

**PACIFIC SALMON COMMISSION
JOINT CHINOOK
TECHNICAL COMMITTEE REPORT**

**STANDARDIZED FISHING REGIMES FOR
SOUTHEAST ALASKA CHINOOK FISHERIES
REPORT TCCHINOOK (04)-3**

September 20, 2004

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INTRODUCTION

The June 30, 1999 Agreement (Agreement) called for all Chinook salmon fisheries under the jurisdiction of the Pacific Salmon Commission (PSC) to adopt total mortality based management regimes. However, the parties agreed that there was much uncertainty regarding the magnitude of and ability to estimate the number of incidental mortalities. Therefore, in Annex IV, Chapter 3, Paragraph 3, the parties called for the establishment of standardized fishing regimes. Specifically, the Agreement called for:

“beginning in 2000, total adult equivalent fishing mortality in each Aggregate Abundance Based Management (AABM) fishery shall be constrained by expressing the fishery management objective as a target catch index and a standardized management regime (e.g., minimum size limit of x , ratio of chinook retention to chinook non-retention periods not to exceed y).”

The intent was to establish standardizations that would ensure that a fishery would not increase its incidental mortalities compared to previous fishery regimes. This document provides the standardized fishing regime for the Southeast Alaska (SEAK) all-gear quota at three levels of abundance indices (AIs), with specifics for each gear group included at each AI. These three scenarios represent how Alaska would have managed the SEAK fisheries, given fishing regulations in place at the time of the signing of the 1999 Agreement. Some regulation changes have occurred since the 1999 Agreement for SEAK fisheries that are not included in this document. Later in the document, present and past fishing regulations in SEAK that effect the number of incidental mortalities are presented, along with information concerning available data bases for estimates of incidental mortality from 1985-2002.

1 STANDARDIZED FISHING REGIMES FOR SOUTHEAST ALASKA

The SEAK treaty accounting year begins on October 1 and continues through the end of September of the following year (i.e. the 2000 winter troll season began on October 11, 1999). “Treaty” Chinook are those fish that are not included as Alaska hatchery add-on.

1.1 SIZE LIMITS

The troll, recreational and purse seine fisheries all have a minimum size limit of 28” total length (tip of snout to tip of tail). For the purse seine fishery, Chinook salmon less than 21” may be retained and sold at any time. These small Chinook are difficult to differentiate from pink salmon and so may be retained at any time. They do not count towards PSC Treaty limits. Chinook between 21” and 28” may be retained in the purse seine fishery but not sold, and Chinook 28” or greater may be retained only during Chinook retention periods. Chinook smaller than 28” may also be retained in hatchery terminal harvest areas in the recreational and troll fisheries; these fish are also not counted as Treaty fish. There are no minimum size limits in the drift and set gillnet fisheries.

1.2 BETWEEN-GEAR ALLOCATIONS

The current between gear allocation sharing of the PSC catch limit is: purse seine, 4.3% of total catch limit; drift gillnet, 7,600 Chinook; set gillnet 1,000 Chinook; troll, 80% and recreational, 20% of the remaining catch limit after purse seine and gillnet allocations have been subtracted.

Domestic overages or underages by gear type do occur when the actual catch exceeds or is under the allocation. The 2000 king salmon management plan (Appendix C) requires that if the sport fishery harvest exceeds or falls short of the 20 percent harvest ceiling, the current year’s commercial troll fishery harvest quota will be adjusted up or down to harvest the remainder of the annual PSC harvest ceiling. In addition, the sport fishery bag limit for non-resident anglers cannot be increased until any cumulative overage in the sport fishery is eliminated.

If allocations for troll, recreational or net fisheries changes, the number of incidental mortalities relative to each gear will change. The types of incidental mortalities that may occur are those resulting from the release of large Chinook during non-retention periods in the troll, purse seine, set gillnet or sport fisheries, the release of shakers or sub-legal Chinook in all fisheries (except drift gillnet) and fish dropping off troll or sport fishing gear or dropping out of gillnets.

1.3 CHINOOK NON-RETENTION

Chinook non-retention (CNR) periods occur regularly in the summer troll and purse seine fisheries. CNR may potentially occur in the set gillnet and recreational fisheries in unusual circumstances.

1.3.1 Troll Fishery

Non-retention of legal size Chinook during the troll fishery occurs only during the summer season. CNR periods occur when the target harvest of Chinook has been reached but fishing is still allowed for other species. Trolling is allowed for other salmon species during the time between the two Chinook retention periods and following the harvest of the entire troll fishery Chinook quota. All Chinook caught during the CNR periods must be released unharmed.

1.3.2 Purse Seine Fishery

Chinook non-retention during the purse seine fishery occurs during periods of low pink salmon abundance when Chinook can be easily spotted and released from the nets. The retention of large Chinook (> 28 in) is generally not allowed prior to August when the abundance of pink salmon becomes very high.

1.3.3 Recreational and Set Gillnet Fisheries

CNR in the recreational fishery only occurs at very low AI's when regulations in the King Salmon Management Plan direct the Department to do so (Appendix C). This action has never occurred. If CNR were necessary, known areas of high Chinook abundance in the recreational fishery would be closed, e.g., on the outer coast.

CNR in the set gillnet fishery only occurs when the escapement goal to the Situk River is projected to not be met. Since the implementation of the Situk Management Plan in 1991 and the adoption of the escapement goal, CNR periods for a portion of the season were implemented in 1991 and 2001. No CNR has occurred in other set gillnet rivers in the Yakutat area.

1.4 GEAR MANAGEMENT PLANS

Management plans for the different gear groups incorporate features to minimize incidental mortalities. In addition, all commercial gears have limited entry, i.e., there is a limited number of permit holders that can legally participate in power troll, hand troll, set gillnet, drift gillnet and purse seine fisheries. For example in 1999, 927 power troll, 1,155 hand troll, 416 purse seine, 481 drift gillnet and 170 set gillnet permits were issued. Of these permits issued in 1999, 724 power troll, 332 hand troll, 360 purse seine, 431 drift gillnet and 128 set gillnet permits fished and made landings.

1.4.1 Troll Fishery

The troll fishery management plan was adopted in 1994 with the express intention of reducing the number of Chinook salmon hooked and released. Specifically, the plan incorporated:

- (1) a cap on the number of fish harvested in the winter fishery (45,000 Treaty and add-on Chinook combined);
- (2) it reiterated a 10 day delayed start for the winter season,
- (3) a specific management plan for the spring fisheries that ensures targeting on Alaska hatchery stocks, and
- (4) a plan for the summer fishery that divided the harvest between periods when all areas were open (70% of the remaining troll quota to be taken with all areas open) and a period when the areas of high abundance were closed and the remaining quota is taken.

In addition, troll vessels are limited to four lines except for an area outside of three miles north and west of the latitude of Cape Spencer, where six lines are allowed (Appendix Table 1). Hand troll vessels are limited to either four fishing poles or two hand gurdies. There is no restriction on hook types for troll gear. Historical regulatory changes for the SEAK troll fishery are summarized in Appendix A.

The winter troll fishery is managed to a cap of 45,000 total fish regardless of the AI. The fishery occurs from October 11 to April 14 of the following year, and is split into the 1st half (October 11-December 31) and the 2nd half (January 1-April 14th). The majority of the harvest is taken from October 11 to November 15 and from March 1 to April 14 of the following year. The open fishing area is restricted to fishing within the winter troll boundary (outer coast surf line). In addition, portions of Districts 101, 108, 111 and 115 are either closed or restricted to a shorter open period, compared to the remainder of the region due to local stock conservation concerns or to prevent conflicts with the recreational fishery (see Figure 1).

The spring management plan identifies areas that are terminal or are major migration routes for Alaska hatchery Chinook salmon (Figure 2). The spring fishery is open from April 15th through June 30th. Most of the harvest occurs from mid-May through the end of June; fewer areas are open from April 15th to May 15th. Terminal fisheries remain open throughout the spring while those along the migration routes are capped to a total number of fish based on the percentage of Alaska hatchery fish in the catch. There is no cap on the total number of fish that can be harvested during the spring fisheries but each area is managed independently by regulation to meet Treaty fish harvest guidelines. The Treaty guidelines are as follows:

No more than 1,000 Treaty fish can be taken if the percentage of Alaskan hatchery fish is 33% or less; no more than 2,000 Treaty fish can be taken if the percentage of Alaskan hatchery fish is between 33% and 50%; no more than 3,000 Treaty fish can be taken if the percentage of Alaskan hatchery fish is between 50% and 66%; and there is no limit on the amount of Treaty fish taken if the percentage of Alaskan hatchery fish is 66% or greater¹.

¹ The ADF&G first sampled the spring troll fishery for GSI analysis in 2001. The estimated stock composition of the region-wide spring troll catch in 2001 was 59% southern SEAK stocks, 11% Taku and Stikine, 3% Chilkat, with the remaining 27% from non-SEAK/TBR stocks.

Fishery closures and area restrictions occur to a much greater extent in the spring fishery than in either the winter or summer fisheries.

The summer fishery is open in all of Southeast Alaska from Dixon Entrance to Cape Suckling with few area restrictions (Figure 3), and encompasses the period from July 1st to September 30th. By regulation the summer fishery is split into two retention periods. The first retention period begins on July 1 and targets 70% of the remaining troll allocation after subtracting the catch in the winter and spring fishery. The second retention period targets the remainder of the troll quota plus or minus the amount that the recreational fishery is estimated to be above or below its allocation. The second retention period opens immediately after any mandatory coho troll closure (2-10 days of complete troll closures) which occur no later than August 20th.

The summer fishery boundaries extend 200 miles offshore (EEZ). There are some inside areas closed, but they are limited in size and are located only in Districts 101 (including Behm Canal), 108, 111, and 115. In addition, specific areas of known high Chinook abundance are closed by regulation during the second summer Chinook retention period (Figure 4). They may be reopened after 10 days if the quota is not projected to be taken (this reopening has never happened to date).

1.4.2 Net Fisheries

The net fishery management plans minimize incidental mortalities while providing for fisheries that target on other salmon species (sockeye, pink, and chum). The Chinook salmon that are harvested incidentally while targeting other species comprise the 8,600 allocation for gillnet and the 4.3% allocation for purse seine.

1.4.2.1 Drift Gillnet Fishery

There is no directed Chinook fishery for drift gillnet gear at the present time, though historically there were. Management is based primarily on sockeye, pink, and coho salmon abundance. The drift gillnet fisheries are located in inside waters where the encounter rate of Treaty Chinook is generally low (Figure 4). Since the 1970s, regulations have delayed the drift gillnet fishery opening until the third Sunday in June. Historical regulations for the District 111 gillnet fishery (in and near Taku Inlet) are provided in Appendix B and are similar to regulatory changes in other gillnet districts in SEAK over the years. The delay in season opening date eliminated the Chinook-directed fisheries by drift gillnet fishermen. This regulatory change increased Chinook escapements to the Transboundary rivers and other Alaskan Chinook systems and reduced incidental encounters of these stocks. Time and area restrictions are used in the drift gillnet fishery to limit Chinook salmon by-catch while targeting other species. When warranted, time and area closures, such as night-time closures and closures of known Chinook migration corridors are enacted in specific gillnet fisheries. Night openings were identified as having a higher rate of drift gillnet encounters of Chinook, compared to daytime openings. The drift gillnet fisheries are limited to a total landed Treaty Chinook allocation of 7,600 fish. The low allocation is used to discourage both targeting Chinook and fishing in areas of known Chinook abundance. If the allocation is reached, then drift gillnet fishing areas could be curtailed or significantly reduced in both time and area. Drift gillnet gear varies between areas but is

generally restricted to a maximum of 60 meshes in depth and a maximum length of between 200 and 300 fathoms. Mesh size used is generally less than six inches stretched mesh.

Spring gillnet fisheries may be reinstated on the Taku, Stikine and Alsek Rivers, per the Transboundary annex of the Agreement. The Transboundary annex will allow for fishing on Chinook surplus to spawning needs, once harvest sharing arrangements between Alaska and Canada are completed and abundance based management plans are crafted for each stock. Terminal exclusion provisions are included in the 1999 Agreement (Chapter 3, Paragraph 8) and are needed before U.S. and Canadian fisheries on these three stocks are implemented, in order to implement abundance-based management for these three stocks and not exceed the regionwide gillnet allocation.

1.4.2.2 Set Gillnet Fishery

Set gillnet gear is restricted to the Yakutat Management Area (Figure 5). There is no directed Chinook fishery for set gillnet gear, however, the management plan for the Situk River establishes retention and non-retention of Chinook in-river and nearby ocean waters based on weir counts of Chinook. For example, if the projected escapement of Chinook salmon is 350 fish or greater, the ADF&G may establish a “non-sale” Chinook season in the Situk-Ahrnklin Inlet and Lost River set gillnet fisheries. The set gillnet Treaty Chinook allocation is 1,000 fish. Legal set gillnet gear varies by bay or river system but is generally restricted to a maximum length of 75 fathoms in bays and 10 to 25 fathoms in rivers and all nets must be attached to the shore at one end. The depth of nets with mesh sizes eight inches (203mm) or greater are restricted to 35 meshes and the depth of nets with mesh less than eight inches are restricted to 45 meshes. Mesh size used is generally less than six inches stretched mesh.

1.4.2.3 Purse Seine Fishery

There are no directed Chinook fisheries using purse seine gear. Management of the purse seine fishery is based primarily on pink salmon abundance as well as chum and sockeye abundance; statistical areas open to purse seining are shown in Figure 6. However, there is a quota of 4.3% of the all-gear quota for legal size Chinook for the purse seine fishery and non-retention periods are used to stay within the quota. The strategy to minimize the incidental mortality of Chinook salmon calls for the quota to be harvested during the periods of high pink salmon abundance. During periods of high pink salmon abundance, fish are held in the net, possibly for a long time, until they are brailed into the hold, presumably stressing any Chinook in the net and decreasing their chance for survival. During periods of low pink salmon abundance, conditions are such that Chinook can be released with a better chance of survival after release. Purse seines are restricted to a maximum of 4½ inch (114 mm) square mesh size, cannot be less than 150 meshes or more than 450 meshes in depth and cannot be less than 150 fathoms or more than 250 fathoms in length, hung measure.

1.4.3 Recreational Fishery

The recreational fishery occurs throughout the region, with highest catches around the ports of Sitka, Juneau, Ketchikan, Craig and Petersburg/Wrangell (see Figure 3). The management plan for the recreational fishery is provided in Appendix C; historical regulatory changes are detailed in Appendix D. Chinook salmon are targeted by recreational anglers particularly in May and June as Chinook return to inside waters. Recreational anglers are restricted to one pole with no more than two hooks. The bag and possession limits are based on a combination of the yearly abundance index and overage/underage standings between the recreational and troll gears. (e.g. the sport fishery bag limit for non-resident anglers cannot be increased until any cumulative overage in the sport fishery is eliminated). Domestic overages or underages occur when the actual catch exceeds or is below the allocation.

There are no specific strategies for minimizing incidental mortalities in the recreational fisheries. During periods of low abundance, recreational anglers generally retain all legal Chinook salmon caught. During periods of high abundance or in areas of high Chinook salmon abundance, some catch-and-release fishing is practiced. Catch-and-release anglers are encouraged to use artificial lures with barbless hooks and to release fish carefully to minimize hooking mortality. However, there are no legal restrictions on hook types, bait, nor angling technique. Increased bag limits in hatchery terminal areas encourage anglers to target these Alaska hatchery stocks. The current Alaska Board of Fisheries Chinook salmon management plan seeks to keep retention of Chinook open throughout the season, avoiding times and areas of non-retention. There are no directed freshwater fisheries on Chinook allowed except in the Yakutat area.

1.5 EXAMPLES AT LOW, INTERMEDIATE AND HIGH ABUNDANCE INDICIES

Catch allocations, retention periods and other management issues are described below for three levels of AIs for the SEAK fisheries.

1.5.1 Abundance Index of 1.00

All-Gear Chinook Quota: 150,000 PST Treaty fish, mostly non-Alaskan hatchery.

Drift Gillnet Fishery: allocation of 7,600 Treaty Chinook.

Set Gillnet Fishery: allocation of 1,000 Treaty Chinook.

Purse Seine Fishery: allocation of 4.3% of all-gear Chinook quota (6,450 fish). Chinook non-retention from initial opening in late June through the end of July.

Recreational Fishery: Allocation of 20% of the all-gear quota after the net allocations are subtracted (26,990 fish). Daily bag and possession limits would be one Chinook 28 inches or greater and non-resident anglers restricted to an annual limit of 4 fish. Some area and time period closures would be necessary to limit the catch to within 7.5% of the 20% allocation.

Troll Fishery: Allocation of 80% of the all-gear quota after the net allocations are subtracted (107,960 fish). The winter fishery is managed for a cap of 45,000 fish with a likely catch of 8,000 to 16,000 Treaty Chinook. The spring fishery is not managed to a total catch but would likely be between 10,000 and 17,000 Treaty Chinook. The summer fishery is managed for two Chinook retention periods in July and August. The first retention period target harvest is 70% of the remainder of the troll quota after the catches in the winter and spring fisheries are subtracted. The first Chinook retention period target harvest would be between 52,500 and 63,000 Treaty Chinook. The opening length would be announced pre-season and would likely be 7 or 8 days. The second Chinook retention period is managed to harvest the remainder of the annual troll quota (22,500 to 27,000 fish) plus or minus the amount that the recreational fishery is estimated to be below or exceed its allocation. It would be likely that the sport fishery catch would exceed its allocation by 5,000 fish. Consequently, the second troll Chinook retention period would target between 17,500 and 22,000 Treaty fish and would likely be open five or six days. The total number of summer season CNR days would be between 12 and 14 days. The number of CNR days would be dependent upon the length of any August coho closure (2–10 days of complete troll closures) and if the coho season were extended ten days to September 30. However, the range of CNR days would be between 58 and 78 days.

1.5.2 Abundance Index of 1.35

All-Gear Chinook Quota: 261,000 Treaty fish, mostly non-Alaskan hatchery.

Drift Gillnet Fishery: Allocation of 7,600 Treaty Chinook.

Set Gillnet Fishery: Allocation of 1,000 Treaty Chinook.

Purse Seine Fishery: Allocation of 4.3% of all-gear Chinook quota (11,220 fish). Chinook non-retention from initial opening in late June through the end of July.

Recreational Fishery: Allocation of 20% of the all-gear quota after the net allocations are subtracted (48,240 fish). The daily bag and possession limit would initially be two Chinook 28 inches or greater and non-resident anglers restricted to an annual limit of 4 fish. The bag limits could be adjusted to limit or increase the catch rate if the projected catch is likely to deviate significantly from the allocation.

Troll Fishery: Allocation of 80% of the all-gear quota after the net allocations are subtracted (192,940 fish). The winter fishery is managed for a cap of 45,000 fish with a likely catch of 22,000 to 30,000 Treaty Chinook. The spring fishery is not managed to a total catch but would likely be 20,000 Treaty Chinook. The summer fishery is managed for two Chinook retention periods in July and August. The first retention period target harvest is 70% of the remainder of the troll quota after the catches in the winter and spring fisheries are subtracted. The first Chinook retention period on July 1 would target between 100,000 and 106,000 Treaty fish. The opening would be managed in-season and would likely be open for 6 or 7 days.

The second Chinook retention period is managed to target the remainder of the troll quota (42,900 to 45,300 fish) plus or minus the amount that the recreational fishery is estimated to be below or exceed its allocation. It is likely that the recreational fishery would not exceed its allocation so the second troll Chinook retention period would be managed on in-season catch rates and would likely be open between 9 and 12 days. The total number of summer season Chinook retention days would be between 15 and 19 days. The number of CNR days would be dependent upon the length of any August coho closure (2–10 days of complete troll closures) and if the coho season were extended ten days to September 30. However, the range of CNR days would be between 55 and 73 days.

1.5.3 Abundance Index of 1.75

All-Gear Chinook Quota: 358,400 Treaty fish, mostly non-Alaskan hatchery.

Drift Gillnet Fishery: Allocation of 7,600 Treaty Chinook.

Set Gillnet Fishery: Allocation of 1,000 Treaty Chinook.

Purse Seine Fishery: Allocation of 4.3% of all-gear Chinook quota (15,411 fish). Chinook non-retention from initial opening in late June through the end of July.

Recreational Fishery: Allocation of 20% of the all-gear quota after the net allocations are subtracted (66,880 fish). The daily bag and possession limit would initially be three Chinook 28 inches or greater and non-resident anglers are restricted to an annual limit of 5 fish. The bag limits could be adjusted to limit or increase the catch rate if the projected catch is likely to deviate significantly from the allocation.

Troll Fishery: Allocation of 80% of the all-gear quota after the net allocations are subtracted (267,510 fish). The winter fishery is managed for a cap of 45,000 fish with a likely catch of 22,000 to 30,000 Treaty Chinook. The spring fishery is not managed to a total catch but would

likely be 20,000 Treaty Chinook. The summer fishery is managed for two Chinook retention periods in July and August. The first retention period target harvest is 70% of the remainder of the troll quota after the catches in the winter and spring fisheries are subtracted. The first Chinook retention period on July 1 would target between 152,300 and 157,900 Treaty fish. The opening would be managed in-season and would likely be open between 9 and 18 days.

The second Chinook retention period targets the remainder of the troll quota (65,300 to 67,700 fish) plus or minus the amount that the recreational fishery is estimated to be below or exceed its allocation. It is likely that the recreational fishery would not exceed its allocation so the second troll Chinook retention period would be managed on in-season catch rates and would likely be open between 13 and 23 days. The total number of summer season Chinook retention days would be between 22 and 41 days. The number of CNR days would be dependent upon the length of any August coho closure (2–10 days of complete troll closures) and if the coho season were extended ten days to September 30. However, the range of CNR days would be from 48 to 66 days.

2 HISTORICAL ESTIMATES OF HARVEST

Estimates of landed catch by gear group are presented in Table 1 to provide a perspective of catch by gear, and in total, since the beginning of the 1985 PST. Treaty catches in SEAK fisheries are presented in Table 2.

Table 1. Landed commercial catch and estimated sport harvests of all Chinook salmon in SEAK fisheries from 1985 to 2002, excluding terminal hatchery and freshwater sport harvests.

Year	Troll	Purse Seine	Drift Net	Set Net	Trap	Net Subtotal	Sport	All Gear Total
1985	215,811	21,593	10,679	1,232	366	33,870	24,858	274,539
1986	237,703	12,132	8,539	1,428	0	22,099	22,551	282,353
1987	242,562	4,503	8,957	2,072	0	15,532	24,324	282,418
1988	231,364	11,142	9,658	894	94	21,788	26,160	279,312
1989	235,716	13,171	9,948	798	328	24,245	31,071	291,032
1990	287,939	11,389	15,217	663	443	27,712	51,218	366,869
1991	264,106	13,793	19,254	1,747	70	34,864	60,492	359,462
1992	183,759	18,339	11,740	2,025	36	32,140	42,892	258,791
1993	226,866	8,364	18,280	1,311	36	27,991	49,246	304,103
1994	186,331	14,839	16,918	3,897	0	35,654	42,365	264,350
1995	138,117	25,117	13,464	9,374	0	47,955	49,667	235,739
1996	141,452	22,225	10,219	4,854	0	37,298	57,509	236,259
1997	246,409	10,338	11,467	3,264	0	25,069	71,524	343,002
1998	192,066	14,503	6,207	2,804	0	23,514	55,013	270,593
1999	146,219	17,900	9,712	5,108	0	32,720	72,081	251,020
2000	158,717	22,905	16,035	2,460	0	41,400	63,173	263,290
2001	153,280	20,439	17,091	2,633	0	40,163	72,291	265,734
2002	325,308	17,695	11,484	2,510	0	31,689	69,537	426,534

Table 2. Harvest Landed commercial catch and estimated sport harvests of Treaty Chinook salmon in SEAK fisheries from 1985 to 2002.

Year	Troll	Purse Seine	Drift Net	Set Net	Trap	Net Subtotal	Sport	All Gear Total
1985	211,933	21,521	10,210	1,232	366	33,329	23,032	268,293
1986	231,649	11,572	7,564	1,428	0	20,564	19,049	271,262
1987	231,051	4,369	7,540	2,069	0	13,979	20,294	265,323
1988	217,088	10,856	5,604	894	94	17,448	22,251	256,787
1989	224,182	11,004	6,457	798	290	18,549	26,791	269,522
1990	263,528	8,872	6,537	661	39	16,108	41,360	320,996
1991	231,803	11,406	7,873	1,713	46	21,039	45,144	297,986
1992	162,617	17,181	4,795	2,017	25	24,017	35,346	221,980
1993	212,350	6,759	8,060	1,311	36	16,166	42,677	271,193
1994	177,146	12,257	6,399	3,895	0	22,552	35,467	235,165
1995	115,072	10,435	6,563	9,374	0	26,371	35,496	176,939
1996	107,581	1,910	4,531	2,000	0	8,441	38,975	154,997
1997	221,944	4,183	5,262	2,002	0	11,447	53,305	286,696
1998	183,489	8,518	2,842	2,000	0	13,360	46,303	243,152
1999	132,741	5,968	4,976	2,000	0	12,943	53,158	198,842
2000	133,963	4,587	4,504	2,000	0	11,091	41,439	186,493
2001	128,692	5,498	6,002	2,002	0	13,502	44,725	186,919
2002	298,132	6,144	5,353	2,000	0	13,497	45,504	357,133

3 HISTORICAL OVERVIEW OF METHODS USED TO ESTIMATE INCIDENTAL MORTALITY

A matrix of the years when incidental encounter estimates for the Southeast Alaska Chinook salmon fisheries are available and how they were derived, is provided in Table 3, to provide the PSC with historical and present coverage.

For the period 1989 through 1997 the incidental mortality estimates for legal size Chinook during CNR periods were made by regressing the number of days of CNR fishing effort with the encounter estimates for the periods 1985 through 1988 and 1998 through 2001. The estimates of the number of sub-legal Chinook were made using estimates of the catch of sub-legal Chinook per boat day of effort in the CR and CNR periods during the period 1998 through 2001. Incidental encounters in the purse seine fishery are currently estimated using ratios of landed catch to incidental encounters. A regression of landed catch on the encounter estimates was developed from an observer program that was in place from 1985 through 1987. A mortality rate of 90% is applied to all net encounters because the net gear types are not separated in the model.

Table 3. Estimated matrix of years where estimates of incidental mortalities from direct fishery sampling programs are available for commercial and sport harvests of Chinook salmon in SEAK fisheries from 1985 to 2002.

Year	Troll			Net				Sport
	Winter	Spring	Summer	Purse Seine	Drift Net	Set Net	Trap	
1985	No	No	Observer	Observer	No	No	No	Creel Census
1986	No	No	Observer	Observer	No	No	No	Creel Census
1987	No	No	Observer	Observer	No	No	No	Creel Census
1988	No	No	Observer	Ratio ²	No	No	No	Creel Census
1989	No	No	Regression ¹	Ratio ²	No	No	No	Creel Census
1990	No	No	Regression ¹	Ratio ²	No	No	No	SWHS ³
1991	No	No	Regression ¹	Ratio ²	No	No	No	SWHS ³
1992	No	No	Regression ¹	Ratio ²	No	No	No	SWHS ³
1993	No	No	Regression ¹	Ratio ²	No	No	No	SWHS ³
1994	No	No	Regression ¹	Ratio ²	No	No	No	SWHS ³
1995	No	No	Regression ¹	Ratio ²	No	No	No	SWHS ³
1996	No	No	Regression ¹	Ratio ²	No	No	No	SWHS ³
1997	No	No	Regression ¹	Ratio ²	No	No	No	SWHS ³
1998	No	No	Observer	Ratio ²	No	No	No	SWHS ³
1999	No	No	Observer	Ratio ²	No	No	No	SWHS ³
2000	No	No	Observer	Ratio ²	No	No	No	SWHS ³
2001	No	No	Logbook	Ratio ²	No	No	No	SWHS ³
2002	No	No	Logbook	Ratio ²	No	No	No	SWHS ³

³Statewide Harvest Survey.

4 MAPS OF TROLL, NET AND RECREATIONAL FISHING AREAS

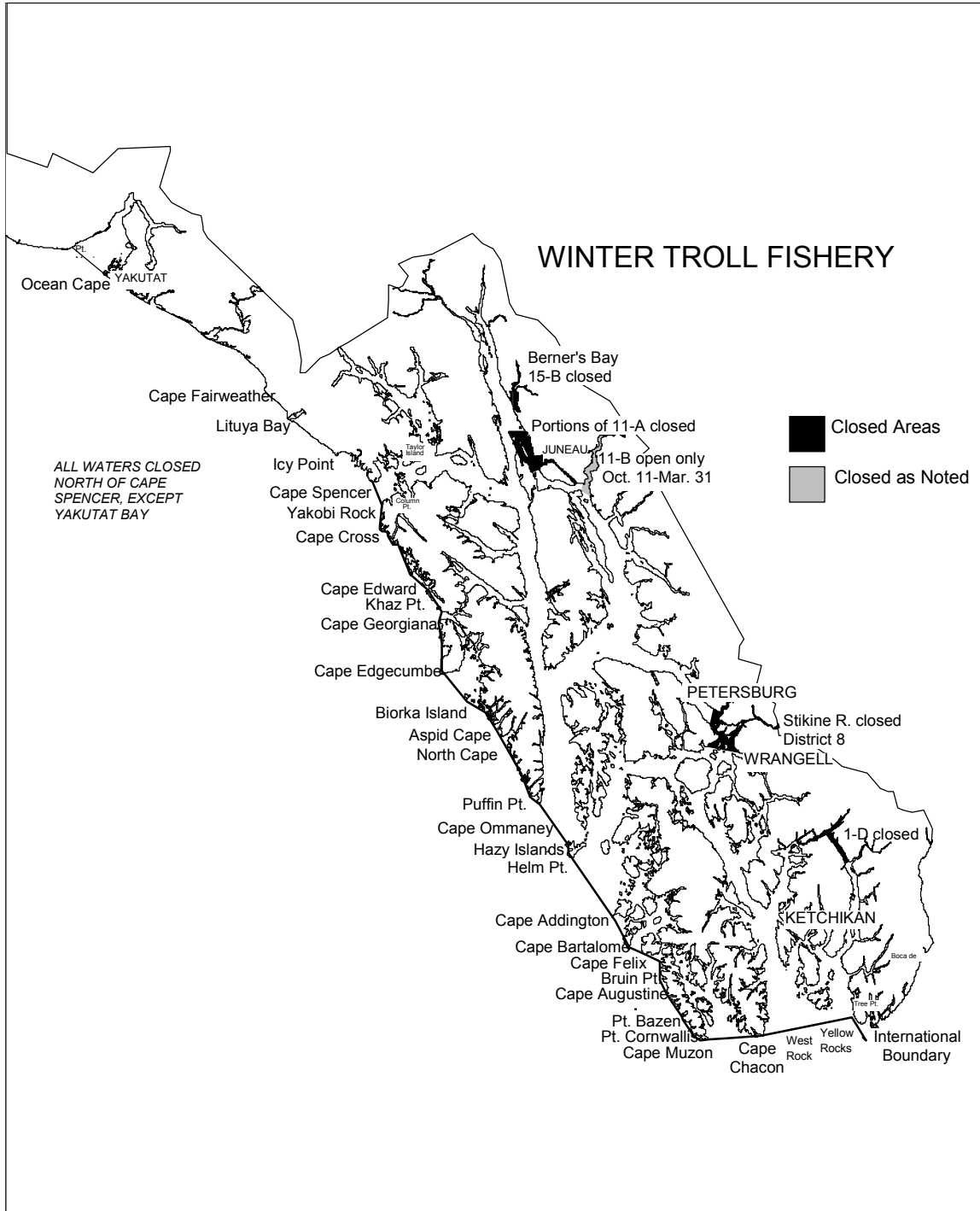


Figure 1. Map of winter troll areas in Southeast Alaska.

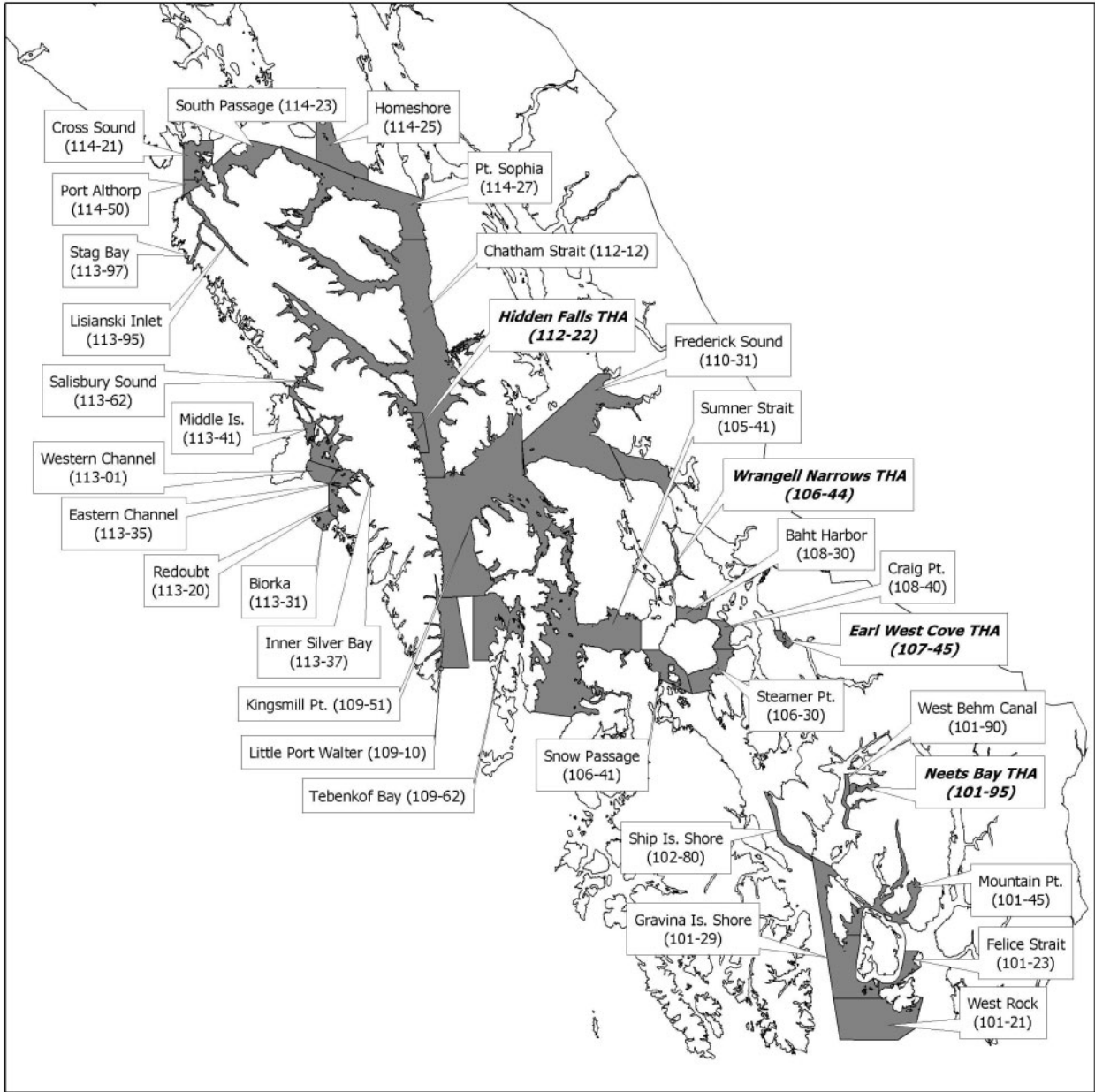


Figure 2. Map of spring experimental troll fishery areas open in Southeast Alaska in 2002.



Figure 3. Map of summer troll areas and major sport fishing ports in Southeast Alaska.

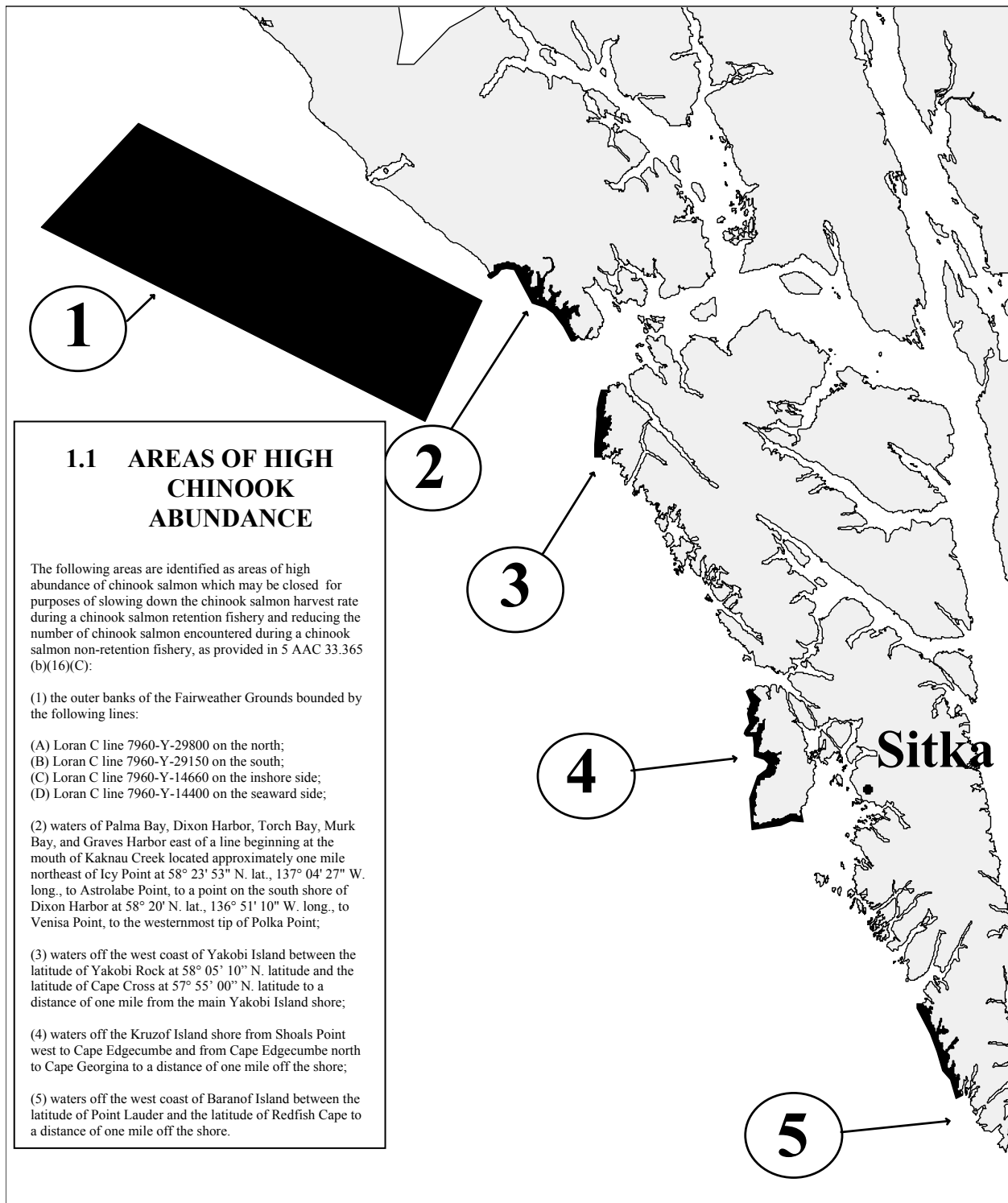


Figure 4. Map of the areas of high Chinook abundance.

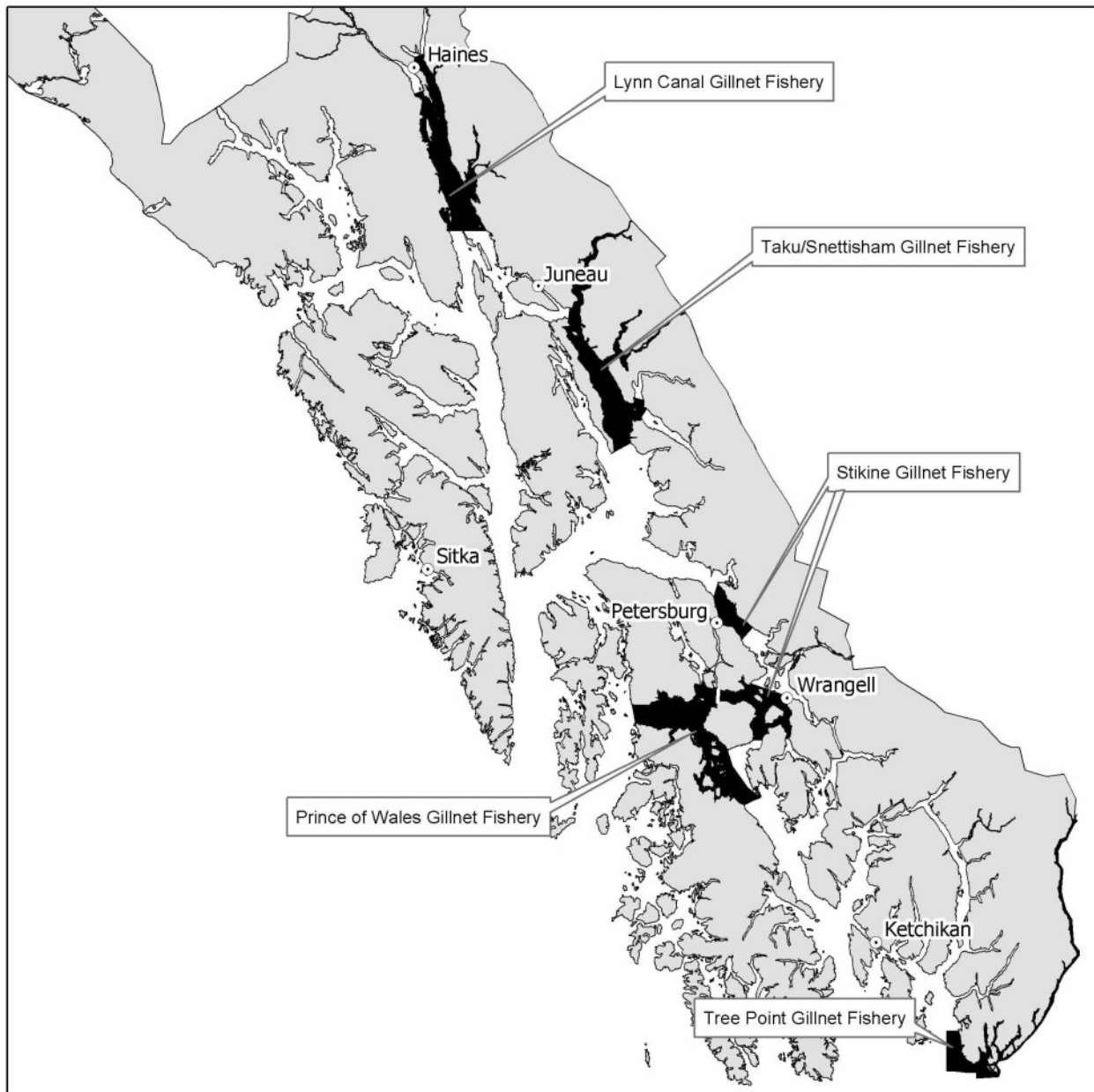


Figure 5. Map of the drift gillnet fishing areas in Southeast Alaska.

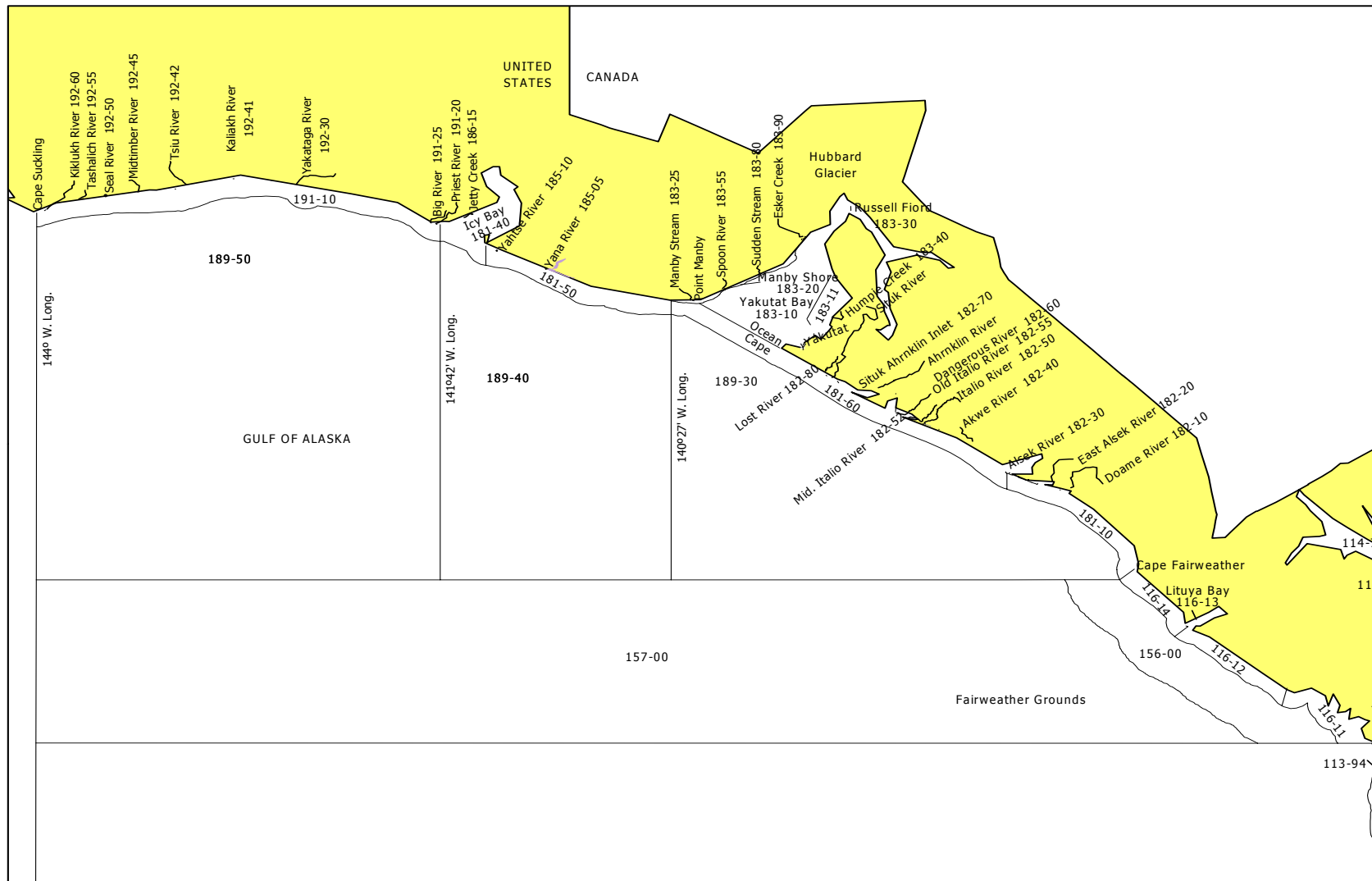


Figure 6. Map of the setnet fishing areas in the Yakutat area of Southeast Alaska.

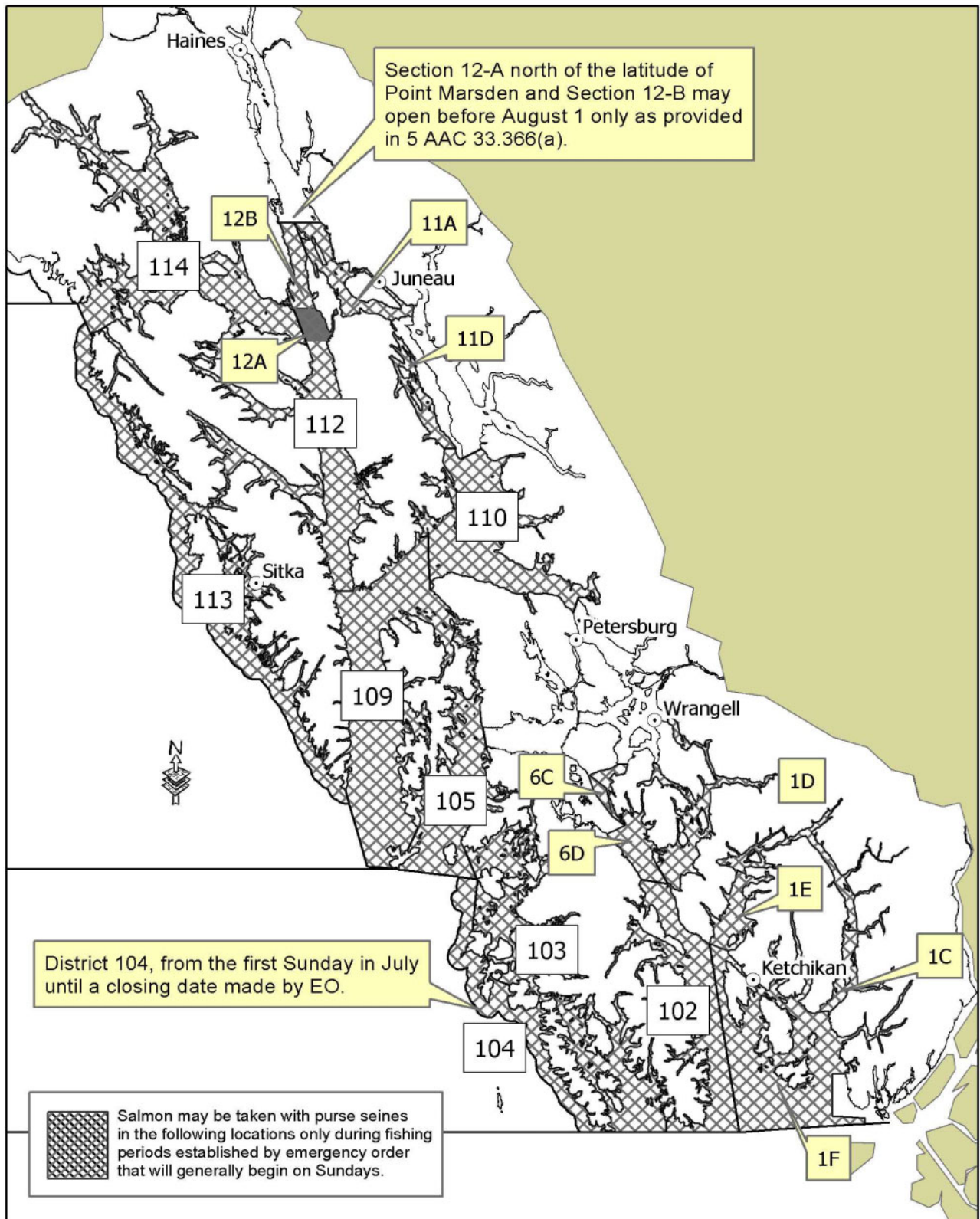


Figure 7. Map of purse seine fishing areas in Southeast Alaska.

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APPENDICES

Appendix A. Major regulatory actions taken in the management of the Southeast Alaska troll fishery over the past 80 years.

Year	Major Regulatory Actions Associated with Management of Southeast Alaska Troll Fishery
Prior to 1924	Congressional Act in 1906 provided for 36 hour per week closure in all waters of Alaska, but very little enforcement was conducted.
Prior to 1950	Troll fishery was unlimited by area restrictions and continued year round. Trollers were limited to four lines in Territorial waters. In 1941, a minimum size of 6 lbs. dressed weight for Chinook salmon was implemented. In 1941, Burroughs Bay was closed to trolling from 8/16-10/5.
1950	“Outside” waters were closed from 10/31 to 3/15. Portions of northern Lynn Canal were closed from 5/31 to 6/25. Northern Behm Canal was closed from 5/1 to 7/15.
1951	Chinook salmon size limit was modified to either 6 lbs. dressed weight or 26 inches in fork length.
1958	Additional area restrictions were imposed with the closing of portions of Stephens Passage.
1959	Trolling was prohibited in Stikine Straight south of Vank Island during November and December.
1960	Trollers were limited to 4 fishing lines and use of single hooks in State waters and “outside” waters were closed from 11/1 to 4/15.
1962	A portion of northern Behm Canal was closed to trolling. Trolling was limited to 1 day per week in Districts 11A and 11B from late April to mid-June.
1965	The District 8 troll season was open only during days the gill net fishery was open during the gill net season.
1970	Trolling in Yakutat Bay was restricted to the same days as the set net fishery was open.
1971	Trolling was limited to 1 day per week in District 111, District 112 north of Point Couverden and District 115C from 5/1 to the 3 rd Sunday of June.
1973	Yakutat Bay was opened to winter troll fishing.
1974	All State waters north and west of Cape Suckling were closed to troll fishing.
1975	Power trolling was placed under limited entry with 940 permits allowed.
1976	District 11, District 12 north of Point Couverden, and Districts 15B and 15C were closed to trolling from 4/16 to 6/14. District 11A was closed to trolling from 4/16 to 8/14.
1977	Federal waters of the Fishery Conservation Zone west of Cape Suckling were closed to troll fishing. The Chinook salmon minimum size length was increased to 28 inches. Waters in east Behm Canal and in Boca de Quadra were closed to troll fishing.
1978	The eastern Sumner Strait portions of District 6 and adjoining District 8 were closed to trolling from 4/16 to 6/14. The northern Clarence Strait portion of District 6 and adjoining District 8 were closed to trolling from 4/16 to 8/14. District 8 was closed to trolling from 4/16 to the third Monday in June. The southern Frederick Sound portion of District 10 and adjoining District 8 was closed to trolling from 4/16 to 6/14.
1979	A 8-day “on” and 6-day “off” fishing period was implemented for the troll fishery in Districts 12 north of Point Hepburn and in Districts 14, 15A and 15C. Districts 11A and 11B were closed to trolling all year. “Outside” waters were closed to hand trolling.
1980	First of the annual management targets was established for the harvest of Chinook salmon in Southeast Alaska by the Alaska Board of Fisheries (BOF) and the North Pacific Fishery Management Council (NPFMC); a guideline harvest level (range) of 286,000 to 320,000 Chinook salmon in the commercial fishery. Limited entry for hand trolling was implemented, 2,150 permits were issued, 1,300 of them as non-transferable permits. The number of lines allowed to be fished in the Federal Conservation Zone was limited to 4 lines per vessel south of Cape Spencer and 6 lines per vessel between Cape Spencer and Cape Suckling with a limit of 6 operational gurdies. A 10-day Chinook salmon non-retention period for the troll fishery from 6/15 to 6/24 was implemented and a 9/21 to 9/30 closure of the troll fishery was implemented.
1981	Guideline harvest level (range) of 272,000 to 285,000 Chinook salmon was established by BOF. The NPFMC however set the guideline level (range) at 243,000 to 286,000 Chinook salmon. The troll fishery was closed from 4/15 to 5/15 for conservation of mature Chinook salmon spawners of local origin. A 6/25 to 7/5 Chinook salmon non-retention period was implemented. A troll fishery closure from 8/10 to 8/19 was implemented. A 9/4 to 9/12 Chinook salmon non-retention period was implemented. The Federal Conservation Zone was closed from 8/10 to 9/20 except in Yakutat Bay. With the exception of Yakutat Bay, the troll fishery was closed from 9/21 to 9/30. A winter Chinook salmon troll fishing season was established from 10/1 to 4/14, a summer troll fishing season was established from 4/15 to 9/20. Portions of District 116 were included in waters open to the winter troll fishery. Hand troll gear was limited to 2 gurdies or 4 fishing poles and the hand troll closure in “outside” waters was repealed.
1982	BOF and the NPFMC set a guideline harvest level of 257,000 Chinook salmon, with a range from 243,000 to 286,000 Chinook salmon (including an estimated 1,500 Chinook salmon produced by Alaskan hatcheries). The troll fishery was closed from 5/15 to 6/14. A Chinook salmon non-retention period from 6/7 to 6/17 and from 7/29 to 9/19 was implemented. Undersized Chinook salmon with adipose finclips were allowed to be retained by troll fishermen so long as the heads were submitted to ADF&G.

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1983	Guideline harvest level (range) was again set at 243,000 to 286,000 Chinook salmon for the commercial fishery, including the winter troll harvest from 10/1/83 to 4/14/84 by the Alaska BOF and the NPFMC. The troll fishery was closed from 4/15 to 6/5 and from 7/1 to 7/10. The troll fishery was closed to Chinook salmon retention from 7/30 to 9/20.
1984	Guideline harvest level of 243,000 to 272,000 Chinook salmon was set by the BOF and the NPFMC for the commercial fishery, including the winter troll harvest. The troll fishery was closed from 5/15 to 6/5 and from 7/1 to 7/10. The troll fishery was closed to the retention of Chinook salmon from 7/30 to 9/20.
1985	The U.S./Canada Pacific Salmon Treaty (PST) set a ceiling for the harvest of Chinook salmon in Southeast Alaska by all gear groups as 263,000 fish. The summer season definition was extended to 9/30. The troll fishery was closed from 4/15 to 6/3 and from 6/13 to 6/30. Troll fishery Chinook salmon non-retention was implemented from 7/23 to 8/24 and from 8/27 to 9/20.
1986	The PST set a ceiling for the harvest of Chinook salmon in Southeast Alaska by all gear groups as 263,000 fish plus an Alaska hatchery add-on. The troll fishery was closed from 4/15 to 6/20. Selected areas were closed from 7/9 to the end of the season to reduce Chinook salmon catch rates. Remaining areas were closed to Chinook salmon retention from 7/16 to 8/20. Troll fishery Chinook salmon non-retention was implemented from 8/27 to 8/31 and from 9/10 to 9/20. Experimental troll fisheries were allowed in Wrangell Narrows and near Little Port Walter from 6/2 to 6/3, from 6/9 to 6/10, and from 6/16 to 6/17 to harvest hatchery Chinook salmon. The 8-day “on” and 6-day “off” fishing periods in District 14 and waters of District 12 south of Point Couverden were repealed. The prior regulation allowing the retention of under-sized Chinook salmon with missing adipose fins was repealed.
1987	The PST set a ceiling for the harvest of Chinook salmon in Southeast Alaska by all gear groups as 263,000 fish plus an Alaska hatchery add-on. The general summer troll fishery was closed from 4/15 to 6/20. Selected areas were closed from 7/4 to the end of the season to reduce Chinook salmon catch rates. Remaining areas were closed to Chinook salmon retention from 7/13 to 8/2 and from 8/13 to 9/20. Experimental troll fisheries near four Alaskan hatcheries were allowed during June prior to the 6/20 summer season opening.
1988	The PST set a ceiling for the harvest of Chinook salmon in Southeast Alaska by all gear groups as 263,000 fish plus an Alaska hatchery add-on. The general summer troll fishery was closed from 4/15 to 6/30. Chinook salmon non-retention was implemented from 7/12 to 9/20. Experimental troll fisheries near five Alaskan hatcheries were allowed during June and terminal troll fisheries were operated continuously during June in Wrangell Narrows and Carroll Inlet.
	The PST set a ceiling for the harvest of Chinook salmon in Southeast Alaska by all gear groups as 263,000 fish plus an Alaska hatchery add-on. The general summer troll fishery was closed from 4/15 to 6/30. Chinook salmon non-retention was implemented from 7/13 to 9/20. Experimental troll fisheries in 9 areas near Alaskan hatcheries were allowed during June (6/12 to 6/13 and 6/26 to 6/28) and terminal troll fisheries were operated during June in Wrangell Narrows (6/12) and Carroll Inlet (6/11 to 6/29). Hatchery access troll fisheries were opened in most of the “inside” waters for two 3-day periods in June during weeks without experimental troll fisheries.
1990	The PST set a ceiling for the harvest of Chinook salmon in Southeast Alaska by all gear groups as 302,000 fish plus an Alaska hatchery add-on. The general summer troll fishery was closed from 4/15 to 6/30. Chinook salmon non-retention was implemented from 7/23 to 8/22 and from 8/25 to 9/20. Experimental and hatchery access troll fisheries near Alaskan hatcheries were allowed during June. Additional terminal areas were opened to troll fishing in Earl West Cove. A quota of 30,000 Chinook salmon excluding Alaska hatchery add-on fish was implemented for the spring troll fisheries. A portion of District 111A, the backside of Douglas Island was opened to trolling during the winter season (10/1 to 4/15).
1991	The PST set a ceiling for the harvest of Chinook salmon in Southeast Alaska by all gear groups as 273,000 fish plus an Alaska hatchery add-on that was projected at 57,800 Chinook salmon. The general summer troll fishery was closed from 4/15 to 6/30. Chinook salmon non-retention was implemented from 7/8 to 9/20. Experimental and hatchery access troll fisheries near Alaskan hatcheries were allowed during June. A quota of 40,000 Chinook salmon excluding Alaska hatchery add-on fish was implemented for the spring troll fisheries.
1992	The PST set a ceiling for the harvest of Chinook salmon in Southeast Alaska by all gear groups as 227,400 fish (the BOF required the Alaska Department of fish and Game (ADF&G) to reduce the estimated 1987-1991 PSC overage from 45,600 to 10,000 fish; therefore the original ceiling of 263,000 was reduced by 35,600 to 227,400 fish) plus an Alaska hatchery add-on that was projected at 69,000 Chinook salmon. The BOF allocated 83% of the ceiling to the troll fishery after accounting for a 20,000 Chinook salmon allocation for commercial net fisheries. Winter and spring troll fisheries occurred similar to 1991. The general summer troll fishery was closed from April 15 to June 30. The general summer season opening occurred from 7/1 to 7/6. The troll fishery was closed to Chinook salmon retention from 7/7 to 8/20 and areas of high Chinook salmon abundance were closed to fishing through 9/20. The troll fishery reopened to Chinook salmon retention from 8/21 to 8/25 and from 9/12 to 9/20. From 8/26-9/11 Chinook salmon non-retention was implemented. Snake River fall Chinook salmon listed as “threatened” under the U.S. Endangered Species Act (ESA)

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1993	The ADF&G managed the Chinook salmon harvest in SEAK for a ceiling of 263,000 fish plus the Alaska hatchery add-on estimated to be 35,900 fish after receiving a Section 7 ESA consultation from the National Marine Fisheries Service. The PST Annex concerning Chinook salmon catch ceilings expired in 1992 and an annex was not successfully negotiated by the parties to the treaty until 1999. The start of the winter troll fishery was delayed until 10/11 and operated until 4/14. As a result of the ESA consultation, the spring hatchery access fishery did not occur. Experimental and terminal fisheries did occur. The general summer season opening was delayed until 7/1 and remained open until 7/6. The troll fishery was closed from 7/7 to 7/11. The troll fishery was reopened on 7/12 with Chinook salmon non-retention and with areas of high Chinook salmon abundance closed to fishing. The troll fishery reopened to Chinook salmon retention from 9/12 to 9/20.
1994	The ADF&G managed the Chinook salmon harvest in SEAK for a ceiling of 240,000 fish plus the Alaska hatchery add-on after receiving a Section 7 ESA consultation from the National Marine Fisheries Service. The BOF allocated 82% of the ceiling to the troll fishery after accounting for a 20,000 Chinook salmon allocation for commercial net fisheries. The BOF allocated 45,000 of the troll allocation to the winter troll fishery and 70% of remaining troll harvest to a summer fishery with an initial opening beginning July 1. The winter troll fishery took place from 10/11 to 4/14. Spring troll fisheries consisting of terminal and experimental fisheries were conducted between early May and 6/30. The general summer troll fishery opened on 7/1 and closed on 7/8. From 7/8 to 9/20, areas of high Chinook salmon abundance were closed to troll fishing. Chinook salmon non-retention in the troll fishery was implemented from 7/8 to 8/28. Chinook salmon retention was allowed by trollers from 8/29 to 9/2. Non-retention of Chinook salmon in the troll fishery was implemented from 9/3 to 9/20.
1995	The ADF&G initially managed the Chinook salmon harvest in SEAK for a ceiling of 230,000 fish plus the Alaska hatchery add-on after receiving a Section 7 ESA consultation from the National Marine Fisheries Service. Part way through the general summer season, a temporary restraining order issued by the U.S. District Court, Western District of Washington resulted in the fishery being closed well before reaching the target harvest level. The BOF allocated 81% of the ceiling to the troll fishery after accounting for a 20,000 Chinook salmon allocation for commercial net fisheries. The winter troll fishery took place from 10/11 to 4/14. Spring troll fisheries consisting of terminal and experimental fisheries were conducted between early May and 6/30. The general summer troll fishery opened on 7/1 and closed on 7/10. From 7/11 to 9/20, areas of high Chinook salmon abundance were closed to troll fishing. Chinook salmon non-retention in the troll fishery was implemented from 7/11 to 7/30. Chinook salmon retention was allowed by trollers from 7/31 to 8/5. Non-retention of Chinook salmon in the troll fishery was implemented from 8/6 to 9/20.
1996	The ADF&G managed the Chinook salmon fisheries in SEAK for a harvest of 140,000 to 155,000 fish, plus the Alaska hatchery add-on, after receiving a Section 7 ESA consultation from the National Marine Fisheries Service and upon the State of Alaska signing a 6/24/96 U.S. Letter of Agreement (U.S. LOA) with southern U.S. representatives of the U.S.-Canada Treaty regarding an abundance-based approach to managing Chinook salmon fisheries in SEAK. The BOF allocated 80% of the ceiling to the troll fishery after accounting for a 20,000 Chinook salmon allocation for commercial net fisheries. The winter troll fishery took place from 10/11 to 4/14. Spring troll fisheries consisting of terminal and experimental fisheries were conducted between early May and 6/30. The general summer troll fishery opened on 7/1 and closed on 7/10. From 7/11 to 9/20, areas of high Chinook salmon abundance were closed to troll fishing. Chinook salmon non-retention in the troll fishery was implemented from 7/11 to 7/30. Chinook salmon retention was allowed by trollers from 8/19 to 8/20. Non-retention of Chinook salmon in the troll fishery was implemented from 8/21 to 9/20.
1997	The ADF&G managed the Chinook salmon fisheries in SEAK for a harvest of 277,000 to 302,000 fish, plus the Alaska hatchery add-on, after receiving a Section 7 ESA consultation from the National Marine Fisheries Service and applying measures as called for in the 1996 U.S. LOA. The winter troll fishery took place from 10/11 to 4/14. Spring troll fisheries consisting of terminal and experimental fisheries were conducted between early May and 6/30. The general summer troll fishery opened on 7/1 and closed on 7/7. After 7/7 areas of high Chinook salmon abundance were closed to troll fishing. Chinook salmon non-retention in the troll fishery was implemented from 7/8 to 8/17. Chinook salmon retention was allowed by trollers from 8/18 to 8/24 and again from 8/30-9/5. Non-retention of Chinook salmon in the troll fishery was implemented from 8/25 to 8/29 and again from 9/6-9/23.
1998	The ADF&G managed the Chinook salmon harvest in SEAK for a ceiling of 260,000 fish, plus the Alaska hatchery add-on, after receiving a Section 7 ESA consultation from the National Marine Fisheries Service and applying measures as called for in the 1996 U.S. LOA. The winter troll fishery took place from 10/11 to 4/14. Spring troll fisheries consisting of terminal and experimental fisheries were conducted between early May and 6/30. The general summer troll fishery opened on 7/1 and closed on 7/11. After 7/11 areas of high Chinook salmon abundance were closed to troll fishing. Chinook salmon non-retention in the troll fishery was implemented from 7/11 to 8/19. Chinook salmon retention was allowed by trollers from 8/20 to 9/30.

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1999	The 1999 PST Agreement was signed in June of 1999. The ADF&G managed the Chinook salmon harvest in SEAK for a ceiling of 195,600 fish based on a preliminary Abundance Index (AI); this was subsequently changed to 192,750 (AI=1.15) partway through the season. The final (postseason) quota was 184,164 Chinook salmon (AI=1.12), calculated from the first postseason calibration of the CTC Chinook salmon model run done in the year following the fishery (2000 in this case), as per the 1999 PST Agreement. The harvest was also managed for the Alaska hatchery add-on after receiving a Section 7 ESA consultation from the National Marine Fisheries Service and applying measures as called for in the 1996 U.S. LOA. The winter troll fishery took place from 10/11 to 4/14. Spring troll fisheries consisting of terminal and experimental fisheries were conducted between early May and 6/30. The general summer troll fishery opened on 7/1 and closed on 7/6. After 7/6 areas of high Chinook salmon abundance were closed to troll fishing. Chinook salmon non-retention in the troll fishery was implemented from 7/7 to 8/17. Chinook salmon retention was allowed by trollers from 8/18 to 8/22. Non-retention of Chinook salmon in the troll fishery was implemented from 8/23 to 9/30.
2000	The ADF&G managed the Chinook salmon harvest in SEAK for a ceiling of 137,700 fish based on a preliminary AI, which was subsequently changed to 189,900 fish (AI=1.14) in June of 2000. The final postseason quota was 178,500 fish (AI=1.10), calculated from the first postseason calibration of the CTC Chinook salmon model in the spring of 2001. The harvest was also managed for the Alaska hatchery add-on after receiving a Section 7 ESA consultation from the National Marine Fisheries Service and applying measures as called for in the 6/24/96 letter of agreement concerning management of SEAK Chinook salmon fisheries. The winter troll fishery took place from 10/11 to 4/14. Spring troll fisheries consisting of terminal and experimental fisheries were conducted between early May and 6/30. The general summer troll fishery opened on 7/1 and closed on 7/5. After 7/5 areas of high Chinook salmon abundance were closed to troll fishing. Chinook salmon non-retention in the troll fishery was implemented from 7/6 to 8/10. Chinook salmon retention was allowed by trollers from 8/11 to 8/12, from 8/23-8/30, and again from 9/12-9/20. Non-retention of Chinook salmon in the troll fishery was implemented from 8/13 to 8/22 and again from 8/31-9/11.
2001	The ADF&G managed the Chinook salmon harvest in SEAK for a ceiling of 189,900 fish based on a preseason AI=1.14, plus the Alaska hatchery add-on, after receiving a Section 7 ESA consultation from the National Marine Fisheries Service and applying measures as called for in the 1996 U.S. LOA. The final postseason quota was 250,259 fish (AI=1.29), calculated from the first postseason calibration of the CTC Chinook salmon model in April of 2002. The winter troll fishery took place from 10/11 to 4/14. Spring troll fisheries consisting of terminal and experimental fisheries were conducted between early May and 6/30. The general summer troll fishery opened on 7/1 and closed on 7/6. After 7/6 areas of high Chinook salmon abundance were closed to troll fishing. Chinook salmon non-retention in the troll fishery was implemented from 7/7 to 8/17. Chinook salmon retention was allowed by trollers from 8/18 to 9/5. Non-retention of Chinook salmon in the troll fishery was implemented from 9/6-9/30.
2002	The ADF&G managed the Chinook salmon harvest in SEAK for a ceiling of 356,500 fish based on a preseason AI=1.74, plus the Alaska hatchery add-on, after receiving a Section 7 ESA consultation from the National Marine Fisheries Service and applying measures as called for in the 1996 U.S. LOA. The final postseason quota was 371,933 fish (AI=1.82), calculated from the first postseason calibration of the CTC Chinook salmon model in April of 2003. The winter troll fishery took place from 10/11 to 4/14. Spring troll fisheries consisting of terminal and experimental fisheries were conducted between early May and 6/30. The general summer troll fishery opened on 7/1 and closed on 7/17. After 7/17 areas of high Chinook salmon abundance were closed to troll fishing. Chinook salmon non-retention in the troll fishery was implemented from 7/18 to 8/11. Chinook salmon retention was allowed by trollers from 8/12 to 9/2. Non-retention of Chinook salmon in the troll fishery was implemented from 9/3-9/30. Chilkat Inlet was closed to commercial trolling from 7/1 to 7/15 to protect mature Chinook salmon returning to the Chilkat River.

Appendix B. Commercial fishing pre-season booklet regulations for drift gillnets in District 111 of Southeast Alaska likely affecting the Taku River Chinook salmon stock, 1960-1998 ^a.

Year	Season opening date(s) and fishing period(s)	Gillnet mesh regulations	Gillnet length regulations	Gillnet spacing regulations	Chinook size limits
1960	5/1-E.O. date: 72 hrs/wk	6" and smaller: 50 meshes; 6 ^{1/8} -, 7": 45 meshes; 7 ^{1/8} -9": 40 meshes	50 fathom min. & 150 fathom max.	100 yard minimum spacing	26" limit except from 5/1-7/13 when there was no size limit
1961	5/1-E.O. date: 96 hrs/wk	same as 1960	same as 1960	same as 1960	same as 1960
1962	4/30-6/15: 24 hrs/wk 6/16-E.O. date: 96 hrs/wk	same as 1960	same as 1960	same as 1960	same as 1960
1963	4/29-6/14: 24 hrs/wk 6/15-E.O. date: 72 hrs/wk	less than 8" - 60 mesh max.; 8" and larger - 40 mesh max.	same as 1960	same as 1960	same as 1960
1964	4/27-6/12: 24 hrs/wk 6/15-E.O. date: 72 hrs/wk	same as 1963	same as 1960	same as 1960	same as 1960
1965	4/24-6/11: 24 hrs/wk 6/12-E.O. date: 72 hrs/wk	same as 1963 except, 40 mesh max. before 6/12	same as 1960	same as 1960	same as 1960
1966	same as 1965	same as 1965	same as 1960	same as 1960	same as 1960
1967	4/30-6/17: 24 hrs/wk; 6/18-E.O. date: 72 hrs/wk	same as 1965	same as 1960	same as 1960	same as 1960
1968	4/28-6/15: 24 hrs/wk 6/16-E.O. date: 72 hrs/wk	same as 1965	same as 1960	same as 1960	same as 1960
1969	4/27-6/14: 24 hrs/wk 6/15-E.O. date: 72 hrs/wk	same as 1965 except, 40 mesh max. before 6/15; 6" max. from 6/15-7/20	same as 1960	same as 1960	same as 1960
1970	4/26-6/13: 24 hrs/wk 6/14-E.O. date: 72 hrs/wk	60 mesh max. for nets smaller than 8"; 40 mesh max. for nets 8" or larger; 40 mesh max. before 6/14; 6" max. from 6/14-7/20	not less than 100 fathoms or more than 150 fathoms except after 6/13, max. length increases to 200 fathoms	same as 1960	same as 1960
1971	5/2-6/12: 24 hrs/wk 6/13-E.O. date: 72 hrs/wk	60 mesh max. for nets smaller than 8"; 40 mesh max. for nets 8" or larger; 40 mesh max. before 6/14; 6" max. from 6/14-7/20	not less than 100 fathoms or more than 150 fathoms except after 6/13, max. length increases to 200 fathoms	100 yard minimum spacing	no size limit
1972	4/30-6/17: 24 hrs/wk; 6/18-E.O. date: 72 hrs/wk	same as 1971; except, 40 mesh restriction in effect before 6/17; 6" mesh max. from 6/18-7/18	same as 1971; except date of change was 6/18	none	none
1973	last Sunday in April-3 rd Saturday in June: 24 hrs/wk 3 rd Sunday in June-E.O. date: 72 hrs/wk	60 mesh max. for nets smaller than 8"; 40 mesh max. for nets 8" or larger; 40 mesh max. before 3 rd Sunday in June; 6" max. from 3 rd Sunday in June-7/18	not less than 100 fathoms or more than 150 fathoms except after 3 rd Sunday in June, max. length increases to 200 fathoms	none	none
1974	same as 1973	same as 1973	same as 1973	none	none
1975	same as 1973	same as 1973	same as 1973	none	none
1976	Spring-time gill netting closed Season Opens: 3 rd Monday in June-E.O. date: 72 hrs/wk	same as 1973; except, mesh not less than 5 ^{3/8} inches during a season specified by E.O.	not less than 100 fathoms or more than 150 fathoms except after 3 rd Saturday in June, max. length increases to 200 fathoms	none	none
1977	same as 1976	same as 1976	same as 1976	none	none
1978	same as 1976	same as 1976	same as 1976	none	none
1979	same as 1976	same as 1976	same as 1976	none	none
1980	same as 1976	same as 1976	same as 1976	none	none
1981	same as 1976	same as 1976	same as 1976	none	none
1982	same as 1976	same as 1976	same as 1976	none	none
1983	3 rd Sunday in June-E.O. date: 72 hrs/wk	same as 1976	same as 1976	none	none

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Year	Season opening date(s) and fishing period(s)	Gillnet mesh regulations	Gillnet length regulations	Gillnet spacing regulations	Chinook size limits
1984	same as 1983	same as 1976; except, during E.O. pink salmon seasons, mesh size may not be more than 5"	same as 1976	none	none
1985	3 rd Sunday in June-E.O. date: 72 hrs/wk	60 mesh max. for nets smaller than 8"; 40 mesh max. for nets 8" or larger; 40 mesh max. before 3 rd Sunday in June; 6" max. from 3 rd Sunday in June-7/18; max. mesh size in Section 11-B through 7/30 is 6" and in Section 11-C through 7/18 is 6"; during E.O. pink salmon seasons, mesh size may not be less than 5 ^{3/8} inches	not less than 100 fathoms or more than 150 fathoms except after 3 rd Saturday in June, max. length increases to 200 fathoms	none	no size limit
1986	3 rd Sunday in June-E.O. date: hrs/wk not specified <i>Drift gill net quota established by Board of Fisheries in 1986 at 7,600 chinook salmon per regulatory year for all of SEAK</i>	60 mesh max. for nets smaller than 8"; 40 mesh max. for nets 8" or larger; 40 mesh max. before 3 rd Sunday in June; Section 11-B max. of 6" through 6/30 and Section 11-C max. of 6" through 6/18; for the protection of pink salmon, 5 ^{3/8} "; for the harvest of chum salmon, 6"	same as 1985	none	none
1987	same as 1986	same as 1986	same as 1985	none	none
1988	same as 1986	same as 1986	same as 1985	none	none
1989	same as 1986	same as 1986	same as 1985	none	none
1990	same as 1986	same as 1986	same as 1985	none	none
1991	same as 1986	same as 1986	same as 1985	none	none
1992	same as 1986	same as 1986	same as 1985	none	none
1993	same as 1986	same as 1986	same as 1985	none	none
1994	same as 1986	same as 1986; except, 40 mesh max. before 2 nd Sunday in June; district-wide 6" max. through 4 th Saturday in June	same as 1985	none	none
1995	same as 1986	same as 1994	same as 1985	none	none
1996	3 rd Sunday in June-E.O. date: hrs/wk not specified	60 mesh max. for nets smaller than 8"; 40 mesh max. for nets 8" or larger; 40 mesh max. before 2 nd Sunday in June; max. mesh of 6" through 4 th Saturday in June throughout District; for the protection of pink salmon, 5 ^{3/8} inches; for the harvest of chum salmon, 6"	not less than 100 fathoms or more than 150 fathoms except after 3 rd Saturday in June, max. length increases to 200 fathoms	none	no size limit
1997	same as 1996	60 mesh max. for nets smaller than 8"; 40 mesh max. for nets 8" or larger; 40 mesh max. before 2 nd Sunday in June; max. mesh of 6" through 4 th Saturday in June; min. size is 6" during periods announced by E.O.	same as 1996	none	none
1998	same as 1996	same as 1997	same as 1996	none	none

^a Prior to 1945, gill netting opened on or before May 10 and fishing time was limited only by weather and the general regulation of 1906 which provided for a weekly closure from 6 PM Saturday to 6 PM Monday. Between 1945 and 1953, gill nets were fished in Taku Inlet up to 5.5 days per week through May followed by a three week closure in June. In 1953 and 1954, the fishing period was reduced to 4 days per week in May and June. From 1955-1959, the fishing period was reduced to 3 days per week (72 hours) from May 1st through the Emergency Order (E.O.) closing date. These regulations are similar to those in most gillnet districts (101, 106, 108 and 115) in the remainder of SEAK.

Appendix C. Sport fishing management plan in Southeast Alaska, 2000-2002.

5 AAC 47.055. Southeast Alaska King Salmon Management Plan.

- (a) The commissioner shall establish, by emergency order, the king salmon sport fish bag limits and other regulations as needed based on the preseason king salmon abundance index determined by the Chinook Technical Committee of the Pacific Salmon Commission as described in "Pacific Salmon Commission Joint Chinook Technical Committee 1992 Annual Report," dated November 19, 1993, hereby adopted by reference. The bag limits and other regulations set by the commissioner will remain in effect until December 31. On January 1 of the following year, until the current year's preseason abundance index is obtained, the bag limits and other regulations will be based on the prior year's final king salmon abundance index. If the current year's preseason king salmon abundance index is not obtained by May 1, the bag limits and other regulations for the remainder of the year will be based on the prior year's final king salmon abundance index, unless changed by emergency order.
- (b) The objectives of the management plan in this section are to: manage the sport fishery to attain a harvest of 20 percent of the annual harvest ceiling specified by the Pacific Salmon Commission, after the commercial net harvest specified in 5 AAC 33.367 is subtracted from the total harvest ceiling; allow uninterrupted sport fishing in marine waters for king salmon, while not exceeding the sport fishery harvest ceiling; minimize regulatory restrictions on resident anglers not fishing from a charter vessel; and provide stability to the sport fishery by eliminating inseason regulatory changes, except when needed for conservation.
- (c) The department shall monitor the Southeast Alaska Area sport fisheries to obtain in-season and post season estimates of the king salmon harvest. The department shall keep track of the cumulative sport harvest in excess of the 20 percent harvest ceiling. Bag limits for non-resident and charter anglers and annual limits for non-resident anglers will not be increased until the total sport overage has been eliminated.

The department shall also keep track of the cumulative unharvested king salmon below the 20 percent harvest ceiling. This number of fish shall be used to reduce any excess harvests that occurred in prior years or shall be applied to excess harvests in future years. These unharvested king salmon shall not be used to liberalize or increase bag limits or annual limits.

- (d) At king salmon abundance indices greater than 1.5 the following regulations will be adopted by emergency order:

If there is no cumulative sport overage:

Residents - Bag limit is 2 king salmon

Non-resident and guided angler - Bag limit is 2 king salmon

Non-resident - Annual limit is 4 king salmon

If there is a cumulative sport overage:

Residents - Bag limit is 2 king salmon

Non-resident and guided angler - Bag limit is 1 king salmon

Non-resident - Annual limit is 3 king salmon

(e) At king salmon abundance indices greater than 1.2 and less than or equal to 1.5 the following regulations will be adopted by emergency order:

If there is no cumulative sport overage:

Residents - Bag limit is 1 or 2 king salmon whichever is projected to result in a sport harvest that does not exceed the 20 percent harvest ceiling.

Non-resident and guided angler - Bag limit is 1 king salmon

Non-resident - After increasing the resident bag limit from to 1 to 2 king salmon, the annual limit is 3 or 4 king salmon whichever is projected to result in a sport harvest that does not exceed the 20 percent harvest ceiling.

If there is a cumulative sport overage:

Residents - Bag limit is 1 or 2 king salmon whichever is projected to result in a sport harvest that does not exceed the 20 percent harvest ceiling.

Non-resident and guided angler - Bag limit is 1 king salmon

Non-resident - Annual limit is 3 king salmon

(f) At king salmon abundance indices from 1.1 to 1.2 the following regulations will be adopted by emergency order:

Residents - Bag limit is 1 king salmon

Non-resident and guided angler - Bag limit is 1 king salmon

Non-resident - Annual limit is 3 king salmon

(g) At king salmon abundance indices less than 1.1 the following regulations will be adopted by emergency order:

Residents - Bag limit is 1 king salmon

Non-resident and guided angler - Bag limit is 1 king salmon

and the following additional regulations may be implemented as needed by emergency order, selected at the department's discretion, to achieve the 20 percent harvest ceiling:

(1) the use of downriggers on charter vessels is prohibited in May and June;

(2) the use of downriggers is prohibited in May and June;

(3) the non-resident annual limit is reduced to 2 king salmon;

(4) the maximum number of lines that may be fished from a charter vessel is 5 or 4 during May and June;

(5) the maximum number of lines that may be fished from any vessel in saltwater is 5 or 4 during May and June;

(6) retention of king salmon by non-resident anglers and anglers fishing from charter vessels is prohibited during one day per week;

- (7) retention of king salmon is prohibited during one day per week;
- (8) retention of king salmon by non-resident anglers and anglers fishing from charter vessels is prohibited during August and September;
- (9) retention of king salmon is prohibited during August and September;
- (10) retention of king salmon by non-resident anglers and anglers fishing from charter vessels is prohibited in areas and during times defined by the department with high harvest of treaty fish on the outer coast of Southeast Alaska;
- (11) retention of king salmon is prohibited in areas and during times defined by the department with high harvest of treaty fish on the outer coast of Southeast Alaska;
- (h) The commissioner may adopt regulations that establish other reporting requirements necessary to obtain information required to implement the management plan in this section.
- (i) If the king salmon sport fishery exceeds or falls short of the 20 percent harvest ceiling, the current year's commercial troll fishery harvest quota will be adjusted up or down to harvest the remainder of the annual harvest ceiling specified by the Pacific Salmon Commission.
- (j) The commissioner may repeal, by emergency order, the non-resident angler annual limit provisions in hatchery terminal areas if: the king salmon bag limit in the hatchery terminal area is three or more king salmon 28 inches or more in length; or a personal use king salmon fishery has been implemented in the hatchery terminal harvest area.

Appendix D. Sport fishing pre-season booklet regulations in Southeast Alaska.

Year	Salt-water season	Saltwater bag and possession limits	Saltwater size limit	Saltwater methods & means restrictions
1961	1/1-12/31	50 lb and 1 fish or 3 fish, whichever is less restrictive	26 inches in fork length	no special restrictions
1962	1/1-12/31	same as 1961	same as 1961	salmon shall not be taken by means of treble hook(s)
1963	1/1-12/31	three fish daily and in possession	same as 1961	same as 1962
1964	1/1-12/31	same as 1963	no size restriction	no special restrictions
1965	1/1-12/31	same as 1963	same as 1964	same as 1964
1966	1/1-12/31	same as 1963	same as 1964	same as 1964
1967	1/1-12/31	same as 1963	same as 1964	same as 1964
1968	1/1-12/31	same as 1963	same as 1964	same as 1964
1969	1/1-12/31	same as 1963	same as 1964	same as 1964
1970	1/1-12/31	same as 1963	same as 1964	same as 1964
1971	1/1-12/31	same as 1963	same as 1964	same as 1964
1972	1/1-12/31	same as 1963	same as 1964	same as 1964
1973	1/1-12/31	same as 1963	same as 1964	same as 1964
1974	1/1-12/31	same as 1963	same as 1964	same as 1964
1975	1/1-12/31	same as 1963	same as 1964	same as 1964
1976	1/1-12/31	three fish daily and in possession in SEAK	26 inch minimum size limit	no special restrictions
1977	1/1-12/31	same as 1976	28 inch minimum size limit	same as 1976
1978	1/1-12/31	same as 1976	same as 1977	same as 1976
1979	1/1-12/31	same as 1976	same as 1977	same as 1976
1980	1/1-12/31	same as 1976	28 inch minimum size limit from 6/15-3/31; any size of king salmon legal from 4/1-6/14	same as 1976
1981	1/1-12/31	same as 1976	same as 1980	same as 1976
1982	1/1-12/31	same as 1976	same as 1980	same as 1976
1983	1/1-12/31	two fish daily and in possession	28 inch minimum size limit; except, those less than 28 inches with a tag or clipped adipose fin can be retained	not more than 6 lines may be fished from a charter vessel
1984	1/1-12/31	same as 1983	same as 1983	same as 1983
1985	1/1-12/31	same as 1983	same as 1983	same as 1983
1986	1/1-12/31	same as 1983	same as 1983	same as 1983
1987	1/1-12/31	same as 1983	same as 1983	same as 1983
1988	1/1-12/31	same as 1983	same as 1983	same as 1983
1989	1/1-12/31	same as 1983	28 inch minimum size limit	not more than 6 lines may be fished from any vessel sport fishing
1990	1/1-12/31	same as 1983	28 inch minimum size limit	same as 1989
1991	1/1-12/31	same as 1983	28 inch minimum size limit	same as 1989
1992	1/1-12/31	same as 1983	28 inch minimum size limit	same as 1989 with the addition of: sport fishing may only be conducted by the use of a single line per angler
1993	1/1-12/31	same as 1983	28 inch minimum size limit	same as 1992
1994	1/1-12/31	two fish daily and in possession	28 inch minimum size limit	same as 1992
1995	1/1-12/31	same as 1994	28 inch minimum size limit	same as 1992
1996	1/1-12/31	same as 1994	28 inch minimum size limit	same as 1992
1997	1/1-12/31	two fish daily and in possession; in addition, for nonresidents, the annual limit is four fish	28 inch minimum size limit	Operators and crew members working on a charter vessel may not retain king salmon while clients are aboard; the maximum number of lines allowed is equal to number of paying clients
1998	1/1-12/31	same as 1997	28 inch minimum size limit	same as 1997