			Ketchikan [b]	Remainder of SEAK [c]	
2015	Northern Behm Canal was closed to salmon fishing May 26 through July 15. West Behm Canal king salmon bag and possession limits were reduced to one king salmon for all anglers with a nonresident annual limit of 6 king salmon from May 26 through June 30. The Ketchikan Sport Terminal Harvest Area was postponed until July 1 (EO 1-KS-A-9-15) and regionwide regulations implemented from June 1 through June 30 with resident bag and possession limit of 3 king salmon; nonresident bag and possession limit of 2 king salmon, annual limit of 6 king salmon (EO 1-KS-R-8-15). A small terminal area within Herring Bay was opened June 1 through July 31, with a bag and possession limit of 6 king salmon any size; no nonresident annual limit (EO 1-KS-A-9-15).	9,939	47	32	2,623 [e]
2016	Northern Behm Canal was closed to salmon fishing May 24 through June 30. West Behm Canal king salmon bag limit was reduced to one fish for all anglers with a nonresident annual limit of 6 king salmon mirroring the regional nonresident annual limit from May 24 through June 30. The Ketchikan Sport Terminal Harvest Area opened by regulation with a bag and possession limit of 6 king salmon any size; no nonresident annual limit (1-KS-A-07-16).	5,502	0	161	1,463 [e]
2017	Northern Behm Canal and east Behm Canal closed to salmon fishing April 1 through August 14. West Behm Canal was reduced to one king salmon for all anglers with a nonresident annual limit of three king salmon from April 1 through August 14. The Ketchikan Sport Terminal Harvest Area was restricted April 1 through June 30 to a one king salmon bag and possession limit for all anglers with a nonresident annual limit of three king salmon. A small terminal area within Herring Bay was opened June 1 through July 31, with a bag and possession limit of six king salmon any size; no nonresident annual limit (EO 1-KS-A-8-17).	10,800 [e]	0	0	1,203 [e]

[a] SWHS final estimates for 2012–2016.

[b] The Unuk River sport harvest estimates provided for the Ketchikan Area are analogous to the sport harvest estimates for the SE quadrant in 2013–2017. All the tag recoveries from the SE quadrant occurred in the Ketchikan Area except one fish was recovered in Petersburg in 2012. The harvest estimates for 2012 were refined to separate Ketchikan from the remainder of SEAK.

[c] The Unuk River sport harvest estimates for the remainder of SEAK is the sum of the sport harvest estimates for the NE, NW, and SW quadrants.

[d] The Unuk River king salmon escapement goal range is 1,800–3,800 large fish (≥660 mm mid eye to fork length).

[e] Preliminary estimate.

ANDREW CREEK

Andrew Creek is a clearwater tributary that flows into the lower Stikine River in the U.S. and supports a mostly "inside-rearing" stock (i.e., a stock that rears and matures mostly within the SEAK marine waters) of king salmon. Harvests of immature and mature Andrew Creek fish occur primarily in SEAK and to a small extent in northern British Columbia fisheries, based on coded wire tag recoveries of king salmon from SEAK hatcheries that use Andrew Creek brood stock.

The BEG range of 650–1,500 large spawners was established for Andrew Creek in 1998, based on a stock–recruit analysis (Clark et al. 1998). This stock experiences higher exploitation rates in years when directed fishing is allowed for Stikine River fish. Escapements were below the lower bound of the BEG range in 2012, 2016, and 2017 (Heinl et al. 2017). Management actions taken to protect the Stikine River king salmon also protect returns to Andrew Creek (Table 14).

KING SALMON RIVER

The King Salmon River is a clearwater system located on Admiralty Island, southeast of Juneau, Alaska, that supports a mostly inside-rearing stock of king salmon. This stock does not support directed fisheries but is harvested incidentally in marine waters in sport and commercial fisheries.

The current BEG range of 120–240 large spawners was established in 1997, based on a stock–recruit analysis of the 1971 to 1991 brood years (McPherson and Clark 2001). Escapements of king salmon to the King Salmon River have been below the lower bound of the escapement goal range in 4 of the past 5 years (2013–2017; Heinl et al. 2017), justifying the department's recommendation that this stock be considered a stock of concern for management purposes. There are no deliberate management actions taken to reduce harvest rates on this stock, although actions taken to protect the Taku and Stikine River stocks and other stocks in the region inevitably protect this stock (Tables 14 and 15).

CHILKAT RIVER

The Chilkat River is a glacial system located near Haines, Alaska that supports a mostly inside-rearing stock. A relatively small terminal marine sport fishery in Chilkat Inlet targets this stock, which is also harvested incidentally in mixed-stock sport, and commercial drift gillnet and troll fisheries primarily in northern SEAK. The Chilkat River stock is also harvested incidentally in Chilkat Inlet and Chilkat River subsistence fisheries. Chilkat Inlet fisheries that harvest this stock are managed according to the *Lynn Canal and Chilkat River King Salmon Fishery Management Plan* (5 AAC 33.384) to achieve escapements within the BEG range.

The current BEG range of 1,750–3,500 large spawners was established in 2003, based on a stock–recruit analysis (Ericksen and McPherson 2004). In 2003, the Alaska Board of Fisheries also adopted an inriver goal of 1,850–3,600 large fish (5 AAC 33.384) to account for incidental harvest of Chilkat River king salmon in the Chilkat River subsistence fishery. Harvest rates on ≥age-1.2 Chilkat River king salmon have been low and averaged 25% during the most recent 10-year period, across all fisheries. Preliminary results suggest the harvest rate in 2017 was 11%. Over the past 10 years, an average 46% of the annual harvest occurred in net fisheries, 28% in troll fisheries, and 26% in sport fisheries.

Escapements have been below the lower bound of the goal range in five out of six consecutive years from 2012 to 2017, and escapements in 2016 and 2017 were the lowest recorded since stock assessment projects were initiated in 1991, justifying the department's recommendation that this stock be considered a stock of concern for management purposes (Heinl et al. 2017). Prior to 2008, king salmon sport fishing in Taiya Inlet was managed to exploit hatchery-produced king salmon returning to Pullen Creek, with allowed retention of king salmon less than 28 inches total length, increased bag limits, and provided an exemption from nonresident annual limits. Because coded wire tag recoveries showed rearing Chilkat River king salmon were harvested in Taiya Inlet, the retention of king salmon less than 28 inches total length has not been allowed since 2007, and king salmon bag and possession limits and nonresident annual limits in Taiya Inlet have not been increased above regional limits since 2011.

From 2012 to 2014, the Chilkat River king salmon preseason forecasts projected runs that would support Lynn Canal harvests and would meet or exceed the inriver abundance goal range. Inseason data from each of these years, available in early July from the inriver escapement estimation project, indicated projected abundance at or below the lower end of the BEG range. Haines and Skagway Area sport fishery management measures taken to conserve Chilkat River king salmon from 2012 to 2017 are listed in Table 17.

SITUK RIVER

The Situk River is a clearwater system located near Yakutat, Alaska, that supports an outside-rearing stock of king salmon. Situk River king salmon are harvested in sport, commercial, and subsistence fisheries located inriver and in the Situk-Ahrnklin Inlet. Fisheries that target this stock are managed according to the *Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan* (5 AAC 30.365) to achieve escapements within the BEG range. Escapement estimates are based on weir counts minus any upstream sport fishery harvests, which are estimated from an on-site creel survey and a postseason mail-out survey. The weir has been operated annually since 1976, and was also operated from 1928 to 1955.

The current BEG goal range of 450–1,050 large spawners was established in 2003, based on an updated stock–recruit analysis (McPherson et al. 2005). Escapements were below the BEG range 2012, 2015 and 2016 but the lower bound of the BEG was achieved 2013, 2014, and 2017 (Heinl et al. 2017). Yakutat Area sport fishery management measures taken to conserve Situk River king salmon from 2012 to 2017 are in Table 18.

Table 17.–Haines–Skagway Area sport fishery management measures, sport harvest, and escapement of Chilkat River king salmon, 2012–2017.

Year	Haines–Skagway Area sport fishery management to conserve Chilkat River king salmon	SEAK sport harvest of Chilkat king salmon		Chilkat large king salmon escapement
		Early (May-July)	Late (August)	
2012	Extended the northern Chilkat Inlet area closed to king salmon fishing July 16 through July 31. In the remainder of Chilkat Inlet, bag & possession limit reduced to 1 king salmon ≥28 inches July 16 through July 31(EO 1-KS-F-22-12).	193	49	1,723 [a]
2013	Extended the northern Chilkat Inlet area closed to king salmon fishing July 16 through July 31(EO 1-KS-F-18-13)..	135	0	1,719 [a]
2014	Closed northern Chilkat Inlet to king salmon fishing July 16 through July 31 by regulation.	287	22	1,529 [a]
2015	Closed all of Chilkat Inlet to king salmon fishing April 15 through July 15. In the remainder of District 15, bag and possession limit reduced to 1 king salmon ≥28 inches April 15–December 31 (EO 1-KS-F-5-15).	109	0	2,452 [a]
2016	Closed all of Chilkat Inlet to king salmon sport fishing April 15 through July 15. In the remainder of Section 15-A, bag and possession limit reduced to 1 king salmon ≥28 inches April 15–December 31 (EO 1-KS-F-5-16). In Sections 15-B and 15-C, bag and possession limit reduced to 1 king salmon ≥28 in. April 15–June 30 (EO 1-KS-E-4-16).	0	103	1,380 [a]
2017	Closed all of Chilkat Inlet to king salmon sport fishing April 15 through July 15. Section 15-A, Lynn Canal north of the latitude of Sherman Rock, king salmon retention prohibited April 15 through December 31 (EO 1-KS-F-5-17). In Sections 15-B and 15-C, closed to king salmon fishing April 15 through June 15 (EO 1-KS-E-0-17).	44	0	1,231 [a]

Note: The Chilkat River king salmon escapement goal range is 1,750–3,500 large (age-1.3 and older) fish.

[a] Preliminary estimate.

Table 18.–Yakutat Area sport fishery management measures, sport harvest, and escapement of Situk River king salmon, 2012–2017.

Year	Yakutat Area sport fishery management actions for Situk River king salmon	Situk River king salmon sport harvest [a]	Situk River king salmon escapement (age-1.3 and older) [b]
2012	The preseason forecast for large king salmon on the Situk River was predicted to be 500 fish. In accordance with the management plan, the department closed the sport fishery for king salmon 20 inches or greater in length in the Situk River drainage to help achieve escapement. Additionally, king salmon 20 inches or greater in length caught while angling for other fish had to remain in the water and be released immediately (EO 1-KS-H-8-12).	0	322
2013	The preseason forecast for large king salmon on the Situk River was predicted to be 475 fish. In accordance with the management plan, the department closed the sport fishery for king salmon 20 inches or greater in length in the Situk River drainage to help achieve escapement. Additionally, king salmon 20 inches or greater in length caught while angling for other fish had to remain in the water and be released immediately (EO 1-KS-H-4-13). The Situk River weir count as of July 14 was 743 large king salmon, which is within the escapement goal range. Escapement projections indicate the achievement of escapement above the midpoint of the escapement goal range, after considering additional harvest. The retention of king salmon 20 inches or greater in length was allowed below the weir under existing regulations, with a bag and possession limit of one fish (EO 1-KS-H-20-13).	70 [c]	912
2014	The preseason forecast for large king salmon on the Situk River was predicted to be 500 fish. In accordance with the management plan, the department closed the sport fishery for king salmon 20 inches or greater in length in the Situk River drainage to help achieve escapement. Additionally, king salmon 20 inches or greater in length caught while angling for other fish had to remain in the water and be released immediately (EO 1-KS-H-8-14).	89 [c]	475

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Table 18.–Page 2 of 2.

Year	Yakutat Area sport fishery management actions for Situk River king salmon	Situk River king salmon sport harvest [a]	Situk River king salmon escapement (age-1.3 and older) [b]
2015	The preseason forecast for large king salmon on the Situk River was predicted to be 600 fish. In accordance with the management plan, the department prohibited the retention of king salmon in the sport fishery 20 inches or greater in length in the Situk River drainage to help achieve escapement. Additionally, king salmon 20 inches or greater in length caught while angling for other fish had to remain in the water and be released immediately (EO 1-KS-H-10-15). The Situk River weir count as of July 9 was only 99 large king salmon, indicating the escapement goal may not be reached. Effective July 11, 2015, the department closed the Situk River to sport fishing for king salmon and any king salmon caught incidentally had to remain in the water and be released immediately (EO 1-KS-H-17-15).	0	174
2016	The preseason forecast for large king salmon on the Situk River was predicted to be 684 fish. In accordance with the management plan and considering recent small escapements, the department closed the sport fishery for king salmon in the Situk River drainage. Any king salmon caught incidentally had to remain in the water and be released immediately (EO 1-KS-H-11-16).	0	329
2017	The preseason forecast for large king salmon on the Situk River was predicted to be 500 fish. In accordance with the management plan and considering recent small escapements, the department closed the sport fishery for king salmon in the Situk River drainage. Any king salmon caught incidentally had to remain in the water and be released immediately (EO 1-KS-H-4-17). Effective July 10, 2017, the department increased the area closed to sport fishing on the Situk River by relocating the ADF&G regulatory marker approximately 2,100 feet downstream of the weir. This action was taken to taken to further protect king salmon staging in several pools downstream of the weir. This emergency order was rescinded on August 4th, 2017 because the midpoint of the BEG had been achieved (EO 1-KS-H-26-17).	0	1,187

[a] Situk River king salmon harvest only includes harvest occurring in the Situk River and is obtained from the Statewide Harvest Survey (SWHS).

[b] The Situk River king salmon BEG is 450–1,050 large (age-1.3 and older) fish.

[c] Harvest reported to the SWHS as small king salmon, less than 20 inches in length.

KING SALMON MANAGEMENT ISSUES AND BOARD PROPOSALS

The board received six proposals for consideration at the January 2018 meeting that, if adopted, would modify management of the king salmon sport fishery in SEAK. One would set king salmon regulations for Districts 11, 12, 14, and 15 based on the preseason forecast of Taku River king salmon; one would increase the area closed downstream of the Situk River weir; two seek modification of resident possession limits and the use of two rods under the *Southeast Alaska King Salmon Management Plan*; one would expand the Herring Bay Sportfish Terminal Harvest Area; and one seeks to simplify Sitka Sound Special Use Area fresh water king salmon regulations.

TAKU RIVER

Proposal 132 seeks to establish king salmon sport fishing bag limits and closed waters in Districts 11, 12, 14, and 15 from April 15 to June 30 based on the preseason forecast of large Taku River king salmon.

SITUK RIVER

Proposal 136 seeks to increase the area closed downstream of the Situk River from 100 yards to 300 yards for June and July, unless the lower bound of the escapement goal was reached prior to the end of July at which time it would revert back to 100 yards.

SOUTHEAST ALASKA KING SALMON MANAGEMENT PLAN

Proposal 137 would increase the regional resident king salmon possession limit from three fish to six fish when the Southeast Alaska Area preseason king salmon abundance index is greater than 2.0.

Proposal 138 would allow sport fish anglers to retain other salmon species while using two rods to fish for king salmon.

HERRING BAY SPORTFISH TERMINAL HARVEST AREA

Proposal 148 would expand the Herring Bay Sportfish Terminal Harvest Area to include portions of statistical areas 101-25 and 101-29 and the remaining portion of 101-27. In addition, this proposal would implement a bag limit of two king salmon for residents and nonresidents in the expanded area, and king salmon harvested in this area would not count toward the nonresident annual limit.

SITKA SOUND SPECIAL USE AREA

Proposal 197 would simplify current freshwater sport fishing regulations for king salmon in freshwater drainages of the Sitka Sound Special Use Area by removing size-specific bag and possession limits and allowing for 10 king salmon of any size to be harvested.

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APPENDIX A: HISTORY OF KING SALMON MANAGEMENT IN SOUTHEAST ALASKA

Prior to 1992, the sport fishery for king salmon was managed using general regionwide regulations to conserve wild stocks and to provide an opportunity to harvest Southeast Alaska (SEAK) wild and hatchery stocks. Bag limits were established by emergency order and ranged from two to three fish whereas length limits ranged from a no size limit to a 28-inch minimum size requirement.

Sport fisheries in SEAK were monitored primarily by creel survey programs that provided inseason and early postseason effort, harvest, and hatchery contribution estimates by fishery. Final harvest estimates were obtained in approximately late June of the following year from the Statewide Harvest Survey (SWHS). The SWHS is a postal survey sent to a random sample of license holders, and since it is a mail-out survey, multiple mailings and the time it takes to process submitted information means that results are delayed. Creel surveys were conducted in Juneau from 1980 to 1999, in Ketchikan from 1985 to 1991, and in Petersburg and Wrangell from 1983 to 1989. In 1986, surveys were initiated in Sitka with support from U.S. and Canadian 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 (CWTs) in 1990 in Sitka and in 1991 in Petersburg, Wrangell, and Sitka.

Sport harvest of king salmon was fairly stable from 1985 to 1988, averaging about 24,500 fish (including Alaska hatchery fish)[1]. 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 Prince of Wales Island (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 CWT 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 total harvest 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 five years (22,283 treaty king salmon). This trend continued in 1991, when the sport treaty harvest increased to 45,144. Due to the rapid rise in king salmon sport harvests, the Alaska Trollers Association submitted a request to the Alaska Board of Fisheries (board) in November 1991 to allocate a fixed percentage of the harvest limit to the troll fleet and establish an allocation for the sport fishery. The board subsequently met in 1992 and provided an allocation to the sport fishery of 17% of the harvest limit after subtracting the net allocation of 20,000 fish. At the same time, the board also adopted the *Southeast Alaska King Salmon Management Plan* (5AAC 47.055.), which directed the Alaska Department of Fish and Game (department) 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.

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[1] Alaska Sport Fishing Survey database [Intranet]. 1996– . Anchorage, AK: Alaska Department of Fish and Game, Division of Sport Fish (cited December, 2014). Available from: https://intra.sf.adfg.state.ak.us/swhs_est/.

The objectives of the *Southeast Alaska King Salmon Management Plan* were as follows: 1) allow uninterrupted sport fishing in marine waters for king salmon while not exceeding the allocation and, 2) minimize regulatory restrictions on unguided anglers, who harvest king salmon at a lower CPUE than do guided anglers fishing from charter vessels. Under the plan, limits of two king salmon per day, two 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.

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 (converted to a catch sampling program in 1993 to provide better stock composition estimates). CWTs were recovered during creel surveys and by voluntary programs at remote lodges scattered throughout the region to estimate the contribution of Alaska hatchery stocks.

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

1) harvest timing data for the king 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 king salmon fishery occurred 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 king salmon was also determined every week and compared with past averages to assess current year performance of the fishery.

Appendix A2.–Management of the sport fishery under the original *Southeast Alaska King Salmon Management Plan*—1992–1993.

Overview of Management Decisions—1992

In 1992, the preseason harvest forecast exceeded the 7.5% management range. Therefore, on May 15, a one fish bag limit was implemented for all anglers, and charter boat operators and crew were prohibited from retaining king 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 of 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 two-fish bag limit was the appropriate regulation to stay within the allocation. However, an inseason harvest projection exceeded the management range and a one-fish bag limit for all anglers, downrigger ban on all anglers, and prohibition on retention of king 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 of 42,677 exceeded the sport allocation by 3,067. The emergency order reducing the bag limit to one king salmon and banning take by charter operators and crew expired on December 31, 1993.

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

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

Appendix A3.–Management of the sport fishery under the revised *Southeast Alaska King Salmon Management Plan*—1994–1996.

The Alaska Board of Fisheries (board) increased the allocation to the sport fishery from 17% to 18% in 1994, to 19% in 1995, and to 20% in 1996. Other than the increase in allocation, the management plan remained essentially unchanged. During this period, Pacific Salmon Commission (PSC) negotiations for a treaty harvest limit were protracted and were not completed until late June. By then, as much as 85% of the sport harvest had 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 two-fish bag limit was 50,000 fish. Because the sport allocation had not yet been negotiated, the early season sport fishery had to be managed based on an "informed guess" of what the harvest limit would be. This "guess" was based on a combined sport underage of 2,897 fish from the previous season and an expected harvest limit of 263,000 to give an 18% sport allocation of 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. With the results of the consultations unknown, it was decided to manage conservatively. On April 15, a one-fish bag limit and prohibition on retention of king salmon by charter boat operators and crew were implemented. The final harvest limit 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 three-fish bag limit was implemented on July 30 but did little to increase harvest. The final sport harvest of 35,467 fish was below the sport allocation by 4,133.

Summary of Management Decisions—1995

The preseason forecast for 1995 with a two-fish bag limit was 40,000 king 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 based on an anticipated all-gear harvest limit of 230,000 fish, and given 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 harvest limit until August 17 when the commercial king salmon fisheries were closed by court order (and a harvest cap of 2,000 additional king salmon was placed on the sport fishery). In response to the court order, the bag limit for the sport fishery was reduced to one 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 fish. Under this scenario, the sport harvest exceeded its harvest limit 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.

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Summary of Management Decisions—1996

For the 1996 season, king salmon availability was forecast to be similar to 1995, and so it was expected that about 35,000 treaty king salmon would be taken with a two-fish bag limit. At the beginning of the season, a number of scenarios were discussed with all-gear harvest limits ranging from 120,000 to 180,000. No harvest limit was announced, however, and the season began with a two-fish bag limit and early season catches were below normal. Although no harvest limit was finalized, it was decided in early June that harvests should be limited by a one-fish bag limit because indications were that the harvest limit would be less than the harvest of 175,000 in 1995. Therefore on June 15, the bag limit was reduced to one fish and charter boat operators and crews were prohibited from retaining king salmon. The postseason harvest was 38,975 treaty king salmon. The final harvest limit 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 harvest limit and harvest that occurred under the revised *Southeast King Salmon Management Plan*, 1994–1996. Because no harvest limit was ever established for 1995, it is difficult to assess the cumulative harvest deviation for the sport fishery. However, assuming that the 1995 harvest limit was equal to the harvest, the sport fishery exceeded its cumulative harvest limit by 9,342 fish over the three years that this plan was in effect.

Year	Sport harvest limit	Sport treaty harvest	Deviation from harvest limit	Cumulative deviation from harvest limit or target	Alaska hatchery add-on	Total sport harvest	Total Alaska hatchery	Basis of harvest limit (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 harvest limit in 1995.

Appendix A4.–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 U.S. signed a letter of agreement to manage king fisheries based primarily upon abundance. Under this approach, an initial harvest limit is based upon a preseason abundance forecast. After the first opening in the troll fishery, the harvest limit 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 harvest limit 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 harvest limit. 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 Alaska Board of Fisheries (board), who subsequently revised the management plan and allocation scheme. Under the revised management plan a two-fish bag limit was in place until the preseason abundance index (AI) was established. Once a preseason index and initial harvest limit were obtained, Alaska Department of Fish and Game (department) staff were to project what the annual sport harvest would be under one-, two-, and three-fish bag limits and then implement the bag limit that came closest to obtaining the 20% allocation (based on the preseason AI). 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 king harvest limit based on commercial troll fishery performance were to have no effect 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 harvest limit 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 board also prohibited retention of king 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 onboard. A four–king salmon (28 inches or more) annual limit for nonresident anglers was also passed by the board, with a provision that it would be increased to five if the AI was 1.5 or greater. A management plan for Wrangell Narrows–Blind Slough fisheries for returns of king 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 coded wire tag (CWT) sampling rates in 1998 when anglers were prohibited by emergency order from heading or filleting king (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.

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Summary of Management Decisions—1997

In 1997, the "preseason" AI was not announced until June 17. The "initial" 20% allocation from the harvest limit of 277,000 was 51,300 treaty fish. At this time, enactment of a one-fish bag limit was projected to limit the treaty harvest to 53,800 treaty fish, which became the management target. A one-fish bag limit was implemented on July 7 and remained in effect through December 31.

Subsequently, the harvest limit was increased to a range from 277,000 to 302,000. The postseason harvest estimate of 53,305 fish was 495 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" AI (resulting in a 263,000 fish harvest limit) was not announced until June 25. At this time, it was projected that 41,200 treaty king salmon would be harvested by continuing with a two-fish bag limit whereas a three-fish bag limit would result in a harvest of 41,700 fish; both of these projected harvests were 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 three fish on July 3. Due to higher than expected harvest of king 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 one. The postseason estimate of 46,303 fish exceeded the harvest target by 4,603. Therefore, 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 AI was released on June 28. In late June, the new treaty agreement was also signed, which resulted in a significant reduction of the king salmon harvest limit for SEAK, especially at the lower AI. A preseason all-gear harvest limit of 192,800 resulted in a 20% sport allocation of 35,182, which was reduced to 33,697 after subtraction of the 1,475 fish from the 1998 overage. When the AI was received in late June, the sport fishery was projected to take 42,800 treaty fish under a one-fish bag limit. Therefore, a one-fish bag limit was implemented on July 3, and 42,800 fish became the sport harvest target for 1999. Harvests in the sport fishery were again higher than expected.

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The following table summarizes the sport fishery harvest limit and harvest that occurred under the revised *Southeast Alaska King Salmon Management Plan*, 1997–1999. Over the three 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" AIs 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 effect on harvests. Also, projections of final sport harvests made inseason were inaccurate and unreliable at predicting postseason harvest.

Year	Sport harvest limit	Adjusted harvest target	Sport treaty harvest	Deviation from harvest limit	Cumulative deviation from harvest limit or target	Alaska hatchery add-on	Total sport harvest	Total Alaska Hatchery	Basis of harvest limit (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	35,182	42,800	53,158	10,358	14,466	17,578	72,081	19,657	20% of 161,000

2000

In late April 2000, a preseason abundance index (AI) of 1.01 was announced. This index resulted in an all-gear harvest limit of 152,850 fish, of which the 20% sport fish allocation totaled 27,535. Given that the preseason AI 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 king salmon bag and possession limit in marine waters of Southeast Alaska (SEAK) was decreased to one fish 28 inches or more in length on May 3, 2000. In addition, the annual limit for nonresident anglers was decreased from four to two. It was projected that these regulatory changes would decrease the sport harvest to 34,100 treaty king salmon.

Because 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, four additional harvest restrictions were imposed:

1) retention and possession of king salmon was prohibited if more than four 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 king salmon on any Wednesday from June 3 through July 31
3) nonresident anglers and anglers fishing from a chartered vessel could not retain king salmon from August 1 through September 30
4) nonresident anglers and anglers fishing from a chartered vessel could not retain king salmon within two areas of the outside coast around Sitka and the west and south coasts of PWI from July 12 through July 31

The first three restrictions applied to all marine waters in SEAK, including Yakutat, except for terminal harvest areas established by emergency order to harvest excess Alaska hatchery king salmon. In aggregate, these four 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 four 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 king 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 AI for SEAK of 1.14. Because an AI of 1.1 to 1.2 results in a one-fish bag limit and a three-fish nonresident annual limit under the management plan,, the four restrictions detailed above concerning the charter and nonresident fishery were rescinded on June 27. In addition, the nonresident annual limit for king salmon was increased from two to three. The one-fish bag limit for all anglers and the three-fish annual limit for nonresident anglers remained in place for the rest of the year.

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The late June revision of the preseason AI (1.14) resulted in a 35,182-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 AI. Based on the preseason estimate of abundance and the final harvest estimate, the sport fishery took 23.9% of the all-gear harvest limit less the net harvest.

2001

The 2001 preseason AI of 1.14 was announced by May 1. This level of abundance resulted in an all-gear harvest limit of 189,900 and a sport allocation of 34,627. According to the plan, the sport regulations remained at one fish for all anglers with a three-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 AI, exceeded the sport allocation by 10,098 fish. Based on the preseason estimate of abundance and the final harvest estimate, the sport fishery took 25.8% of the all-gear harvest limit less the net harvest.

2002

The 2002 preseason AI of 1.74 was significantly higher than the prior two years. This level of abundance resulted in an all-gear harvest limit of 356,500 and a sport allocation of 66,514 fish. According to the plan, when the preseason AI is greater than 1.5, the bag limit for resident anglers is two fish. However, because the sport fishery had a cumulative overage from prior years, nonresidents were limited to a one-fish bag limit and a three-fish annual limit. These regulations became effective by emergency order on April 27, 2002. The estimated sport harvest of treaty king salmon was 45,504 fish, which was 21,010 below the 20% allocation based on the preseason AI. Based on the preseason estimate of abundance and the final harvest estimate, the sport fishery took 13.7% of the all-gear harvest limit less the net harvest.

2003

In April 2003, a preseason AI of 1.79 was announced. This index resulted in an all-gear harvest limit of 366,100 fish, of which the 20% sport fish allocation totaled 68,352. Given that the preseason AI was greater than 1.2, the newly revised management plan required a two-fish bag limit for residents and a one-fish bag limit and three-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 king 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 49,239 fish. This was 19,113 below the 20% allocation based on the preseason AI. Based on the preseason estimate of abundance and the final harvest estimate, the sport fishery took 14.4% of the all-gear harvest limit less the net harvest.

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2004

The 2004 preseason AI of 1.88 was announced on April 6. This level of abundance resulted in an all-gear harvest limit of 383,500 and a sport allocation of 71,682. According to the plan, the sport fishery bag limits remained at two fish for residents, and one fish with a three-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 king 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 2004 was 55,413 fish. This was 16,269 below the 20% allocation based on the preseason AI. Based on the preseason estimate of abundance and the final harvest estimate, the sport fishery took 15.5% of the all-gear harvest limit less the net harvest.

2005

The 2005 preseason AI of 2.05 was announced in mid-April. The resulting all-gear harvest limit was 416,400 and the sport allocation was 77,979 fish. Based on the performance of the sport fishery during the prior three years of high king salmon abundance (in which the sport fishery underharvested its allocation by a total of 56,392 fish), the Alaska Department of Fish and Game (department) decided to request permission from the Alaska Board of Fisheries (board) to issue an emergency regulation that would implement more liberal regulations than allowed under the *Southeast Alaska King Salmon Management Plan*. The board agreed to this approach for increasing harvest opportunity in the sport fishery, and on May 3, 2005 the resident bag limit was increased to three fish and the nonresident annual limit was increased from three to five fish. The nonresident bag and possession limits remained at one 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 two fish bag limit, nonresident one fish bag limit, nonresident three fish annual limit).

The final estimate of treaty harvest was 63,330 fish, which was 14,649 fish below the 20% allocation based on the preseason AI. Based on the preseason estimate of abundance and the final harvest estimate, the sport fishery took 16.2% of the all-gear harvest limit less the net harvest.

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2006

In April 2006, a preseason AI of 1.69 was announced. This index resulted in an all-gear harvest limit of 346,800 fish, of which the 20% sport fish allocation less the net harvest totaled 64,166 fish. Given that the preseason AI was greater than 1.5, the newly revised management plan required a three-fish bag limit for residents, and for nonresidents, a two-fish bag limit in May, a one-fish bag limit for the remainder of the year, and a four-fish annual limit. In addition, the use of two 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 which 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 king 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 69,375 fish. This was 5,209 fish above the 20% allocation based on the preseason AI. Based on the preseason estimate of abundance and the final harvest estimate, the sport fishery took 21.6% of the all-gear harvest limit less the net harvest.

2007

The 2007 preseason AI of 1.60 was announced in April. This level of abundance resulted in an all-gear harvest limit of 329,400 and a sport allocation of 60,937. Given that the preseason AI was greater than 1.5, the management plan required a three-fish bag limit for residents, and for nonresidents, a two-fish bag limit in May, a one-fish bag limit for the remainder of the year, and a four-fish annual limit for nonresident anglers. In addition, the use of two 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 which 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 king 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 62,298 fish. This was 1,361 fish above the 20% allocation based on the preseason AI. Based on the preseason estimate of abundance and the final harvest estimate, the sport fishery took 20.4% of the all-gear harvest limit less the net harvest.

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2008

The 2008 preseason AI of 1.07 was announced in early April, resulting in an all-gear harvest limit of 170,000 fish, of which the 20% sport allocation less the net harvest totaled 31,353 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 AIs below 1.1 and above 1.0. These management measures in the plan were substantially modified by the board 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 four-line limit should be applied. The department sought clarification on the implementation of these management measures by polling the board, the results of which are detailed in the main body of this document under the section "Management Plan 2006–2008."

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

The nonresident harvest limit (an annual limit that decreases during the year) was three fish 28 inches or greater in length January 1–June 30; two fish 28 inches or greater in length, July 1–July 15; one fish 48 inches or greater in length, July 16–September 30; and one fish 28 inches or greater in length October 1–December 31. Any fish 28 inches or greater in length harvested by a nonresident angler 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 king salmon. These restrictions were expected to reduce the sport harvest within the 20% average sport harvest target.

The final estimate of treaty harvest for the sport fishery in 2008 was 32,603 fish. This was 1,251 fish above the 20% allocation based on the preseason AI. Based on the preseason estimates of abundance and the final harvest estimate, the sport fishery took 20.8% of the all-gear harvest limit less the net harvest.

2009

The 2009 preseason AI of 1.33 was announced in April. This level of abundance resulted in an all gear harvest limit of 218,800, of which the 20% allocation less the net harvest totaled 40,409 king salmon. Given that the preseason king salmon AI was greater than 1.2 and less than or equal to 1.5, the newly revised management plan required a two-fish bag limit for residents, a one-fish bag limit for nonresidents, and a three-fish annual limit for nonresident anglers. In addition, the use of two rods per angler was also allowed from October 2009 through March 2010 by residents as per the plan.

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These regulations were implemented by Emergency Order 1-KS-R-01-09 that became effective on April 1, 2009. 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 king salmon. These restrictions were expected to maintain the sport harvest within the 20% average sport harvest target.

The final estimate of treaty harvest for the sport fishery in 2009 was 48,120 fish. This was 7,711 fish above the 20% allocation based on the preseason AI. Based on the preseason estimates of abundance and the final harvest estimates, the sport fishery took 23.8% of the all-gear harvest limit less the net harvest.

2010

The 2010 preseason king salmon AI of 1.35 was announced in late March. The resulting all-gear harvest limit was 221,800 fish, of which the 20% allocation less the net harvest totaled 40,966 fish. According to the plan, the sport fishery bag limits remained at two fish for residents, and a one-fish bag limit with a three-fish annual limit for nonresidents. Resident anglers were allowed the use of two rods per angler from October 2010 through March 2011 as directed by the plan. These regulations were implemented by Emergency Order 1-KS-R-02-10 that became effective on April 1, 2010. 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 king salmon. These restrictions were expected to maintain the sport harvest within the 20% average sport harvest target. The final estimate of treaty harvest for the sport fishery in 2010 was 44,315 fish. This was 3,349 fish above the 20% allocation based on the preseason AI. Based on the preseason estimates of abundance and the final harvest estimates, the sport fishery took 21.6% of the all-gear harvest limit less the net harvest.

2011

The 2011 preseason king salmon AI of 1.69 was announced in late March, resulting in an all-gear harvest limit of 294,800 fish, of which the 20% sport allocation less the net allocation totaled 54,515 fish. Given that the preseason king salmon AI was greater than 1.51 and less than or equal to 1.75, the management plan required a three-fish bag limit for residents, and for nonresidents a two-fish bag limit in May, a one-fish bag limit for the remainder of the year, and a five-fish annual limit. In addition, the use of two rods per angler was allowed from October 2011 through March 2012 as per the plan. These regulations were implemented by Emergency Order 1-KS-R-02-11 that became effective on April 1, 2011. 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 king salmon. These restrictions were expected to maintain the sport harvest within the 20% average sport harvest target.

The final estimate of treaty harvest was 53,964 fish, which is 551 fish below the 20% allocation based on the preseason AI. Based on the preseason estimates of abundance and the final harvest estimates, the sport fishery took 19.8% of the all-gear harvest limit less the net harvest.

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2012

The 2012 preseason king salmon AI of 1.52 was announced in late March, resulting in an all-gear harvest limit of 266,800 fish, of which the 20% sport allocation less the net harvest totaled 49,318 fish. Given that the preseason AI was greater than 1.51 and less than or equal to 1.75, the management plan required a three-fish bag limit for residents. Nonresidents were allowed a bag of two-fish in May and one fish for the remainder of the year; a four-fish annual limit also applied to nonresidents under this regime. In addition, the use of two rods per angler was allowed (while fishing for king salmon) from October 2012 through March 2013 as per the plan. These regulations were implemented by Emergency Order 1-KS-R-02-12 which became effective on March 30, 2012. These regulations applied to all marine waters in SEAK, including Yakutat. Terminal harvest areas established by emergency order to harvest excess Alaska hatchery king salmon were excluded. These restrictions were expected to maintain the sport harvest within the 20% average sport harvest target.

The final estimate of treaty harvest was 37,722 king salmon which was 11,596 fish below the 20% allocation based on the preseason AI. Based on the preseason estimates of abundance and the final harvest estimates, the sport fishery took 15.3% of the all-gear harvest limit less the net harvest.

2013

The 2013 preseason AI of 1.20 was announced in April. This level of abundance resulted in an all-gear harvest limit of 176,000 yielding the 20% sport allocation (less the net allocation) of 32,466 king salmon. Given that the preseason AI was greater than 1.1 and less than or equal to 1.2, the newly revised management plan required a one-fish bag limit for residents, a one-fish bag limit for nonresidents, and a nonresident harvest limit (an annual limit that decreases during the year) of three fish 28 inches or greater in length January 1–June 30; two fish 28 inches or greater in length, July 1–July 15; and a one fish 28 inches or greater in length, July 16–December 31. In addition, the use of two rods per angler was also allowed from October 2013 through March 2014 for residents. These regulations were implemented by Emergency Order 1-KS-R-02-13 which became effective on April 8, 2013, and applied to all marine waters in SEAK, including Yakutat. Terminal harvest areas established by emergency order to harvest excess Alaska hatchery king salmon were exempt. The restrictions were expected to maintain the sport harvest within the 20% average sport harvest target.

The final estimated treaty harvest in the sport fishery for 2013 was 43,304 fish, which was 10,838 fish above the 20% allocation based on the preseason AI. Based on the preseason estimates of abundance and the final harvest estimates, the sport fishery took 26.7% of the all-gear harvest limit less the net harvest.

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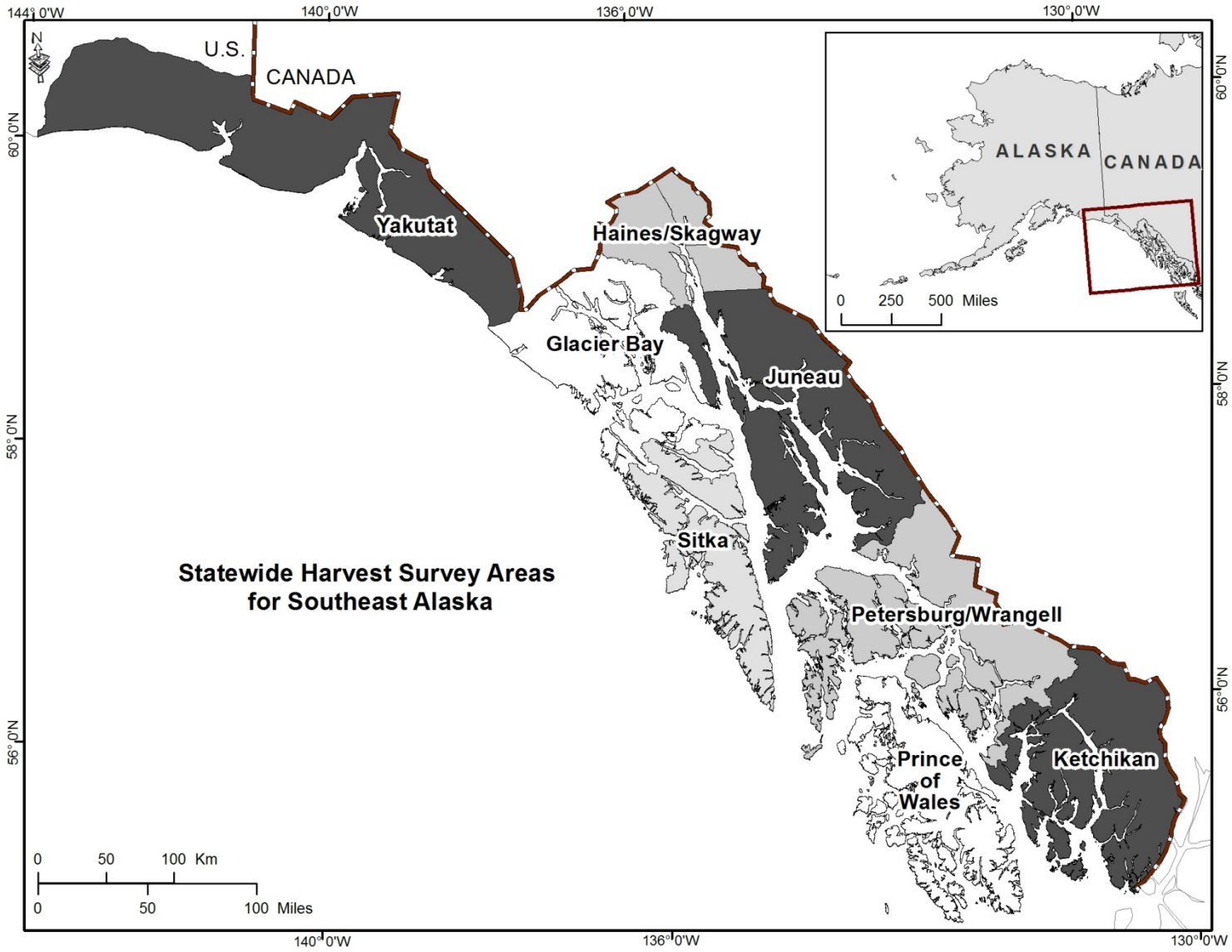
2014

The 2014 preseason AI of 2.57 was announced in late March, resulting in an all-gear harvest limit of 439,400 fish—the highest AI observed since the inception of aggregate abundance-based management regimes established in 1999. The 20% sport allocation (less the net allocations) yielded 81,353 fish. Given that the preseason king salmon AI was greater than 2.0, the management plan required a three-fish bag limit for residents. Nonresidents were allowed two fish in May and June and one fish the remainder of the year; a six-fish nonresident annual limit applied. In addition, the use of two rods per angler was allowed from October 2014 through March 2015 as per the plan. These regulations were implemented by Emergency Order 1-KS-R-03-14 which became effective on April 2, 2014. Enacted regulations applied to all marine waters in SEAK, including Yakutat. Terminal harvest areas established by emergency order to harvest excess Alaska hatchery king salmon were exempt. Implemented regulations were expected to maintain the sport harvest within the 20% average sport harvest target.

The final estimated treaty harvest was 73,951 fish, which was 7,402 fish below the 20% allocation based on the preseason AI. Based on the preseason estimates of abundance and the final harvest estimates, the sport fishery took 18.2% of the all-gear harvest limit less the net harvest.

APPENDIX B: STATEWIDE HARVEST SURVEY AREAS FOR SOUTHEAST ALASKA



Appendix B1.–Areas within the Southeast Alaska region for which sport effort and harvests are estimated through use of the Statewide Harvest Survey (SWHS) postal questionnaire.