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Overview of the Sport Fisheries for King Salmon in Southeast Alaska through 2020: A Report to the Alaska Board of Fisheries

by

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November 2021

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

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OVERVIEW OF THE SPORT FISHERIES FOR KING SALMON IN SOUTHEAST ALASKA THROUGH 2020: A REPORT TO THE ALASKA BOARD OF FISHERIES

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ABSTRACT

King (Chinook) 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 international and domestic allocations, sustainable Alaska wild stock management objectives, and providing opportunity for Alaska hatchery-produced king salmon. The SEAK all-gear catch limit is established under the U.S.–Canada Pacific Salmon Treaty (PST), whereas the Alaska Board of Fisheries (board) allocates domestic shares to the various SEAK fisheries. The Pacific Salmon Treaty was renegotiated in 2018 resulting in a new 10-year agreement covering years 2019 to 2028, which included several changes impacting Alaskan king salmon fisheries. These changes in the PST required the board to modify the *Southeast Alaska King Salmon Management Plan* (KSMP) which was accomplished outside of a typical board cycle in 2019. The board has received 9 proposals for consideration at the 2022 SEAK board meeting which, if adopted, would modify management of the king salmon sport fishery in SEAK.

The management of the sport fishery has been guided by the KSMP, which has been revised several times since first adoption in 1992. The sport harvest of king salmon in SEAK has averaged 58,103 between 2010 and 2019. During this same time, sport harvest has averaged 20.7% of the sport/troll allocation of the SEAK all-gear catch limit, slightly above the target allocation of 20%. Nonresident harvest of king salmon has averaged 65% of the total sport harvest (2010–2019). The outer coast sport fisheries of Sitka and Prince of Wales Island harvest 60% of the total king salmon harvest (2010–2019). Alaska hatchery-produced king salmon contribute a larger percentage of the total king salmon catch in the inside coast sport fisheries of Haines/Skagway, Juneau, Petersburg/Wrangell, and Ketchikan compared to the outer coast fisheries.

Keywords: king salmon, Chinook salmon, *Oncorhynchus tshawytscha*, Southeast Alaska, SEAK, Alaska Board of Fisheries, board, Pacific Salmon Treaty, sport fishery, Southeast Alaska King Salmon Management Plan

INTRODUCTION

King (Chinook) salmon (*Oncorhynchus tshawytscha*) are the most preferred species in the Southeast Alaska (SEAK) sport fishery and are also highly valued by the commercial fishing industry. In the SEAK region, between Dixon Entrance to the south and Cape Suckling to the north (Figure 1), the sport fishery primarily occurs May through August. King salmon harvest is composed of local SEAK wild stocks, Alaska hatchery-produced king salmon, and king salmon originating from Canada and the U.S. states of the Pacific Northwest.

The U.S.–Canada Pacific Salmon Treaty (PST) dictates the annual SEAK all-gear catch limit of king salmon (excluding most of the Alaska hatchery-produced king salmon). 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 Alaska all-gear catch limit has been allocated on a percentage basis between the sport and commercial fisheries. Sport fisheries have been managed under the direction of the *Southeast Alaska King Salmon Management Plan* (KSMP) (5 AAC 47.055), which has undergone numerous revisions since first implemented in 1992.

The continuing challenge of management of the SEAK king salmon sport fishery is providing sustainable management of Alaska wild stocks, maintaining the sport fishery within its allocation, complying with specific provisions of the PST in terminal areas of the Stikine and Taku Rivers, and providing opportunity to harvest Alaska hatchery-produced king salmon. These objectives are complicated by factors such as varying king salmon stock composition across time and location within SEAK, changing patterns of angler effort in the fishery, and how angler behavior or preferences influence outcomes of management action.

This report will provide an overview of the sport fishery for king salmon in SEAK, includes a discussion of the KSMP, and an update of stock and fishery status. Specifically, this report will provide the following details for SEAK:

1) historical information including sport fisheries regulations for king salmon and implementation of the various management plans since 1992
2) fisheries data such as king salmon harvest, effort, stock composition, angler behavior and demographics
3) status of SEAK wild king salmon
4) additional material board members may find useful when discussing proposals to be decided at the Southeast Alaska 2022 Board of Fisheries meeting

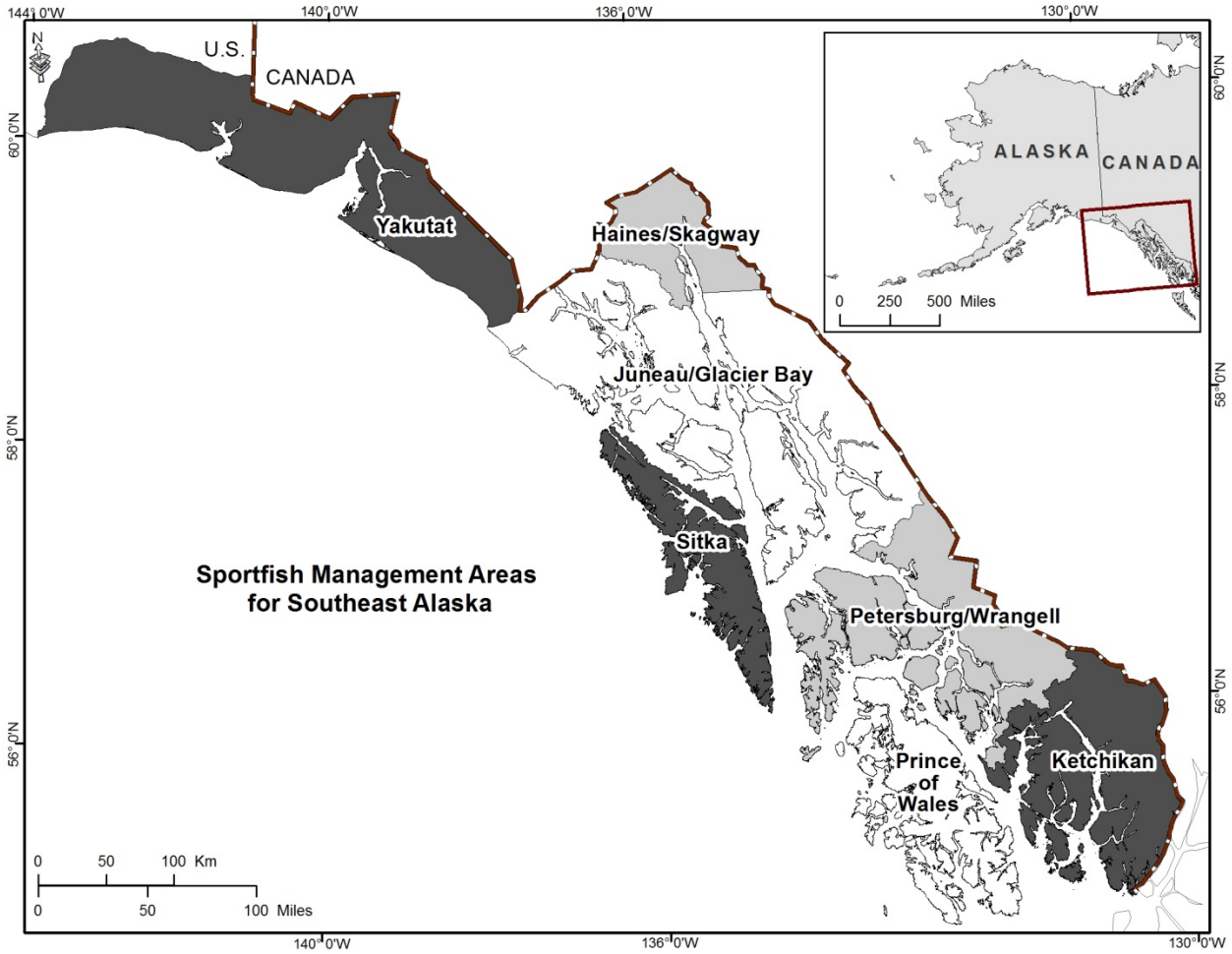

Figure 1.–Sport Fish Management Areas within the Southeast Alaska region.

REGULATORY HISTORY

FRESHWATER FISHERIES

Sport fishing for king salmon in the fresh waters of SEAK east of the longitude of Cape Fairweather (all management areas except Yakutat) has been closed since 1963. Some exceptions have been made to allow opportunity for Alaska hatchery-produced king salmon in locations where

no wild stock king salmon are present, including Juneau area road system drainages, freshwaters draining into the Sitka Sound Special Use Area, and Blind Slough near Petersburg.

In the Yakutat management area, the Situk River near Yakutat supports the only freshwater sport fishery for wild king salmon in SEAK. The *Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan* (5 AAC 30.365) establishes sport and commercial fisheries regulations based on the projected inriver run to the Situk River weir.

MARINE FISHERIES

The marine king salmon sport fishery is managed to achieve 3 primary goals: (1) sustainable SEAK wild stocks, (2) compliance with the provisions of the PST, and (3) providing opportunity for Alaska hatchery-produced king salmon when possible. In the current regulatory environment, the domestic allocation of king salmon between SEAK fisheries is established by the *Allocation of king salmon in the Southeastern Alaska-Yakutat Area* (5 AAC 29.060), whereas 20% of the Alaska all-gear catch limit, after allocation to the net fisheries has been subtracted, is allocated to the sport fishery. This allocation does not include harvest of Alaska hatchery-produced king salmon. Regulatory guidance to the sport fishery is established by the KSMP (5 AAC 47.055), which directs the Alaska Department of Fish and Game (ADF&G) to implement specific management actions according to the annual allocation of king salmon to the sport fishery. Emergency order (EO) authority is used to establish bag, possession, annual limits, and other provisions annually in accordance with the management plan and when necessary to protect the sustainability of SEAK wild king salmon stocks. In addition, emergency order authority is used to provide specific opportunity for Alaska hatchery-produced king salmon within terminal areas, some of which have site-specific management plans. These various components are discussed in more detail in the following sections of this report. A complete description of management actions enacted each year is provided in Appendix A, and a summary of regulations by year is provided in Table 1 (1958–2020).

Minimum Size

The current minimum size limit for king salmon is 28 inches in total length and has been in place since 1977 with specific exceptions. 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. In 2008, the nonresident minimum size limit was increased to 48 inches between July 16 and September 30, which was a provision within the KSMP at that time. Since 2009, the regionwide minimum size limit of 28 inches has been in place for all marine waters with the exception that in some areas where Alaska hatchery-produced king salmon are returning, opportunity to harvest undersize king salmon is provided.

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

Years	Bag limit	Possession limit	Minimum size limit (in)	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 fork		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		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

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Table 1.–Page 2 of 3.

Years	Bag limit	Possession limit	Minimum size limit (in)	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–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–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	3 (Jan 1–Jun 30) 2 (Jul 1–Dec 31)	3 (Jan 1–Jun 30) 2 (Jul 1–Dec 31)	≥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 Nonresident annual limit: 6 fish (Jan 1–Jun 30) 3 fish (Jul 1–Dec 31)	Juneau, Ketchikan

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Table 1.–Page 3 of 3.

Years	Bag limit	Possession limit	Minimum size limit (in)	Other regionwide regulations	Areas with additional restrictions
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	2	2	≥28 total	From Oct 1–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. Regionwide retention prohibited Aug 10–Sep 30
2018	1	1	≥28 total	From Oct 1–Mar 31 resident anglers may use 2 rods Nonresident annual harvest limit 3 fish from January 1–Jun 30 and 1 fish Jul 1–Dec 31.	Haines–Skagway, Juneau, Petersburg–Wrangell, Ketchikan.
2019	1	1	≥28 total	Bag and possession limit increased to 2 fish in inside waters after these areas reopened to harvest Nonresident annual harvest limit 3 fish from January 1–Jun 30 and 1 fish Jul 1–Dec 31 Retention of king salmon was prohibited for nonresident anglers Aug 1–16	Haines–Skagway, Juneau, Petersburg–Wrangell, Ketchikan.
2020	1 (Jan 1–Jun 14) 3 (Jun 15–Jul 9) 4 (Jul 10–Jul 28) 6 (Jul 29–Dec 31)	1 (Jan 1–Jun 14) 3 (Jun 15–Jul 9) 4 (Jul 10–Jul 28) 6 (Jul 29–Dec 31)	≥28 total	From Oct 1 to Mar 31 resident anglers may use 2 rods Nonresident annual limits: 3 fish (Jan 1–Jun 14), 4 fish (Jun 15–Jul 9), 6 fish (Jul 11–Jul 28), 9 fish (Jul 29–Dec 31) Nonresident bag and possession limit: 1 fish (Jan 1–Jul 10), 2 fish (Jul 10–Jul 28), 3 fish (Jul 29–Dec 31)	Haines–Skagway, Juneau, Petersburg–Wrangell, Ketchikan.

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

PACIFIC SALMON TREATY

In 1985, the U.S. 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 SEAK. The PST is renegotiated amongst party members every 10 years. Catch ceilings (limits) were established for the king salmon fishery in SEAK and other major fisheries in Canada as part of the initial catch-sharing arrangements. Upon initial implementation domestically, only the commercial troll fishery was subject to the annual harvest limits for treaty fish. But in 1987, the Board of Fisheries (board) allocated the harvest of treaty fish across all commercial users in SEAK, and by 1992 allocations were in place for the sport fishery as well. Catch accounting of the SEAK king salmon harvest is tracked by Alaska members of the Pacific Salmon Commission (PSC) Chinook Technical Committee (CTC) and considers various provisions of the PST. With the exception of a small number of Alaska hatchery fish that are harvested in SEAK, harvests of Alaska hatchery fish do not count towards the SEAK all-gear catch limit. In addition, king salmon harvests in District 8 and District 11, in excess of the base level averages seen between 1985 and 2003 between statistical week (SW) 17 and SW29 above the base level harvests, do not count towards the SEAK all-gear catch limit.

In 1998, the PSC negotiated an agreement for the 1999 to 2008 period that implemented abundance-based management for all king salmon fisheries in both the U.S. and Canada. Between 1999 and 2018, SEAK fisheries have been managed to achieve a king salmon harvest level based on the annual coastwide abundance rather than on a fixed ceiling. The SEAK all-gear catch limit was based on the best available preseason abundance index (AI) as determined by the CTC of the PSC. The 2009 to 2018 agreement reduced the SEAK all-gear catch limit on average by 15% because of concessions made by Alaska during those renegotiations (Table 2).

The annual all-gear catch limit is allocated domestically in accordance with *Allocation of king salmon in the Southeastern Alaska-Yakutat Area* (5 AAC 29.060) where the commercial net fisheries allocation is first subtracted from the SEAK all-gear catch limit (1,000 is first allocated to the set gillnet fishery and the remaining drift gillnet and seine fisheries each are allocated 2.9% and 4.3%, respectively, of the remaining all-gear catch limit) and the remainder is allocated 80% to commercial troll fisheries and 20% to sport fisheries. Fisheries performance data for the years when the preseason AI was used to establish the SEAK all-gear catch limit (1999–2018) and resulting harvest is presented in Table 3.

Table 2.–Southeast Alaska all-gear catch limits and domestic fishery allocations at a range of abundance indices based on the 2009–2018 Pacific Salmon Treaty agreement.

Abundance index	All-gear catch 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
1.0	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
2.0	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 catch limit for drift gillnet, and 4.3% of the all-gear catch 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 catch limit.

Table 3.–Harvest of treaty king salmon and commercial troll and sport overage and underage calculations using allocations based on preseason abundance indices, 1999–2018.

Year	Preseason abundance index	Preseason catch limit	Troll + sport allocation	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	358,410	286,728	71,682	417,019	321,876	55,413	35,148	-16,269	89.8	15.5
2005	2.05	416,400	389,895	311,916	77,979	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	7,316	5,209	82.3	21.6
2007	1.60	329,400	304,684	243,747	60,937	328,268	240,474	62,298	-3,273	1,361	78.9	20.4
2008	1.07	170,000	156,760	125,408	31,352	172,905	126,352	32,603	944	1,251	80.6	20.8
2009	1.33	218,800	202,046	161,637	40,409	227,954	159,126	48,120	-2,511	7,711	78.8	23.8
2010	1.35	221,800	204,830	163,864	40,966	230,611	177,982	44,315	14,118	3,349	86.9	21.6
2011	1.69	294,800	272,575	218,060	54,515	291,161	220,787	53,964	2,727	-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	406,764	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	75,937	21,387	114.7	29.8
2016	2.06	355,600	328,996	263,197	65,799	350,939	266,172	59,503	2,975	-6,296	80.9	18.1
2017	1.27	209,700	193,601	154,881	38,720	175,414	123,691	44,125	-31,190	5,405	63.9	22.8
2018[c]	1.07	144,500	133,096	106,477	26,619	127,776	101,469	21,243	-5,008	-5,376	76.2	16.0
1999–2008 Average		294,130	272,709	218,167	54,542	297,647	225,848	51,708	7,681	-2,833	81.7	20.3
2009–2018 Average		256,440	236,976	189,581	47,395	260,829	196,646	49,142	7,065	1,747	82.7	21.2
All years average		275,285	254,842	203,874	50,969	279,238	211,247	50,425	7,373	-543	82.2	20.7

[a] Target allocation is 80% of the total troll and sport allocation.

[b] Target allocation is 20% of the total troll and sport allocation.

[c] The 2018 values include 100% of the original treaty allocation and does not include the 10% reduction in 2018 treaty harvest quota.

In August of 2018, the PST was renegotiated for the next 10-year period (2019-2028). With this renegotiation there were significant changes with implications to the management of the sport fishery. The renegotiated treaty created seven catch limit tiers (Table 4) that replace the previous catch limit ranges, resulting in a 1% to 7% reduction on average to the preexisting catch limits for SEAK fisheries. Additionally, the use of the coastwide AI for establishing SEAK preseason catch limits was replaced with the early winter (October through December) troll CPUE from District 13. Finally, the renegotiated treaty includes a provision where any overage in the SEAK all-gear catch limit will result in a reduced allocation by the same amount in the following year. These changes required modifications to the KSMP and the board began the process through an agenda change request in 2019. Additional changes are expected during the 2022 SEAK board meeting.

During 2019 and 2020, SEAK fisheries were managed to stay within the SEAK all-gear catch limit as determined by the newly agreed upon 2019-2028 PST agreement (Table 5). No change has occurred in the domestic allocation guided by *Allocation of king salmon in the Southeastern Alaska-Yakutat Area* (5AAC 29.060).

Table 4.–Winter troll CPUE index and related allocations for king salmon in Southeast Alaska under the 2019–2028 Pacific Salmon Treaty agreement.

Winter troll CPUE	AI equivalent range	All-gear catch limit	Commercial net allocation[a]	Commercial troll allocation[b]	Sport allocation[b]
20.5 and above	greater than 2.28	372,921	27,850	276,057	69,014
8.7 to less than 20.5	1.875–2.28	334,465	25,081	247,507	61,877
6.0 to less than 8.7	1.55–1.87	266,585	20,194	197,113	49,278
3.8 to less than 6.0	1.245–1.55	205,165	15,772	151,514	37,879
2.6 to less than 3.8	1.035–1.24	140,323	11,103	103,376	25,844
2.0 to less than 2.6	0.995–1.03	111,833	9,052	82,225	20,556
less than 2.0	less than 0.875	PSC Determination	TBD	TBD	TBD

Note: AI = Abundance Index; PSC = Pacific Salmon Commission; TBD = To be determined.

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

Table 5.–Harvest of treaty king salmon and commercial troll and sport overage and underage calculations under the 2019–2028 PST agreement; allocations based on the Winter Troll CPUE, 2019–2020.

Year	Winter Troll CPUE	All-gear catch limit	All gear harvest	Troll + sport allocation	Troll allocation	Sport Allocation	Troll harvest	Sport harvest	Troll deviation	Sport deviation	Troll (%)[a]	Sport (%)[b]
2019	3.38	140,323	140,307	129,220	103,376	25,844	103,067	24,496	−309	−1,396	79.8	19.0
2020	4.83	205,165	204,624	189,393	151,514	37,879	165,406	30,561	13,892	−7,318	87.3	16.1

[a] Target allocation is 80% of the total troll and sport allocation.

[b] Target allocation is 20% of the total troll and sport allocation.

SOUTHEAST ALASKA KING SALMON MANGEMENT PLAN

The *Southeast Alaska King Salmon Management Plan* (5 AAC 47.055) was first adopted by the board in 1992. This plan provides guidance to the sport fishery by providing specific management actions to be implemented on an annual basis to meet the sport allocation. The management plan has undergone continual revisions throughout its history addressing changes in sport allocation, management objectives, direction for when overages or underages of the sport allocation occur, angler preferences, management of the charter fleet, and a variety of other issues. A synopsis of past iterations of the management plan and the history of king salmon allocation to the sport fishery is provided below.

ALLOCATION OF KING SALMON TO THE SPORT FISHERY

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 EVOLUTION

Management Plan 1992–2002

The board initially adopted the KSMP in 1992. The plan outlined how ADF&G 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 that 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 2 king salmon per day, 2 in possession, with a minimum size limit of 28 inches were to remain in effect in SEAK marine waters until it was projected (either preseason or inseason) that the total harvest would deviate by more than the management range from the allocation. The management range was set by regulation at 7.5%.

The plan was modified at board meetings in 1994, 1997, and 2000. The primary change in 1994 was to increase the sport allocation over a 3-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,

ADF&G was to implement a 1, 2, or 3 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 4-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 6-line maximum. While not contained within the plan but also impacting the sport fish management of king salmon in SEAK, the board passed a mandatory logbook requirement for charter vessels during the 1998 statewide meeting. 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 catch limit less the net allocation and projected sport harvest. Cumulative sport harvest 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 board rescinded general regulations for specific king salmon bag, possession, and annual limits and set general regulations that require ADF&G to establish king salmon bag, possession, and annual limits by emergency order as specified by the KSMP.

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 3 fish at AIs greater than 1.5; (2) the nonresident bag limits increased to 2 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 6 fish at AIs above 2.0, to 5 or 6 fish at AIs above 1.75 to 2.0, and to 4 or 5 fish at AIs greater than 1.5 to 1.75; and (4) a management

measure allowing the use of 2 rods per angler during March through October was also added to the plan to benefit resident anglers.

In 2008, ADF&G 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 4-line limit should be applied. ADF&G 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 4 lines was also eliminated. Additionally, a resident bag and possession limit of 1 fish 28 inches or greater in length was added making an exception for residents fishing within the Juneau derby area unnecessary. To balance the increased harvest by these more liberal management measures, the board increased the nonretention period by 2 weeks for king salmon less than 48 inches for nonresidents.

Management Plan 2009–2018

An 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 catch 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 2 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 2 rods is allowed, it is only for the fishing of king salmon.

CURRENT MANAGEMENT PLAN 2019–2020

In August of 2018, the PST was renegotiated for the next 10-year period (2019–2028). With several changes made to the PST, the KSMP required revision to align the prescribed management actions with the newly adopted CPUE model tiers and the overall reduction in the all-gear catch limit. In January 2019, the board took up Proposal 176 (previously Agenda Change Request 9) to modify the KSMP. Understanding that it would be best to address modification to the plan during the 2022 SEAK board meeting, but that immediate action was needed, the board modified 3 sections of the plan that would most likely cover the anticipated abundance indices occurring in 2019 and 2020 and adopted the proposal as amended. For the 3 sections of the plan the board modified, language was added directing ADF&G to use inseason management to avoid exceeding the sport allocation while also providing a priority for resident anglers in this event. The objectives listed in the KSMP continue to direct ADF&G to manage the sport fishery for an average allocation. For the 2022 SEAK board meeting, the board has received several proposals which would modify the KSMP as well proposals impacting the domestic allocation of king salmon with

implications for the sport fishery. A summary of prescribed management actions under the current KSMP is provided in Table 6.

Appendices A2–A5 provide a detailed description of the allocation, regulatory actions, and fishery harvest results for each year that the plan has been in effect with the most recent 3 years (2018–2020) discussed immediately below.

MANAGEMENT ACTIONS IN 2018

The 2018 preseason AI of 1.07 was announced in April. This level of abundance resulted in an all-gear catch limit of 144,500 yielding the 20% sport allocation less the net allocation of 26,619 king salmon. Given that the preseason AI was less than 1.1, the management plan required a bag limit of 1 king salmon, 28 inches or greater in length; a king salmon annual harvest limit for nonresident anglers of 3 fish from January 1–June 30, and 1 fish July 1–December 31. In addition, a resident angler was allowed to use 2 rods October through March when fishing for king salmon. These regulations were implemented by Emergency Order 1-KS-R-04-18 and became effective on April 15, 2018. These regulations applied to all marine waters in SEAK, including Yakutat. Terminal harvest areas (THAs) established by emergency order to harvest excess Alaska hatchery-produced king salmon and areas of king salmon nonretention to protect wild stocks were excluded.

SEAK king salmon escapements in 2016 and 2017 were poor with only 2 out of the 11 king salmon indicator stocks meeting escapement goals each year. This trend of low production was expected to continue in 2018. The Chilkat, King Salmon and Unuk River stocks had not achieved their escapement goal in 4 of the past 5 years. During the 2017/2018 board cycle these stocks were identified as stocks of concern prompting the development of specific action plans that outline conservative management measures for all fisheries to reduce the harvest of these stocks. In April 2018, 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 *Southeast Alaska Wild Stocks and Management* section of this report. These management actions were not only very effective at decreasing the harvest of wild Alaska king salmon but also decrease harvest of treaty king salmon.

The estimated treaty harvest in the sport fishery for 2018 is 21,243 fish which was 5,376 fish below the 20% allocation based on the preseason AI of 1.07 (Table 3). The sport fishery took 16.0% of the all-gear catch limit less the net harvest.

Table 6.–Current sport fish management actions prescribed by the Southeast Alaska King Salmon Management Plan for each management tier.

Management tier	Winter Troll CPUE	Sport allocation	Resident bag limit	Nonresident bag limit	Nonresident annual/harvest limit	Use of two rods in winter	During wild stock conservation measures
c	20.5 and above	69,000	3	2 in May, 1 all other times	5	Oct 1–Mar 31 all sport anglers may use 2 rods when fishing for salmon	
d	less than 20.5 to 8.7	61,900	3	1	4	Oct 1–Mar 31 all sport anglers may use 2 rods when fishing for salmon	
e	less than 8.7 to 6.0	49,300	2	1	3	Resident anglers may use 2 rods when fishing for king salmon between Oct 1–Mar 31	
f	less than 6.0 to 3.8	37,900	1	1	Jan 1–Jun 30 = 3 Jul 1–Jul 7 = 2 Jul 8–Dec 31 = 1	Resident anglers may use 2 rods when fishing for king salmon between Oct 1–Mar 31	In areas where king salmon was closed to retention to protect Alaska wild stocks, once reopened the resident bag limit increases to 2.
g	less than 3.8 to 2.6	25,800	1	1	Jan 1–Jun 30 =3 Jul 1–Dec 31 = 1	N/A	In areas where king salmon was closed to retention to protect Alaska wild stocks, once reopened the resident bag limit increases to 2.
h	less than 2.6 to 2.0	20,600	1	Jul 1–Aug 15 = no retention, all other times bag limit of 1	Jan 1–Jun 15 =2 Jun 16–Dec 31 = 1	N/A	
i	less than 2.0	TBD	TBD	TBD	TBD	TBD	TBD

MANAGEMENT ACTIONS IN 2019

Under the newly modified KSMP beginning in 2019, the regional king salmon sport fish bag and possession limits and any other management measures prescribed in the plan are based upon the SEAK Winter Troll CPUE. The 2019 Alaska Winter Troll CPUE of 3.38 was announced in April. This level of abundance resulted in an all-gear catch limit of 140,323 yielding the 20% sport allocation less the net allocation of 24,596 king salmon. Given that the SEAK Winter Troll CPUE was greater than 2.6 and less than or equal to 3.8, the management plan required a bag limit of 1 king salmon 28 inches or greater in length; a king salmon annual harvest limit for nonresident anglers of 3 fish from January 1–June 30, and 1 fish July 1–December 31. Any king salmon harvested during the earlier period applied toward the later period. In addition, a resident bag limit of 2 king salmon 28 inches or greater in length was established for the inside waters that were closed to reduce harvest of Alaska wild king salmon once they reopened. These regional regulations were implemented by Emergency Order 1-KS-R-05-19 and became effective on April 2, 2019. These regulations applied to all marine waters in SEAK, including Yakutat. THAs established by emergency order to harvest excess Alaska hatchery king salmon were excluded and areas closed to king salmon nonretention for wild stock conservation.

In early July, an estimate of projected harvest of king salmon for the entire year (including harvest to date and projected for the remainder of the season) was shown to be over the sport allocation. As directed by the KSMP, at this level of abundance nonresident anglers will be restricted inseason to stay within the sport harvest allocation and ADF&G shall only restrict resident anglers if nonresident angler restrictions are insufficient to remain within the sport harvest allocation. To maintain the sport fishery within its allocation a period of king salmon nonretention for nonresident anglers from August 1 through September 15 was implemented by Emergency Order 1-KS-R-23-19 issued on July 22.

Based on harvest estimates and projected harvest of king salmon for the remainder of the season, in late August the period of king salmon nonretention for nonresident anglers was no longer necessary to ensure that the sport fishery remained within its allocation. Emergency Order 1-KS-R-27-19 issued August 16, rescinded the nonresident nonretention period and reestablished the same management measures established at the beginning of the season as directed by the KSMP at a SEAK Winter Troll CPUE of 3.38.

SEAK wild king salmon stocks continued to be in a period of low production in 2019. SEAK king salmon escapements during 2016–2018 were the worst on record with 3 and 2 out of the 11 king salmon indicator stocks meeting escapement goals in 2016 and 2017, respectively. In 2018, only 4 of the 11 king salmon indicator stocks met escapement goals. This trend of low production continued in 2019. In April 2019, 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 *Southeast Alaska Wild Stocks and Management* section of this report. These management actions were effective at decreasing the harvest of wild Alaska king salmon but also led to a decreased harvest of treaty king salmon.

The estimated treaty harvest in the sport fishery for 2019 is 24,496 fish which was 1,396 fish below the 20% allocation based on the SEAK Winter Troll CPUE (Table 5). The sport fishery took 19.0% of the all-gear catch limit less the net harvest.

MANAGEMENT ACTIONS IN 2020

The 2020 SEAK Winter Troll CPUE of 4.83 was announced in February. This level of abundance resulted in an all-gear catch of 205,165, yielding the 20% sport allocation less the net allocation of 37,879 king salmon.

Given that the SEAK Winter Troll CPUE was greater than 3.8 and less than or equal to 6.0, the management plan required a bag limit of 1 king salmon 28 inches or greater in length; a nonresident king salmon total harvest limit of 3 fish from January 1–June 30, 2 fish from July 1–July 7, and 1 fish from July 8–December 31. In addition, a resident bag limit of 2 king salmon 28 inches or greater in length was established for the inside waters that were closed to reduce harvest of Alaska wild king salmon once they reopened, and from October 1 through March 31, a resident sport angler could use 2 rods when fishing for king salmon. These regulations were implemented by Emergency Order (EO) 1-KS-R-05-20 and became effective on April 15, 2018. These regulations applied to all marine waters in SEAK, including Yakutat. THAs established by emergency order to harvest excess Alaska hatchery king salmon and areas of king salmon nonretention to protect wild stocks were excluded.

Beginning in late May, estimates and projected sport harvest of king salmon for the remainder of the season indicated the sport fishery would be significantly under its allocation due to reduced salmon effort caused by the COVID-19 pandemic travel restrictions. This sport salmon effort reduction of approximately 50% required the following progressive liberalizations of sport king salmon limits throughout the season for the sport fishery to obtain its allocation: on June 15, the resident bag limit was increased to 3 fish and the nonresident annual limit to 4 fish (EO 1-KS-R-16-20); on July 10, the resident bag limit was increased to 4 fish from July 11 through August 15 and the nonresident bag limit and annual limit was increased by 2 and 6 fish, respectively, from July 11 through August 15 (EO 1-KS-R-19-20); On July 29, the resident bag limit was increased to 5 fish and the nonresident bag limit was increased to 3 fish with a nonresident annual limit of annual limit 9 fish (EO 1-KS-R-23-20). Despite these liberations, the sport fishery was significantly under its allocation.

In September, with the sport king salmon fishery being over 90% complete, king salmon regulations reestablishing management measures established at the beginning of the season, mandated by the KSMP at a SEAK Winter Troll CPUE of 4.83, were established by Emergency Order 1-KS-R-24-20 effective October 1, 2020.

SEAK wild king salmon stocks continued to be in a period of low production during 2020. Despite better performance in 2019, the trend of low production was expected to continue in 2020 for many of the 11 monitored systems, including the Taku, Stikine, and Chilkat River stocks, which are projected to have escapements below the lower bound of the escapement goal ranges. The Chilkat River stock has not achieved its escapement goal in 6 of the past 8 years, the King Salmon River stock has not achieved its escapement goal in 6 of the past 8 years, and the Unuk River stock has not achieved its escapement goal in 4 of the past 8 years. During the 2017/2018 board cycle these stocks were identified as stocks of concern prompting the development of specific action plans that outline conservative management measures for all fisheries to reduce the harvest of these stocks. The Taku, Stikine, and Chickamin River stocks have not achieved the lower bound of

escapement goals between 2016–2020. In April 2020, 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 *Southeast Alaska Wild Stocks and Management* section of this report. These management actions were effective at decreasing the harvest of wild Alaska king salmon but also led to decreased harvest of treaty king salmon.

The estimated treaty harvest in the sport fishery for 2020 is 30,561 fish which was 7,318 fish below the 20% allocation based on the SEAK Winter Troll CPUE. The sport fishery took 16.1% of the all-gear catch limit less the net harvest.

OPPORTUNITY FOR ALASKA HATCHERY ORIGIN KING SALMON

Alaska hatchery-produced king salmon provide an important contribution to SEAK sport fisheries by providing directed harvest opportunity in areas where Alaska hatchery king salmon are returning. Many of these terminal areas are located near major communities where opportunity for king salmon harvest has been restricted to conserve SEAK wild stock king salmon. Large amounts of angler effort are expended in these areas which, if directed elsewhere, could increase pressure on wild stocks. In addition, Alaska hatchery-origin king salmon harvest does not count toward the SEAK all-gear catch limit.

In 1989, ADF&G was given authority to increase harvest opportunities for king salmon in hatchery THAs. Increased bag and possession limits, reduced size limits, and removal of annual limits have been used to increase opportunity in selected areas in accordance with management plans, king salmon action plans, and with consideration towards the potential interceptions of wild king salmon. Hatchery areas where increased opportunity was provided through emergency order between 2018–2020 are displayed in Table 7 and Figure 2.

Table 7.–Sport fishing regulations in terminal areas of Southeast Alaska to provide opportunity for Alaska hatchery-produced king salmon 2018–2020.

Year	Management area	Hatchery area	Effective dates	Bag, possession, annual limits
2018	Juneau	Lena Cove, Auke Bay, Fritz Cove, and Gastineau Channel	June 1–July 31	4 fish any size nonresident annual limit does not apply
	Ketchikan	Mountain Point	June 1–June 14	1 fish equal to or greater than 28 inches, annual limit is 3
	Ketchikan	Neets Bay	June 1–June 14	1 fish equal to or greater than 28 inches, annual limit is 3
	Ketchikan	Thomas Basin	June 1–June 14	1 fish equal to or greater than 28 inches, annual limit is 3
	Ketchikan	Herring Bay	June 1–July 31	3 fish bag and possession limit, no annual limit
	Petersburg/ Wrangell	Blind Slough/Wrangell Narrows	June 1–July 31	2 fish over 28 inches and 2 fish under 28 inches
	Petersburg/ Wrangell	City Creek release site	June 1–July 14	one fish any size
	Petersburg/ Wrangell	Anita Bay	June 1–July 14	regional regulations apply
	Sitka	Hidden Falls	June 1–July 14	1 fish equal to or greater than 28 inches, annual limit is 3
2019	Juneau	Lena Cove, Auke Bay, Fritz Cove, and Gastineau Channel	June 1–July 31	4 fish any size nonresident annual limit does not apply
	Ketchikan	Mountain Point	June 1–June 14	1 fish equal to or greater than 28 inches, annual limit is 3
	Ketchikan	Neets Bay	June 1–June 14	1 fish equal to or greater than 28 inches, annual limit is 3
	Ketchikan	Thomas Basin	June 1–June 14	1 fish equal to or greater than 28 inches, annual limit is 3
	Ketchikan	Herring Bay	June 1–July 31	3 fish bag and possession limit, no annual limit
	Petersburg/ Wrangell	Blind Slough/Wrangell Narrows	June 1–July 31	2 fish over 28 inches and 2 fish under 28 inches, nonresident annual limit does not apply
	Petersburg/ Wrangell	City Creek release site	June 15–July 14	one fish any size
	Petersburg/ Wrangell	Anita Bay	June 1–July 15	regional regulations apply
	Sitka	Hidden Falls	June 1–July 14	1 fish equal to or greater than 28 inches, annual limit is 3

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Table 7.–Page 2 of 2.

Year	Management area	Hatchery area	Effective dates	Bag, possession, annual limits
2020	Juneau	Lena Cove, Auke Bay, Fritz Cove, and Gastineau Channel	June 1–July 31	4 fish any size nonresident annual limit does not apply
	Ketchikan	Mountain Point	June 1–June 14	1 fish equal to or greater than 28 inches, annual limit is 3
	Ketchikan	Neets Bay	June 1–June 14	1 fish equal to or greater than 28 inches, annual limit is 3
	Ketchikan	Thomas Basin	June 1–June 14	1 fish equal to or greater than 28 inches, annual limit is 3
	Ketchikan	Herring Bay	June 1–July 31	3 fish bag and possession limit, no annual limit
	Petersburg/ Wrangell	Blind Slough/Wrangell Narrows	June 1–July 31	2 fish over 28 inches and 2 fish under 28 inches, nonresident annual limit does not apply
	Petersburg/ Wrangell	City Creek release site	June 15–July 14	one fish any size
	Petersburg/ Wrangell	Anita Bay	June 1–July 15	regional regulations apply
	Sitka	Hidden Falls	June 1–July 14	1 fish equal to or greater than 28 inches, annual limit is 3

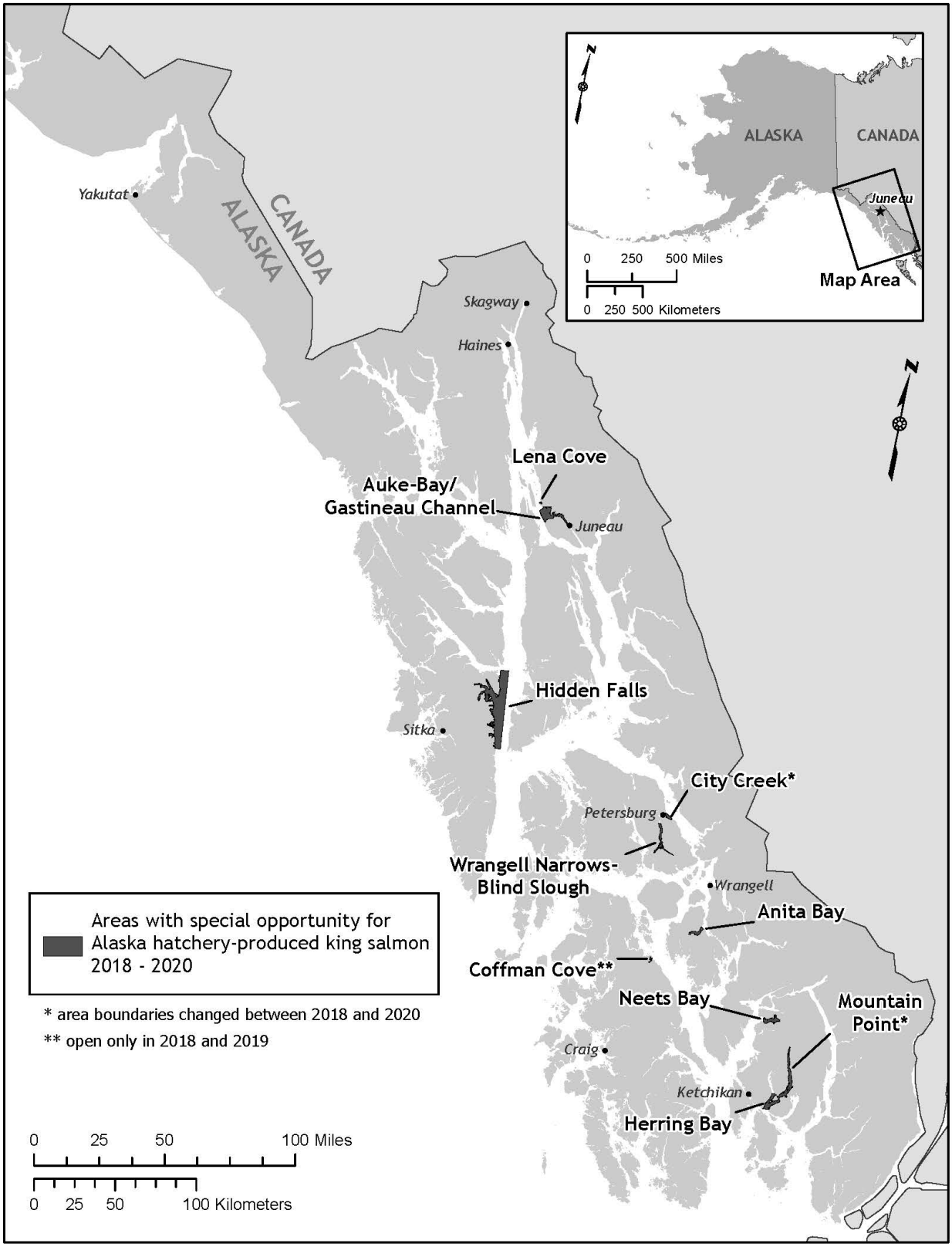

Figure 2.–Areas in Southeast Alaska with special opportunity for Alaska hatchery-produced king salmon, 2018–2020.

EFFORT

TOTAL NUMBER OF ANGLERS

The total number of anglers fishing in SEAK has experienced an annual growth rate of 3.2% between 1984 and 2019 (Figure 3). The growth in the fishery can be attributed to an increasing number of nonresident anglers while a slight decreasing trend has been observed in the number of resident anglers. In 2019, 127,886 anglers fished in SEAK of which 75% (95,966) were nonresident anglers.

While the general trend has been growth, the annual number of nonresident anglers is influenced by outside factors affecting the visitor industry in SEAK. Notably during 2008–2011, a decline in nonresident angler participation was observed, corresponding with the nationwide economic trends of the Great Recession. Although data from the Alaska Sport Fishing Survey (commonly known as the Statewide Harvest Survey, SWHS) is not yet available for 2020, other indicators suggest a drastic reduction in nonresident anglers resulting from travel restrictions and other impacts of COVID-19.

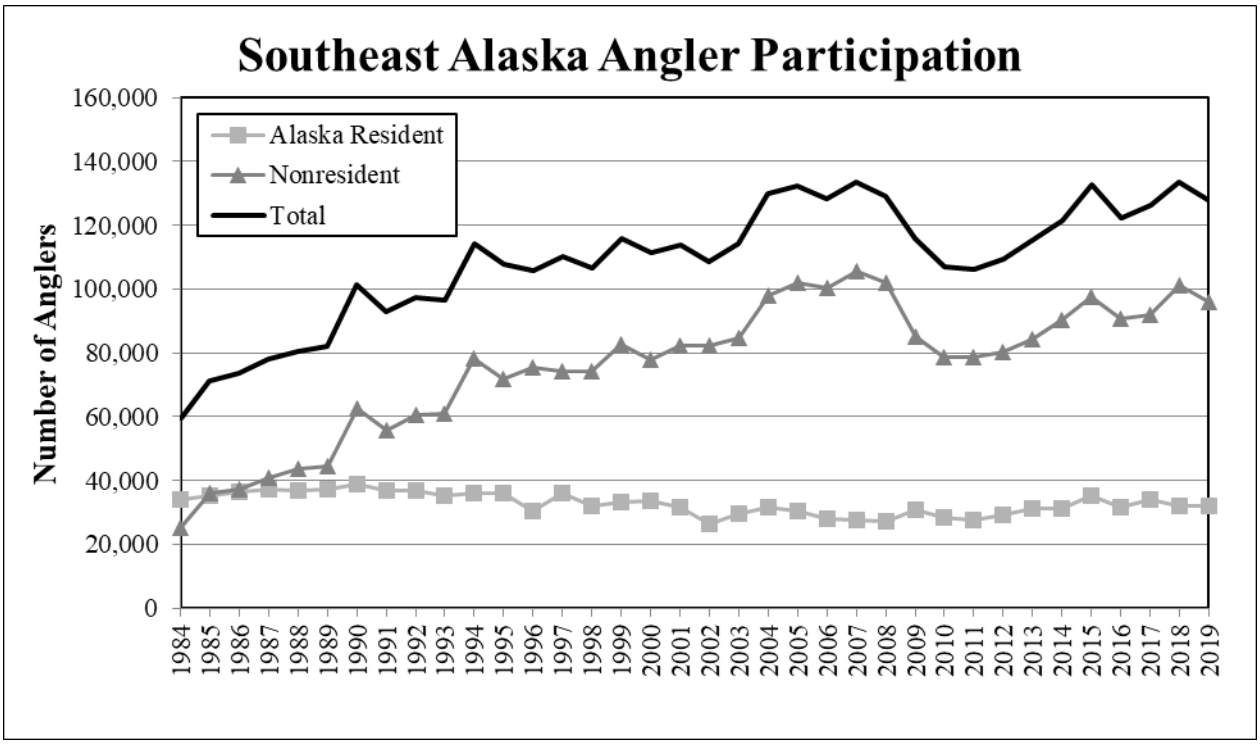

Figure 3.–Number of resident and nonresident anglers who fished in Southeast Alaska, 1984–2019 as estimated from the Alaska Sport Fishing Survey (i.e., SWHS; available at https://www.adfg.alaska.gov/sf/sportfishingsurvey/index.cfm?ADFG=main.home).

Note: Angler participation estimates prior to 1996 can be found on the ADF&G Historic Statewide Harvest Survey Publications website at https://www.adfg.alaska.gov/sf/sportfishingsurvey/index.cfm?ADFG=main.historic.

CHARTER VESSEL REGISTRATIONS AND LOGBOOK PROGRAM

In 1998, a saltwater vessel logbook program was implemented, requiring all guided charter vessels operating in saltwater to obtain and complete a logbook. Sport fishing guides and businesses are required to register with ADF&G, and each charter vessel is registered when a logbook is issued to that vessel. Each chartered vessel completes a logbook page for each fishing trip and returns that information to ADF&G. The information recorded includes the trip duration, target species, anglers and their residency status, harvest or release information by species, along with other information. While numerous program changes have been made to the logbook program since inception, the 2021 logbook page is provided in Appendix B for reference. Beginning in 2021, charter operators were required to submit information from completed chartered trips electronically.

The number of registered saltwater charter vessels within SEAK has ranged from 926 during 2006 to a low of 561 during 2020 (Figure 4 and Table 8). Beginning in 2009, the number of registered charter vessels decreased each year, declining 27% before stabilizing in 2013. Between 2015 and 2019, the number of registered vessels experienced a relatively stable growth of 3% annually to reach 783 registered vessels in 2019. In 2020, the unprecedented travel restrictions and other measures related to COVID-19 resulted in the lowest number of registered charter vessels since inception of the program. 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 2005 to 2019, 85% of registered vessels reported taking clients on at least 1 charter fishing trip, indicating that they were active during that year (Table 9 and Figure 5). During 2020, the number of active vessels not only declined in correspondence with the reduction in registered vessels, but fewer registered vessels reported being active. Only 75% of registered vessels reported being active in 2020. Before the global pandemic of 2020, the number of active charter vessels during 2019 was 15% lower than the peak observed in 2007.

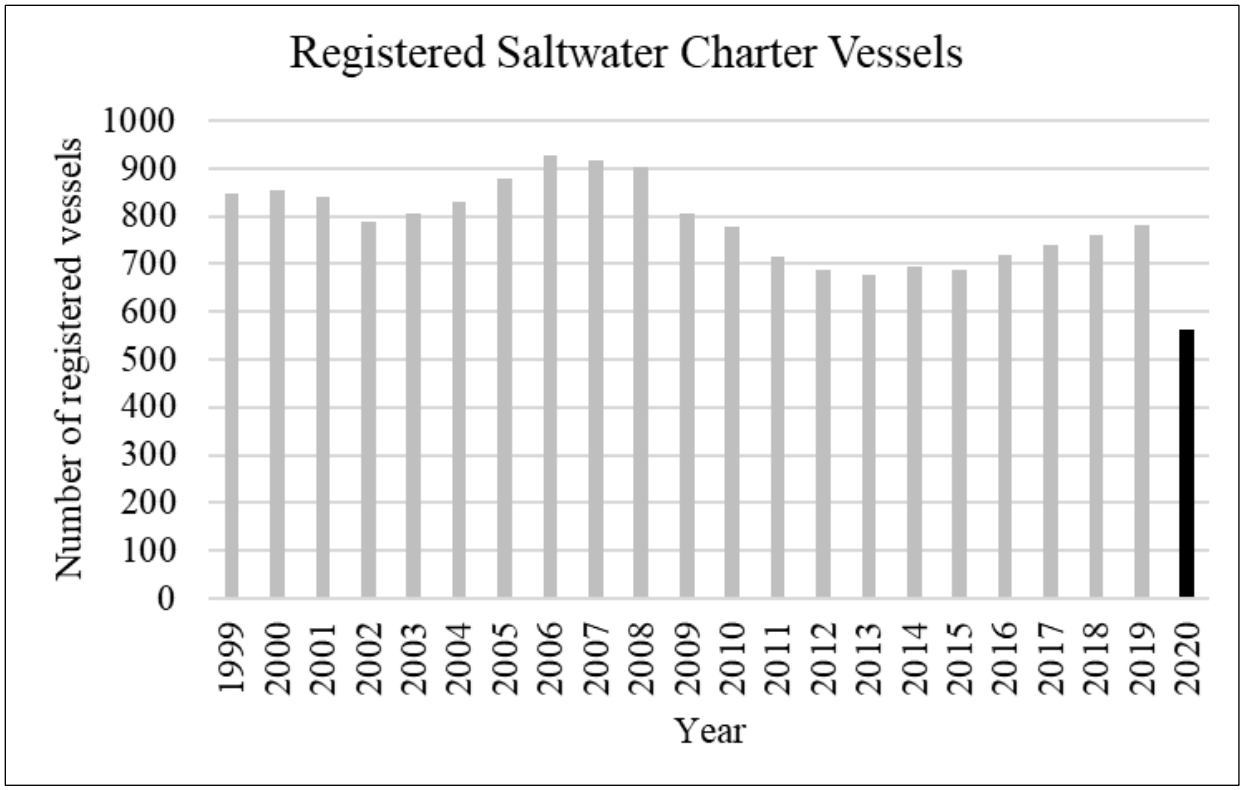

Figure 4.–Number of saltwater charter vessels registered in Southeast Alaska as determined from saltwater logbook and vessel registration program, 1999–2020.

Note: 2020 data is preliminary.

Table 8.–Number of registered (or licensed) saltwater charter vessels in Southeast Alaska by Statewide Harvest Survey (SWHS) area, determined from saltwater logbook and vessel registration program, 2005–2020.

SWHS area[a]	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020[b]
Ketchikan	172	178	182	184	157	155	141	140	144	145	145	141	154	168	175	102
Prince of Wales	178	196	197	175	168	161	137	135	130	135	144	165	155	159	165	149
Petersburg/Wrangell	51	56	56	61	53	53	50	39	43	40	35	42	36	39	35	22
Sitka	239	241	242	232	202	194	194	185	173	168	162	166	173	170	180	146
Juneau	119	134	119	117	110	109	96	88	89	99	103	108	95	97	102	51
Skagway	9	9	8	7	8	4	4	6	4	7	7	5	6	3	4	0
Haines	6	5	3	4	3	3	3	3	3	1	2	2	2	4	3	0
Glacier Bay	85	83	93	108	93	85	81	80	77	80	75	77	85	88	88	71
Yakutat	18	19	20	17	13	13	12	14	16	17	15	13	15	16	16	14
Other[c]	2	7	2	2	2	2	2	2	2	5	1	1	20	17	15	6
TOTAL[d]	879	926	918	904	807	778	716	689	678	695	686	718	741	761	783	561

[a] SWHS area is based on the homeport listed on the sign out sheet for the vessel.

[b] 2020 data is preliminary.

[c] Includes multiple homeports in different SWHS area.

[d] Column is not additive; some vessels registered in more than one SWHS area and are counted in each SWHS area.

Table 9.–Overall number of active saltwater charter vessels in Southeast Alaska by Statewide Harvest Survey (SWHS) area as determined from saltwater logbook and vessel registration program, 2005–2020.

SWHS area[a]	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020[b]
Ketchikan	152	143	154	141	130	129	129	120	121	128	134	127	132	141	146	60
Prince of Wales	162	171	182	183	162	146	127	128	127	132	134	145	150	154	159	134
Petersburg/Wrangell	62	53	59	53	54	52	44	43	41	37	38	39	48	40	37	27
Sitka	223	228	223	222	194	180	172	168	162	163	157	166	179	170	172	128
Juneau	120	117	113	112	105	88	101	97	101	105	102	111	102	106	97	44
Skagway	9	9	7	6	8	5	4	6	4	7	6	5	6	3	3	0
Haines	5	4	4	4	3	4	2	3	2	2	2	2	4	4	4	0
Glacier Bay	79	80	87	96	84	91	76	75	72	78	69	71	76	84	74	57
Yakutat	14	15	16	14	10	11	12	12	13	13	15	12	15	15	16	13
TOTAL[c]	738	747	768	757	670	644	611	592	579	601	601	617	630	645	653	423
Percent of registered vessels active	84%	81%	84%	84%	83%	83%	85%	86%	85%	86%	88%	86%	85%	85%	83%	75%

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] 2020 data is preliminary

[c] Column is not additive; some vessels fished in more than one SWHS area and counted in each SWHS where they fished.

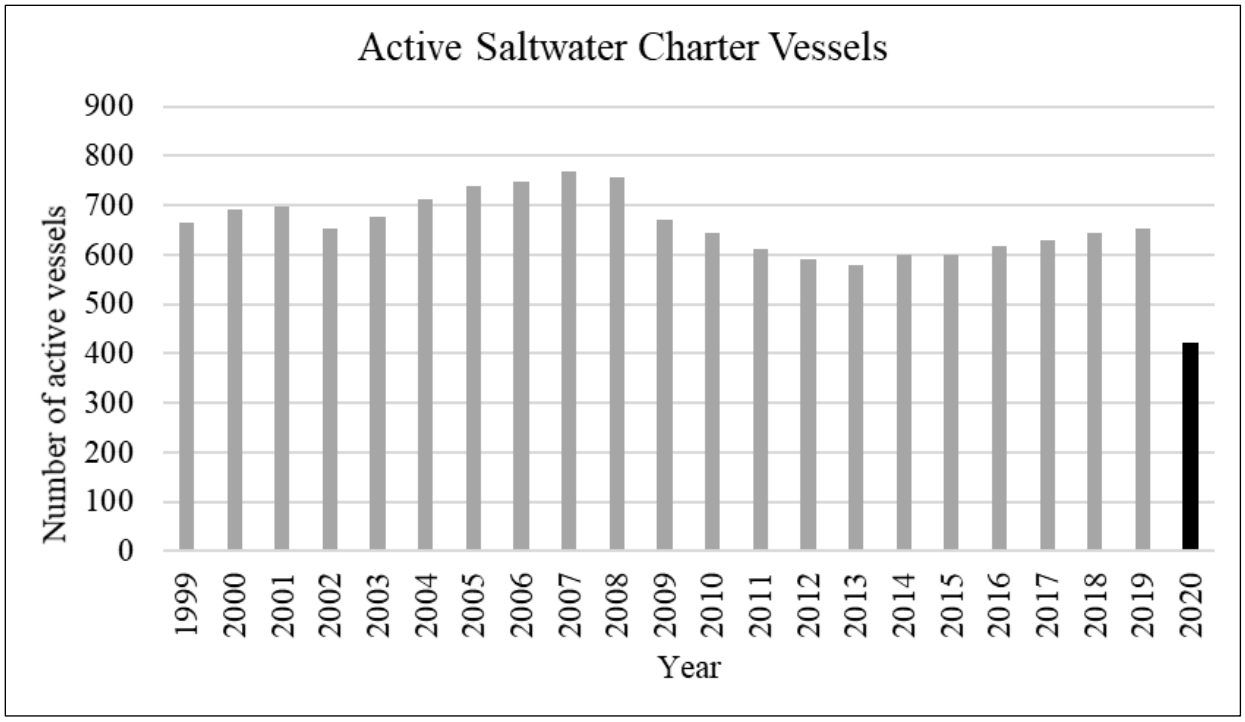

Figure 5.–Number of active saltwater charter vessels in Southeast Alaska as determined from saltwater logbook and vessel registration program, 1999–2020.

Note: Active vessels are those that turned in logbook forms reporting at least one trip with clients.
Note: 2020 data is preliminary.

HARVEST

REGIONWIDE HARVEST

The annual harvest of king salmon is driven by several factors including abundance of king salmon, angler effort, and annual regulatory actions. 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 10). 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 largest observed sport harvest occurred in 2014, when nearly 87,000 fish king salmon were harvested. The average regionwide harvest during 2011–2019 was approximately 58,100 king salmon.

Distribution of king salmon harvest by area in SEAK has changed substantially since the 1980s (Figure 6 and Table 10). Average harvest in the Glacier Bay, Sitka, and Prince of Wales Island (PWI) areas displayed similar trends across 4 time periods that amounted to an increase in harvest for each subsequent time period, resulting in the highest harvest during the latest period (2011–2019). Ketchikan, Petersburg-Wrangell, and Juneau displayed somewhat similar trends (increased harvest through the first 3 time periods) until 2011–2019, when harvest levels decreased. During the most recent time period (2011–2019), the outer coast fisheries of Sitka and PWI 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 2019. While recent management actions (2017–2020) to protect wild stock king salmon

have disproportionately restricted fishing opportunity in the inside waters of Haines/Skagway, Juneau, Petersburg/Wrangell, and Ketchikan areas, the harvest ratios between these areas and those of the outside coast have remained stable or increased, with the exception of the Haines/Skagway area where virtually no opportunity to harvest king salmon exists. This can largely be explained by the continued contribution of Alaska hatchery-produced king salmon to the fishery.

Table 10.–Estimated annual saltwater and freshwater sport harvest of king salmon in Southeast Alaska by area, 1977–2019 as determined from the Statewide Harvest Survey (SWHS).

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	5,125	17,617	14,684	777	3,425	3,612	57,510
1997	5,257	7,830	6,299	26,526	15,521	1,609	5,553	2,929	71,524
1998	3,236	10,233	3,686	23,162	8,779	690	2,682	2,514	54,982
1999	7,916	8,518	9,502	26,968	11,574	1,168	3,675	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	6,633	7,574	6,173	18,061	12,744	917	2,420	1,872	56,393
Percent	12%	13%	11%	32%	23%	2%	4%	3%	

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Table 10.–Page 2 of 2.

Year	Ketchikan	Prince of Wales	Petersburg-Wrangell	Sitka	Juneau	Haines-Skagway	Glacier Bay	Yakutat	Total
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%	
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
2017	6,384	11,493	4,203	23,561	3,032	0	2,579	1,054	52,306
2018	6,446	5,650	3,484	8,900	3,790	0	1,994	597	30,861
2019	4,722	6,522	2,714	13,855	4,911	0	1,720	407	34,851
2011–2019									
Average	8,403	10,349	4,304	24,714	5,977	355	3,135	822	58,059
Percent	14%	18%	7%	43%	10%	1%	5%	1%	

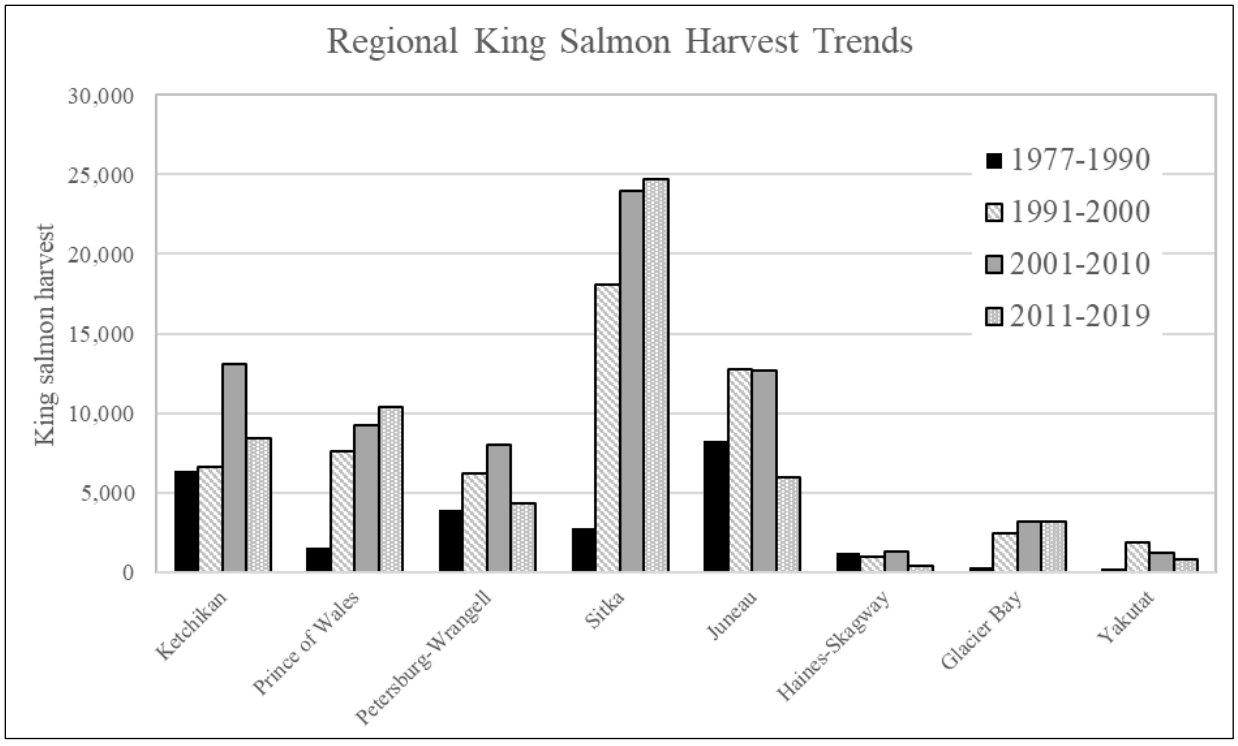

Figure 6.–Average estimated harvest of king salmon in Southeast Alaska for 1977–1990, 1991–2000, 2001–2010, and 2011–2019 as determined by the Statewide Harvest Survey (SWHS).

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 7, Tables 11 and 12). In the late 1980s through mid-1990s, 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, reduced the proportion of the total harvest taken by nonresidents up through 2010, averaging 55% between 1997 and 2010. Growth in the nonresident fishery occurring after 2010 has corresponded with an increase in nonresident harvest. The proportion of nonresident harvest in the most recent 5 years (2015–2019) has been stable, averaging 68% of total harvest.

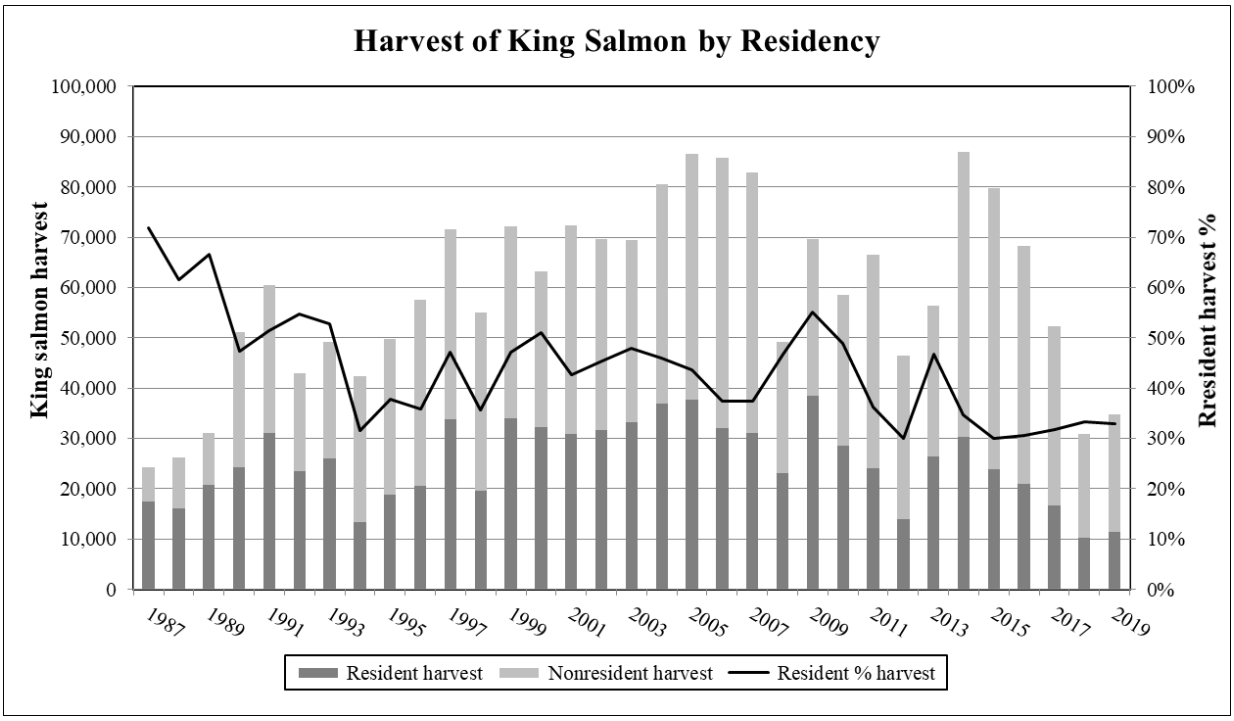

Figure 7.–Estimated harvest of king salmon by resident and nonresident anglers in Southeast Alaska, 1987–2019, as determined from the Statewide Harvest Survey (SWHS).

Table 11.–Marine and freshwater sport harvest of king salmon by Alaska resident anglers in Southeast Alaska (by area) as estimated by the Statewide Harvest Survey (SWHS), 1987–2019.

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	2,111	4,203	9,348	236	1,463	373	20,645
1997	2,497	2,111	2,803	10,939	11,251	717	3,325	106	33,749
1998	1,113	2,002	1,934	6,598	6,598	100	1,039	215	19,599
1999	4,527	2,166	5,903	10,729	7,938	421	1,743	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
2017	1,679	2,113	2,062	7,582	2,411	0	556	170	16,573
2018	2,864	741	1,623	1,571	3,119	0	342	20	10,280
2019	2,084	1,162	845	3,056	4,146	0	164	14	11,471
Average									
1987–1999	3,143	1,379	2,997	5,523	8,773	237	780	176	23,007
2000–2009	7,259	2,135	4,506	6,938	9,674	565	1,400	231	32,709
2010–2019	4,142	1,955	2,210	6,390	4,959	215	634	129	20,635

Table 12.–Marine and freshwater sport harvests of king salmon by nonresident anglers in Southeast Alaska (by area) as estimated by the Statewide Harvest Survey (SWHS), 1987–2019.

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	3,014	13,414	5,336	541	1,962	3,239	36,865
1997	2,760	5,719	3,496	15,587	4,270	892	2,228	2,823	37,775
1998	2,123	8,231	1,752	16,564	2,181	590	1,643	2,299	35,383
1999	3,389	6,352	3,599	16,239	3,636	747	1,932	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
2017	4,705	9,380	2,141	15,979	621	0	2,023	884	35,733
2018	3,582	4,909	1,861	7,329	671	0	1,652	577	20,581
2019	2,638	5,360	1,869	10,799	765	0	1,556	393	23,380
Average									
1987–1999	3,814	4,693	2,841	8,432	3,133	732	942	1,140	25,726
2000–2009	5,748	7,029	3,955	16,587	3,157	765	1,883	1,065	40,190
2010–2019	4,433	8,061	2,062	18,204	1,429	178	2,395	707	37,469

CHARTER HARVESTS

Mandatory logbooks for charter vessels fishing in marine waters were implemented in 1998. The logbook estimates of king salmon harvests for SEAK have varied from 16,687 to over 57,000 during 1998–2019 (Table 13). 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 PWI) with an average of 56% occurring off of Sitka and 24% off of the west coast of PWI.

Table 13.–Estimated charter harvest of king salmon (clients only) in Southeast Alaska as determined from saltwater logbook and vessel registration program, 1998–2020.

	SWHS Area[a]								
Year	Ketchikan	Prince of Wales	Petersburg-Wrangell	Sitka[c]	Juneau	Haines-Skagway	Glacier Bay[c]	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[b]	6,662	14,568	1,600	24,658	2,597	1,056	2,431	262	53,834
2006	4,913	15,372	1,727	30,078	1,650	638	2,926	273	57,577
2007	4,630	12,189	1,232	27,201	1,894	476	3,399	288	51,309
2008	2,405	3,099	429	13,093	807	153	900	312	21,198
2009	2,772	4,137	345	15,509	1,035	235	1,868	405	26,306
2010	2,499	5,579	356	16,415	605	193	1,595	113	27,355
2011	3,460	9,887	465	22,545	658	159	2,742	197	40,113
2012	2,537	6,672	329	15,207	1,012	207	1,166	197	27,327
2013	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
2017	3,285	12,180	1,199	16,518	307	1	1,770	233	35,493
2018	2,096	5,892	541	6,447	259	4	1,265	183	16,687
2019	1,787	5,878	671	11,103	457	9	1,158	218	21,281
2020[d]	367	6,968	501	12,262	37	0	1,625	193	21,953
Average 1998–2007	4,671	10,863	1,073	22,109	2,488	1,121	2,220	353	44,898
2008–2017	2,965	9,045	637	19,588	788	147	2,108	261	35,539
2017–2020	1,417	6,246	571	9,937	251	4	1,349	198	19,974
Average % 2011–2020	8%	29%	2%	52%	2%	0%	6%	1%	

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

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

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

[d] 2020 data is preliminary.

HARVEST COMPOSITION

Although it may be easy to assume that king salmon from all stocks are equally distributed across SEAK marine fisheries, harvest sampling of SEAK fisheries reveals varying trends in harvest composition across time and between locations. As each stock or stock group migrates through fishery corridors, their availability to harvest changes. The SEAK sport fishery is sampled for the recovery of coded wire tags (CWTs) and also utilizes genetic sampling from tissue collected during sport fish harvest sampling. The genetic stock sampling report to the Board of Fisheries (Peterson et al. *In prep*) describes the results of genetic sampling in the sport fishery. The ports on the outside coast of SEAK (Sitka, Craig, Klawock, Yakutat) will harvest a higher ratio of king salmon stocks originating from out of state. The inside waters of Ketchikan, Petersburg, Wrangell, Juneau, Haines and Skagway have greater potential to harvest SEAK wild stocks originating from the mainland coast in close proximity to those areas. The interception of Alaska hatchery-produced king salmon occurs through SEAK but is typically greatest immediately adjacent to their terminal areas or remote release sites. In addition to differences due to location, stock composition is also affected by timing as various stocks migrate through fishery areas. For example, the early season within inside waters will harvest a greater proportion of SEAK wild stock king salmon as well as Alaska hatchery-origin fish.

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 the Ketchikan/east PWI and Juneau areas (Figure 8). From 2011 to 2020, the average Alaska hatchery percentage in the sport harvest was 32% in Ketchikan/east PWI and 52% in Juneau. In the outer coast fisheries, the average percentage of Alaska hatchery fish remains much lower than the inside waters (west PWI 6%, Sitka 8%). After king salmon hatchery releases were terminated in the Haines-Skagway area in 2015, and because king salmon nonretention regulations to conserve wild stocks were in effect throughout the area, marine harvest sampling for CWTs has been suspended since 2017 in the ports of Haines and Skagway. It is important to note that Figure 8 excludes harvest occurring in selected THAs where management action is taken to provide targeted opportunity for Alaska hatchery-produced king salmon within the Juneau, Ketchikan and Petersburg/Wrangell areas.

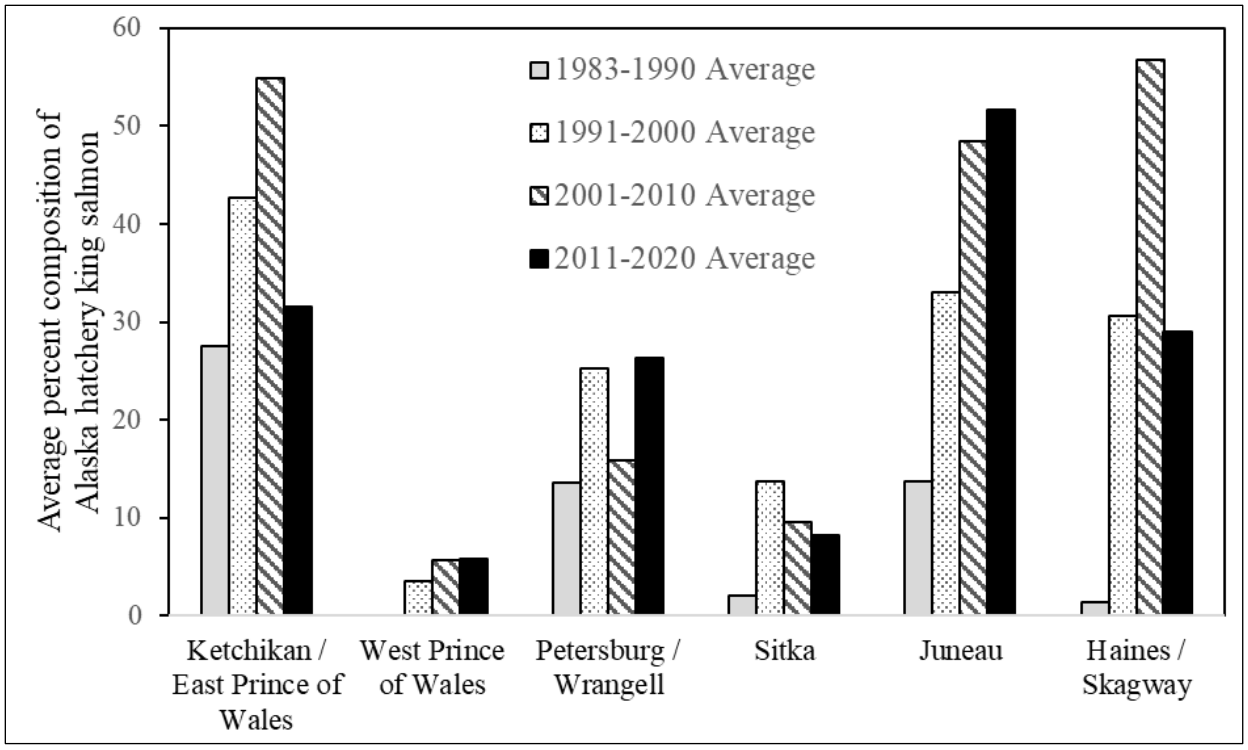

Figure 8.–Estimated percentages of Alaska hatchery-produced king salmon harvested in selected marine sport fishery areas in Southeast Alaska during 4 time periods as determined from the SEAK Marine Harvest Studies program.

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.

TIMING OF MARINE HARVEST

The midpoint of the marine waters harvest of treaty king salmon typically occurs in mid to late June (Figure 9). On average, 35% of the total regional harvest occurs in the 4-week period from approximately May 27 to June 23. This time period encompasses a 3-day weekend when fishing effort is typically high due to the Memorial Day holiday. Beginning in 2018, management action was taken to prohibit retention of king salmon in the inside waters near Haines/Skagway, Juneau, Petersburg/Wrangell, and Ketchikan between April 15 and June 14. As a result, regional harvest in the early season before June 15 has been reduced in recent years. In 2020, observed harvest was shifted later in the season due to management actions to protect wild stock king salmon in the early season combined with increasingly liberal regulations in the later half of the season as it became apparent the sport fishery would not achieve its allocation due to the reduced nonresident effort related to the COVID-19 pandemic.

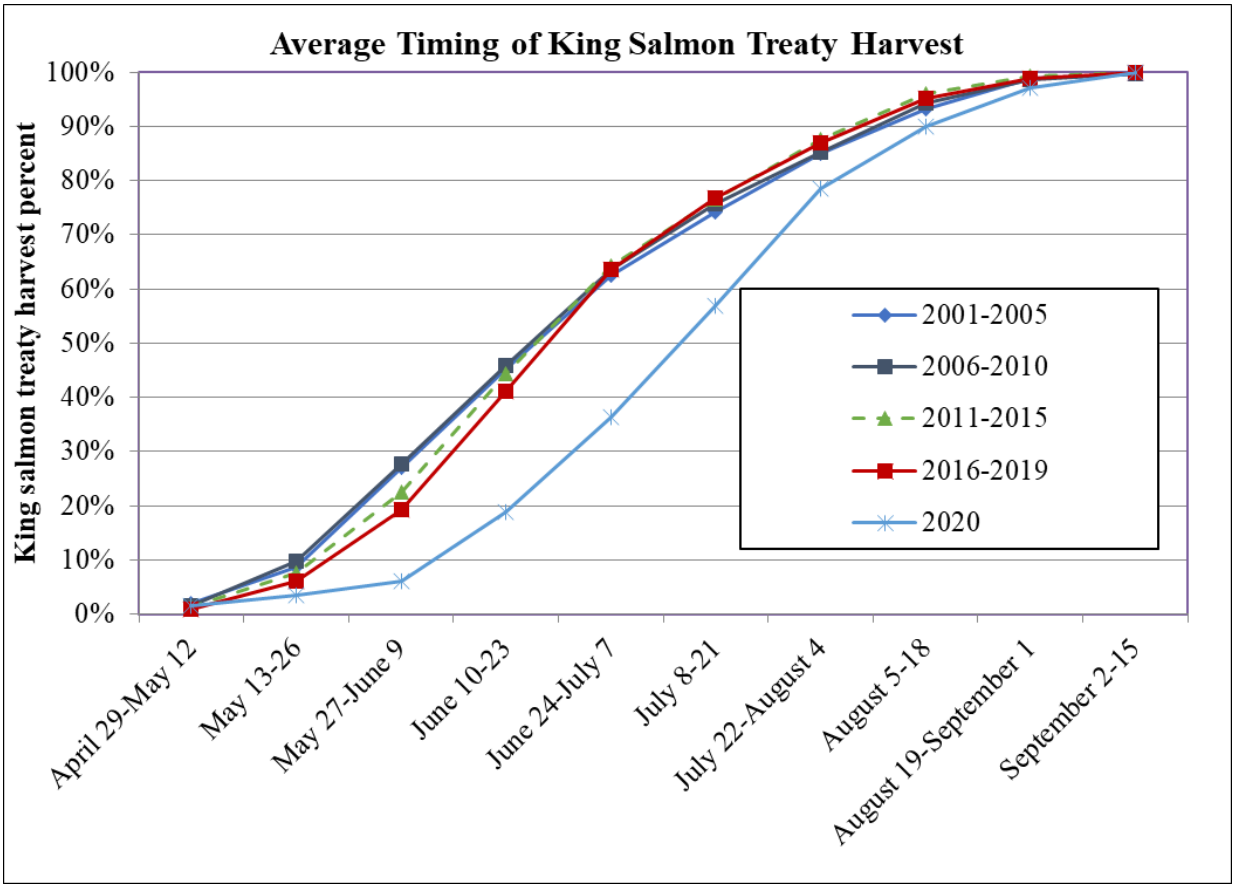

Figure 9.–Average timing of treaty king salmon harvest by 2-week periods for the Southeast Alaska marine sport fishery across multiple timeframes as determined by the SEAK Marine Harvest Studies program.

HARVEST PER UNIT EFFORT IN MARINE FISHERIES

Over the past 10 years, HPUE for king salmon in Sitka has averaged far above the HPUE in Juneau and Ketchikan (Figure 10). HPUE on the west coast of PWI is also higher than inside ports, but not as high as in Sitka. The higher HPUE in outer coast fisheries is partly due to better access to large numbers of non-Alaskan stocks migrating by and the movement of the charter fleet since 1994 to very productive fishing grounds around the outer coast of Kruzof Island near Sitka. Also, guided anglers constitute a larger percentage of the fisheries in Sitka and west PWI. Guided anglers generally have HPUEs for king salmon that are about twice as high as those of unguided anglers.

Peak HPUE for king salmon generally occurs in June (Figure 10). 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 11). As HPUE for other salmon species increases, most anglers begin to target pink and coho salmon for the balance of the fishing season.

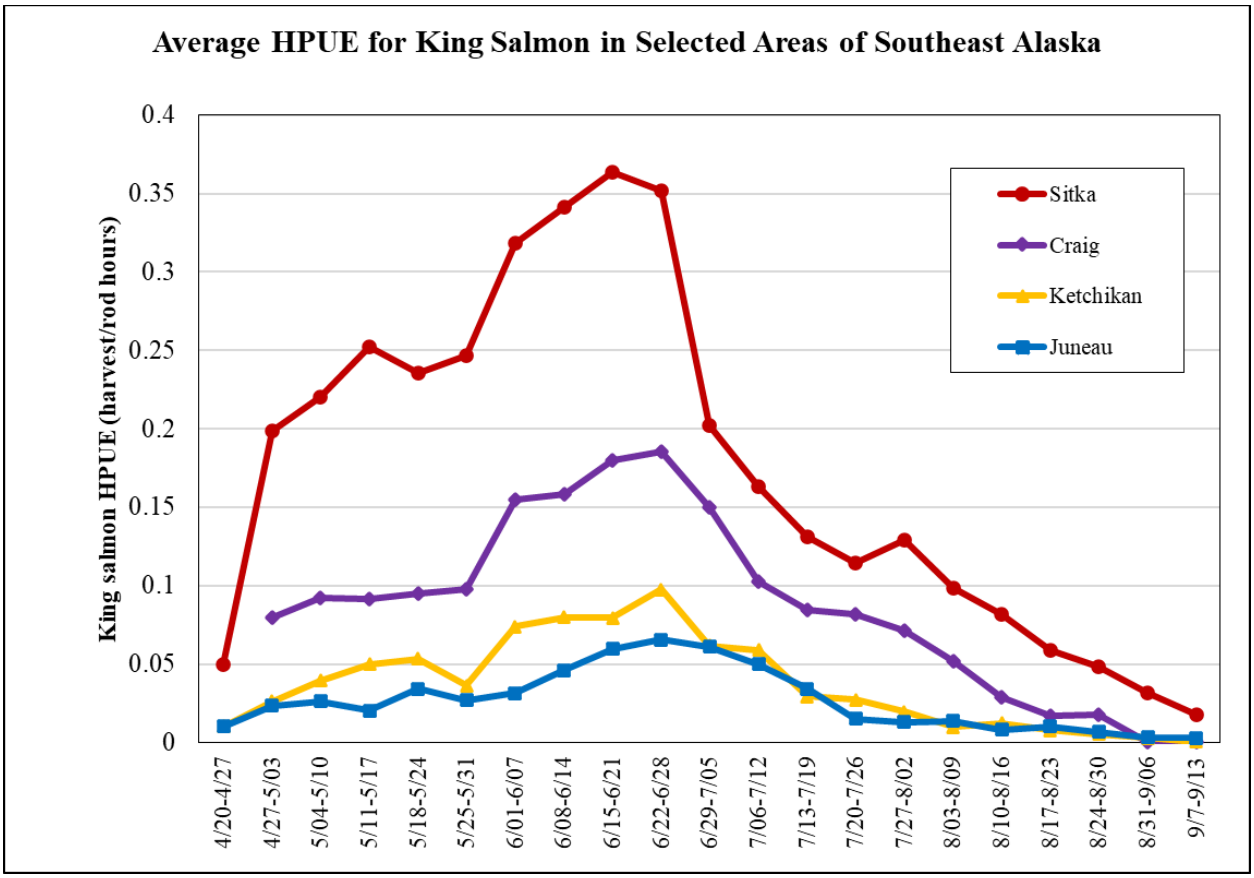

Figure 10.–Average weekly HPUE for king salmon in Juneau, Ketchikan, Sitka, and West Prince of Wales Island (Craig) during 2011–2019, as determined from the SEAK Marine Harvest Studies program.

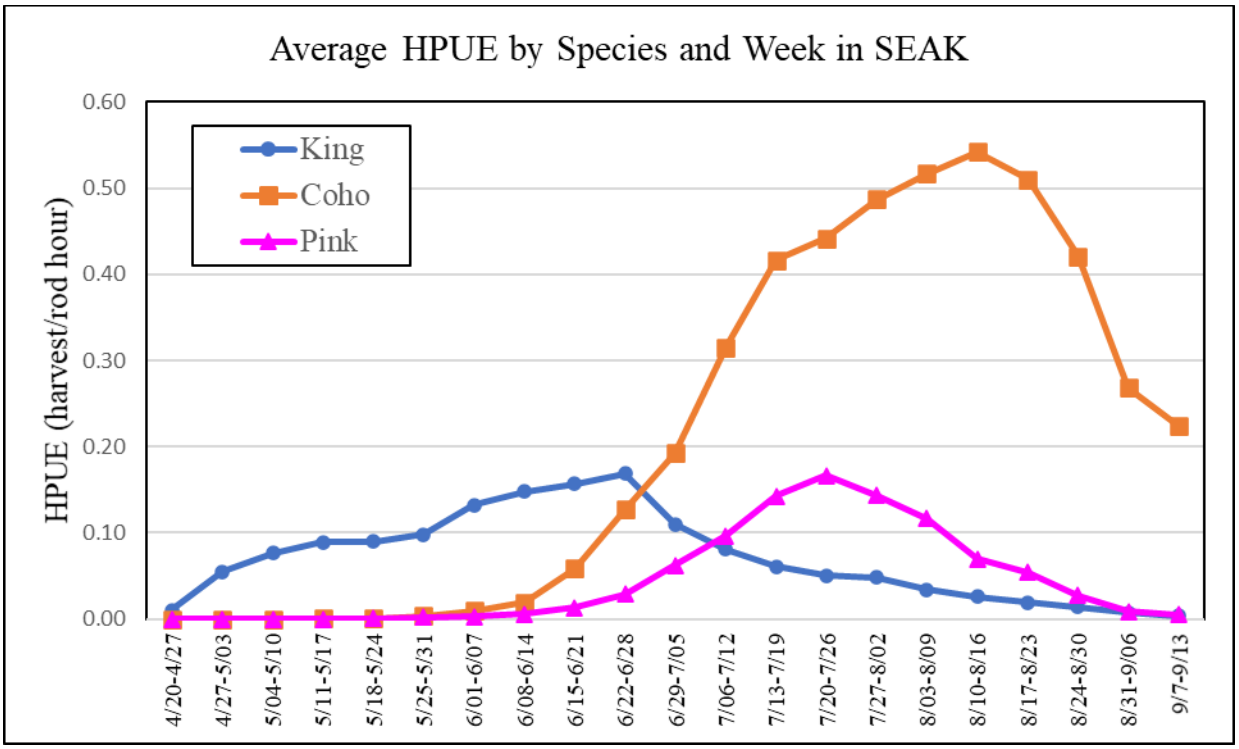

Figure 11.–Average weekly HPUE (harvest per angler-hour of salmon fishing effort) for king, coho, and pink salmon in the Southeast Alaska marine sport fishery as determined by the SEAK Marine Harvest Studies program, 2011–2019.

SOUTHEAST ALASKA WILD STOCKS AND MANAGEMENT

There are 34 documented king salmon stocks in SEAK (Mecum and Kissner 1989) and among those are 11 indicator stocks that ADF&G manages annually to ensure escapement levels are considered under 5 AAC 39.222 (Figure 12, Table 14). 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 and agreed-to escapement goals with Canada as mandated by the PST. In addition to the TBRs, the remaining 8 king salmon indicator systems in SEAK also have established escapement goals and are monitored using various stock assessment methods (mark–recapture, aerial and foot surveys, and weirs).

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 [METF]) exists (Figure 13). Further, the determination of an AC using preseason forecasts of the total terminal run would be decided by December 1 of the preceding year allowing time for planning and preparations for the upcoming season. Once mark–recapture estimates of abundance and projections of total terminal run were valid and agreed to by both countries, ACs would be calculated on a weekly basis.

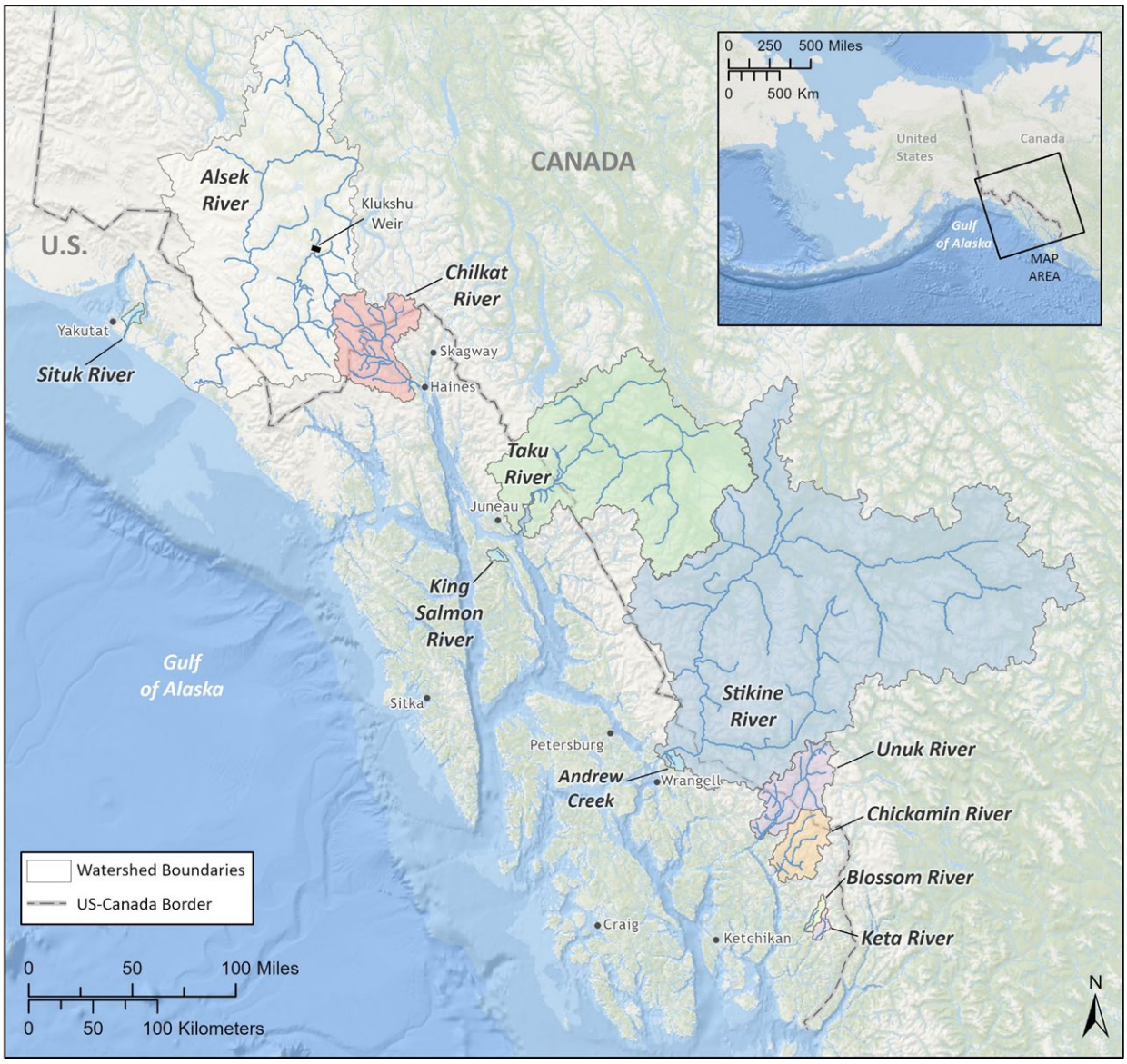

Figure 12.–Locations of the 11 king salmon indicator stocks in Southeast Alaska.

Table 14.–Southeast Alaska king salmon escapement goals and escapement estimates, 2012–2020.

Stock	Situk River	Alsek River	Chilkat River	Taku River	King Salmon River	Stikine River	Andrew Creek	Unuk River	Chickamin River	Blossom River	Keta River
BEG range	450–1,050	3,500–5,000	1,750–3,500	19,000–36,000	120–240	14,000–28,000	650–1,500	1,800–3,800	2,150–4,300	500–1,400	550–1,300
Fish included	≥age-1.3	≥age-1.2	≥age-1.3	≥660mm METF	≥660mm METF	≥660mm METF	≥660mm METF	≥660mm METF	≥660mm METF	≥660mm METF	≥660mm METF
BEG last updated	2003	2013	2003	2009	1997	2000	1998	2009	2018	2018	2018
Estimation method	Weir count	Expanded weir count	M–R	M–R / Index count	Index count	M–R	Index count	Index count	Index count	Index count	Index count
Year											
2012	322	3,027	1,723[a]	16,713[a,b]	155	22,332[a]	587	956	2,109	793	725
2013	912	4,992	1,719[a]	18,002[a,b]	94	16,783[a]	920	1,135	2,223	987	1,484
2014	475	3,357	1,529[a]	23,532[a]	68	24,374[a]	1,261	1,691	3,097	840	1,321
2015	174	5,697	2,452[a]	23,567[a]	50	21,597[a]	796	2,623	2,760	642	915
2016	329	2,514	1,380[a]	9,177[a]	149	10,554[a]	402	1,463	964	522	1,342
2017	1,187[a]	1,741	1,173[a]	8,214[a]	85	7,335[a]	349	1,203	722	341	903
2018	420[a]	4,348[a]	873[a,b]	7,271[a]	30[a]	8,603[a]	482[a]	1,971[a]	2,052[a]	1,087[a]	1,662[a]
2019	623[a]	6,318[a]	2,028[a]	11,558[a]	27[a]	13,817[a]	698[a]	3,115[a]	1,610[a]	557[a]	1,041[a]
2020	1,197[a]	5,286[a]	3,180[a]	15,593[a]	100[a]	9,753[a]	470[a]	1,135[a]	2,280[a]	515[a]	668[a]

Note: Shaded cells indicate escapement estimate below the lower bound of the BEG range; METF = mid eye to tail fork length.

[a] Estimates are preliminary until final report is published.

[b] Mark–recapture (M–R) was not used to estimate escapement due to insufficient numbers of marked and sampled fish. For the Chilkat in 2018, a CPUE-based approach was used; for the Taku in 2012 and 2013, expanded peak aerial surveys were used.

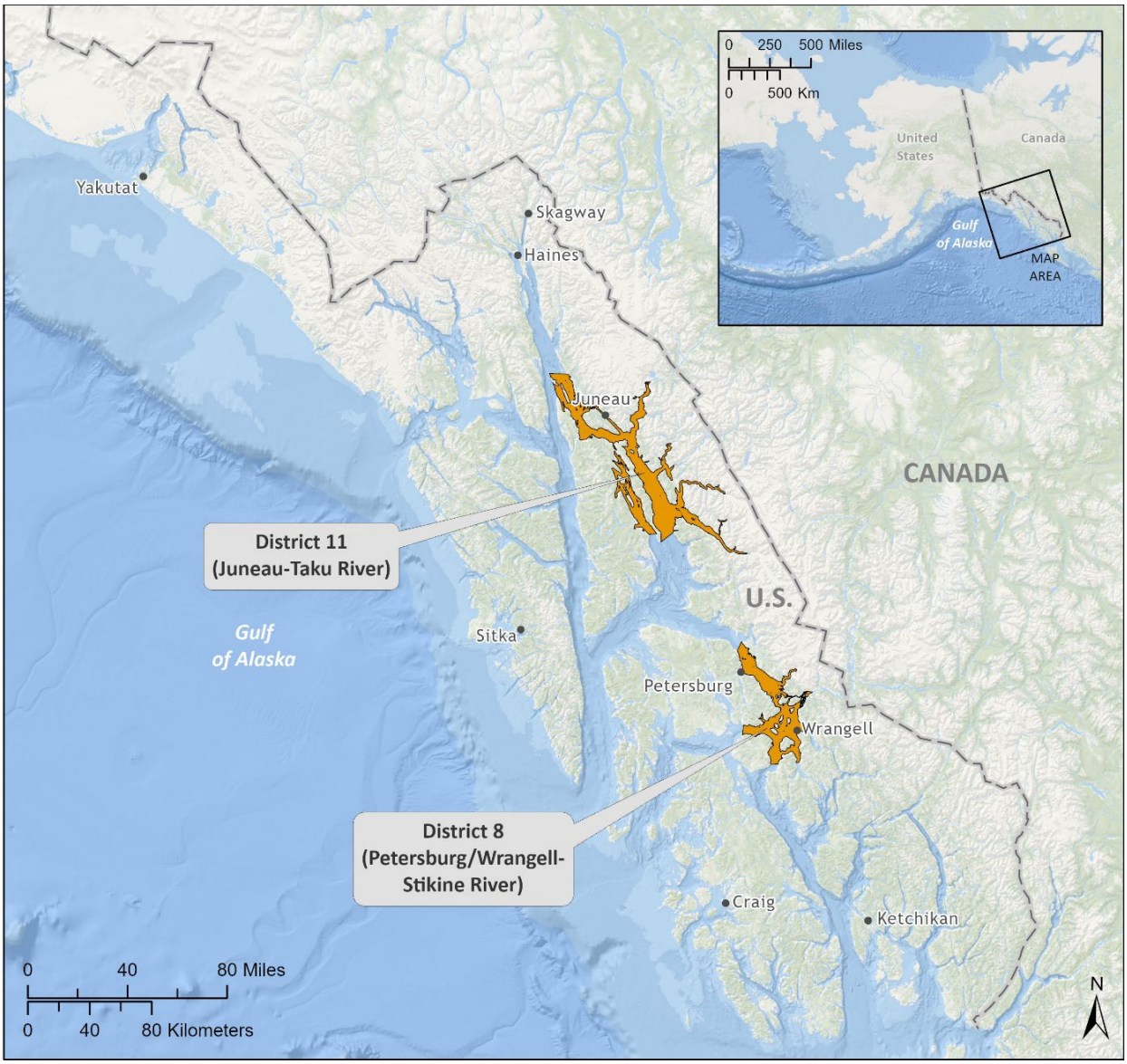

Figure 13.–Directed fishery areas in Southeast Alaska for king salmon when an allowable catch exists in District 8 and District 11 waters based on preseason forecasts and inseason projections of the Stikine and Taku river stocks of king salmon.

In March 2005, and immediately after, the harvest sharing agreement was established with Canada, and 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 board 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 2 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.

Starting in 2012, wild king salmon escapements began to fall short of the goal ranges in multiple SEAK indicator systems, including the Unuk, King Salmon, and Chilkat Rivers (Table 14). In August and September 2017, ADF&G enacted regionwide king salmon nonretention in SEAK sport fisheries to reduce harvest of wild king salmon stocks (EO 1-KS-R-28-17). In fall 2017, the board adopted ADF&G's stock of management concern recommendation for the Chilkat, King Salmon, and Unuk River stocks. At the January 2018 SEAK Finfish board meeting, the board adopted action plans that specified management measures to reduce harvest of these 3 stocks in all SEAK fisheries (detailed in Lum and Fair 2018a and 2018b). In addition to the management actions described in the action plans, the inside waters of the SEAK were closed to retention of sport-caught king salmon between April 1 and June 14 from 2018 through 2020 (Figure 14). Sport fishery conservation actions specific to each of the 11 king salmon indicator stocks in SEAK are detailed in the following sections.

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 of 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 SEAK (Figure 12). 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 (35%) and sport fisheries (21%). Since 2007, the average harvest rate on the Stikine River king salmon run over all fisheries has been 29%, of which the U.S. and Canada account for 17% and 12%, respectively.

A biological escapement goal (BEG) range of 14,000 to 28,000 large king salmon (METF ≥660 mm) 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 through 2020 (Table 14; Heinl et al. 2020). Available information dating back to 1975 suggests the 2017 and 2018 runs were the lowest on record. The Stikine River has been recommended as a new king salmon stock of concern with an action plan to be developed during the 2022 SEAK Finfish board meeting.

The sport harvest of large Stikine River king salmon from 2008 to 2017 averaged 1,083 fish. With regionwide wild stock conservation measures in effect since 2018, the average sport harvest declined to 36 large fish. Since 2017, the Stikine River king salmon preseason forecasts projected runs that would not support an allowable catch and a directed fishery. Stikine River area sport fishery management measures taken to conserve Stikine River king salmon from 2012 to 2020 are provided in Table 15.

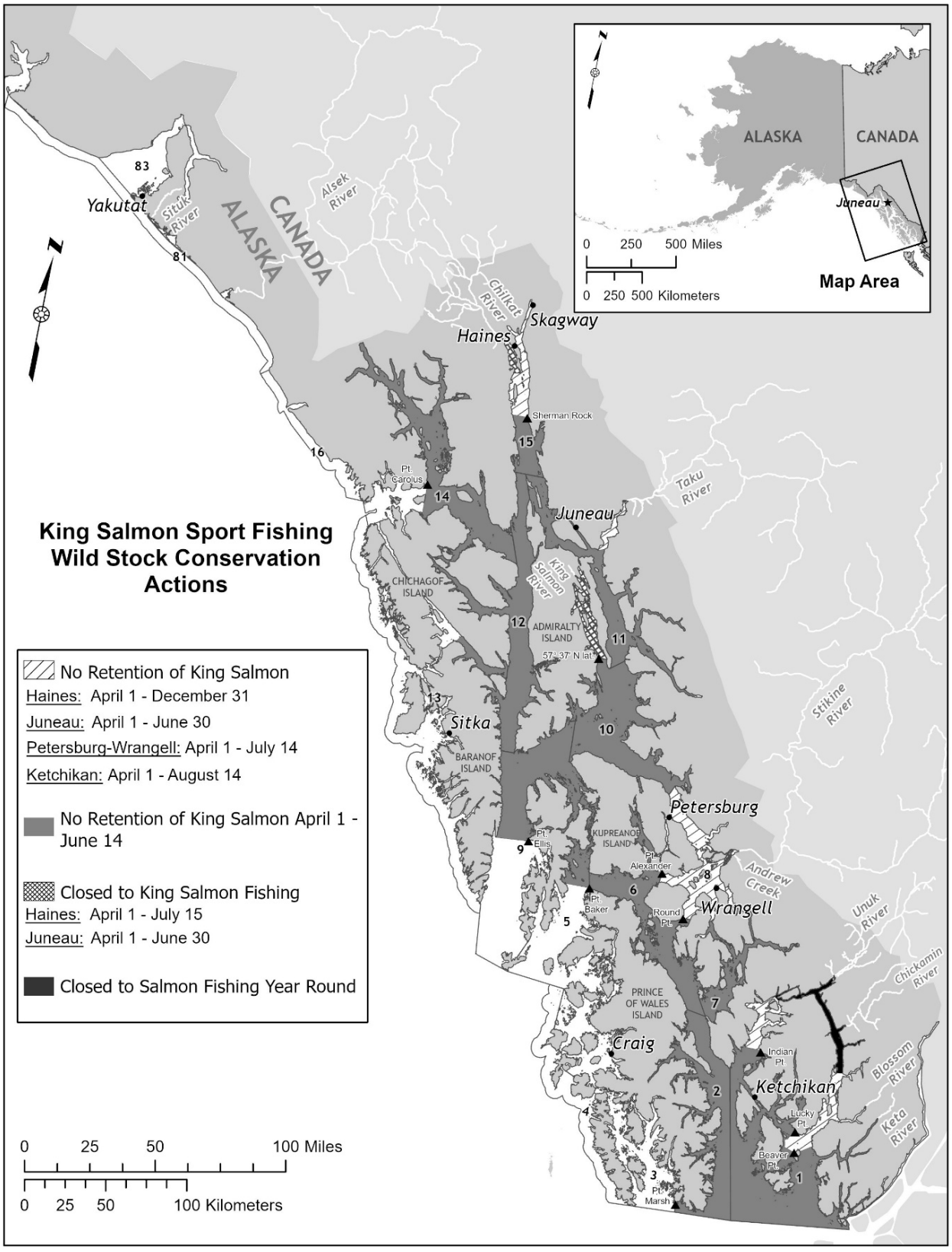

Figure 14.–King salmon sport fishing management actions for Southeast Alaska wild king salmon stock conservation, 2018–2020

Table 15.–Stikine River area sport fishery management measures, sport harvest, and escapement of Stikine River king salmon, 2012–2020.

Year	Petersburg–Wrangell Area sport fishery management actions for Stikine River king salmon	Stikine River king sport harvest		Stikine River large king escapement (≥660 mm METF)[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; 2 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).	591	171	22,332[d]
2013	Because 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 2 rods for resident anglers October through March (EO 1-KS-R-2-13).	636	834	16,783[d]
2014	Because 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 2 rods October through March for all anglers (EO 1-KS-R-03-14)..	697	0	24,374[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.	781	513	21,597[d]

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Table 15.–Page 2 of 3.

Year	Petersburg–Wrangell Area sport fishery management actions for Stikine River king salmon	Stikine River king sport harvest		Stikine River large king escapement (≥660 mm METF)[c]
		District 8[a]	Remainder of SEAK[b]	
2016	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. 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.	438	485	10,554[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 fishing for king salmon (EO 1-KS-C-14-17).	139	389	7,335[d]
2018	The preseason forecast indicated no allowable catch was available and the lower bound of the escapement goal was unlikely to be achieved. Management action was taken to prohibit the retention of king salmon within District 8 and a small portion of District 7 between April 1 and July 14 (EO 1-KS-R-02-18). A small area within District 8 where Alaska hatchery-produced king salmon were expected to return to the City Creek release site remained open to the retention of king salmon between June 1 and July 14. In order to protect other Alaska wild stocks of king salmon, the inside waters of Southeast Alaska, including the majority of the Petersburg/Wrangell management area, was closed to the retention of king salmon from April 1 through June 14. This action reduced the interception of Stikine River king salmon along migration corridors.	12[b]	0	8,603[d]

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Table 15.–Page 3 of 3.

Year	Petersburg–Wrangell Area sport fishery management actions for Stikine River king salmon	Stikine River king sport harvest		Stikine River large king escapement (≥660 mm METF)[c]
		District 8[a]	Remainder of SEAK[b]	
2019	The preseason forecast indicated no allowable catch was available and the lower bound of the escapement goal was unlikely to be achieved. Management action was taken to prohibit the retention of king salmon within District 8 and a small portion of District 7 between April 1 and July 14 (EO 1-KS-R-03-19). A small area within District 8 where Alaska hatchery king salmon were expected to return to the City Creek release site remained open to the retention of king salmon between June 15 and July 14. In order to protect other Alaska wild stocks of king salmon, the inside waters of Southeast Alaska, including the majority of the Petersburg/Wrangell management area was closed to the retention of king salmon from April 1 through June 14. This action reduced the interception of Stikine River king salmon along migration corridors.	2	0	13,817[d]
2020	The preseason forecast indicated no allowable catch was available and the lower bound of the escapement goal was unlikely to be achieved. Management action was taken to prohibit the retention of king salmon within District 8 and a small portion of District 7 between April 1 and July 14 (EO 1-KS-R-06-20). A small area within District 8 where Alaska hatchery king salmon were expected to return to the City Creek release site remained open to the retention of king salmon between June 15 and July 14. In order to protect other Alaska wild stocks of king salmon, the inside waters of Southeast Alaska, including the majority of the Petersburg/Wrangell management area were closed to the retention of king salmon from April 1 through June 14. This action reduced the interception of Stikine River king salmon along migration corridors.	93[b]	0	9,753[d]

[a] Estimates derived from genetic stock identification (GSI).

[b] Based on coded wire tag (CWT) recoveries and expansions.

[c] The Stikine River king salmon BEG is 14,000–28,000 large fish; large is defined as mid eye to tail fork length (METF) ≥660 mm.

[d] Preliminary estimate.

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 (Figure 12). 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 (Figure 13). Wild juvenile king salmon were coded-wire-tagged from 1976 to 1981 and from 1993 to present.

A BEG range of 30,000 to 55,000 large (≥660 mm METF) 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 2011 and 2014 to 2015, but were below the BEG range in 2012, 2013, and 2016 through 2020 (Table 14; Heinl et al. 2020). The Taku River has been recommended as a new king salmon stock of concern with an action plan to be developed during the 2022 SEAK Finfish board meeting.

From 2008 to 2017, the harvest rate on the Taku River king salmon runs for all fisheries averaged 25%, of which the U.S. and Canada account for 15% and 10%, respectively. The U.S. harvest mostly occurred in the commercial troll fishery (61%), followed by the commercial gillnet fishery (22%), and the sport fishery (17%). A small number of fish are also incidentally harvested in the inriver personal use fishery.

After the January 2018 SEAK board meeting, conservation measures were taken to reduce harvest of all SEAK wild king salmon stocks, including the Taku River stock. From 2018 to 2020, the harvest rate on Taku River king salmon in all fisheries averaged 2.6%, of which the U.S. and Canada accounted for 2.4% and 0.2%, respectively. The U.S. harvest occurred in the drift gillnet (65%), sport (23%), and commercial troll (12%) fisheries.

Juneau area sport fishery management measures taken to conserve Taku River king salmon from 2012 through 2020 are in Table 16.

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 (Figure 12). 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 SEAK indicator stocks in which escapement estimates are germane to large fish, the Alsek River king salmon estimates include non-large king salmon (<28 inches) that are predominately ocean-age-2 (4-year-old) fish. A weir is operated on the Klukshu River, an upriver tributary of the Alsek River, to estimate escapement. Weir counts are added to any harvest in the Klukshu River to generate Klukshu River inriver run estimates. Several years of mark–recapture studies were performed to estimate the total Alsek inriver run of king salmon After comparing mark–recapture estimates with Klukshu River inriver runs, an expansion factor of 4.0 was developed to estimate drainagewide escapement and run size without the cost of mark–recapture studies. An escapement goal analysis resulted in a drainagewide BEG range of 3,500 to 5,300 king salmon (Bernard and Jones III 2010). Alsek River king salmon runs have achieved or exceeded the lower bound of the escapement goal range in 5 of the last 9 years (Table 14).

Table 16.–Taku River area sport fishery management measures, sport harvest, and escapement of Taku River king salmon, 2012–2020.

Year	Juneau Area sport fishery management actions for Taku River king salmon	Taku River king sport harvest		Taku River large (≥660 mm METF) king escapement[c]
		District 11[a]	Remainder of SEAK[b]	
2012	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; 2 rods per angler (EO 1-KS-E-03-12). 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). 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).	695	0	16,713[d]
2013	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 2 rods for resident anglers October through March (EO 1-KS-R-2-13). 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)	271	0	18,002[d]
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 2 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).	810	0	23,532[d]

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Year	Juneau Area sport fishery management actions for Taku River king salmon	Taku River king sport harvest		Taku River large (≥660 mm METF) king escapement[c]
		District 11[a]	Remainder of SEAK[b]	
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 a 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	23,567[d]
2016	The preseason forecast indicated 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 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). 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). 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).	635	0	9,177[d]
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, retention of sport fish caught king salmon was prohibited in District 11, Sections 12-B and 15-C from April 15 through June 14 (EO 1-KS-E-06-17).	34	0	8,214[d]

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Year	Juneau Area sport fishery management actions for Taku River king salmon	Taku River king sport harvest		Taku River large (≥660 mm METF) king escapement[c]
		District 11[a]	Remainder of SEAK[b]	
2018	The preseason forecast indicated that even with zero harvest of Taku River king salmon it was unlikely the BEG would be achieved. To reduce harvest, sport fishing for king salmon in the majority of marine waters in the Juneau area (the northern portion of District 9, District 10, Sections 11-A, 11-B, 11-C, District 12, southeast portion of Section 13-C, Sections 14-B and 14-C, and District 15 south of the latitude of Sherman Rock), the retention of king salmon was prohibited April 1 through June 14. In addition, the waters of Seymour Canal near King Salmon River (Section 11-D) were closed to king salmon fishing from April 1 through June 30 (EO 1-KS-R-02-18).	9	0	7,271[d]
2019	The preseason forecast indicated that even with zero harvest of Taku River king salmon it was unlikely the BEG would be achieved. To reduce harvest, sport fishing for king salmon in the majority of marine waters in the Juneau area (the northern portion of District 9, District 10, Sections 11-A, 11-B, 11-C, District 12, southeast portion of Section 13-C, Sections 14-B and 14-C, and District 15 south of the latitude of Sherman Rock), the retention of king salmon was prohibited April 1 through June 14. In addition, the waters of Seymour Canal near King Salmon River (Section 11-D) were closed to king salmon fishing from April 1 through June 30 (EO 1-KS-R-03-19).	94	0	11,558[d]
2020	The preseason forecast indicated that even with zero harvest of Taku River king salmon it was unlikely the BEG would be achieved. To reduce harvest, sport fishing for king salmon in the majority of marine waters in the Juneau Area (the northern portion of District 9, District 10, Sections 11-A, 11-B, 11-C, District 12, southeast portion of Section 13-C, Sections 14-B and 14-C, and District 15 south of the latitude of Sherman Rock), the retention of king salmon was prohibited April 1 through June 14. In addition, the waters of Seymour Canal near King Salmon River (Section 11-D) were closed to king salmon fishing from April 1 through June 30 (EO 1-KS-R-06-20). Inseason information indicated that the Taku River large (≥660 mm METF) king run was poor and an additional 2-week nonretention period (June 15 through June 30) was implemented in the marine waters of Taku Inlet north of a line from Point Bishop to Point Greely to reduce harvest (EO 1-KS-R-17-20).	112	0	15,593[d]

[a] Estimates derived from genetic stock identification (GSI).

[b] Based on coded wire tag (CWT) sampling. If no CWTs were recovered, then 0 was entered.

[c] The Taku River king salmon escapement goal is 19,000 to 36,000 large fish; large is defined as mid-eye to fork of tail (METF) length ≥660 mm.

[d] Preliminary estimate.

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 (Figure 12). 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. ADF&G conducts an annual stock assessment of Unuk River king salmon and expanded peak aerial and foot survey counts are used to estimate total escapement.

The current BEG range of 1,800 to 3,800 large (METF length ≥660 mm) 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 in SEAK (Heinl et al. 2020). Escapement goals were met for 35 consecutive years, but since 2012, the lower bound of the BEG range has been missed in 6 out of the last 9 years (Heinl et al. 2020). The board accepted the ADF&G's 2017 recommendation of this stock as a stock of concern for management purposes. At the January 2018 SEAK board meeting, the board adopted a set of conservation measures to be taken in SEAK commercial, sport, and personal use fisheries, as reported in the *Unuk River King Salmon Stock Status and Action Plan*, 2018 (Lum and Fair 2018a). ADF&G has recommended continuing the stock of concern designation for the Unuk River during the 2022 SEAK board meeting.

Standing regulations protect Unuk River king salmon by closing North and Northeast Behm Canal to salmon fishing year-round (5AAC 47.021(j)(2)) and by prohibiting retention of king salmon in Southeast Behm Canal from April 1 to August 14 (5AAC 47.021(j)(3)). Since 2018, Unuk Action Plan regulations issued by emergency order (EO) have expanded the seasonal king salmon nonretention area to include West Behm Canal and Southeast Revillagigedo Channel. In addition, king salmon retention has been prohibited in all SEAK inside waters, including Districts 1 and 2 (Figure 14). Liberalized king salmon regulations have allowed harvest of returning hatchery-origin fish in Mountain Point, Neets Bay, Thomas Basin, and Herring Bay sport THAs.

From 2008 to 2017, the harvest rate on the Unuk River king salmon run in all fisheries averaged 43%, of which the U.S. and Canada account for 42.9% and 0.1%, respectively. The U.S. harvest was divided amongst the commercial troll fishery (60%), the commercial net fisheries (22%), and the sport fishery (18%).

From 2018 to 2020, with Unuk Action Plan conservation measures in place, the harvest rate on Unuk River king salmon averaged 27%, all of which occurred in the U.S., split among the commercial net fisheries (49%), commercial troll fishery (31%), and the sport fishery (21%).

KETA, BLOSSOM, AND CHICKAMIN RIVERS

The Keta, Blossom, and Chickamin River systems empty into East Behm Canal (Figure 12) where near-terminal waters are closed to all salmon fishing year-round, and there are no directed fishing efforts on these stocks. Spawning escapements are estimated by expanding peak aerial surveys in index reaches, and each of these stocks has a BEG range (Heinl et al. 2020). In the Chickamin River, the BEG is 2,150 to 4,300 large spawners, and in the Keta and Blossom Rivers, the BEGs are 550 to 1,300 and 500 to 1,400 large spawners, respectively, where large fish are defined as METF length ≥660 mm (Table 14; Fleishman et al. 2011; McPherson and Carlile 1997). From

1999 through 2015, the BEGs were met in most years in these 3 rivers. However, from 2016 to 2019, the Chickamin River king salmon stock failed to attain the lower bound of its BEG range, and the Blossom River stock missed the lower bound in 2017. The one bright spot for the escapement goal performance of the 11 monitored SEAK king salmon stocks is the Keta River stock, which has attained or exceeded the BEG range every year since 1998. There are no directed management actions taken to reduce harvest rates on the Keta, Blossom, and Chickamin River stocks, but actions taken to conserve the Unuk River stock and other SEAK wild stocks also conserve these Behm Canal stocks. The Chickamin River has been recommended as a new king salmon stock of concern with an action plan to be developed during the 2022 SEAK board meeting.

Table 17.–Ketchikan Area sport fishery management measures, sport harvest, and escapement of Unuk River king salmon, 2012–2020.

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 large (≥660 mm METF) king escapement[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 (THA) opened by regulation and Neets Bay THA 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	411	33	956
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 THA opened by regulation and Neets Bay THA 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	450	71	1,135
2014	North Behm Canal was closed to salmon fishing May 27 through June 30. West Behm Canal was reduced to 1 king salmon for all anglers with a nonresident annual limit of 6 king salmon from May 27 through June 30. The Ketchikan Sport THA 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	64	118	1,691

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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 large (≥660 mm METF) king escapement[d]
			Ketchikan[b]	Remainder of SEAK[c]	
2015	North Behm Canal was closed to salmon fishing May 26 through July 15. West Behm Canal king salmon bag and possession limits were reduced to 1 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 (THA) was postponed until July 1 (EO 1-KS-A-9-15), 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	215	84	2,623
2016	North Behm Canal was closed to salmon fishing May 24 through June 30. West Behm Canal king salmon bag limit was reduced to 1 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 THA opened by regulation with a bag and possession limit of 6 king salmon any size; no nonresident annual limit (EO 1-KS-A-07-16).	5,502	0	179	1,463
2017	North Behm Canal and Northeast Behm Canal closed to salmon fishing April 1 through August 14. West Behm Canal was reduced to 1 king salmon for all anglers with a nonresident annual limit of 3 king salmon from April 1 through August 14. The Ketchikan Sport THA was restricted April 1 through June 30 to a 1 king salmon bag and possession limit for all anglers with a nonresident annual limit of 3 king salmon. 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-8-17).	10,800[e]	0	0	1,203

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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 large (≥660 mm METF) king escapement[d]
			Ketchikan[b]	Remainder of SEAK[c]	
2018	North and Northeast Behm Canal was closed to salmon fishing year-round. In West Behm Canal, Southeast Behm Canal, and Southern Revillagigedo Channel, king salmon retention was prohibited April 1 through August 14 (EO 1-KS-R-02-18). In all remaining waters of District 1 and 2, king salmon retention was prohibited from April 1 through June 14, June 15 through August 14, and the Alaska resident and nonresident bag and possession limit was 1 king salmon ≥28 inches. THAs in Mountain Point, Neets Bay, and Thomas Basin were opened May 15 through June 14 with a bag and possession limit of 1 king salmon ≥28 inches, nonresident annual limit of 3 king salmon. A small terminal area within Herring Bay was opened June 1 through July 31 with a bag and possession limit of 3 king salmon any size, no nonresident annual limit (EO 1-KS-A-07-18).	6,446	0	61	1,971[e]
2019	North and Northeast Behm Canal was closed to salmon fishing year-round. In West Behm Canal, Southeast Behm Canal, and Southern Revillagigedo Channel, king salmon retention was prohibited April 1 through August 14 (EO 1-KS-R-03-19). In all remaining waters of District 1 and 2, king salmon retention was prohibited from April 1 through June 14, June 15 through August 14, and the Alaska resident and nonresident bag and possession limit was 1 king salmon ≥28 inches. In addition, a 2 fish resident bag limit was implemented in areas closed for wild stock management when they reopened (EO 1-KS-R-05-19). A subsequent EO was issued correcting the regulations in District 1 by reducing the bag limit from 2 fish to 1 fish through August 14 per the Unuk River Action Plan (EO 1-KS-A-18-19). THAs in Mountain Point and Thomas Basin were opened June 1 through June 14, and Neets Bay THA was opened June 15 through August 14 with a bag and possession limit of 1 king salmon ≥28 inches; nonresident annual limit of 3 king salmon. A small terminal area within Herring Bay was opened June 1 through July 31 with a bag and possession limit of 3 king salmon of any size, no nonresident annual limit (EO 1-KS-A-13-19).	4,772	97	57	3,115[e]

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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 large (≥660 mm METF) king escapement[d]
			Ketchikan[b]	Remainder of SEAK[c]	
2020	North and Northeast Behm Canal was closed to salmon fishing year-round. In West Behm Canal, Southeast Behm Canal, and Southern Revillagigedo Channel, king salmon retention was prohibited April 1 through August 14 (EO 1-KS-R-06-20). In all remaining waters of District 1, king salmon retention was prohibited April 1 through June 14, June 15 through August 14, and resident and nonresident bag and possession limits were 1 king salmon ≥28 inches. In District 2, king salmon retention was prohibited from April 1 through June 14. In addition, a 2 fish resident bag limit was implemented in areas closed for wild stock management when they reopened. THAs in Mountain Point and Thomas Basin were opened June 1 through June 14, and Neets Bay THA was opened June 15 through August 14 with a bag and possession limit of 1 king salmon ≥28 inches; nonresident annual limit of 3 king salmon. A small terminal area within Herring Bay was opened June 1 through July 31 with a bag and possession limit of 3 king salmon any size; no nonresident annual limit (EO 1-KS-A-14-20).	Not available	52	162	1,135[e]

[a] SWHS final estimates for 2012–2019.

[b] The Unuk River sport harvest estimates provided for the Ketchikan Area are analogous to the sport harvest estimates for the SE quadrant in 2013–2020. 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; large is defined as mid eye to tail fork length (METF) ≥660 mm.

[e] Preliminary estimate.

ANDREW CREEK

Andrew Creek is a clearwater tributary in the U.S. that flows into the lower Stikine River (Figure 12) and supports a mostly "inside-rearing" king salmon stock (i.e., a stock that rears and matures mostly within SEAK marine waters). Harvests of 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 to 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, 2017, 2018, and 2020 (Table 14; Heinl et al. 2020). Management actions taken to protect the Stikine River king salmon stock also protect returns to Andrew Creek. Andrew Creek has been recommended as a new king salmon stock of concern with action plans to be developed during the 2022 SEAK board meeting.

KING SALMON RIVER

The King Salmon River is a clearwater system located on Admiralty Island, southeast of Juneau, Alaska (Figure 12), that supports a mostly inside-rearing stock of king salmon. This stock does not support directed fisheries but is harvested incidentally in marine sport and commercial fisheries.

The current BEG range is 120 to 240 large spawners, established in 1997 based on a stock–recruit analysis of the 1971 to 1991 brood years (Table 14; 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 7 of the past 8 years (2013–2020; Heinl et al. 2020).

In the fall of 2017, the board adopted the ADF&G's stock of management concern recommendation for this stock. At the SEAK board meeting in January 2018, the board adopted the *Chilkat River and King Salmon River king salmon stock status and action plan, 2018* (Lum and Fair 2018b). The action plan specifies periods when Seymour Canal is closed to king salmon sport fishing as well as periods of king salmon nonretention in District 11 to reduce harvest rates on this stock. Actions taken to protect the Taku River, Stikine River, and other SEAK wild king salmon stocks also protect the King Salmon River stock (Tables 14 and 16). ADF&G has recommended continuing the stock of concern designation for the King Salmon River during the 2022 SEAK board meeting.

CHILKAT RIVER

The Chilkat River is a glacial system located near Haines, Alaska (Figure 12), that supports a mostly inside-rearing stock of king salmon. This stock is caught in a relatively small terminal marine sport fishery that operates in Chilkat Inlet near the mouth of the Chilkat River. Chilkat River fish are also harvested incidentally in mixed-stock sport, commercial drift gillnet, and commercial troll fisheries that occur primarily in northern SEAK. The Chilkat River stock is also harvested incidentally in subsistence fisheries that take place in the terminal waters of Chilkat Inlet and in the Chilkat River. Harvest of this stock in Chilkat Inlet and in the Chilkat River is 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 of 1,750 to 3,500 age-1.3 and older, which was adopted by the board in 2003 based on a stock-recruit analysis by Ericksen and McPherson (2004; Table 14). From 2012 to 2017, the escapement fell short of the lower bound of

the goal range in 5 out of 6 years despite progressive conservative management actions that were taken in sport, commercial, and subsistence fisheries in terminal waters and in surrounding Section 15-A (Table 18). From 2008 to 2017, the harvest rate on the Chilkat River king salmon stock averaged 26%, and all harvests occurred in U.S. fisheries, split among the commercial net (34%), sport (33%), commercial troll (24%), and subsistence (8%) sectors.

In the fall of 2017, the board adopted the ADF&G's stock of management concern recommendation for the Chilkat River king salmon stock. At the SEAK board meeting in January 2018, the board adopted the *Chilkat River and King Salmon River king salmon stock status and action plan, 2018* (Lum and Fair 2018b). The action plan specifies periods of closed king salmon sport fishing in Chilkat Inlet terminal waters as well as nonretention of sport caught king salmon in Section 15-A from April 1 through December 31 annually (Table 18). ADF&G has recommended continuing the stock of concern designation for the Chilkat River during the 2022 SEAK board meeting.

From 2018 to 2020, with the action plan's conservative management actions, the average harvest rate on the Chilkat River king salmon stock dropped to 9%, all of which was harvested in U.S. fisheries, divided among the commercial gillnet (58%), sport (39%; all outside of Section 15-A), and commercial troll (3%). Since 2018, the lower bound of the escapement goal range has been achieved in 2 out of 3 years.

SITUK RIVER

The Situk River is a clearwater system located near Yakutat, Alaska (Figure 12), that supports an outside-rearing stock of king salmon. Known harvests of Situk River king salmon occur in the commercial set gillnet fishery that operates in the Situk-Ahrnklin Inlet, in subsistence fisheries that occur in the Situk-Ahrnklin Inlet as well as inriver, and in sport fisheries that take place exclusively inriver. 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 of 450 to 1,050 large (ocean-age-3 and older) fish that was established in 2003 and based on an updated stock-recruit analysis (McPherson et al. 2005). 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. From 2012 to 2020, escapements were below the BEG range in 4 years (Table 14; Heinl et al. 2020). Yakutat Area sport fishery management measures taken to conserve Situk River king salmon from 2012 to 2020 are shown in Table 19. The total annual harvest rate for all fisheries averaged about 60% from 1990 to 2003, but harvest rates have been substantially lower since 2004, averaging 3% since 2015.

Table 18.–Haines–Skagway Area sport fishery management measures, sport harvest, and escapement of Chilkat River king salmon, 2012–2020.

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 northern Chilkat Inlet king salmon sport fishing closure 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).	307	103	1,723 [a]
2013	Extended northern Chilkat Inlet king salmon sport fishing closure July 16 through July 31 (EO 1-KS-F-18-13).	141	0	1,719 [a]
2014	Extended northern Chilkat Inlet king salmon sport fishing closure July 16 through July 31 (EO 1-KS-F-17-14).	360	90	1,529 [a]
2015	Closed Chilkat Inlet to king salmon sport 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).	296	0	2,452 [a]
2016	Closed 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 inches April 15–June 30 (EO 1-KS-E-4-16).	0	293	1,380 [a]
2017	Closed 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-06-17).	125	0	1,173 [a]
2018	Closed Chilkat Inlet to king salmon sport fishing April-June 30. Section 15-A, Lynn Canal north of the latitude of Sherman Rock, king salmon retention prohibited April 1 through December 31 (EO 1-KS-R-02-18). In Sections 15-B and 15-C, closed to king salmon fishing April 15 through June 14.	0	135	873 [a]
2019	Closed Chilkat Inlet to king salmon sport fishing April 1 through June 30. Section 15-A, Lynn Canal north of the latitude of Sherman Rock, king salmon retention prohibited April 15 through December 31 (EO 1-KS-R-03-19). In Sections 15-B and 15-C, closed to king salmon fishing April 15 through June 14.	0	0	2,028 [a]
2020	Closed Chilkat Inlet to king salmon sport fishing April 1 through July 15. Section 15-A, Lynn Canal north of the latitude of Sherman Rock, king salmon retention prohibited April 1 through December 31 (EO 1-KS-R-06-20). In Sections 15-B and 15-C, closed to king salmon fishing April 15 through June 14.	0	10	3,180 [a]

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

[a] Preliminary estimate.

Table 19.–Yakutat Area sport fishery management measures, sport harvest, and escapement of Situk River king salmon, 2012–2020.

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
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

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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]
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 4, 2017, because the midpoint of the BEG had been achieved (EO 1-KS-H-26-17).	0	1,187
2018	The preseason forecast for large king salmon on the Situk River was predicted to be 730 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-08-18).	0	420
2019	The preseason forecast for large king salmon on the Situk River was predicted to be 300 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-08-19).	0	623
2020	The preseason forecast for large king salmon on the Situk River was predicted to be 850 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-07-20). Effective July 22, 2020, the department allowed retention of king salmon downstream of the Situk River weir. This action was taken because the upper-end of the BEG was projected to be exceeded (EO 1-KS-R-21-20).	Data not available	1,197

[a] Situk River king salmon harvest only includes harvest occurring in the Situk River and is obtained from the 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 10 proposals for consideration during the 2022 SEAK board meeting, which if adopted, would modify management of the king salmon sport fishery in SEAK. One additional proposal could impact the allocation of king salmon to the sport fishery by addressing how an overage or underage in allocation in one year might change allocation in the following year. In addition to the submitted proposals, the Taku River, Stikine River, Andrew Creek, and Chickamin River have been recommended as new king salmon stocks of concern, and ADF&G has recommended continuing the stock of concern designation for the Chilkat River, King Salmon River, and Unuk River. Action plans will be reviewed by the board with specific management actions addressing these stocks of concern.

SOUTHEAST ALASKA KING SALMON MANAGEMENT PLAN

In response to changes in the renewed PST agreement (2019–2028),[1] the board took up an agenda change request in January 2019 to modify the KSMP. Understanding that it would be best to address the plan during the 2022 SEAK board meeting but that immediate action was needed, the board modified 3 sections of the plan that would most likely cover the anticipated abundance indices and resulting sport allocations occurring in 2019 and 2020, and adopted the proposal as amended. By request of the board, ADF&G has submitted proposal 82 to continue discussion on modifications to the plan during the 2022 SEAK board meeting. In addition, proposals 83, 84, 85, 86, 88, 94, and 95 offer a variety of modifications for the board to consider when taking action to bring the plan into compliance with the renewed PST agreement.

The primary issues that the board is being asked to address through these proposals can be summarized as follows:

- Establishing specific management actions for each tier which would keep the sport fishery within allocation for that tier.
- Providing a priority for resident angler harvest opportunity.
- Establishing if the sport fishery will utilize inseason management to achieve an annual allocation or, like in the past iteration of the plan, be managed for a long-term average allocation.
- Addressing how any overage or underage of allocation in the sport fishery may impact allocation for the sport fishery or other SEAK fisheries in the following year.
- Modifying the allocation to the sport fishery by establishing a sliding scale, whereas the sport fishery would receive a higher allocation percentage during low abundance years and a lower percentage during high abundance years.

In addition to the suite of proposals discussed above, 2 proposals recommend specific actions in the sport fishery which would modify the KSMP. Proposal 87 seeks modifications largely directed at the Ketchikan area sport and commercial fishery but includes establishing reporting requirements for nonguided anglers, establishing an allocation between guided and unguided sport anglers, and includes changes to the Unuk River Action Plan. Proposal 93 seeks to limit the

[1] Treaty between the Government of Canada and the Government of the United States of America concerning Pacific Salmon. Available at https://www.psc.org/publications/pacific-salmon-treaty/ (accessed November 10, 2021).

nonresident annual limit to 3 king salmon, which would impact the 2 management tiers implemented when abundance is highest.

Because it is not specific to the sport fishery but interconnected with many of the proposals above, proposal 80 provides the board opportunity to discuss whether an overage in the SEAK all-gear catch limit should be assigned to the fishery or fisheries that exceed the annual allocation.

In addition to the information provide earlier in this document and within staff comments for each individual proposal, the following information may be helpful to board members when deliberating on these proposals.

Inseason management

In the most recent renditions of the KSMP, excluding the changes adopted because of the renewed PST agreement (2018–2029), the sport fishery was directed to be managed to achieve an average allocation over time. This management strategy was developed with recognition that the sport fishery would be expected to over harvest its allocation at the lower abundance levels and under harvest the allocation at high abundance levels (Table 3). Due to the dynamics of angler behavior, the more liberal bag, possession, and annual limits implemented during high abundance do not often increase harvest in an equivalent manner. Despite increased harvest opportunity, total harvest remains limited by the number of anglers participating in the fishery, the abundance (measured by abundance index [AI] or CPUE), and the fact that angler motivations are often focused on opportunity and experiences rather than maximum harvest and efficiency.

Utilizing inseason management requires ADF&G to project inseason harvest as the season progresses and adjust management action in response to these projections. This element increases the number of changes to sport fish regulations throughout the season which can be disruptive to sport fishing businesses and increase the regulatory complexity for anglers. In addition, ADF&G projections are subject to statistical variance where uncertainty is generally highest early in the season and decreases as the season progresses. Unfortunately, anglers are most likely to utilize higher bag and annual limits during the period of highest CPUE during June. This creates a difficult situation where inseason projections may not be reliable until after the period of time when a change in management action is most effective. Management action may be required to be severe in the latter half of the season in order to achieve a harvest target which could have been accomplished with minor action implemented earlier in the season.

Midweek closures

The effectiveness of closures of the sport fishery for a single day or period of days within a week often decreases shortly after implementation. Angler behavior tends to adapt as a portion of the reduction in opportunity is displaced into the open periods.

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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 2 to 3 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* (KSMP) 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: http://www.adfg.alaska.gov/sf/sportfishingsurvey/.

The objectives of the KSMP 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 2 king salmon per day, 2 in possession, with a minimum size limit of 28 inches were to remain in effect in SEAK–Yakutat marine waters until it was projected (either preseason or inseason) that the total harvest would deviate by more than the management range from the inseason management target. The management range was set by regulation at 7.5% (e.g., 3,100 fish for an allocation of 41,310 fish). The inseason management target was defined as the current year's allocation plus or minus cumulative deviations from past allocations.

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 2 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 1 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 2-fish bag limit was the appropriate regulation to stay within the allocation. However, an inseason harvest projection exceeded the management range and a 1-fish bag limit for all anglers, downrigger ban on all anglers, and prohibition on retention of 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 1 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 KSMP, 1992–1993. Over the 2 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

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 1-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 3-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 2-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 catch 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 1 fish from August 17 through October 3. The postseason sport treaty harvest was 35,496 but because of the court order, actual allocations for the sport and commercial fisheries were never established. One interpretation is that the sport allocation would be determined by taking 19% of the actual combined sport and troll harvest, or about 29,500 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 2-fish bag limit. At the beginning of the season, a number of scenarios were discussed with all-gear catch limits ranging from 120,000 to 180,000. No harvest limit was announced, however, and the season began with a 2-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 1-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 1 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 midpoint of 25,500. Assuming the midpoint 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 3 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 salmon 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 KSMP 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 1-, 2-, and 3-fish bag limits and then implement the bag limit that came closest to obtaining the 20% allocation (based on the preseason 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 salmon 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 catch 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 4-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 5 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 1-fish bag limit was projected to limit the treaty harvest to 53,800 treaty fish, which became the management target. A 1-fish bag limit was implemented on July 7 and remained in effect through December 31.

Subsequently, the 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 2-fish bag limit whereas a 3-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 3 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 1 fish. 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 catch 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 1-fish bag limit. Therefore, a 1-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 KSMP, 1997–1999. Over the 3 years of the plan, the sport fishery harvest exceeded the harvest target of treaty fish by a cumulative total of 14,466 fish. Because "preseason" 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 catch 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 1 fish 28 inches or more in length on May 3, 2000. In addition, the annual limit for nonresident anglers was decreased from 4 to 2. It was projected that these regulatory changes would decrease the sport harvest to 34,100 treaty 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, 4 additional harvest restrictions were imposed:

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

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

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

In late June, review of results from the king salmon 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 1-fish bag limit and a 3-fish nonresident annual limit under the management plan, the 4 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 2 to 3. The 1-fish bag limit for all anglers and the 3-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 catch 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 catch limit of 189,900 and a sport allocation of 34,627. According to the plan, the sport regulations remained at 1 fish for all anglers with a 3-fish annual limit for nonresidents. Despite the reduced bag limit, harvests remained higher than expected, especially late in the season. The estimated harvest was 44,725, and based on the preseason 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 catch limit less the net harvest.

2002

The 2002 preseason AI of 1.74 was significantly higher than the prior 2 years. This level of abundance resulted in an all-gear catch 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 2 fish. However, because the sport fishery had a cumulative overage from prior years, nonresidents were limited to a 1-fish bag limit and a 3-fish annual limit. These regulations became effective by emergency order on April 27, 2002. The estimated sport harvest of treaty 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 catch limit less the net harvest.

2003

In April 2003, a preseason AI of 1.79 was announced. This index resulted in an all-gear catch 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 2-fish bag limit for residents and a 1-fish bag limit and 3-fish annual limit for nonresident anglers. These regulations were implemented by an emergency order that became effective on May 1, 2003. These regulations applied to all marine waters in SEAK, including Yakutat, except for THAs 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 catch 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 catch limit of 383,500 and a sport allocation of 71,682. According to the plan, the sport fishery bag limits remained at 2 fish for residents, and 1 fish with a 3-fish annual limit for nonresidents. These regulations applied to all marine waters in SEAK, including Yakutat, except for THAs 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 catch limit less the net harvest.

2005

The 2005 preseason AI of 2.05 was announced in mid-April. The resulting all-gear catch limit was 416,400 and the sport allocation was 77,979 fish. Based on the performance of the sport fishery during the prior 3 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 KSMP. 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 3 fish and the nonresident annual limit was increased from 3 to 5 fish. The nonresident bag and possession limits remained at 1 fish. These regulations were in place throughout SEAK from May 3, 2005, through August 30, 2005. Prior to and after that time the regulations were in effect, the regulations mandated by the KSMP applied (resident 2 fish bag limit, nonresident 1 fish bag limit, nonresident 3 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 catch 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 catch 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 3-fish bag limit for residents, and for nonresidents, a 2-fish bag limit in May, a 1-fish bag limit for the remainder of the year, and a 4-fish annual limit. In addition, the use of 2 rods per angler was also allowed from October 2006 through March 2007 as directed by the plan. These regulations were implemented by Emergency Order 1-KS-R-02-06 which became effective on May 1, 2006. These regulations applied to all marine waters in SEAK, including Yakutat, except for THAs established by emergency order to harvest excess Alaska hatchery-produced 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 catch 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 catch 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 3-fish bag limit for residents, and for nonresidents, a 2-fish bag limit in May, a 1-fish bag limit for the remainder of the year, and a 4-fish annual limit for nonresident anglers. In addition, the use of 2 rods per angler was also allowed from October 2007 through March 2008 as per the plan. These regulations were implemented by Emergency Order 1-KS-R-02-07 which became effective on May 1, 2007. These regulations applied to all marine waters in SEAK, including Yakutat, except for THAs established by emergency order to harvest excess Alaska hatchery-produced 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 catch 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 catch 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 4-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 1 fish for resident anglers. The nonresident bag limit was 1 fish during May 1–July 15 and October 1–December 31. From July 16 to September 30, the nonresident bag limit was 1 fish 48 inches or greater in length.

The nonresident harvest limit (an annual limit that decreases during the year) was 3 fish 28 inches or greater in length January 1–June 30; 2 fish 28 inches or greater in length, July 1–July 15; 1 fish 48 inches or greater in length, July 16–September 30; and 1 fish 28 inches or greater in length October 1–December 31. Any fish 28 inches or greater in length harvested by a nonresident 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 THAs 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 catch 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 2-fish bag limit for residents, a 1-fish bag limit for nonresidents, and a 3-fish annual limit for nonresident anglers. In addition, the use of 2 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 THAs 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 catch limit less the net harvest.

2010

The 2010 preseason king salmon AI of 1.35 was announced in late March. The resulting all-gear catch 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 2 fish for residents, and a 1-fish bag limit with a 3-fish annual limit for nonresidents. Resident anglers were allowed the use of 2 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 THAs 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 catch 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 catch 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 3-fish bag limit for residents, and for nonresidents a 2-fish bag limit in May, a 1-fish bag limit for the remainder of the year, and a 5-fish annual limit. In addition, the use of 2 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 THAs 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 catch 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 catch 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 3-fish bag limit for residents. Nonresidents were allowed a bag of 2-fish in May and 1 fish for the remainder of the year; a 4-fish annual limit also applied to nonresidents under this regime. In addition, the use of 2 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. THAs 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 catch 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 catch 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 1-fish bag limit for residents, a 1-fish bag limit for nonresidents, and a nonresident harvest limit (an annual limit that decreases during the year) of 3 fish 28 inches or greater in length January 1–June 30; 2 fish 28 inches or greater in length, July 1–July 15; and a 1 fish 28 inches or greater in length, July 16–December 31. In addition, the use of 2 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. THAs 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 catch 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 catch 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 3-fish bag limit for residents. Nonresidents were allowed 2 fish in May and June and 1 fish the remainder of the year; a 6-fish nonresident annual limit applied. In addition, the use of 2 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. THAs 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 catch limit less the net harvest.

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 3-fish bag limit for residents. Nonresidents were allowed a 2-fish bag limit in May and June and 1 fish per day the remainder of the year; a 6-fish nonresident annual limit applied. In addition, the use of 2 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 Pacific Salmon Commission–Chinook Technical Committee (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 catch 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, 2015, resulting in an all-gear catch 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 2-fish bag limit for residents. Nonresidents were allowed a bag limit of 1 fish for the remainder of the year; a 3-fish annual limit also applied to nonresidents under this regime. In addition, the use of 2 rods by resident anglers was allowed from October 2015 through March 2016 as per the plan.

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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. THAs 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 3). Based on preseason estimates of abundance and final harvest estimates, the sport fishery took 29.8% of the all-gear catch 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 in the *Southeast Alaska Wild Stocks and Management* section of this report.

2016

The 2016 preseason AI of 2.06 was announced in April. This level of abundance resulted in an all-gear catch 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 3-fish bag limit for residents. Nonresidents were allowed a 2-fish bag limit in May and June and 1 fish per day the remainder of the year; a 6-fish nonresident annual limit applied. In addition, the use of 2 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. THAs 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 3). Based on preseason estimates of abundance and final harvest estimates, the sport fishery took 18.1% of the all-gear catch 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 *Southeast Alaska Wild Stocks and Management* section of this report.

2017

The 2017 preseason AI of 1.27 was announced in April. This level of abundance resulted in an all-gear catch 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 2-fish bag limit for residents, a nonresident bag limit of 1 fish and a nonresident annual limit of 3 fish. In addition, the use of 2 rods per resident angler was allowed from October 2017 through March 2018 as per the plan.

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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. THAs 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 *Southeast Alaska Wild Stocks and Management* section of this report.

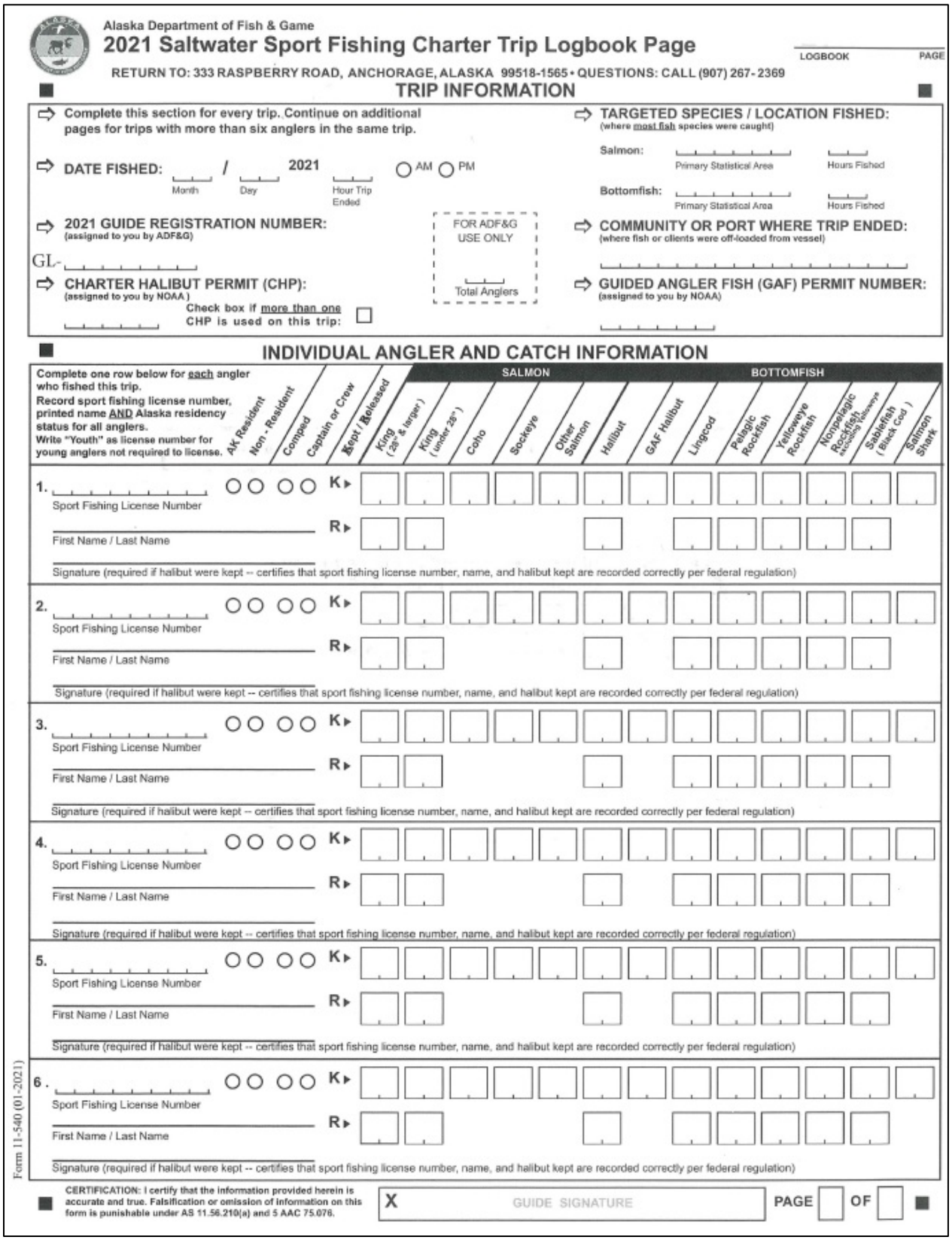
By early August 2017, initial surveys indicated that SEAK king salmon runs would be lower than anticipated indicating that additional conservative management measures in all SEAK king salmon fisheries were needed to protect wild SEAK king salmon stocks. To provide this additional protection, the department 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 KSMP 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 3). Based on preseason estimates of abundance and preliminary harvest estimates, the sport fishery took 24.5% of the all-gear catch limit less the net harvest.

APPENDIX B: SALTWATER SPORT FISHING CHARTER LOGBOOK SAMPLE PAGE

Appendix B1.–2021 Saltwater Sport Fishing Charter Logbook sample page.



Alaska Department of Fish & Game

2021 Saltwater Sport Fishing Charter Trip Logbook Page

LOGBOOK _____ PAGE _____

RETURN TO: 333 RASPBERRY ROAD, ANCHORAGE, ALASKA 99518-1565 • QUESTIONS: CALL (907) 267-2369

TRIP INFORMATION

Complete this section for every trip. Continue on additional pages for trips with more than six anglers in the same trip.

DATE FISHED: ___ / ___ 2021 ___ ○ AM ○ PM
Month / Day / Hour Trip Ended

2021 GUIDE REGISTRATION NUMBER: (assigned to you by ADF&G)
GL- _____

CHARTER HALIBUT PERMIT (CHP): (assigned to you by NOAA)
_____ Check box if more than one CHP is used on this trip: ☐

FOR ADF&G USE ONLY
Total Anglers _____

TARGETED SPECIES / LOCATION FISHED: (where most fish species were caught)
Salmon: _____ Primary Statistical Area _____ Hours Fished
Bottomfish: _____ Primary Statistical Area _____ Hours Fished

COMMUNITY OR PORT WHERE TRIP ENDED: (where fish or clients were off-loaded from vessel)
_____

GUIDED ANGLER FISH (GAF) PERMIT NUMBER: (assigned to you by NOAA)
_____

INDIVIDUAL ANGLER AND CATCH INFORMATION

Complete one row below for each angler who fished this trip.
Record sport fishing license number, printed name AND Alaska residency status for all anglers.
Write "Youth" as license number for young anglers not required to license.

	AK Resident	Non-Resident	Comped	Captain or Crew	Kept / Released	SALMON: King (28" & larger)	SALMON: King (under 28")	SALMON: Coho	SALMON: Sockeye	SALMON: Other Salmon	BOTTOMFISH: Halibut	BOTTOMFISH: GAF Halibut	BOTTOMFISH: Lingcod	BOTTOMFISH: Pelagic Rockfish	BOTTOMFISH: Yelloweye Rockfish	BOTTOMFISH: Nonpelagic Rockfish (excluding Yelloweye)	BOTTOMFISH: Sablefish (Black Cod)	BOTTOMFISH: Salmon Shark
1. Sport Fishing License Number _____ First Name / Last Name _____	○	○	○	○	K ▸													
					R ▸													
Signature (required if halibut were kept -- certifies that sport fishing license number, name, and halibut kept are recorded correctly per federal regulation)																		
2. Sport Fishing License Number _____ First Name / Last Name _____	○	○	○	○	K ▸													
					R ▸													
Signature (required if halibut were kept -- certifies that sport fishing license number, name, and halibut kept are recorded correctly per federal regulation)																		
3. Sport Fishing License Number _____ First Name / Last Name _____	○	○	○	○	K ▸													
					R ▸													
Signature (required if halibut were kept -- certifies that sport fishing license number, name, and halibut kept are recorded correctly per federal regulation)																		
4. Sport Fishing License Number _____ First Name / Last Name _____	○	○	○	○	K ▸													
					R ▸													
Signature (required if halibut were kept -- certifies that sport fishing license number, name, and halibut kept are recorded correctly per federal regulation)																		
5. Sport Fishing License Number _____ First Name / Last Name _____	○	○	○	○	K ▸													
					R ▸													
Signature (required if halibut were kept -- certifies that sport fishing license number, name, and halibut kept are recorded correctly per federal regulation)																		
6. Sport Fishing License Number _____ First Name / Last Name _____	○	○	○	○	K ▸													
					R ▸													
Signature (required if halibut were kept -- certifies that sport fishing license number, name, and halibut kept are recorded correctly per federal regulation)																		

Form 11-540 (01-2021)

CERTIFICATION: I certify that the information provided herein is accurate and true. Falsification or omission of information on this form is punishable under AS 11.56.210(a) and 5 AAC 75.076.

X GUIDE SIGNATURE _____ PAGE ___ OF ___

APPENDIX C: STATEWIDE HARVEST SURVEY AREAS FOR SOUTHEAST ALASKA

Appendix C2.–Areas within the Southeast Alaska region for which sport effort and harvests are estimated through use of the Statewide Harvest Survey (SWHS) postal questionnaire.