

2020 Southeast Alaska Purse Seine Fishery Management Plan

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Divisions of Sport Fish and Commercial Fisheries



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Weights and measures (metric)		General		Mathematics, statistics	
centimeter	cm	Alaska Administrative Code	AAC	<i>all standard mathematical signs, symbols and abbreviations</i>	
deciliter	dL	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	H_A
gram	g			base of natural logarithm	e
hectare	ha			catch per unit effort	CPUE
kilogram	kg	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	coefficient of variation	CV
kilometer	km			common test statistics	(F, t, χ^2 , etc.)
liter	L	at	@	confidence interval	CI
meter	m	compass directions:		correlation coefficient (multiple)	R
milliliter	mL	east	E	correlation coefficient (simple)	r
millimeter	mm	north	N	covariance	cov
		south	S	degree (angular)	$^\circ$
Weights and measures (English)		west	W	degrees of freedom	df
cubic feet per second	ft ³ /s	copyright	©	expected value	E
foot	ft	corporate suffixes:		greater than	>
gallon	gal	Company	Co.	greater than or equal to	≥
inch	in	Corporation	Corp.	harvest per unit effort	HPUE
mile	mi	Incorporated	Inc.	less than	<
nautical mile	nmi	Limited	Ltd.	less than or equal to	≤
ounce	oz	District of Columbia	D.C.	logarithm (natural)	ln
pound	lb	et alii (and others)	et al.	logarithm (base 10)	log
quart	qt	et cetera (and so forth)	etc.	logarithm (specify base)	log ₂ , etc.
yard	yd	exempli gratia (for example)	e.g.	minute (angular)	'
		Federal Information Code	FIC	not significant	NS
Time and temperature		id est (that is)	i.e.	null hypothesis	H_0
day	d	latitude or longitude	lat or long	percent	%
degrees Celsius	°C	monetary symbols (U.S.)	\$, ¢	probability	P
degrees Fahrenheit	°F	months (tables and figures): first three letters	Jan, ..., Dec	probability of a type I error (rejection of the null hypothesis when true)	α
degrees kelvin	K	registered trademark	®	probability of a type II error (acceptance of the null hypothesis when false)	β
hour	h	trademark	™	second (angular)	"
minute	min	United States (adjective)	U.S.	standard deviation	SD
second	s	United States of America (noun)	USA	standard error	SE
		U.S.C.	United States Code	variance	
Physics and chemistry		U.S. state	use two-letter abbreviations (e.g., AK, WA)	population sample	Var var
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				

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**2020 SOUTHEAST ALASKA PURSE SEINE FISHERY MANAGEMENT
PLAN**

by

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ABSTRACT

The Southeast Alaska purse seine fishery is managed according to statute, regulations, emergency order authority, and in consultation with the public and industry through the Purse Seine Management Task Force process. The Alaska Department of Fish and Game issued a preseason forecast for a harvest of 12 million pink salmon for 2020. This forecast for pink salmon, together with historical escapement estimates, fishery performance data, private nonprofit hatchery forecasts for chum salmon and other species, are used to determine the management plan. The management plan for the 2020 Southeast Alaska salmon purse seine fishery is described in detail, along with expected run sizes, harvest strategies, and related management issues.

Key words: Purse seine, management, pink salmon, chum salmon, coho salmon, sockeye salmon, Chinook salmon, Fishery Management Plan

INTRODUCTION

This plan describes how the Southeast Alaska (SEAK) salmon purse seine fishery will be managed during the 2020 season and includes expected run sizes, harvest strategies, and related management issues. The plan is based on the Alaska Department of Fish and Game (ADF&G) 2020 preseason pink salmon forecast, historical escapement data, fishery performance data, private nonprofit hatchery forecasts, and input through the Purse Seine Task Force process. ADF&G area management biologists listed at the end of this document can provide further details regarding the implementation of the plan in their respective areas.

Regulations allow purse seine fishing in Districts 1 (Sections 1-C, 1-D, 1-E, and 1-F only), 2, 3, 4, 5, 6 (Sections 6-C and 6-D only), 7, 9, 10, 11 (Sections 11-A and 11-D only), 12, 13, and 14. Purse seine fishing is also allowed in hatchery terminal harvest areas (THA) at Neets Bay, Carroll Inlet, Kendrick Bay, Anita Bay, Thomas Bay, Southeast Cove, Hidden Falls, Deep Inlet and Crawfish Inlet. Although the areas specified above are designated purse seine fishing areas, specific open areas and fishing times are established inseason by emergency order.

Since statehood, 76% of the salmon harvested in SEAK commercial fisheries have been caught with purse seine gear. Pink salmon (*Oncorhynchus gorbuscha*) is the primary species targeted by the purse seine fleet; therefore, most management actions are based on the abundance of pink salmon stocks. Chum salmon (*O. keta*) are targeted in or near hatchery terminal areas and the majority of the chum salmon harvest is from hatchery production. Other species of salmon are harvested incidentally to pink and chum salmon. Over the recent 10-year period, the species composition of the purse seine harvest has included 88% pink, 9% chum, 2% sockeye (*O. nerka*), 1% coho (*O. kisutch*), and less than 1% Chinook salmon (*O. tshawytscha*).

Tagging studies of adult pink salmon have demonstrated that the stocks in SEAK exhibit a distinct separation between the northern and southern portions of the region. For purposes of catch tabulation and management, Districts 1–8 are grouped as “Southern Southeast” and Districts 9–15 as “Northern Southeast.”

Inseason assessments of pink salmon run strength are determined primarily from spawning escapement information obtained from aerial surveys of terminal areas and streams, and from fishery performance data (catch and catch per unit of effort, or CPUE). ADF&G staff use fishery performance data and associated information to make inseason evaluations of pink salmon harvests to Northern and Southern SEAK. ADF&G also charters purse seine vessels to conduct test fishing assessments of run strength in selected index areas and monitors pink salmon sex ratios in the commercial harvest to evaluate run timing.

2020 PINK SALMON FORECAST

The 2020 SEAK pink salmon harvest is predicted to be in the *weak* range with a point estimate of **12 million fish (80% prediction interval: 7–19 million fish)**. The categorical ranges of pink salmon harvest in SEAK were formulated from the 20th, 40th, 60th, and 80th percentiles of historical harvest over the 59-year period 1960–2018:

Category	Range (millions)	Percentile
Poor	Less than 11	Less than 20 th
Weak	11 to 19	20 th to 40 th
Average	19 to 34	40 th to 60 th
Strong	34 to 50	60 th to 80 th
Excellent	Greater than 50	Greater than 80 th

The NOAA Alaska Fisheries Science Center, Auke Bay Laboratories (NOAA) initiated the Southeast Alaska Coastal Monitoring (SECM) project in 1997 to better understand the effects of climate and nearshore ocean conditions on year class strength of salmon and ecologically related species (Orsi et al. 1997). Since 2018, the SECM project has been conducted cooperatively by NOAA and the ADF&G, and the two agencies have combined efforts to produce a joint pink salmon harvest forecast using SECM data (Piston et al. 2019). The ADF&G research vessel *Medeia* is now used to conduct the SECM surveys and biologists from NOAA, ADF&G, and the regional aquaculture associations provided direct assistance to the sampling effort during the June, July, and August surveys. In the future, the department will continue working towards increased coordination between agencies and will continue to look for ways to focus and expand the SECM survey to provide a wide variety of valuable information to the fishing industry.

The 2020 SEAK pink salmon harvest forecast was primarily based on juvenile pink salmon abundance indices collected by the SECM project in northern SEAK inside waters (Figure 1). These data were obtained from systematic surveys conducted annually in June and July in upper Chatham and Icy straits and are highly correlated with the harvest of adult pink salmon in the following year (Wertheimer et al. 2011). The 2019 juvenile pink salmon abundance index (monthly peak juvenile CPUE; standardized catch based on 20-minute trawl sets) of 1.20 was the third lowest in the 23 years of SECM surveys.

Forecasts were developed using an approach described by Murphy et al. (in press). A multiple regression model was developed using the juvenile pink salmon abundance index and associated environmental parameters. The model used is:

$$E(y) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 X_2 + \varepsilon$$

where $E(y)$ is the expected value for y , the natural log of Southeast Alaska pink salmon harvest, β_1 is the coefficient for the natural log of CPUE +1, β_2 is the coefficient for the natural log of the environmental covariate water temperature (e.g., summer water temperature indices in the upper 20 m in Icy Strait), β_3 is the interaction term, and ε represents the normally distributed error term. Leave-one-out cross validation (hindcast), Akaike Information Criterion for small sample sizes (Burnham and Anderson 2004), and the model performance metric mean absolute scaled error (MASE; Hyndman and Kohler 2006) were then used to evaluate forecast accuracy of alternative models. The 80% prediction intervals around the forecast were calculated using the car package in program R (Fox and Weisberg 2019).

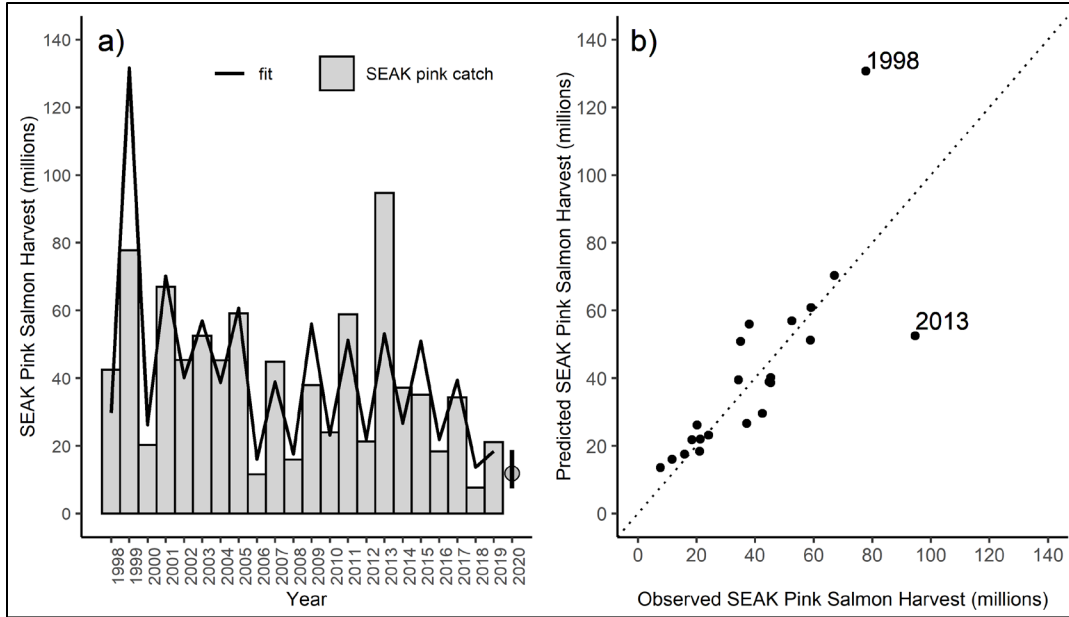


Figure 1.— Forecast model fit (hindcasts) for total Southeast Alaska (SEAK) pink salmon harvest, 1998–2019 by year (panel a) and by the fitted values (panel b). The 2020 forecast is shown as a grey circle in panel a with the 80% prediction interval as a black vertical line. The observed SEAK pink salmon harvest is represented by the grey bars and the model fit is shown by the black line in panel a. The dotted line in panel b represents a one-to-one line; circles above the line represent hindcasts that would have been greater than the actual harvest and circles below the line represent hindcasts that would have been less than the actual harvest.

The 2020 harvest forecast of 12 million pink salmon is approximately one third of the recent 10-year average harvest of 35 million pink salmon. A harvest near this forecast would also be approximately 60% of the average even-year harvest since 2006. The 2019 peak June–July juvenile pink salmon index value (1.20) ranked 21st out of the 23 years that SECM information has been collected. Pink salmon harvests associated with juvenile indices below a value of 2.0 have ranged from 8 to 37 million fish (mean=21 million fish).

The low juvenile abundance index in 2019 was not unexpected. Pink salmon escapements in the parent year (2018) were very poor throughout northern Southeast Alaska inside waters and the escapement goal was not met in that subregion, which may have resulted in below optimal egg deposition (Table 1). Escapement and harvest of pink salmon in the Northern Southeast Inside subregion during even years have been very poor since 2012 and the 2020 forecast indicates this pattern is likely to continue. Pink salmon escapement goals for the Southern Southeast and Northern Southeast Outside subregions were met in 2018, but harvests were well below average. The low juvenile abundance index in 2019 may also indicate that brood year 2018 pink salmon experienced poor freshwater and/or early marine survival. It is possible that drought conditions present in Southeast Alaska from the parent year 2018 spawn through the spring of 2019 reduced spawning success or negatively impacted overwinter survival of developing juvenile salmon, but the exact reasons for the low juvenile abundance are not known. Juvenile pink salmon caught in the 2019 SECM survey trawls, however, were among the largest (in length) in the 23-year time series and were in good condition, which indicates favorable nearshore marine conditions in the spring. The size of juvenile pink salmon was similar to the large size of juveniles observed during the marine heat wave of 2014–2016 and returns from those juvenile years were all below average.

Table 1.–Southeast Alaska pink salmon escapement indices (in millions) by district and subregion, compared to management targets and biological escapement goal (BEG) ranges the 2018 parent year.

Subregion	District	2018 Index	Lower Management Target	Upper Management Target
Southern	101	2.04	1.02	2.71
Southern	102	0.25	0.29	0.77
Southern	103	1.42	0.95	2.54
Southern	105	0.28	0.25	0.66
Southern	106	0.33	0.21	0.57
Southern	107	0.53	0.26	0.69
Southern	108	0.02	0.02	0.06
Northern Inside	109	0.59	0.63	1.50
Northern Inside	110	0.24	0.59	1.41
Northern Inside	111	0.07	0.27	0.65
Northern Inside	112	0.18	0.53	1.26
Northern Inside	Inside 113	0.24	0.32	0.76
Northern Inside	114	0.04	0.15	0.35
Northern Inside	115	0.00	0.03	0.07
Northern Outside	Outside 113	1.90	0.75	2.50

BEGs by Subregion	Total 2018 Index	Lower Escapement Goal	Upper Escapement Goal
Southern	4.87	3.00	8.00
Northern Inside	1.37	2.50	6.00
Northern Outside	1.90	0.75	2.50

Like many recent years, a potential source of uncertainty regarding the 2020 pink salmon return is the anomalously warm sea surface temperatures in the Gulf of Alaska in 2019. Warm temperatures that persisted throughout the Gulf of Alaska from fall 2013 through much of 2016 (Bond et al. 2015; Di Lorenzo and Mantua 2016; Walsh et al. 2018) returned in 2018 and strengthened in 2019. Compared to sea surface temperatures since 1997, when NOAA first started the SECM project, surface temperatures in the Gulf of Alaska in 2019, immediately offshore of Southeast Alaska, were the warmest of the time series in July, the 4th warmest in August, and 3rd warmest in September¹. Sea surface temperatures were well above average across the entire Gulf of Alaska during that time. Pink salmon that went to sea from 2014 to 2018 returned in numbers below expectation and below recent odd- and even-year averages. The impact of warm sea surface temperatures on the survival of pink salmon that went to sea in 2019 is unknown and adds uncertainty to the forecast.

The department will manage the 2020 commercial purse seine fisheries inseason based on the strength of salmon runs. Aerial escapement surveys and fishery performance data will continue, as always, to be essential in making inseason management decisions.

¹ <https://www.ncdc.noaa.gov/data-access/marineocean-data/extended-reconstructed-sea-surface-temperature-ersst-v5>.

GENERAL MANAGEMENT GOALS

The primary management goals for the 2020 SEAK purse seine fishery are to

1. achieve overall pink salmon spawning BEGs by subregion and within subregions and obtain escapements consistent with district and stock group management targets to ensure that spawning escapements are well distributed;
2. achieve overall adequate chum salmon spawning escapements and ensure that spawning escapements are well distributed;
3. provide for an orderly fishery while harvesting fish in excess of spawning escapement needs;
4. minimize, to the extent possible, the harvest of salmon destined for fishing districts where weak returns are expected;
5. promote a harvest of good quality fish within constraints dictated by run size and timing
6. manage the District 4 purse seine fishery consistent with the provisions of the U.S./Canada Pacific Salmon Treaty (PST);
7. minimize harvest of Chinook salmon using conservation actions adopted by the BOF in 2018 including nonretention of Chinook salmon 28 inches or larger during portions of the 2020 purse seine season; and
8. manage the purse seine fishery in the waters of District 12 and in Section 14-C north of the latitude of Porpoise Islands, consistent with the *Northern Southeast seine salmon fishery management plans* (5 AAC 33.366).

REGIONAL MANAGEMENT PLAN

EXPECTED FISHING REGIME

The 2020 forecasts indicate an expected weak pink salmon return throughout SEAK and a conservative fishing regime is expected. Areas around the region will open as described in this plan and are subject to inseason adjustments. Areas will open in mid-June and focus on hatchery returns of chum salmon to lower District 2 (Prince of Wales shoreline from McLean Point to Polk Island) and Hidden Falls. The first pink salmon openings will begin in late June and early July in Section 13-C and Districts 1, 2, 4, 7, 10, and 12. Subsequent openings will be based on aerial observations and fishery performance data. The department will carefully monitor inseason information and will manage the fishery to ensure escapement goals are met, obtain district and stock group escapement targets, and distribute escapements throughout the run while providing maximum fishing opportunity. The department is prepared to provide additional fishing opportunity when appropriate to harvest surplus returns. The department may expand fishing opportunity from one to two 15-hour periods per week, to 39-hour periods, to 2-days-on/2-days-off, or a more continuous fishing schedule as run strength and fleet distribution allows. The department may have to reduce fishing opportunity after initially expanding opportunity depending on how runs develop and fleet distribution. Specific areas may warrant more or less fishing time than the regional schedule depending on run strength and fleet distribution.

EFFORT LEVELS

The size of the purse seine fleet will have some impact on management decisions as the season progresses. Purse seine effort in 2019 was 236 in 2018, 242 permits fished and in 2017, 259 permits fished. Effort levels are generally higher in odd years and lower in even years reflecting the current odd-year cycle of stronger pink salmon returns; effort in 2020 should be similar to 2018. Since

2007, the number of total permits has decreased from 415 to 315 due to the permit buyback program. The recent 10-year average effort in the purse seine fishery from 2009–2018 is 257 permits.

DAILY START TIMES

For the 2020 season, the fishery opening and closing times will be

1. 5:00 a.m. to 8:00 p.m. from the start of the purse seine season (June 16) through approximately August 15,
2. 6:00 a.m. to 9:00 p.m. from approximately August 16 through the end of the pink salmon season, and
3. 7:00 a.m. to 7:00 p.m. from the start of the fall chum salmon season until the season closes.

REGULATION MARKERS

Closed waters, stream markers defining closures around salmon streams, and salmon streams (that may not have markers) have been a topic at Purse Seine Task Force meetings over the years. Regulation 5 AAC 33.350 lists all closed waters in SEAK. Regulation 5 AAC 39.290 was amended at the 2013 statewide meeting of the Alaska Board of Fisheries (BOF):

- (a) Except as otherwise provided in this title, commercial fishing for salmon is prohibited at all times in the waters of Alaska that are
 - (1) within the streams and rivers of this state,
 - (2) within 500 yards of the fresh waters of any salmon stream, and
 - (3) over the beds or channels of streams and rivers of this state during all stages of the tide.

Also adopted in this regulation:

- (e) The points established for stream mouths listed in the *Catalog of Waters Important for the Spawning, Rearing, or Migration of Anadromous Fishes* under 5 AAC 95.011 do not apply to enforcement of this section or other regulations limiting the distance that commercial fishing may occur from the fresh waters of any salmon stream.

Subsection (e) of the regulation above was added to clarify that fishing is prohibited within 500 yards of fresh water of salmon streams and not 500 yards from the midpoint of the river mouth as listed in the *Anadromous Waters Catalog*.

The *Anadromous Waters Catalog* has maps identifying the locations of salmon streams and is available online on the department's web site at: <http://www.adfg.alaska.gov/sf/SARR/AWC/> and copies are available for review at ADF&G area offices.

Useful definitions of terms in the regulation are found in 5 AAC 39.975. Definitions (a):

- (10) "salmon stream" means a stream used by salmon, at any stage of life, for spawning, rearing, presence, or migration;
- (26) "fresh water of streams and rivers" means fresh water separated from salt water at the mouth of streams and rivers by a line drawn between the seaward extremities of the exposed tideland banks at the present stage of the tide;

5 AAC 39.290(b) provides that the department may post closed areas by appropriate markers. If posted, the department shall place appropriate markers for any stream as close as practically possible to the distance or location specified by the applicable regulation or emergency order. Often these markers will be more than 500 yards from the mouth of the stream at mean lower low water (MLLW) in order to provide additional protection to fish accumulated near streams or because markers are placed where they can be seen and where they can be attached to a tree. Each stream has a different shoreline configuration. Some streams are in bays and the 500-yard markers can be connected by a straight line between the two markers because the location where the stream channel ends at MLLW is 500 yards or more from the straight line between the two markers. Other streams are located along straight shorelines and 500 yards from the stream channel at MLLW is defined by an “arc” or half of a circle originating from the two regulation markers with the arc being at least 500 yards from any part of the stream channel at MLLW. The most important thing to remember is the shoreline around every stream and the stream channel at low tide in every stream is different. Fishermen must always fish outside the markers, despite their distance from the stream, and must always fish 500 yards from where the stream channel ends at low tide, and they should fish outside of the arc defined by the two stream markers. This will ensure that they are outside of the 500-yard stream closure.

ADVISORY ANNOUNCEMENT INFORMATION

ADF&G will announce each fishery opening by advisory announcements (formerly news release). Announcements will generally be made more than one full day in advance of the opening to provide a fair start, unless an announcement with a shorter notice is needed to prevent the loss of a fishery. In the uncommon situation where the department has announced a fishery inside normal markers and additional line changes are needed during an opening, the department may make those additional changes with less than 24-hour notice and will notify processors and fishermen in the vicinity by field announcement. Line changes and time changes differing from prior announcements will be indicated in bold type to highlight those changes. Advisory announcements will be available at ADF&G offices throughout SEAK, posted on the ADF&G web site, and may be available at fish buying locations or other prominent locations throughout the region. Advisory announcements can automatically be sent to any email address by subscribing for this service at this site: <http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main>. ADF&G area office contact numbers will be listed in the footer at the end of each advisory announcements. The department has discontinued the telephone message recording system for purse seine advisory announcements because of the difficulty in providing lengthy and detailed information, typical of purse seine advisory announcements, on a telephone message recording.

Advisory announcements are organized in numerical order by district, then within a district from the shortest duration opening to the longest duration opening, followed by the current Chinook salmon landing restrictions, information and comments, and a harvest report from the previous fishing period.

TERMINAL PINK SALMON FISHERIES

Terminal fisheries may open inside normal markers or stream markers at various locations throughout the region. These areas may open to harvest buildups of pink salmon in excess of escapement. These fisheries are conducted at the discretion of the area management biologists in consideration of providing an orderly harvest that does not compromise escapement needs and budgetary constraints.

ADF&G will strive to open fisheries so that fish of the best possible quality can be harvested in existing traditional fisheries. If substantial buildups of pink salmon occur inside normal closed waters in excess of spawning needs, openings to target these fish may occur, most likely in late August and early September. Openings of this nature will be announced via standard advisory announcements.

CHINOOK SALMON HARVEST

ADF&G is required to manage the SEAK purse seine fishery for a maximum harvest of 4.3% of the annual all gear Chinook salmon harvest ceiling determined under the terms of the PST [5 AAC 29.060 (b)(1)]. For 2020, the all gear PST Chinook salmon allocation is 201,100 Treaty Chinook salmon. This year's all gear harvest limit includes a 2% reduction that will serve as a buffer to avoid exceeding the all gear limit and payback provisions within the PST. The all gear harvest limit for SEAK is determined by the catch per unit effort metric from the SEAK early winter power troll fishery. The 2020 purse seine Treaty Chinook salmon allocation is 8,600 fish. The need for management measures to comply with the purse seine allocation will depend on inseason evaluation of Chinook salmon harvest.

The BOF has adopted size limits [5 AAC 33.392] and directed ADF&G to manage the purse seine fishery such that incidental mortality from catch and release is minimized. The specific provisions for management of the purse seine fishery harvest of Chinook salmon are:

1. Chinook salmon taken in the purse seine fishery that are less than 28 inches in length (as measured from the tip of the snout to the tip of the tail) will not be counted against the Chinook salmon harvest quota.
2. Chinook salmon less than 28 inches in length may be harvested by purse seine fishermen but not sold. All retained Chinook salmon must be reported on fish tickets as personal use (harvest code 95).

CHINOOK SALMON IMPLEMENTATION PLAN

SEAK Chinook salmon stocks are currently experiencing a cycle of very low abundance. Over the past seven years (2013–2019), the eleven monitored Chinook salmon index systems did not meet escapement goals over 50% of the time. In 2019, four of the eleven monitored Chinook salmon index systems were below their escapement goal ranges and three of the five systems for which forecasts are developed are projecting runs below their escapement goal ranges in 2020. To meet escapement goals in 2020 in SEAK systems, restrictions will be implemented in gillnet, seine, troll, sport, personal use, and subsistence fisheries throughout SEAK.

The Alaska Board of Fisheries approved action plans for three Chinook salmon Stocks of Management Concern (Unuk, King Salmon, and Chilkat rivers) at the 2018 Southeast and Yakutat Finfish Meeting. These plans outline specific actions to be taken in the Neets Bay THA, Districts 11 and 15 drift gillnet fisheries, as well as purse seine, troll, sport, personal use, and subsistence fisheries throughout the region to minimize harvest of Chinook salmon returning to these systems. Additionally, the 2020 Chinook salmon forecasts indicate returns to other Southeast Alaska systems, particularly to the Stikine and Taku rivers, will be below escapement needs. Management actions for 2020 will be similar to those in 2019.

More information about the basis for 2020 Chinook salmon conservation measures in SEAK is publicly available (links provided below).

Chilkat River and King Salmon River King Salmon Stock Status and Action Plan, 2018:
<http://www.adfg.alaska.gov/FedAidPDFs/RIR.1J.2018.05.pdf>

Unuk River King Salmon Stock Status and Action Plan, 2018:
<http://www.adfg.alaska.gov/FedAidPDFs/RIR.1J.2018.04.pdf>

2020 Southeast Alaska Chinook Salmon All Gear Harvest Limit press release:
https://www.adfg.alaska.gov/index.cfm?adfg=pressreleases.pr&release=2020_02_11

Southeast Alaska Net Fisheries Chinook Salmon Management Restrictions Advisory Announcement:
<https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1133815060.pdf>

CHINOOK SALMON NONRETENTION

Management actions taken in the purse seine fishery to conserve SEAK Chinook salmon and stay within the harvest limits outlined in the Pacific Salmon Treaty will be highly restrictive in 2020. Nonretention of Chinook salmon 28 inches or larger will be in place through at least July 25 for the 2020 purse seine season. Chinook salmon retention after July 25 will be dependent on areas open to directed pink salmon fisheries and the magnitude of the pink salmon harvests. Chinook salmon harvests will be monitored closely, and the purse seine fishery will return to nonretention in advance of exceeding the seine allocation of the annual PST harvest ceiling. Chinook salmon less than 28 inches in length may be harvested by purse seine fishermen but not sold. All retained Chinook salmon must be reported on fish tickets as personal use (harvest code 95). Purse seine fishermen are encouraged to avoid fishing in areas with high concentrations of Chinook salmon and to quickly release those caught in a manner that minimizes mortality when under nonretention.

There may be specific terminal areas in which all Chinook salmon may be, or must be, retained. ADF&G intends to implement full retention (5 AAC 39.265) from the beginning of the season for net fisheries in the Deep Inlet THA. Due to expectations of lower enhanced Chinook salmon harvests from the Hidden Falls THA, retention will be allowed during the initial openings of the Hidden Falls THA until mid to late July when chum salmon harvests in the THA generally decline. Specific retention and nonretention periods will be announced in each purse seine fishery advisory announcement. Additional areas may also be announced via advisory announcement.

REPORTING OF PERSONAL USE HARVEST

Fishermen and processors should be aware that all salmon, including steelhead, commercially harvested but retained for personal use and not sold must be reported on fish tickets at the time other fish from an opening are delivered.

TEST FISHERIES

Test fisheries to assess run strength and timing of pink and chum salmon and to generate revenue for fisheries management will again occur in 2020. The Point Gardner test fishery begins in late June and runs through the end of July. The Kingsmill Point test fishery begins the first week of July and runs through the end of July. Both of these test fisheries are useful in determining the run strength and timing of pink and chum salmon returning to Section 9-B and District 10. The Hawk

Inlet test fishery begins the last week of June and runs through mid-July and is useful in determining the run strength and timing of pink salmon entering Districts 11 and 15.

SEASON END

Concern has been expressed at past Purse Seine Task Force meetings regarding the potential loss of fishing opportunity after the department has announced the closure of the purse seine fishing season. The department agreed that the end of the season would be announced following review of catch and escapement data from the final opening. If there are areas needing additional escapement adjacent to areas with adequate escapement, the department could consider closure lines, if appropriate, as a means to provide harvest opportunities on fish returning to areas where escapements have been met. The department did caution fishermen regarding implementation of this plan that the season closure is based on several factors including providing good overall distribution of escapements, higher concentrations of females at the end of the run, incomplete escapement information at the end of the season, and consideration for harvest of other species.

USE OF AIRCRAFT PROHIBITED

A regulation (5 AAC 33.398) adopted by the BOF in 2015 and amended in 2018, prohibits the use of aircraft to locate salmon for the commercial taking of salmon or to direct commercial salmon fishing operations during an open commercial salmon fishing period in the Southeastern Alaska Area. Additionally, during an open commercial purse seine fishing period for an area other than a terminal harvest area, no person may use an aircraft to locate salmon for the commercial taking of those fish or to direct commercial fishing operations one hour before, during, and one hour after the open commercial purse seine fishing period.

SOUTHERN DISTRICTS PURSE SEINE FISHERY

2018 PINK SALMON RETURNS

The Southern Southeast Alaska Subregion includes all of the area from Sumner Strait south to Dixon Entrance (Districts 1–8). The escapement index value of 4.9 million in 2018 was within the escapement goal range of 3.0 to 8.0 million index fish. Escapement indices were within or exceeded management targets for 6 of 7 districts and for 14 of 18 pink salmon stock groups within this subregion (Table 1).

MANAGEMENT CONCERNS

Uncertainties about fleet size, distribution, and the department's reaction to those can only be addressed inseason. ADF&G and the fishing industry will have to be flexible and be able to react quickly to changes from historical fishing patterns. Above all, meeting escapement goals will continue to be the primary objective of the department. Within that conservation mandate, the department will attempt to work with industry to provide a stable supply of fresh fish.

McDonald Lake Sockeye Salmon

McDonald Lake sockeye salmon was designated a stock of management concern by the BOF in February 2009, due to a long-term decline in escapements. In February 2012, this stock of concern status was removed due to improved adult escapements and rearing fall fry estimates. The stock was again designated as a stock of concern by the BOF in January of 2018. From 2013 to 2017, escapements were below the sustainable escapement goal (SEG) of 55,000–120,000 fish in 4 of the 5 years and included the lowest escapements ever recorded at McDonald Lake in 2013 (15,400) and 2016 (15,600). A draft action plan with several management options each for commercial,

sport, and personal use fisheries was presented to the board in January of 2018. The board considered the various options and adopted the management actions that were outlined in the 2009 action plan. The department will implement the board recommended actions to the Southern Southeast Alaska purse seine and gillnet fisheries in an effort to meet the McDonald Lake sockeye salmon escapement goal.

Management actions that *will be* instituted in the commercial fisheries consist of the following:

- District 1 purse seine—from statistical weeks (SWs) 29 through 31, the purse seine fishery on the western shore of Gravina Island will be closed north of the latitude of Cone Point.
- District 2 purse seine—from SWs 29 through 32, the purse seine fishery on the western shore of the Cleveland Peninsula (within 3.0 nmi of the shoreline) will be closed.
- District 5 purse seine—from SWs 29 through 31, the District 5 purse seine fishery along the northwest corner of Prince of Wales Island between Point Baker and the Barrier Islands will remain closed.
- District 6 purse seine—from SWs 29 through 31, the District 6 purse seine fishery along the west side of Etolin Island between Point Stanhope and the latitude of Round Point will remain closed. From SWs 29–31, the District 6 purse seine fishery along the east side of Prince of Wales Island between Luck Point and Narrow Point will remain closed.
- District 6 drift gillnet—from SWs 29 through 31, the District 6 drift gillnet fishery will open for a maximum of two days.
- District 7 purse seine—from SWs 29 through 31, the District 7 purse seine fishery in Section 7-B will remain closed. If pink salmon runs are extremely strong, the northern portion of section 7-B, north of Union Point may be open during SW 31. If this occurs, restrictions may occur in that area south of Union Point into SW 32 to reduce the overall interception of sockeye salmon.

ADF&G will continue to estimate the sockeye salmon escapement at McDonald Lake through surveys of the spawning grounds from late August through late September.

McDonald Lake Sockeye Salmon Stock Status and Action Plan, 2018 can be found at this link:

<http://www.adfg.alaska.gov/FedAidPDFs/RIR.1J.2018.03.pdf>

MANAGEMENT PLAN

The Southern Southeast Alaska purse seine management plan consists of separate segments which include the District 4 fishery, the inside districts pink salmon fisheries, the fall chum salmon fishery in Cholmondeley Sound, and the THA fisheries.

U.S./Canada District 4 Purse Seine Agreement

In the spring of 2018, the United States and Canada renegotiated a 10-year annex, 2019–2028, for the District 4 purse seine fishery. There were minor changes to the language in the District 4 purse seine portion of the PST which will have little to no effect on the management strategy within the district and are outlined below. The management goals remain the same and the agreement calls for managing the Alaska District 4 purse seine fishery before statistical week 31 to

1. achieve an annual harvest share of the Nass and Skeena rivers sockeye salmon of 2.45% of the Annual Allowable Harvest (AAH) through of the Nass and Skeena rivers sockeye salmon stocks in that year and

2. carry forward from year to year annual deviations from the harvest share arrangement.

The Treaty specifies specific management actions in the District 1 drift gillnet and District 4 purse seine fisheries prior to statistical week 31 and Canadian fisheries based on total run size estimates of sockeye salmon to the Nass and Skeena rivers as follows:

1. Skeena River:
 - a. When the expected total run is below 900,000 sockeye salmon, there are no Canadian commercial marine harvests and the U.S. shall undertake measures to reduce the impact of the District 4 purse seine fishery, which may include delaying the start date and duration of the fishery.
 - b. When the expected total run is below 600,000 sockeye salmon, there are no Canadian marine or inriver commercial harvests except for terminal fisheries adjacent to enhancement spawning channels and the U.S. shall undertake additional measures to reduce the impact of the District 4 purse seine fishery, which may include delaying the start date and duration of the fishery, and/or reducing the fishing area.
2. Nass River:
 - a. When the expected total run is below 200,000 sockeye salmon, there are no Canadian commercial marine harvests and the U.S. shall undertake measures to reduce the impact of District 1 drift gillnet and District 4 purse seine fisheries, which may include delaying the start date and duration of these fisheries.
 - b. When the expected total run is below 180,000 sockeye salmon, there are no Canadian marine or inriver commercial harvests and the U.S. shall undertake measures to reduce the impact of District 1 drift gillnet and District 4 purse seine fisheries, which may include delaying the start date, reducing the duration, reducing the area, and/or implementing mesh restrictions (District 1 drift gillnet fishery only) for these fisheries.

The AAH each year will be calculated as the combined total run of Nass and Skeena rivers adult sockeye salmon in that year less the combined Nass and Skeena escapement target of 1.1 million fish. In the event the actual Nass and Skeena spawning escapement for the season is below the target level, the actual spawning escapement will be used in the AAH calculation. For 2020, the department estimates the escapement target will be 900,000 sockeye salmon.

The total run calculation includes the harvests of Nass and Skeena rivers sockeye salmon in the principal boundary area fisheries and the spawning escapements to the Nass and Skeena watersheds. This includes the harvest of Nass and Skeena sockeye salmon in Alaska Districts 1, 2, 3, 4, and 6 net fisheries, Canadian Areas 1, 3, 4, and 5 net fisheries, and Canadian Nass and Skeena inriver fisheries. Harvests in other boundary area fisheries may be included as jointly agreed by the Northern Boundary Technical Committee (NBTC).

Although the management intent shall be to harvest salmon at the AAH, it is recognized that overages and underages will occur and an accounting mechanism is required. The management intent for each fishery shall be to return any overages to a neutral or negative balance as soon as possible. The accrual of underages is not intended to allow either Alaska or Canada to modify its fishing behavior in any given year to harvest the accrued underage.

Over past years, the bilateral NBTC has worked to finalize the total run reconstructions for the Nass and Skeena rivers. In January 2020, the NBTC finalized the run reconstruction for 2018 and

presented the preliminary run reconstruction for 2019 to the bilateral Northern Panel. Information in Table 2 reflects the performance of the District 4 fishery from 1999 through 2018, preliminary numbers for the 2019 season, and the 2020 forecast.

Fisheries and Oceans, Canada (DFO) has a preseason expectation of approximately 1,370,000 sockeye salmon to the Nass/Skeena rivers in 2020. This is a combined forecast of 876,000 Skeena River sockeye and 494,000 Nass River sockeye. If the 2020 forecast is accurate, and the combined escapement is 900,000 sockeye salmon, then the AAH for District 4 will be approximately 11,000 Nass/Skeena sockeye salmon (Table 2). The preseason forecast for the Skeena River is 876,000 sockeye salmon which is below the escapement goal of 900,000 fish. District 4 time and/or area restrictions during the treaty period may be necessary to achieve Treaty obligations.

Table 2.–Sockeye salmon allocations for the District 4 purse seine fishery based on Nass and Skeena Rivers allocation calculations, 1999 to 2019.

Year	Nass/Skeena Total Return	Nass/ Skeena Escapement	Allowable Nass/ Skeena AAH	Allowable D4 Harvest (2.45%)	Total Pre- Week 31 Sockeye Harvest	Actual Nass/Skeena Harvest	Overage/ Underage Per Year	Cumulative Overage/ Underage
1999	1,771,048	936,705	834,343	20,441	7,664	3,232	-17,209	-17,209
2000	5,318,228	1,100,000	4,218,228	103,347	48,969	29,221	-74,126	-91,335
2001	4,965,291	1,100,000	3,865,291	94,700	203,090	167,854	73,154	-18,180
2002	2,776,502	1,051,333	1,725,169	42,267	26,554	18,627	-23,640	-41,820
2003	3,306,526	1,100,000	2,206,526	54,060	84,742	44,258	-9,802	-51,622
2004	2,620,994	1,100,000	1,520,994	37,265	30,758	19,233	-18,032	-69,653
2005	1,770,474	1,000,144	770,330	18,873	35,690	19,442	569	-69,084
2006	3,650,525	1,100,000	2,550,525	62,488	89,615	68,940	6,452	-62,632
2007	2,752,074	1,100,000	1,652,074	40,476	112,135	75,615	35,139	-27,493
2008	2,531,701	1,100,000	1,431,701	35,077	6,262	4,880	-30,197	-57,690
2009	1,602,959	1,053,858	549,101	13,453	15,971	10,128	-3,325	-61,015
2010	1,395,616	956,954	438,662	10,747	4,612	1,091	-9,656	-70,671
2011	2,487,985	1,100,000	1,387,985	34,006	25,280	16,599	-17,407	-88,077
2012	2,737,168	1,100,000	1,637,173	40,111	18,300	9,598	-30,513	-118,590
2013	981,476	642,461	339,015	8,306	13,102	4,228	-4,078	-122,668
2014	3,824,537	1,100,000	2,724,537	66,751	114,375	74,005	7,254	-115,414
2015	3,015,042	1,100,000	1,915,042	46,919	43,873	21,433	-25,491	-140,899
2016	2,140,259	1,100,000	1,040,259	25,486	110,346	65,039	39,553	-101,347
2017	1,422,783	1,100,000	322,783	7,908	12,036	6,916	-992	-102,339
2018	2,086,458	1,100,000	986,458	24,168	19,743	9,999	-14,169	-116,508
2019 ¹	1,208,052	972,115	235,937	5,780	9,399	4,433	-1,347	-117,856
2020 ²	1,370,000	900,000	470,000	11,515	TBD	TBD	TBD	TBD

¹ Data for 2018 is preliminary

² 2020 is based on forecasted returns.

TBD = To be determined

In 2020, the District 4 purse seine fishery will start, by regulation, on Sunday, July 5. District 4 will be managed under the PST annex through July 25, 2020 (SWs 28, 29, and 30). It is anticipated that the initial opening on July 5 will be 8 to 15 hours in length. The duration of following openings will be based on sockeye salmon harvest and CPUE, effort levels, and pink salmon run strength. The amount of effort and harvest of sockeye in the district will be monitored to stay within Pacific Salmon Treaty sockeye salmon allocations. As part of the new 2019 Chapter 2 agreement, ADF&G and DFO have set up an information exchange protocol that is intended to enhance inseason communication between both management agencies. This will allow the department to closely follow the returns to the Skeena and Nass rivers so inseason adjustments can be made. Formal fishery summaries will also be exchanged on a weekly basis. In addition, the Tyee test fishery, at

the mouth of the Skeena River, can be tracked by Alaska managers daily from a web-based database. This protocol has worked well in recent years and allowed managers to provide additional fishing opportunities or reduce time in order to stay within Treaty obligations.

ADF&G will communicate with DFO on a weekly basis to monitor the sockeye salmon returns to the Skeena and Nass rivers so inseason adjustments can be made to the sockeye salmon cap. Starting on Sunday, July 26 when the majority of Canada sockeye have moved through the fishery, the district will be managed on the strength of returning Southern Southeast Alaska wild salmon.

Regardless of the strength of pink salmon returns after SW 30, it is the department's intent to manage the district in terms of boat days and overall effort similar to levels since the signing of the PST. Weekly fishing periods in August will be decided only after the department assesses the distribution of the fleet and the run strength of pink salmon. In recent years, District 4 has been open a similar amount of time as inside waters after the treaty period.

Inside Fishing Areas

As in past years, aerial surveys of early-run pink salmon producing areas, primarily Boca de Quadra, East Behm Canal, and Ernest Sound, will begin in late June or early July. Seining is expected to begin initially in a portion of District 2 on Sunday, June 21, to target returning enhanced chum salmon to the Kendrick Bay THA.

Kendrick Bay Spring Fishery

ADF&G will open a portion of lower District 2 outside of the Kendrick Bay THA to target enhanced Kendrick Bay summer chum salmon at a time when few wild stock chum salmon are available and to maximize the quality of Kendrick Bay terminal chum salmon. This preseason fishery is timed to occur prior to the return of pink salmon to the area.

The department modified the open area and fishing time in 2014 due to an increase in the harvest of wild chum, sockeye, and coho salmon. This harvest of other salmon species has become a concern due to recent increases in effort causing boats to fish further offshore. For 2020, the department will continue to open a fishing area that includes waters within 2.0 nmi of the shoreline. The first week (SW 26) will be open for 4 days. The department will monitor effort levels and wild chum, sockeye, and coho salmon harvests to minimize harvest of these species by adjusting fishing time. The department's response may include reduced fishing time and/or area in subsequent weeks.

Traditional Fishery Openings

The traditional purse seine fishery will begin on July 5, (SW 28) in the southeast portion of Section 1-F, the southern portion of District 2, District 4, and Section 7-A. Fishing time will likely begin with a series of 15-hour openings. If returns warrant additional fishing time, the fisheries will go from 15-hour to 39-hour openings on a 2-days-on/2-days-off, or a more continuous fishing schedule. However, extensive openings will not occur if the pink salmon returns are weak. Areas may be opened and closed where additional fishing time is warranted or where a more conservative management strategy is needed.

In District 1, the area from Cone Island to Foggy Point will be managed to reflect recent harvest patterns, effort levels, returns to Boca de Quadra, Hugh Smith Lake sockeye, and East Behm Canal river systems. Other areas in District 1, such as the Gravina Island shoreline, will also be managed

to take into account other user groups, the McDonald Lake sockeye salmon action plan, and to evenly distribute escapements into the back Behm and West Behm Canal systems.

In District 2, purse seining will be limited to the southern portion of the district until escapements of pink salmon to northern Clarence Strait, Ernest Sound, Cholmondeley Sound, and Kasaan Bay can be adequately assessed. Additionally, no purse seining should be expected in middle Clarence Strait, along the Ship Island and Tolstoi Bay shorelines, until pink salmon run strength to West Behm Canal, Thorne Bay, District 6, and Section 7-B are determined. In District 2, the fishing pattern along the Ship Island shore and near Thorne Bay will be managed to reflect historical fishing patterns, to consider other user groups, and the need to achieve escapement to Thorne River, McDonald Lake (sockeye salmon), Back Behm, and West Behm Canal systems.

Southern portions of Section 3-A and western portions of Section 3-B will open initially on or around July 19 (SW 30). Additional areas will be open based on the strength of pink salmon returns to District 3 systems. By late July or early August, Section 3-C may also open.

Hugh Smith Lake Sockeye Salmon

ADF&G will continue to monitor Hugh Smith Lake sockeye salmon. If escapement is below the lower bound of the escapement goal range of 8,000 fish, the department may consider the following management actions:

1. In statistical weeks (SW) 29 and 30, the department may close that portion of the District 1 purse seine fishery east of a line from Quadra Point at 55°05.17' N lat, 130°59.05' W long, to Slate Island Light at 55°05.29' N lat, 131°03.17' W long, to Black Rock Light at 55°01.42' N lat, 131°03.59' W long, to a point on the mainland shore at 55°01.40' N lat, 131°00.20' W long.
2. In SWs 31, 32, and 33, the department may close that portion of the District 1 purse seine fishery east of a line from Foggy Point Light at 54°55.44' N lat, 130°58.65' W long, to Black Rock Light at 55°01.42' N lat, 131°03.59' W long, to the southernmost tip of Black Island at 55°07.85' N lat, 131°04.78' W long, and close the northern portion of the Section 1-B drift gillnet fishery to 1.0 nautical mile south of the latitude of Foggy Point Light.

Districts 5, 6, and 7

Pink salmon returns to District 5 are expected to be good based on parent-year escapements. Two main stock groups are indexed for escapement in the district. The Affleck Canal group was well below the lower end of the escapement goal range and the other, Shipley Bay, was in the upper third of the escapement goal range. Purse seine openings will be dependent on observations of pink salmon abundance and are anticipated to begin at the end of July.

District 6 parent-year escapement was moderate. All of the primary stock groups (Burnett, Ratz Harbor, Totem Bay, and Whale Pass) were within respective escapement goal ranges. Purse seine openings will be dependent on observations of pink salmon abundance. Openings could begin in late July in the Mosman, Burnett, and McHenry inlets area. Openings in the Clarence Strait portion of District 6 will be restricted for the conservation of McDonald Lake sockeye salmon and are anticipated to begin the first week of August.

District 7 purse seine openings will vary by section in 2020. Parent-year escapement to many of the early run systems in section 7-A, including Anan Creek, were moderate to excellent. Section

7-A will be open on July 5 for 15 hours. Subsequent openings will be based on observations of pink salmon escapement primarily to Anan Creek, and harvest levels. The mid to late run systems in Sections 7-A and 7-B had moderate to good parent-year escapement. However, early openings in Section 7-B will be restricted for conservation of McDonald Lake sockeye salmon. Section 7-B will not open prior to SW 31 (July 26–Aug 1); the area would be restricted to the upper portion of the section if opened in SW 31.

Fall Chum Salmon Fisheries

Some watersheds along the eastern shoreline of Prince of Wales Island in District 2 produce late run chum salmon that have traditionally supported fall purse seine fisheries, including a directed fishery inside of Cholmondeley Sound. The Cholmondeley Sound fishery is supported by runs of fall chum salmon at Disappearance and Lagoon creeks, as well as several smaller creeks throughout the sound. Formal forecasts are not made for these stocks and parent-year escapements do not always provide an indication of potential run strength. The SEG range for the Cholmondeley Sound fall chum salmon is 30,000–48,000 fish based on aggregate peak aerial survey counts for Disappearance and Lagoon creeks. Escapements were within or above the escapement goal range in four of the past five years.

After the closure of the directed pink salmon purse seine fishery in District 2, Cholmondeley Sound and waters of Clarence Strait may open for a directed fall chum salmon fishery. Initial aerial surveys of Cholmondeley Sound chum salmon will begin near the end of August and chum salmon harvest in District 2 during late August will be monitored as an early indication of run strength. This initial opening is expected to occur during the second week of September (SW 37), unless an earlier opening is warranted. Initial openings will be 12 hours in duration. The area that will be open to the purse seine fleet is open continuously for the troll fleet under summer troll regulations.

Additional openings will likely be one or two days each week, depending upon the strength of the run and expected effort levels. Waters inside Cholmondeley Sound will be open provided adequate numbers of chum salmon are observed in the South and West arms of Cholmondeley Sound. When Cholmondeley Sound is open, Sunny Cove and waters of Cholmondeley Sound proper will be closed south of Hump Island. These closures are needed to protect chum salmon escapements in Lancaster, Dora Bay, and Kitkun systems, and closure lines may be moved further north than the closures listed in regulations.

If extensive troll effort is observed by the department, a fishery rotation may be set up for both troll and seine gear groups. During any troll fishery extensions in District 2, trolling inside Cholmondeley Sound will be limited to the same number of days as provided for the purse seine fishery.

Terminal Hatchery Fisheries

For the 2020 season, THA purse seine fisheries will occur at Anita Bay, Carroll Inlet, Kendrick Bay, and Neets Bay to harvest fish returning to Southern Southeast Regional Aquaculture Association (SSRAA) enhancement facilities. These THA fisheries will be managed jointly with SSRAA and in accordance with existing BOF approved management plans. Details regarding the open fishing periods by gear type in each area will be announced via commercial fishery advisory announcements. Table 3 summarizes the expected returns to each SSRAA release location.

Fishermen are requested to ensure fish caught in THAs are reported correctly on fish tickets. This will enable accurate otolith-mark sampling and documentation of fish taken from THAs.

Neets Bay Terminal Harvest Area Fishery

ADF&G, in consultation with SSRAA, will manage Neets Bay to include those waters of Neets Bay from the easternmost point of Bug Island to the closed waters at the head of the bay. Details of the 2020 Neets Bay THA fishing schedule and area were announced in a separate ADF&G advisory announcement released on March 31, 2020.

In 2020, SSRAA is expecting a total run of 430,500 summer chum, 37,000 fall chum, 108,800 coho, and 5,500 Chinook salmon to return to Neets Bay. The Neets Bay THA will open Monday, June 15, 2020. Beginning at 12:00 noon, Wednesday, June 17 through 12:00 noon, Monday, July 6, a rotational fishery according to the *District 1: Neets Bay Hatchery Salmon Management Plan* will be conducted for the drift gillnet and purse seine fleets.

For 2020, the net rotational fishing schedule will again be modified during SWs 24–26 allowing additional closures and modified lines to conserve Unuk River Chinook salmon. This loss of time and area will coincide with the period when Unuk River Chinook salmon are present in the area according to coded wire tag (CWT) data. The open fishing area for the Neets Bay THA will be restricted initially to those waters east of the mid bay line, expand to those waters east of the easternmost tip of Bug Island, then revert back to the mid bay line for the last rotations. The Neets Bay THA will not expand to the longitude of Chin Point for net gear in 2020.

It is anticipated that SSRAA will conduct cost recovery operations throughout the summer in the Neets Bay THA and additional rotational fisheries will not occur until cost recovery and broodstock needs have been met. Additional fisheries in Neets Bay will be announced by advisory announcement and opened by emergency order in consultation with SSRAA.

Neets Bay THA Calendar

June 15–July 6, 2020

Open continuously to troll unless closed by emergency order.

June 17–July 6, 2020

Rotational fisheries for purse seine and drift gillnet unless closed by emergency order.

July 6–November 15, 2020

No gillnet or purse seine openings are scheduled during this time so that cost recovery can take place. If openings are warranted, they will be announced by advisory announcement once cost recovery has been completed.

Carroll Inlet Terminal Harvest Area Fishery

For 2020, SSRAA has forecasted a total return of 7,000 Carroll Inlet Chinook salmon. In accordance with regulation, Carroll Inlet THA will be open June 1 through June 30, 2020. From June 1 through 12:00 noon, June 12, Carroll Inlet THA will be open concurrently to all gear groups. Rotational net fisheries will begin 12:00 noon, Monday, June 15, through 12:00 noon, Tuesday, June 30, 2020. Details of the 2020 Carroll Inlet THA fishing schedule were included in an ADF&G advisory announcement on March 31, 2020.

Kendrick Bay Terminal Harvest Area Fishery

The Kendrick Bay THA will open on a continual basis beginning June 15 through September 30, 2020. For 2020, SSRAA is expecting a return of 451,600 summer chum salmon. Peak catches are expected to occur during SWs 27–29.

Anita Bay Terminal Harvest Area Fishery

The initial opening of Anita Bay will be delayed until June 1 to mitigate potential harvest of wild Chinook salmon. For 2020, 366,300 summer chum, 11,000 Chinook, and 11,900 coho salmon are forecasted to return. Details of the 2020 Anita Bay THA fishing schedule and area were announced in a separate ADF&G advisory announcement released on April 17, 2020.

The Anita Bay THA will open to harvest salmon by troll, drift gillnet, and purse seine from 5:00 a.m., Monday, June 1, through 12:00 noon, Friday June 12, 2020 (see Anita Bay THA calendar below). A rotational fishery will begin for drift gillnet and purse seine fleets as described in the *District 7: Anita Bay Terminal Harvest Area Salmon Management Plan*. The rotational fishery will be in place until July 12, 2020. Because of budgetary shortfalls, SSRAA plans on suspending the rotational fisheries and conducting cost recovery operations from July 13 until August 9, 2020, or until a \$1.2 million cost recovery target is reached. After that date, the rotational fishery will return until September 1, then will be open to all gear types on a continual basis.

Anita Bay THA Calendar

June 1-June 12, 2020

Open concurrently to troll, purse seine, and drift gillnet unless closed by emergency order.

June 13–July 12, 2020

Rotational fisheries for purse seine and drift gillnet and troll remains open continuously.

July 13–August 9, 2020

Cost recovery only.

August 10–August 31, 2020

Rotational fisheries for purse and drift gillnet and troll open continuously.

September 1–November 10, 2020

Open concurrently to troll, purse seine, and drift gillnet.

Table 3.—Expected 2020 returns to SSRAA enhancement projects by release location.

Species/Run	Release Location	Common property Harvest	Terminal	Total Return
Coho	Herring Cove/Whitman	6,700	2,900	9,500
Coho	Nakat Inlet	20,800	8,900	29,700
Coho	Anita Bay	8,900	3,000	11,900
Coho	Neets Bay	76,200	32,600	108,800
Coho	Crystal Lake	3,800	2,500	6,300
Coho	Klawock	111,200	47,600	158,800
Coho	Port Asumcion	4,100	1,800	5,900
Summer Coho	Neck Lake	20,400	8,800	29,200
Summer Coho	Herring Cove/Whitman	3,100	3,100	6,200
Chinook	Whitman Lake	2,900	4,400	7,300
Chinook	Anita Bay	5,300	5,700	11,000
Chinook	Carroll Inlet	3,100	3,900	7,000
Chinook	Neets Bay	5,500	5,900	11,400
Chinook	Port St. Nick	800	2,700	3,500
Chinook	Crystal Lake	1,400	1,600	3,000
Summer Chum	Neets Bay	516,100	1,395,300	1,911,400
Summer Chum	Anita Bay	238,100	128,200	366,300
Summer Chum	Burnett	152,600	152,600	305,100
Summer Chum	Kendrick Bay	338,700	112,900	451,600
Summer Chum	Nakat Inlet	64,500	64,500	128,900
Summer Chum	Port Asumcion	Unknown	Unknown	37,300
Fall Chum	Burnett	21,000	21,000	42,000
Fall Chum	Nakat Inlet	37,400	20,200	57,600
Fall Chum	Neets Bay	15,900	37,000	52,900

NORTHERN DISTRICTS PURSE SEINE FISHERY

2018 PINK SALMON RETURNS

The Northern Southeast Inside pink salmon escapement index value of 1.37 million was below the escapement goal range of 2.5 to 6.0 million index fish. Escapement indices were below management targets for all of the 7 districts, and for 18 of the 21 pink salmon stock groups within this subregion. The Northern Southeast Outside Subregion, which includes Sections 13-A and 13-B, escapement index value of 2.84 million pink salmon exceeded the escapement goal range of 0.75 to 2.50 million index fish. Escapement indices were within or exceeded management targets for all 7 pink salmon stock groups within this subregion (Table 1).

The SECM survey has been one of the best indicators of adult returns to Northern Southeast Inside waters the following year. The 2019 results were the third lowest in the 23-year history of the survey, resulting in poor expectations for 2020.

MANAGEMENT CONCERNS

Uncertainties about fleet size, distribution, and the department's reaction to those can only be addressed inseason. ADF&G and the fishing industry will have to be flexible and be able to react quickly to changes from historical fishing patterns. Above all, meeting escapement goals will continue to be the primary objective of the department. Within that conservation mandate, the department will attempt to work with industry to provide a stable supply of fresh fish.

Summer Chum Salmon

In 2009, ADF&G adopted a lower bound SEG of 149,000 index spawners for summer chum salmon in the Northern Southeast Inside Subregion. This goal was based on aggregate peak aerial survey counts for 63 index streams in northern SEAK inside waters. Escapements of summer chum salmon were below this escapement goal threshold from 2008 to 2011. In 2012, the escapement goal was revised downward, based on an analysis that incorporated two decades of additional data, to 119,000 index spawners (Piston and Heintz 2011). Escapements of summer chum salmon have met the current escapement goal in 4 of the past 5 years.

MANAGEMENT PLAN

The Northern SEAK purse seine fishery management plan consists of separate segments for the outside areas (Sections 13-A and 13-B), the inside areas, the fall chum salmon fishery, and hatchery THA fisheries.

Inside Fishing Areas, Early Runs

The 2020 purse seine season will begin on Sunday, June 21, with initial open periods of 15 hours to harvest hatchery summer chum and to index the strength of early pink salmon returns. During the first open period, seining will be allowed in a portion of District 12 at the Point Augusta Index area in Chatham Strait. The opening will be in conjunction with the first opening at the Hidden Falls Terminal Harvest Area.

Directed commercial seining on early-run pink salmon will be based on aerial survey and fishery performance assessments of run strength. Aerial surveys to evaluate run strength will begin in late June for the northern inside fishing districts. To provide an additional assessment of incoming run strength of early-run pink salmon, the department will open a 1.0 nmi area along the Point Augusta shoreline in District 12 in conjunction with other weekly openings. Test fishing will be conducted at Point Gardner and Kingsmill Point to assess the strength and timing of the pink salmon returns entering Frederick Sound. The Point Gardner test fishery will start on or about June 26 and the Kingsmill Point test fishery will start on or about July 3. Both test fisheries are scheduled to occur weekly through the month of July. Test fishing will also occur along the Hawk Inlet shoreline beginning on or about June 26 to assess the strength of pink salmon returns entering the northern inside waters of Districts 11 and 15. Incidental harvest of pink salmon at the Hidden Falls Hatchery terminal fishery during the first three weeks of the season will also be monitored as an indicator of pink salmon run strength.

Escapements of summer chum salmon for the 2015 and 2016 parent years in Tenakee Inlet were respectively, above and below average. Although no formal forecasts are made for these stocks, some expectations can be based on parent-year escapements. Escapements in 2015 were much stronger than the main parent year of 2016 and were 149% and 58% of the previous ten-year average, respectively.

The 2018 parent-year pink salmon escapement index for Tenakee Inlet of 0.04 million fish is below the management target range of 0.21- 0.51 million, and below the even-year average index count of 0.10 million fish. In 2020, purse seine opportunity in Tenakee Inlet will depend on the observed development of escapements to local streams. Portions of the Basket Bay shoreline may be opened to harvest pink salmon returns to Tenakee Inlet and Peril Strait if salmon escapements to local streams are adequate, including the Kook Lake sockeye salmon.

The 2018 parent-year pink salmon escapement index for Section 13-C was 0.20 million fish, below the management target range of 0.32–0.76 million fish. Openings in Section 13-C are not likely to occur in 2020, however openings may occur if inseason assessment of pink salmon abundance indicates fish in excess of escapement needs. Parent-year summer chum salmon escapements (2015–2017) to Saook Bay and Rodman Bay were generally below long-term averages. Seine openings to target chum salmon will be based on inseason assessment of abundance. Chum salmon openings will likely be very restrictive in time and area and will occur only as pink salmon escapements allow.

The parent-year escapement index for District 10 was 0.24 million pink salmon, well below the management target range of 0.59–1.39 million fish. The 2018 run was universally weak in the entirety of District 10. The parent-year escapement index for Seymour Canal (Section 11-D) of 0.05 million pink salmon was well below the management target range of 0.15–0.37 million fish. Early openings along the District 10 mainland shoreline will be dependent on results from the Point Gardner test fishery and observations of pink salmon abundance. If indicators of abundance justify fishing, fishing periods may begin in mid- to late July along the Admiralty Island shoreline. No openings are expected to occur in Section 11-D in 2020. As such, the Big Bend portion of Seymour Canal in District 10 will likely not open due to low expected returns to Seymour Canal.

In District 12, based on a well-defined evaluation of run strength and timing, the Hawk Inlet shoreline fishery may be opened in July to provide access to harvestable surpluses of northbound pink salmon stocks that would otherwise not be harvested. This fishery is managed according to the *Northern Southeast seine salmon fishery management plans* (5 AAC 33.366) and is described in detail in a subsequent section of this plan.

INSIDE FISHING AREAS—MIDDLE AND LATE RUNS

Middle-run pink salmon should begin entering the inside waters of the northern districts during July. Seining in District 12 along the west Admiralty Island shoreline typically expands in late July, depending on the observed run strength of pink salmon stocks in Districts 10 and 11, and continues as long as Chatham Strait and Fredrick Sound escapements continue to develop satisfactorily. Southern boundaries for the fishery are typically extended into Statistical Area 112-17, from Point Hepburn to Fishery Point, and then to Parker Point in the last week of July or in early August. At the 2015 Southeast and Yakutat Finfish BOF meeting, the *Northern Southeast seine salmon fishery management plans* was amended regarding openings along the west Admiralty shoreline: the portion of the Admiralty shoreline between Point Hepburn and Fishery Point may not open before July 17 and the portion of shoreline between Fishery Point and Parker Point may not open before July 21. Parent-year pink salmon escapements were below the management target range for Peril Strait stocks, and well below management targets for Freshwater Bay, West Admiralty, and southwest Admiralty Island stocks. Openings in this area will depend on developing returns of local stocks as well as Peril Strait and Tenakee Inlet stocks. Openings may occur in this area in mid to late July depending on observed run strength.

In Section 9-A, seine openings can occur along the Baranof Island shoreline north of Red Bluff Bay beginning in mid- to late-July and along southeast Baranof Island south of Patterson Point beginning mid- to late-August. The 2018 parent-year pink salmon escapement to Red Bluff Bay was well below the management target range of 0.09–0.21 million fish making seine openings in the Red Bluff Bay area of Section 9-A very unlikely in 2020. Any openings will be based on inseason assessment of run strength. Openings provided in July will include only the shoreline north of Red Bluff Bay in order to provide for escapement needs as well as subsistence uses at

Falls Lake. Openings to the south of Red Bluff Bay may begin in early August depending on pink salmon abundance. If pink salmon escapements into Red Bluff Bay are sufficient, openings inside the bay may occur to harvest surplus pink salmon. The Port Walter (southeast Baranof Island) pink salmon stock group escapement index was well below the management target range of 0.07–0.16 million fish in 2018. Pink salmon runs to southeast Baranof Island normally begin after the first week of August; openings in 2020 are unlikely but will be based on inseason assessment of run strength.

Pink salmon returns to Section 9-B are expected to be weak. Parent-year escapements of pink salmon ranged from very poor to average. If inseason indications of abundance justify fishing periods, Section 9-B may begin in late July in upper 9-B with lower 9-B opening the first week of August.

Pink salmon escapements in District 14 were poor in 2018, with Northern Chichagof and the Homeshore stock groups well below management targets. Openings to harvest local stocks at Idaho Inlet and Port Althorp in late July or early August may occur if returns in excess of escapement needs are observed. The Whitestone shoreline area in District 14 may be open in late July or early August with opening times and areas dependent on observed strengths of local pink salmon stocks. ADF&G will also monitor pink salmon escapements in streams adjacent to Porpoise Islands, along Homeshore, and will consider purse seine openings in this area if there are harvestable pink salmon surplus to escapement needs.

Openings in District 12 along the Catherine Island shoreline and in portions of Kelp Bay may occur beginning mid-July to early August to harvest surplus pink or chum salmon returning to Kelp Bay streams, or to harvest surplus chum salmon returning to Hidden Falls if wild chum and pink salmon escapements are being met. The 2018 parent-year escapement index of pink salmon to Kelp Bay streams was 35,000 fish, well below the management target range of 0.06–0.14 million fish, therefore, directed pink salmon openings in Kelp Bay or on the Catherine Island shoreline are unlikely. However, any openings to harvest pink salmon will be based on inseason assessment of run strength. Chum salmon escapements to Clear River in South Arm have been well below historical averages since 2005, and chum salmon escapements to Ralph's Creek and Middle Arm Kelp Bay streams have generally been consistent with long-term averages, except 2019 which was below average. If strong returns of chum salmon are observed in Middle Arm, directed openings are possible but only if they will not impact pink salmon escapements.

HAWK INLET SHORE FISHERY

The Admiralty Island shoreline between Funter Bay and Point Marsden in Chatham Strait is known as the Hawk Inlet shoreline. Purse seine openings may occur in this area to harvest pink salmon stocks migrating northward to Taku River, Lynn Canal, and Stephens Passage. During July, the department will manage the Hawk Inlet Shore fishery in accordance with the *Northern Southeast seine fishery salmon management plans*. The regulation stipulates that any portion of the area north of Point Marsden may be opened when a harvestable surplus of pink salmon is observed. Openings must consider the conservation of all salmon species. At the 2018 BOF meeting, the *Northern Southeast seine salmon fishery management plans* was amended, reducing the time period the 15,000 wild sockeye salmon harvest limit applies during July. All wild sockeye salmon harvested by any purse seine boat the department identifies as fishing north of Point Marsden in District 12 during any fishing period through July 22 when other nearby areas (Point Marsden to Point Hepburn, Whitestone Shore, or the Point Augusta Test Fishery) are open concurrently, will be counted against the 15,000 wild sockeye salmon limit for the Hawk Inlet fishery. During openings,

the department will utilize fishery overflights, on-the-grounds sampling, interviews, and fish tickets to estimate the sockeye salmon harvest north of Point Marsden. Otolith analysis will be utilized to determine the enhanced sockeye salmon component in the harvest. Also at the 2018 BOF meeting, *Northern Southeast seine salmon fishery management plans* was further amended to remove the wild sockeye salmon harvested in common property fisheries in the Amalga Harbor SHA from the 15,000 wild sockeye salmon limit for the Hawk Inlet fishery. These amendments to the *Northern Southeast seine salmon fishery management plans* will sunset after the 2020 season.

During late July and August, openings along the Hawk Inlet shore may extend northward to the latitudes of Hanus Reef Light or Point Couverden, if north migrating pink salmon stocks are strong. If north migrating salmon returns are poor, and south migrating returns are strong, seining will be allowed only south of Point Marsden.

Openings along the Hawk Inlet shore north of Point Marsden are based on the observed run strength of north migrating stocks of pink salmon. The assessment methods used by the department to determine if run strengths are adequate and a harvestable surplus of pink salmon is available for harvest include:

1. parent-year escapements of pink salmon stocks for Lynn Canal, Stephens Passage, and Taku River
2. inseason test fishing at designated locations along the Admiralty Island shoreline north of Point Marsden
3. inseason aerial assessments of pink salmon abundance along the Admiralty Island shoreline north of Point Marsden
4. 2020 pink salmon catches in the department's Taku River fish wheels
5. 2020 pink salmon marine sport fish catch rates in the Juneau area (lower Lynn Canal and upper Stephens Passage)
6. 2020 fishery performance of Districts 11 and 15 drift gillnet fisheries

Outside Fishing Areas (Sections 13-A and 13-B)

Management of Sections 13-A and 13-B, along the outer coasts of Baranof and Chichagof islands, is distinct from the management of the northern inside areas. Salmon returning to these areas enter directly from the ocean and do not pass through major inside migration corridors. In Section 13-A, 2018 parent-year pink salmon escapement indices were above the management target range for the Portlock Harbor and Slocum Arm stock groups; Salisbury Sound and Lisianski stock groups were within the target escapement ranges in 2018. Openings can be expected to begin around the third week in July depending on observed pink salmon abundance. In Section 13-B, parent-year pink salmon escapement indices for Whale Bay, West Crawfish Inlet, and Sitka Sound stock groups were within their management target ranges. Purse seine fisheries can be expected in these areas depending on inseason observations. Purse seine openings could begin as early as mid-July.

Extended or continuous fishing opportunities may be provided on specific stock groups in Sections 13-A and 13-B if run size and fleet distribution allow for it. Consecutive 15-hour, 39-hour, or continuous openings will be considered as management options in order to provide opportunity and ensure that escapement goals are met.

Summer chum salmon will be monitored beginning in early July. If harvestable surpluses can be identified, purse seiners may expect portions of Sections 13-A and 13-B to open by mid-July. Openings are possible in Whale Bay, West Crawfish Inlet, Slocum Arm, and Portlock Harbor.

Short purse seine openings to harvest sockeye salmon along the outer coast of Baranof Island may occur in early July to target fish returning to Necker Bay and in early August to target returns to Redfish Bay. Openings will be dependent on inseason observations of run strength and a cautious approach will be used to ensure that escapement and subsistence fishery needs are met. Targeted sockeye salmon openings are also a possibility at Redoubt Bay beginning around mid-July provided that the inseason projection of escapement is greater than 40,000 fish.

Fall Chum Salmon Fisheries

Portions of Northern SEAK support returns of fall-run chum salmon that are harvested by purse seine gear. Openings targeting fall chum salmon will be based on observed run strength. Fishing in Security Bay and Port Camden typically occurs the first several weeks in September. Parent-year escapements to Security Bay were within or above the SEG goal range of 7,500–15,000 chum salmon in 2015 and 2016. In 2015, Port Camden chum salmon escapement was below the goal but above in 2016. Port Camden fall chum salmon has an escapement goal range of 2,000–7,000 fish. Fishing opportunities in Excursion Inlet may occur in late August or early September, depending on run strength. Parent-year escapements to Excursion River were within the SEG range of 4,000–18,000 fish in 2015 and below the range in 2016. Admiralty Island streams do not have established goals for fall chum salmon escapements. These systems will be monitored and targeted purse seine fisheries may occur if harvestable surpluses are identified. In Section 13-B, targeted fall chum salmon openings may occur in Nakwasina Sound and Katlian Bay; however, opportunities are most often concurrent with pink salmon fisheries in Sitka Sound. Fall chum salmon fisheries will be managed based on observations of run strength in the bays beginning in mid-August and continuing through September.

Southeast Cove Terminal Harvest Area Fishery

Southeast Cove THA will be open to common property purse seine and troll fisheries beginning Sunday, June 21, 2020. Purse seine openings will occur on Sundays and Thursdays and troll openings will occur on days not open to purse seining. Common property seine openings will occur through August 2 and will be announced via ADF&G advisory announcement. However, if significant numbers of fish remain, additional common property opportunity may be provided by EO or a cost recovery fishery may be implemented dependent on the presence of wild salmon stocks in the area. Currently there are no plans for cost recovery in 2020. The THA will close to all fisheries on Sunday, August 2, 2020. Details of the 2020 Southeast Cove THA fishing schedule and area were included in an ADF&G advisory announcement on April 15, 2020.

NSRAA is expecting a total run of 306,000 chum salmon to Southeast Cove THA. A portion of the run will be harvested in common property fisheries in Chatham Strait.

Thomas Bay Terminal Harvest Area Fishery

The Thomas Bay THA will be open to common property purse seine and troll fisheries beginning Sunday, June 21, 2020. Purse seine openings will occur on Sundays and Thursdays and troll openings will occur on days not open to purse seining through Saturday, August 8, 2020. Details of the 2020 Thomas Bay THA fishing area and schedule were included in an ADF&G advisory announcement on April 15, 2020.

NSRAA is expecting a total run of 222,000 chum salmon (Table 4). A portion of the run will be harvested in common property fisheries in Chatham Strait and Frederick Sound.

The Thomas Bay THA is designated by EO and are those waters of Thomas Bay northeast of a line from Point Vandeput at 57°00.94' N lat, 133°00.02' W long, to Wood Point at 56°59.54' N lat, 132°56.95' W long, northwest of a line from a point on the mainland shoreline at 56°59.57' N lat, 132°54.02' W long to Ruth Island at 57°00.42' N lat, 132°51.07' W long, north of line from a point on the southeastern shoreline of Ruth Island at 56°58.70' N lat, 132°49.13' W long, to the mainland shoreline at 56°58.70' N lat, 132°47.32' W long, west of a line from the mainland shoreline at 56°59.38' N lat, 132°47.60' W long, to the southern tip of Spray Island at 56°59.80' N lat, 132°47.73' W long, to the northern tip of Spray Island at 57°00.07' N lat, 132°47.80' W long, to the mainland shoreline at 57°00.56' N lat, 132°47.57' W long, and south of a line from 57°03.00' N lat, 132°49.62' W long, to 57°03.00' N lat, 132°52.03' W long with the following restrictions:

The waters of Spurt Cove are closed northwest of a line from 57°01.98' N lat, 132°52.49' W long, to 57°02.08' N lat, 132°52.37' W long.

Waters northeast of a line from the northern tip of Spray Island at 57°00.07' N lat, 132°47.80' W long to a point on the northern boundary line approximately .50 nmi from the mainland shoreline at 57°03.00' N lat, 132°50.55' W. long are closed Saturdays and Sundays of each week.

Amalga Harbor Special Harvest Area Fishery

In order to increase the common property share of enhanced chum salmon production, Douglas Island Pink and Chum, Inc. (DIPAC) anticipates continuing with common property purse seine opportunities in the Amalga Harbor SHA in 2020. Decisions about these openings will be based on run strength of enhanced chum, progress toward DIPAC cost recovery goals, expected effort levels, and considerations for nontarget species. Openings may occur in Section 11-A and will be limited to a portion of the Amalga Harbor SHA, Subdistrict 111-55. These openings may occur in July, will only be on Thursdays, and will be limited to 9 hours (9:00 a.m.– 6:00 p.m.). If there are conservation concerns for nontarget species in nearby systems, the open area or time may be reduced. Details of the open area and times will be included in the normal purse seine advisory announcement at the appropriate time.

Hidden Falls Terminal Hatchery Fishery

The Hidden Falls Hatchery, operated by the Northern Southeast Regional Aquaculture Association (NSRAA), expects a run of 364,000 chum salmon (Table 4). NSRAA needs 200,000 chum salmon for broodstock leaving 164,000 chum salmon available for common property harvests. NSRAA does not intend to use a tax assessment on the common property harvest of chum salmon to satisfy cost recovery needs as provided under AS 16.10.455. In 2014, the law was amended to allow NSRAA to recommend either an assessment based on the percentage of value or to assess a fixed amount on a per pound basis of chum salmon landed. In 2020, the NSRAA Board has recommended to the Department of Revenue, that no tax be assessed in the Hidden Falls Hatchery THA fishery due to the low chum salmon forecast.

The first purse seine opening at Hidden Falls is scheduled for June 21 and will likely be followed by a midweek opening on June 25. After the opening on June 25, NSRAA will assess returns to determine if another opening is warranted. In the event that a large abundance of chum salmon develops early, the Hidden Falls THA may open prior to June 21. Purse seiners are advised that openings at Hidden Falls during the 2020 season may be announced with a minimum 24-hour notice if necessary, in order to maximize fish quality.

The *Hidden Falls Hatchery Terminal Harvest Area Salmon Management Plan* provides guidelines for allocation of hatchery produced chum and Chinook salmon in the Hidden Falls THA. The management plan describes different management approaches through June 30 and beginning July 1. If it becomes necessary to close a purse seine fishery in June to achieve broodstock goals, then troll retention of chum salmon in the THA is prohibited as long as at least seven days remain until July 1. Also, provided that some trollers are present, in order to allow increased troll access to Chinook salmon, Kasnyku Bay will be closed to purse seining in June west of a line from North Point to the westernmost tip of Round Island and north of the latitude of the westernmost tip of Round Island. Beginning July 1, areas within the THA may be closed to protect chum or Chinook salmon broodstock and trollers may only retain chum salmon in numbers not exceeding the total number of Chinook salmon on board.

The Hidden Falls THA boundary definition has been modified to provide easier enforcement and compliance with the THA boundaries. Rather than the use of range markers at the northern and southern boundaries, these boundaries will be defined by points indicated by markers on the Baranof Island shoreline to offshore coordinates. A line between the two offshore coordinates will also define the outer boundary as a straight line approximately 2.0 nmi offshore of Baranof Island. The new definition will describe the Hidden Falls THA as the waters of Chatham Strait, Kasnyku Bay, and Takatz Bay, within the boundaries of a line from South Point, as indicated by a marker at 57°16.28' N lat, 134°51.78' W. long to a point offshore at 57°16.28' N lat, 134°48.00' W long, then running south to a point at 57°06.76' N lat, 134°43.00' W long then due west to a point on the Baranof Island shoreline approximately 1.0 nmi south of Takatz Bay at 57°06.76' N lat, 134°47.50' W long. During some years, the boundary of the Hidden Falls THA has been extended north to include Kelp Bay and the Catherine Island shoreline south of the Point Lull Light when wild chum salmon escapements to Kelp Bay streams have been strong and there are indications of good pink salmon abundance in the Chatham Strait corridor. A contraction of the offshore boundary of the Hidden Falls THA to within 1.0 nmi off the Baranof Island shoreline is likely for the 2020 season to conserve weak Chinook and pink salmon runs destined for systems further inland.

Deep Inlet Terminal Harvest Area Fishery

The terminal hatchery fishery at Deep Inlet will be managed jointly with NSRAA and according to the management plan in regulation. The open purse seine and gillnet fishing times, and any modifications of the terminal fishing area, will be announced by ADF&G advisory announcement prior to and during the fishing season.

NSRAA expects runs of 1,478,000 chum, 10,700 Chinook, and 110,000 coho salmon to the Deep Inlet remote release site and the Medvejie Hatchery in 2020 (Table 4). This season, 100,000 chum salmon are needed for broodstock and NSRAA does not anticipate cost recovery operations in the Deep Inlet THA. A portion of the Deep Inlet THA may be closed in late August to facilitate broodstock collection for the Medvijie facility. Most of the common property harvest can be expected to take place in the Deep Inlet THA by drift gillnet and purse seine gear, but some harvest is likely to occur outside the THA by troll and purse seine gear as well.

The Deep Inlet THA fishery will be managed in accordance with the *District 13: Deep Inlet Terminal Harvest Area Salmon Management Plan*. The plan provides for distribution of the harvest of hatchery produced salmon between the purse seine and drift gillnet fleets. The time ratio of drift gillnet to purse seine openings for the 2019-2020 seasons is 1:1.

For the time period of June 2–6, gillnet fishing is scheduled on June 2 and June 3, purse seine fishing is scheduled on June 4 and June 5, and the troll fishery is scheduled for June 6. For the remainder of the 2020 season (June 7 to September 26) purse seine fishing is scheduled on Sunday, Thursday, and Friday of each week and drift gillnet fishing is scheduled on Monday, Tuesday, and Wednesday. The troll fishery will be open on Saturdays of each week and during time periods when net fisheries are closed. The Deep Inlet THA west of 135°20.75' W long will be closed to purse seine and drift gillnet gear beginning with the first emergency order of the season through June 20. Details of the 2020 Deep Inlet THA fishing schedule and are were included in an ADF&G advisory announcement on April 15, 2020. When changes are necessary, the revised schedule will be issued in a subsequent advisory announcement.

During the 2020 season, the boundaries of the Deep Inlet THA may be changed by NSRAA and ADF&G to help resolve conflicts between fishermen and local private landowners in the area if they occur. Conflicts can be avoided by reducing boat wakes in areas near private docks, by reducing excessive noise and lights prior to openings, and by anchoring well away from private residences.

To promote full utilization of salmon, to prevent waste of salmon, to determine harvest patterns of incidentally harvested coho and sockeye salmon, and to allow full and accurate reporting of returns, the Deep Inlet THA fishery will be managed in 2020 by emergency order under authority of 5 AAC 39.265 *Full Retention and Utilization of Salmon*. This requires that all salmon harvested in net fisheries are retained, utilized, and reported on fish tickets whether they are sold or retained for personal use.

In early September, the Deep Inlet THA boundaries may be adjusted by ADF&G to reduce harvest of wild coho salmon returning to Salmon Lake or hatchery coho salmon returning to Medvejie Hatchery needed for broodstock. THA boundary adjustments to protect coho salmon will be based on historical run timing and inseason observations of abundance. Since voluntary compliance with reporting of coho salmon in the Deep Inlet THA fishery has in the past been poor and the department needs detailed information on coho and sockeye salmon harvest patterns, personnel from ADF&G or Alaska Wildlife Troopers may board some vessels and conduct hold inspections to ensure compliance.

Crawfish Inlet Terminal Harvest Area Fishery

The department, in consultation with the NSRAA, shall, by emergency order, open and close the Crawfish Inlet Terminal Harvest Area to provide for the harvest of hatchery produced king and chum salmon by purse seine, drift gillnet, and troll gear. The run of salmon to Crawfish Inlet is being managed with a troll priority.

NSRAA expects a run of 1,579,000 chum salmon to the Crawfish Inlet remote release site (Table 4). No chum salmon are needed for broodstock. NSRAA is planning to conduct cost recovery this season in Crawfish Inlet.

Purse seine openings at Crawfish Inlet will be conducted as needed to maintain fish quality and prevent large buildups. Seine openings may occur inside the boundaries of the SHA depending on abundance of fish and balancing the troll priority. Seine openings will not be scheduled as was done during the 2019 season. Purse seiners are advised that openings at Crawfish Inlet during the 2020 season may be announced with a minimum 24-hour notice if necessary, in order to maximize fish quality.

Table 4.—Expected 2020 returns to Northern SEAK area enhancement projects by hatchery organization and release location.

Species	Release Location	Common Property Harvest	Cost Recovery	Broodstock	Total Return
NSRAA					
Chum	Medvejie/Deep Inlet	1,378,000	0	100,000	1,478,000 ^a
Chum	Hidden Falls	164,000	0	200,000	364,000
Chum	Crawfish Inlet	Unavailable ^b	Unavailable ^b	0	1,579,000
Chum	SE Cove	306,000	0	0	306,000
Chum	Thomas Bay	222,000	0	0	222,000
Chinook	Medvejie/Deep Inlet	6,311	386	4,000	10,697
Chinook	Hidden Falls	342	0	500	842
Coho	Hidden Falls	14,800	2,200	10,000	27,000
Coho	Deer Lake (Mist Cove)	32,400	38,600	NA	71,000
Coho	Deep Inlet/Medvejie	107,000	NA	3,000	110,000
Armstrong Keta, Inc.					
Pink	Port Armstrong	Unavailable	Unavailable	Unavailable	368,000
Chum	Port Armstrong	Unavailable	Unavailable	Unavailable	558,000
Coho	Port Armstrong	Unavailable	Unavailable	Unavailable	114,000
Chinook	Port Armstrong	Unavailable	Unavailable	Unavailable	250
Sitka Sound Science Center					
Pink	Crescent Bay	Unavailable	Unavailable	Unavailable	163,000
Chum	Crescent Bay	Unavailable	Unavailable	Unavailable	38,000
Coho	Crescent Bay	Unavailable	Unavailable	Unavailable	13,000
Gunnuk Creek Hatchery					
Chum	SE Cove	306,000	0	0	306,000
Chum	Kake	3,000	0	0	3,000
DIPAC					
Chum	Lynn Canal/Amalga	908,700	422,500	0	1,331,200
Chum	Taku/Stephens Passage	345,100	114,900	190,000	650,000

^a Projections for Medvejie/Deep Inlet includes 143,000 chum salmon from the Sitka Sound Science Center.

^b NSRAA intends to conduct cost recovery in Crawfish Inlet in 2020. The total number of fish available for common property harvest is unknown at this time; fish needed to satisfy cost recovery needs will be dependent on the final bid price.

(Note: Common property harvest estimates of Chinook and coho salmon include sport harvest).

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