Regional Information Report No. 1J11-05

2011 Southeast Alaska Purse Seine Fishery Management Plan

by

William Davidson

Troy Thynes,

Dave Gordon,

Andrew Piston,

Kevin Monagle,

and

Scott Walker

May 2011

Alaska Department of Fish and Game **Division of Commercial Fisheries**

Symbols and Abbreviations

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

Weights and measures (metric)

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

Weights and measures (English)

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

Time and temperature

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

Physics and chemistry

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

General

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

Measures (fisheries)

fork length	FL
mideye-to-fork	MEF
mideye-to-tail-fork	METF
standard length	SL
total length	TL

Mathematics, statistics

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

REGIONAL INFORMATION REPORT NO. 1J11-05

2011 SOUTHEAST ALASKA PURSE SEINE FISHERY MANAGEMENT PLAN

By
William Davidson and Dave Gordon
Alaska Department of Fish and Game, Division of Commercial Fisheries, Sitka

Troy Thynes
Alaska Department of Fish and Game, Division of Commercial Fisheries, Petersburg

Kevin Monagle
Alaska Department of Fish and Game, Division of Commercial Fisheries, Douglas

and

Scott Walker and Andrew Piston
Alaska Department of Fish and Game, Division of Commercial Fisheries, Ketchikan

Alaska Department of Fish and Game
Division of Commercial Fisheries, Publications Section
802 3rd, Douglas, Alaska, 99824-0020

May, 2011

The Regional Information Report Series was established in 1987 and was redefined in 2007 to meet the Division of Commercial Fisheries regional need for publishing and archiving information such as project operational plans, area management plans, budgetary information, staff comments and opinions to Board of Fisheries proposals, interim or preliminary data and grant agency reports, special meeting or minor workshop results and other regional information not generally reported elsewhere. Reports in this series may contain raw data and preliminary results. Reports in this series receive varying degrees of regional, biometric and editorial review; information in this series may be subsequently finalized and published in a different department reporting series or in the formal literature. Please contact the author or the Division of Commercial Fisheries if in doubt of the level of review or preliminary nature of the data reported. Regional Information Reports are available through the Alaska State Library and on the Internet at: http://www.sf.adfg.ak.us/statewide/divreprots/htlm/intersearch.cfm.

William Davidson and Dave Gordon
Alaska Department of Fish and Game, Division of Commercial Fisheries
304 Lake Street, Room 103, Sitka, AK 99835-7563 USA

Troy Thynes,
Alaska Department of Fish and Game, Division of Commercial Fisheries
16 Sing Lee Alley, Petersburg, AK 99833-0667 USA

Kevin Monagle
Alaska Department of Fish and Game, Division of Commercial Fisheries
802 3rd Street, Douglas, AK 99824 USA
and

Scott Walker and Andrew Piston
Alaska Department of Fish and Game, Division of Commercial Fisheries
2030 Sea Level Drive, Suite 205, Ketchikan, AK 99901-0024 USA

This document should be cited as:
Davidson, W., T.Thynes, D. Gordon, A. Piston, K. Monagle, and S. Walker. 2011. 2011 Southeast Alaska Purse Seine Fishery Management Plan. Alaska Department of Fish and Game, Regional Information Report 1J11-05, Douglas.

TABLE OF CONTENTS

Page

LIST OF TABLES

Table **Page**

LIST OF FIGURES

Figure **Page**

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 55 million pink salmon for 2011. This forecast for pink salmon, together with historical escapement estimates, fishery performance data, private non-profit hatchery forecasts for chum salmon and other species, are used to establish the management plan. The management plan for the 2011 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 salmon purse seine fishery will be managed during the 2011 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) 2011 preseason pink salmon forecast, historical escapement data, fishery performance data, private non-profit hatchery forecasts, and input through the Purse Seine Management 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, Kendrick Bay, Anita Bay, Deep Inlet, and Hidden Falls. Although the areas specified above are designated seine fishing areas, specific open areas and fishing times are established inseason by emergency order.

Since statehood, 79% of the salmon harvested in Southeast Alaska commercial fisheries have been caught with purse seine gear. Pink salmon *Oncorhynchus gorbuscha* is the primary species targeted by the 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 originates from hatchery production. Other species of salmon are harvested incidentally to pink and chum salmon. Over the recent 10-year period from 2001 through 2010 the species composition of the purse seine harvest has included 88.6% pink salmon, 9.2% chum salmon, 1.3% sockeye salmon *O. nerka,* and 0.8% coho salmon *O. kisutch.* Chinook salmon *O. tshawytscha* harvest percentages are insignificant compared with other species.

Tagging studies of adult pink salmon have demonstrated that the stocks in Southeast Alaska 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 9–14 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 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 Southeast Alaska. 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.

2011 PINK SALMON FORECAST

The Southeast Alaska pink salmon harvest in 2011 is predicted to be in the *excellent* range, with a point estimate of **55 million fish (80% confidence interval: 43–67 million fish).** The categorical ranges of pink salmon harvest in Southeast Alaska were formulated from the 20th, 40th, 60th, and 80th percentiles of historical harvest from 1960 to 2010:

Category	Range (millions)	Percentile
Poor	Less than 11	Less than 20th
Weak	11 to 19	20th to 40th
Average	19 to 29	40th to 60th
Strong	29 to 48	60th to 80th
Excellent	Greater than 48	Greater than 80th

The 2011 forecast was produced in two steps: 1) a forecast of the trend in the harvest using a time-series method called exponential smoothing, and 2) the forecast trend adjusted using 2010 juvenile pink salmon abundance data (Figure 1). Fry abundance data were provided by the National Oceanographic Atmospheric Administration (NOAA) Fisheries, Alaska Fisheries Science Center, Auke Bay Laboratories (Joe Orsi, Auke Bay Laboratories, personal communication). These data were obtained from systematic surveys conducted annually in upper Chatham and Icy straits, in conjunction with NOAA's Southeast Coastal Monitoring Project, and are highly correlated with the harvest of adult pink salmon in the following year (Orsi et al. 2006[1]). This is the 5th year that the ADF&G forecast was adjusted using these data.

The 2011 forecast of 55 million pink salmon is well above the recent 10-year average harvest of 40 million pink salmon, and is near the average harvest for the past five odd years. The parent-year escapement index in 2009 of 12.7 million ranked 14th since 1960 and was 76% of the prior 10-year average of 16.6 million. Although the overall escapement index was below the prior 10-year average, biological escapement goals were met for all three subregions in Southeast Alaska and escapements appeared to be well distributed across the region. Management targets for pink salmon were met for all 15 districts with management targets and, at a finer scale, for 41 of the 46 pink salmon stock groups. In addition, the NOAA Auke Bay Lab's 2010 peak June–July juvenile pink salmon CPUE statistic from upper Chatham and Icy straits in northern Southeast Alaska ranked in the top third out of the 13 previous years that NOAA has collected that information, which indicates good freshwater and early marine survival for pink salmon set to return in 2011. Pink salmon harvests associated with the top third of indices in their data set ranged between 45 and 78 million fish. The department will manage the commercial purse seine fisheries *inseason* based on the strength of salmon runs. Aerial escapement surveys and fishery

1 We gratefully acknowledge the assistance and advice of Joe Orsi and Alex Wertheimer and their colleagues at the NOAA Auke Bay Lab. However, we accept responsibility for this forecast, and we accept sole responsibility for this use of their data.

performance data will continue, as always, to be essential in making inseason management decisions.

The statewide harvest forecast, including a complete description of the Southeast Alaska pink salmon forecast, can be found online at:

http://www.sf.adfg.state.ak.us/FedAidPDFs/sp11-03.pdf.

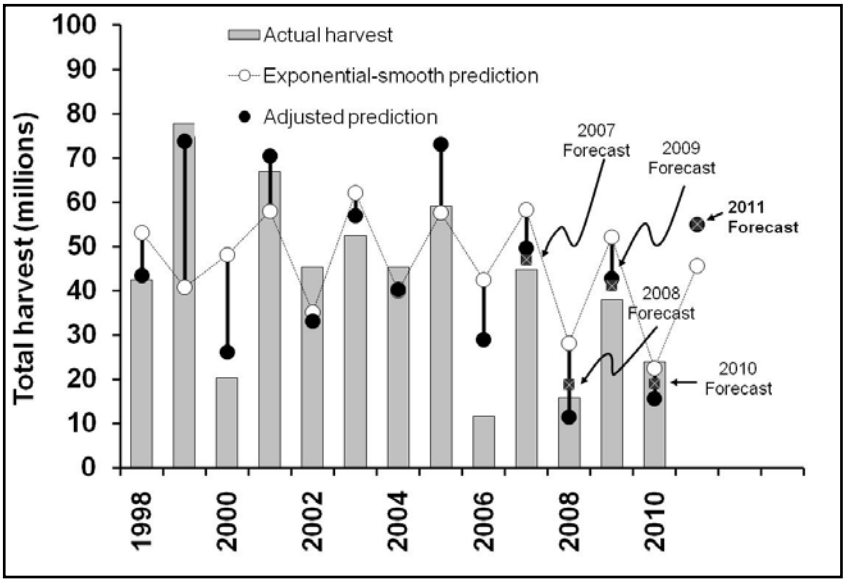

Figure 1.–Annual harvest of pink salmon in Southeast Alaska, 1998–2010, compared to the exponential smoothed hindcast predictions of the harvest adjusted using NOAA Auke Bay Laboratory pink salmon fry data. The 2007–2010 ADF&G harvest forecasts were very close to the actual harvests in those years.

Table 1.–2009, parent-year, Southeast Alaska pink salmon escapement indices (in millions) by district and subregion, compared to management target ranges by district, and biological escapement goal ranges by subregion.

Subregion	District	2009 Index	Lower Management Target	Upper Management Target
Southern	101	2.66	1.02	2.71
Southern	102	1.06	0.29	0.77
Southern	103	2.32	0.95	2.54
Southern	105	0.38	0.25	0.66
Southern	106	0.32	0.21	0.57
Southern	107	0.43	0.26	0.69
Southern	108	0.03	0.02	0.06
Northern Inside	109	0.84	0.63	1.5
Northern Inside	110	0.60	0.59	1.41
Northern Inside	111	0.31	0.27	0.65
Northern Inside	112	0.92	0.53	1.26
Northern Inside	Inside 113	0.59	0.32	0.76
Northern Inside	114	0.27	0.15	0.35
Northern Inside	115	0.13	0.03	0.07
Northern Outside	Outside 113	1.82	0.75	2.5
Biological Escapement Goals by Subregion		**Total 2009 Index**	**Lower Escapement Goal**	**Upper Escapement Goal**
Southern		7.20	3.00	8.00
Northern Inside		3.65	2.50	6.00
Northern Outside		1.82	0.75	2.50

GENERAL MANAGEMENT GOALS

1. The primary management goals for the 2011 Southeast Alaska purse seine fishery are as follows:
2. Obtain overall pink salmon spawning biological escapement goals by subregion, and within subregions obtain escapements consistent with district and stock group management targets to ensure that spawning escapements are well distributed.
3. Obtain overall adequate chum salmon spawning escapements and ensure that spawning escapements are well distributed.
4. Provide for an orderly fishery while harvesting fish in excess of spawning escapement needs.
5. Minimize, to the extent possible, the interceptions of salmon destined for fishing districts where weak returns are expected.
6. Promote a harvest of good quality fish within constraints dictated by run size and timing.
7. Manage the District 4 purse seine fishery consistent with the provisions of the U.S./Canada Pacific Salmon Treaty.
8. Restrict the total purse seine harvest of Chinook salmon (28 inches or larger) no more than 4.3% of the all-gear Chinook salmon catch ceiling established for the 2011 season. Based on the 2011 Chinook salmon preseason abundance index of 1.69, the purse seine fishery allocation for the season is 12,676 Chinook salmon.
9. Manage the seine fishery in the waters of District 12, north of Point Marsden (along the Hawk Inlet Shore), and in Section 14-C north of the latitude of Porpoise Islands, consistent with the Northern Southeast Purse Seine Management Plan (5 AAC 33.366).
10. Manage the purse seine fishery during statistical weeks 29–31 in Districts 1, 2, 5, 6, and 7 to provide escapement of McDonald Lake sockeye salmon according to Alaska Board of Fisheries Approved Mc Donald Lake sockeye Salmon Action Plan (RIR 1J09-03).

REGIONAL MANAGEMENT PLAN

EXPECTED FISHING REGIME

ADF&G will manage the 2011 purse seine fishery inseason based on aerial survey observations and fishery performance data. Initial 15-hour openings will occur on Sunday, June 19 at Hidden Falls, Point Augusta, Tenakee Inlet, and District 2 near Kendrick Bay. The first opening in District 10 and Section 13-C will occur Sunday, June 26. Initial openings of Districts 1, 2, 4 and District 7 may be expected on Sunday, July 3. Other areas around the region will open as described in this plan, subject to inseason information. The ADF&G pink salmon harvest forecast is 55 million, with an 80% confidence interval range of 43–67 million. This forecast is quite similar to the NOAA harvest forecast of 56.2 million, with an 80% confidence interval range of 47–62 million. As always the department will carefully monitor inseason information, and will manage the fishery to ensure that escapement goals are met, that district and stock group escapement targets are obtained, and that escapements are well distributed.

During 2009, the pink salmon parent year, the common property purse seine harvest of 34.9 million pink salmon was above the long-term average since 1960 of 26.0 million and somewhat

below the recent 10-year average of 37.2 million. Escapements in 2009 were within the biological escapement goal ranges in all three subregions. All district escapements were within or above management target ranges. Escapements were below management targets for five stock groups and within management targets for 31 stock groups, and above management targets for 10 stock groups. 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 even to a 5-day fishing cycle as run strength allows.

In November of 2010 the Southeast Alaska Purse Seine Task Force met and reviewed plans for peak-season expanded fishing regimes. The peak season plan will remain in place for the 2011 season allowing for a 5-day fishing cycle where relative numbers of days open and days closed can be varied regionally based on strength of returns to different stock groups. The past criteria that there should be fewer than 260 boats fishing to invoke a 5-day fishing regime has been removed, although inseason effort levels are still a consideration while managing the fishery. The purpose of expanded fishing remains to: 1) supply processing plants with more consistent deliveries of fresh-caught fish to maximize flesh quality, 2) increase roe recovery and, therefore, 3) maximize the value of final products. Following is a summary regarding the peak fishing plan:

- It is generally recognized that processing capacity and fishing effort have increased since 4:1 was initially implemented in 2002.
- To fully harvest surplus returns at the peak of the season during large runs there is a need for an accelerated fishing schedule.
- Following early season management, a 2-days-on/ 2-days-off schedule would be implemented, then when the harvest is more certain to reach 43 million or larger, then a 5-day fishing rotation would be implemented.
- The department will have the flexibility to manage areas using different fishing schedules based on geographical differences in run strength, timing, effort, and escapements.
- Five-day fishing schedules of 5:0, 4:1, 3:2, 2:3, or 1:4 may be utilized during the peak of the run.
- The regional closure day should be synchronized regionwide, except in areas that are opened continuously to attract effort.
- If necessary, line changes for specific areas could be announced on 24-hour notice in the middle of a 5-day fishing period, however the department should try to announce that there is a potential for a line change in a prior announcement.

EFFORT LEVELS

The size of the purse seine fleet will have some impact on the management decisions the ADF&G makes as the season progresses. Effort in 2011 is expected to increase somewhat due to the high pink salmon forecast in combination with higher expected salmon prices. In 2010, 247 boats made landings out of 366 permits issued by CFEC. While the number of boats in 2010 decreased from 256 permits that fished in 2009, the 2010 pink salmon forecast was considerably lower for 2010. The recent 10-year average effort in the purse seine fishery is 259 permits.

DAILY START TIMES

1. For the 2011 season the fishery opening and closing times will be as follows:
2. From the start of the seine season (June 19) through approximately August 15: 5:00 a.m. to 8:00 p.m.
3. From approximately August 16 through the end of the pink salmon season: 6:00 a.m. to 9:00 p.m.
4. From the start of the chum salmon season until the season closes: 7:00 a.m. to 7:00 p.m.

REGULATION MARKERS

At the November 2006 Purse Seine Task Force meeting, the department was asked to clarify the definition of closed waters near a salmon stream. Fish and Game Regulation 5AAC 33.350 lists all closed waters in Southeast Alaska. Regulation 5AAC 39.290(a) prohibits fishing **within 500 yards of any salmon stream or river or any stream or river bed or channel at all stages of the tide**. This means that fishing is prohibited within 500 yards of where the stream channel exists including where it ends at low 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 low tide 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 low tide 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 low tide 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 low tide. 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, 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.

NEWS RELEASE INFORMATION

The department will announce each fishery opening by news release. Announcements in general will be made more than one full day in advance of the opening to provide a fair start, unless an announcement of shorter duration is needed to prevent the loss of a fishery. In the uncommon situation where the department has already announced a fishery inside of normal markers, if additional line changes are needed during an opening, then the department can make those additional changes but has agreed to notify processors and fishermen in the vicinity of further line adjustments after less than 24 hours notice. Line changes and time changes differing from prior announcements will be indicated in bold type to highlight those changes. News releases will be available at ADF&G offices throughout Southeast Alaska, posted on the ADF&G web site, and will be available at fish buying locations or other prominent locations throughout the region. ADF&G contact numbers as well as telephone message recordings of the most recent news releases will be listed in the footer at the bottom of each news release.

News releases 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 landing restrictions, information and comments, and a harvest report from the prior fishing period.

At the request of the purse seine task force a single telephone recording of the entire news release broken down into a menu of openings by management area was first implemented in 2007. This system will again be in place for the 2011 season. Fishermen can access this recording by calling (907) 747-8522 and can hear lines and times for the different management areas by dialing 1, 2, 3, or 4 at any time during the call.

MATURE PINK SALMON FISHERIES

At the request of several processors in 2001, terminal area fisheries were initiated inseason to harvest mature pink salmon in locations where escapement needs had been exceeded and harvestable surpluses were available. These fisheries were directed at harvesting the roe or ikura of the pink salmon, as long as the salmon harvested were utilized. Funding to support additional costs to the department were generated by proceeds from test fishing. Additional terminal area fisheries took place in 2003, 2005, and 2007. Harvests from the terminal area salmon roe fisheries has ranged from 70,000 to 2,400,000 pounds per year.

No terminal area pink salmon fisheries have occurred during the 2002, 2004, 2006, 2008, 2009 or 2010 seasons. However, if areas are identified where escapement needs are exceeded and ikura fisheries would be appropriate, the department will announce those opportunities by news release.

ADF&G will continue to look for opportunities to continue the terminal area pink salmon fisheries in 2011 if there is an expressed interest and a market. A key requirement for mature salmon fisheries is that such fisheries must adhere with provisions of 5AAC 93.310 WASTE OF SALMON, which provides that salmon are not wasted, certain disposals must be authorized, and logbooks may be required. The department will continue to open fisheries so all of the fish can be harvested in the best possible quality in the existing traditional fisheries. However, if certain systems end up with significant numbers of pink salmon that are in excess to all expected spawning needs, openings to target mature fish may occur. It is anticipated that this type of fishery, if it occurs, would primarily be in late August and early September. It is anticipated that several types of openings may occur to determine what works best for the industry while insuring needed escapement is not jeopardized. Openings of this nature will be announced via standard news releases and will be clearly differentiated from traditional openings. If these fisheries are to continue, test fisheries may be required to cover additional aerial surveys and personnel costs. Before such test fisheries are allowed, the department will also need to evaluate if any planned test fisheries can be accomplished within the department's authorized test fishing receipt authority without compromising existing programs or other fisheries.

CHINOOK SALMON HARVEST

ADF&G is required to manage the Southeast Alaska purse seine fishery for a maximum harvest of 4.3% of the annual all-gear Chinook salmon catch ceiling determined under the terms of the Pacific Salmon Treaty [5AAC 29.060 (b)(1)]. Prior to 1997, the purse seine fishery was limited to a fixed quota of 11,400 Chinook salmon (not including Alaska hatchery-produced fish). The purpose of the 1997 regulation was to make management of the purse seine harvest of Chinook

salmon more consistent with the abundance-based management approach. The Chinook salmon all-gear catch ceiling is driven by the preseason abundance index that is determined by the Chinook Technical Committee. For 2011, the abundance index is 1.69 and the corresponding purse seine Chinook salmon allocation will be 12,676 fish.

The Alaska Board of Fisheries (BOF) has adopted size limits [5AAC 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 seine fishery harvest of Chinook salmon are as follows:

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 greater than 21 and less than 28 inches in length may be harvested by purse seine fishers but not sold.
3. Purse seine fishers may possess and sell Chinook salmon that are less than 21 inches (approximately 5 pounds or less).

CHINOOK SALMON IMPLEMENTATION PLAN

Non-retention of 28-inch and larger Chinook salmon has been the primary management measure for maintaining the catch limit. Because the Chinook salmon seine allocation for 2011 is only 12,676 fish, retention of Chinook salmon will not be permitted from the beginning of the season until the time period when the catch rate for other species is high. If the quota is reached, non-retention regulations will also be implemented by emergency order late in the season.

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

During periods of non-retention, purse seine fishers 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. To ensure small (less than 21 inches) Chinook salmon are not counted against the quota, ADF&G needs the cooperation of the fishing industry. To accomplish this, all Chinook salmon sold that are 28 inches or longer must be specified on fish tickets as species code 410; this is pre-printed on each fish ticket. Chinook salmon 21 inches or less should be indicated on fish tickets as species code 411. This code will need to be handwritten on the fish ticket at the time of sale if it is not pre-printed.

SEASON END

Concern was expressed at the 2009 purse seine task force meeting 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 that need additional escapement adjacent to areas that do not need additional escapement the department could

consider closure lines, if appropriate, as a means to provide for additional escapement while accessing 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 rates of other species.

SOUTHERN DISTRICTS PURSE SEINE FISHERY

2009 PINK SALMON RETURNS

The Southern Southeast subregion includes all of the area from Sumner Strait south to Dixon Entrance (Districts 1–8). The escapement index value of 7.2 million in 2009 fell within the escapement goal range of 3.0 to 8.0 million index fish. Escapement indices met or exceeded management targets for all districts and 17 of 18 pink salmon stock groups in this subregion. The Totem Bay stock group in District 6, was below the lower range of the management target in 2009.

MANAGEMENT CONCERNS

Implementation of the 5 day rotation schedule fishing regime strategy that started in 2002 may be used in some locations in southern southeast fishing districts if fish returns are at a level equal to the forecast. However, uncertainties about fleet size, distribution and the department's reaction to those can only be answered inseason. ADF&G and the fishing industry will have to be flexible and be able to react quickly inseason to changes from historical fishing patterns. Above all, meeting escapement goals will continue to be the number-one objective of the department. Within that conservation mandate, the department will attempt to meet the objective of the modified fishing strategy and provide a more stable supply of fresher fish.

McDonald Lake Sockeye Salmon

In 2011, there will be continued restrictions to the Southern Southeast purse seine, gillnet and personal use fisheries in an effort to meet the McDonald Lake sockeye salmon escapement goal of 55,000–120,000 sockeye salmon. McDonald Lake sockeye salmon were designated a management stock of concern by the Board of Fisheries during the February 2009 Board of Fish meeting due to a long-term decline in escapements. Escapements have been below the escapement goal in four out of the last five years and may not meet the escapement goal in some upcoming years due to poor parent-year escapements and low estimates of rearing fall fry. The escapement of 72,000 sockeye salmon in 2010, however, was the largest escapement since 2003, and the fall fry estimate for 2010 was also higher than recent years; both positive signs for future returns

Conservation measures were taken in the District 6 seine and gillnet fisheries from 2005 to 2010. Restrictions were also in place for the District 1 seine fishery from 2007 to 2010. In addition to these measures for sockeye salmon conservation, overall purse seine fishing time in Southern Southeast was very limited during the 2006 season because of the poor run of pink salmon. An action plan was developed that includes fisheries management actions and improved stock assessment measures for the intent of rebuilding the McDonald Lake sockeye run. The department will follow the management actions defined in the plan. Specific management actions for the seine fishery will be similar to actions taken during the 2009 and 2010 fisheries in Districts 1, 2, 5, 6 and 7.

Most of the harvest of McDonald Lake sockeye salmon by the purse seine fleet likely occurs along the Gravina Island shoreline. In order to pass McDonald Lake sockeye salmon, the Gravina Island shoreline will be closed north of the latitude of Cone Island during statistical weeks 29, 30, and 31. Seine fisheries in west Behm Canal, which have not been significant in recent years, will be limited in 2011. The District 6 gillnet fishery, the major harvester of McDonald Lake sockeye salmon, will be limited to a maximum fishing time of two days a week for three weeks during statistical weeks 29, 30, and 31. The District 5, 6, and 7 seine fisheries will have reduced fishing time during these key weeks of the McDonald Lake sockeye salmon run. Finally, the McDonald Lake Personal Use fishery harvest limits, and seasons were reduced from previous years beginning in 2007.

ADF&G will continue to estimate the sockeye salmon escapement at McDonald Lake through extensive surveys of the spawning grounds from late August through mid-October. In 2011, the department will be sampling commercial fisheries in Districts 1, 2, and 4–8 for otolith-marked McDonald Lake sockeye salmon from the Southern Southeast Regional Aquaculture Association's sentinel fish project. In addition, the department will conduct genetic sampling of the sockeye salmon harvested in the fisheries that occur in Clarence Strait and Sumner Strait. This sampling will update information about the time and area distribution of McDonald Lake sockeye salmon in those fisheries.

Hugh Smith Lake Sockeye Salmon

During the 2006 meeting in Ketchikan, the BOF de-listed the Hugh Smith Lake sockeye stock as a stock of concern at the recommendation of ADF&G. This means the Hugh Smith Lake Sockeye Action Plan is no longer in effect. However, ADF&G will continue to closely monitor the system and, if escapement levels are below that needed to reach the lower end of the escapement goal of 8,000 the department may consider the following actions:

1. In Statistical Weeks 29 and 30 the department may close that portion of the District 1 purse seine fishery east of a line from Quadra Point to Slate Island Light to Black Rock Light to a point on the mainland shore at 55°01.40' N. latitude, 131°00.20' W. longitude.
2. In Statistical Weeks 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 to Black Rock Light to the southernmost tip of Black Island and close the northern portion of the Section 1-B drift gillnet fishery to one nautical mile south of the latitude of Foggy Point Light.

Summer Chum Salmon

In 2009, ADF&G adopted a sustainable escapement goal threshold of 68,000 index spawners for summer chum salmon in the Southern Southeast Subregion. This goal was based on aggregate peak aerial survey counts for 13 index streams in southern Southeast Alaska. Escapements of summer chum salmon have been below this newly adopted escapement goal threshold for the past three seasons, particularly in 2008 when the escapement index was only 19% of the SEG threshold. The poor 2008 summer chum salmon return may have been related to extreme environmental conditions, which included very warm, dry conditions in spawning streams for parent year spawners in 2004, and warm ocean temperatures in 2004 and 2005. Other species of salmon also appeared to be affected by these conditions, e.g., sockeye salmon escapements to

Southeast Alaska were extremely poor in 2008 and the region-wide harvest of sockeye salmon was the lowest since Alaska statehood (Eggers et al. 2008)—many of these fish also went to sea in 2005. Escapements of summer chum salmon in southern Southeast Alaska improved in 2009 and 2010, but were still below the sustainable escapement goal threshold. The department plans to monitor summer chum salmon closely in 2011, but at this time there are no plans for directed management actions to reduce the harvest of wild chum salmon.

MANAGEMENT PLAN

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

District 4

The early portion of the District 4 purse seine fishery will be managed to comply with the Pacific Salmon Treaty. The agreement calls for managing the Alaskan District 4 purse seine fishery before Statistical Week 31 to:

1. Achieve an annual catch share of the Nass and Skeena Rivers sockeye salmon of 2.45% of the Annual Allowable Harvest (AAH) of the Nass and Skeena Rivers sockeye salmon stocks in that year.
2. Carry forward from year to year annual deviations from the catch share arrangement.

The AAH each year will be calculated as the combined total run of adult Nass and Skeena Rivers 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.

The total run calculation includes the catches of Nass River and Skeena Rivers sockeye salmon in the principal boundary area fisheries and the spawning escapements to the Nass and Skeena watersheds. This includes the catch 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 in-river fisheries. Catches 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. After five years of consecutive overages, a management plan must be provided to the Northern Panel with specific management actions that will eliminate the overage. 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 the past three years the bilateral NBTC has worked to finalize the total run reconstructions for the Nass and Skeena Rivers. In January 2011 the bilateral Northern Panel decided to wait until 2012 to accept the work of the Technical Committee for the run reconstructions of the Nass and Skeena Rivers for the 2009 season until more genetic and scale information was available. Information in Table 2 reflects the performance of the District 4 fishery for 1999 through 2008 and preliminary numbers for the 2009 and 2010 season and a 2011 forecast. The final bi-lateral stock identification work will not be completed until February 2012.

The Canadian Department of Fisheries and Oceans (DFO) has a preseason expectation of approximately 2,100,000 sockeye salmon to the Nass/Skeena Rivers in 2011 (Table 2). If the 2011 forecast is accurate and escapement goals are achieved, then the AAH for District 4 will be approximately 25,000 Nass/Skeena sockeye salmon (Table 2).

Table 2.–Sockeye salmon allocations for the District 4 purse seine fishery based on Nass and Skeena Rivers allocation calculations, 1999 to 2011.

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	3,306,520	1,100,000	2,206,520	54,060	84,742	44,258	(9,802)	(51,622)
2004	2,621,000	1,100,000	1,521,000	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]	1,524,000	1,040,000	484,000	11,858	15,971	11,180	(678)	(58,368)
2010[1]	1,406,016	890,820	515,196	12,622	4,617	3,232	(9,390)	(67,758)
2011[2]	2,123,000	1,100,000	1,023.000	25,000				

Note: Underages are shown as negative numbers in this table.

[1]Data for 2009 and 2010 is preliminary

[2]2011 is based on forecasted returns.

In 2011, the District 4 purse seine fishery will start on Sunday, July 3 by regulation. District 4 will be managed under the Pacific Salmon Treaty annex through July 23, 2011 (Statistical weeks 28, 29, and 30). It is anticipated that the initial opening on July 3 will be 10-12 hours in length. The duration of openings following the initial opening will be based on sockeye abundance and pink salmon run strength. The amount of effort in the district will also be closely monitored to stay within Pacific Salmon Treaty sockeye allocations. The department will communicate with the DFO on a weekly basis to follow the returns to the Skeena and Nass Rivers so inseason adjustments can be made to the sockeye cap. Starting on Sunday, July 24, 2011 the district will be managed on the strength of returning Southern Southeast Alaska wild salmon.

If the management regime increases to a 5 day cycle due to strong return of pink salmon after Statistical Week 30, it is ADF&G's intent to manage the district similarly in terms of boat-days of overall effort to that since the signing of the Pacific Salmon Treaty. Weekly fishing periods in August will be decided only after the department assesses the distribution of the fleet and the run size of pink salmon. In past years, District 4 was opened for the same amount of time as inside waters after the treaty period; however, that may not be the case in 2011.

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. Seining is expected to begin initially in District 2 on Sunday, June 19 to target returning chum salmon to the Kendrick Bay THA. ADF&G will open a portion of the lower District 2 outside of the Kendrick Bay THA

to target 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 pre-season fishery is timed to occur prior to the return of pink salmon to the area.

The traditional purse seine fishery will begin on Sunday, July 3 (Statistical Week 28). The initial fishing period will be for 15 hours and will be confined to the southeast portion of Section 1-F, the southern portion of District 2, and portions of Section 7-A (Anan).

Fishing time will likely begin with a series of 15-hour openings. If run strengths are strong enough to warrant additional fishing time, the fisheries will go from 15-hour to 39-hour openings to 2-on/2-off or more continuous openings. 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 Boca de Quadra to Foggy Point will be managed to reflect recent harvest patterns, effort levels, returns to Boca de Quadra river systems and fishing time. Other areas in District 1, such as the Gravina Island shoreline, will also be managed to take into account other user groups, McDonald Lake sockeye salmon concerns, and the need to achieve escapement of salmon into the back Behm Canal systems.

In District 2 purse seining will be limited to the southern portion of District 2 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 run strength of pink salmon returns to West Behm Canal, Thorne Bay, District 6, and Section 7-B are determined. Also, in District 2, the fishing pattern along the Ship Island shore and near Thorne Bay will be managed to reflect historical fishing patterns to take into account other user groups and the need to achieve escapement to Thorne River, McDonald Lake Sockeye and back Behm Canal systems.

Returns of pink salmon to District 3 are expected to be above average based on parent-year escapements. Portions of Section 3-A will open in mid to late July if pink salmon harvest in the early District 4 fishery indicates run strength is sufficient. By late July or early August, Sections 3-B and 3-C will also open. Under the fishing periods expected during August it is possible that portions of District 3 may have longer fishing periods than inside districts if there is less effort in some of the more remote areas of the district. Alternately, if there is increased effort and catches and aerial surveys indicate poor run strength, fishing time and area may be reduced. Due to poor returns in the western portions of Section 3C, initial fishing will most likely occur on the eastern portion of the section until the run can be determined.

Districts 5, 6, and 7

Parent-year pink salmon escapements were within the district wide management targets in Districts 5, 6 and 7. In District 5 (Sumner Strait) limited area seine openings can be expected to occur starting around August 4. As specified by the McDonald Lake Action Plan (Bergmann et al. 2009), openings along the Northwest corner of Prince of Wales Island will not occur prior to Statistical Week 32 (July 31–August 6). The parent year escapement was good to southwest Etolin systems and to the systems along the Ratz Harbor shoreline. Openings in the Mosman and Burnett Inlets area can be expected during the first week of August. Openings along the Ratz Harbor and Screen Island shorelines will not occur until after July 30 (SW 31) due to

conservation actions for McDonald Lake sockeye. The pink return to Section 7-A is expected to be good and the first opening in that area will occur Sunday, July 3. Openings in the northern portion of Section 7-B may begin during the last week of July only if the pink salmon runs are strong. The lower area of Section 7-B, Union Bay, will not open prior to July 31. If pink salmon returns are strong, every effort will be made to begin more extensive openings as soon as possible to give industry maximum flexibility for harvesting large returns.

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 major runs of fall chum salmon at Disappearance and Lagoon creeks, as well as several smaller creeks distributed throughout the Sound. Although no formal forecasts are made for these stocks, parent-year escapements may provide some indication of potential run strength. The peak aerial survey count for Disappearance Creek in 2007 was only 9,500 fish, which was the fourth lowest peak survey estimate since 1980. Based on this escapement and relatively low numbers of age-3 chum salmon in the 2010 escapement, it is possible that low numbers of typically dominate age-4 fish will return to Disappearance Creek in 2011. However, large escapements in 2006 and 2008 (Piston and Heinl 2010) may produce large numbers of returning age-5 and age-3 fish, respectively, helping to offset expected low returns age-4 chum salmon. ADF&G will monitor returns and late August catches closely in 2011 to ensure sufficient escapement to Cholmondeley Sound systems.

The department will be instituting a general management plan for the fall chum salmon fishery in District 2. Chum salmon catches in District 2 during late August pink salmon openings will be closely monitored as an early indication of run strength. Approximately 10 days after the closing of the pink salmon fishery in District 2, the department will provide an opening in waters outside of Cholmondeley Sound. This opening is expected to occur on or around September 8. The department will continue to provide weekly fishing opportunities as long as catch rates and aerial observations indicate a good abundance of chum salmon. Openings will likely be 1 or 2 days in length depending upon the strength of the run and expected effort levels. Open waters will move inside Cholmondeley Sound only if adequate numbers of chum salmon are observed in the South Arm and West Arm of Cholmondeley Sound. If Cholmondeley Sound is opened, Sunny Cove and waters south of Hump Island will be closed. The sustainable escapement goal range for Cholmondeley Sound fall chum salmon is 30,000-48,000 fish, based on aggregate peak aerial survey counts for Disappearance and Lagoon creeks.

ADF&G has opened portions of Section 3-A (Cordova Bay) in recent years to target fall chum salmon. The department may again open portions of Section 3-A in 2011 if there is a surplus of chum salmon. Due to limited fall chum salmon production in Section 3-A, this area will only be opened in conjunction with a District 2 opening.

Terminal Hatchery Fisheries

For the 2011 season, THA purse seine will occur at Neets Bay, Anita Bay, and Kendrick 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 news releases. Table 3 details the expected return to each SSRAA release location.

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

Terminal Area–Neets Bay [5AAC 33.370]

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. From the second Sunday in June (June 12) through August 1, the Neets Bay THA will be expanded to include those waters of Neets Bay east of the longitude of Chin Point to the closed waters at the head of the bay. On August 2, the Neets Bay THA will consist of those waters east of the longitude of the easternmost tip of Bug Island to the closed waters at the head of the bay.

In 2011, SSRAA is expecting a total return of 1,169,000 summer chum, 354,000 fall chum, 210,000 coho, and 22,500 Chinook salmon to Neets Bay.

Neets Bay will be open continuously to troll from April 25 to June 28 and to purse seine and drift gillnet from May 1 to June 10 unless closed by emergency order. The rotational fishery from June 11 through June 28 according to 5 AAC 33.370 was announced on a separate Neets Bay THA news release on April 27, 2011. From June 29 to November 15 no gillnet or purse seine openings are scheduled so that cost recovery can take place. If openings can be scheduled they will be announced by News Release in September or once cost recovery has been completed.

Neets Bay THA Calendar

April 25–June 28, 2011

Open continuously to troll unless closed by emergency order.

May 1–June 10, 2011

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

June 11–June 28, 2011

Rotational fishery for drift gillnet and purse seine.

June 29–November 15, 2011

No gillnet or purse seine openings are scheduled during this time so that cost recovery can take place. If openings can be scheduled they will be announced by News Release in September or once cost recovery has been completed.

Terminal Area–Anita Bay [5AAC 33.383]

The Anita Bay THA in District 7 consists of those waters of Anita Bay west of a line from Anita Point at 56° 13.67' N. latitude, 132° 22.49' W. longitude to 56° 14.26' N. latitude, 132° 23.92' W. longitude.

By regulation portions of the Anita Bay THA will be closed to the harvest of salmon as follows:

(1) From June 15 through June 25, the waters of the Anita Bay THA that are west of 132° 26.22' W. long. will be closed to the harvest of salmon;

(2) From June 26 through July 1, the waters of the Anita Bay THA that are west of 132° 26.98' W. long. will be closed to the harvest of salmon;

(3) From July 2 through July 10, the waters of the Anita Bay THA that are west of 132° 28.00' W. long. will be closed to the harvest of salmon.

In 2011, approximately 185,000 chum, 10,000 Chinook and 20,200 coho salmon are expected to be returning in total. It is anticipated that approximately 92,500 chum, 7,000 Chinook and 4,000 coho salmon will return to the terminal area and be available for harvesting in the rotational fisheries.

Anita Bay THA Calendar

May 1–June 12, 2011

May 1 beginning at 12:01 a.m., Sunday through 12:00 noon Sunday, June 12: Open continuously to purse seine, drift gillnet and troll unless closed by emergency order.

June 13–August 31, 2011

Rotational fishery for drift gillnet and purse seine

September 1–November 10, 2011

Beginning 12:01 a.m. Thursday, September 1, 2011, the Anita Bay THA will be open to the harvesting of salmon concurrently by drift gillnet, purse seine and troll gear. The Anita Bay THA will close for the season at 12:00 noon Thursday, November 10, 2011.

Kendrick Bay THA–[5AAC 33.377]

The Kendrick Bay THA, which includes the waters of Kendrick Bay west of 131º 59.00' W. longitude, will be open on a continual basis beginning Wednesday, June 15, 2011, Statistical Week 25, and will remain open until further notice. For 2011 SSRAA is expecting a return of 509,000 summer chum salmon. Peak catches are expected to occur during statistical weeks 27–29. As in recent years, additional area outside of the THA will be open to target returning hatchery chum salmon at a time when few wild stock salmon are available for harvest. ADF&G will consider additional fishing time and area in District 2 during these early weeks if wild salmon run strength, effort, and other pertinent considerations allow.

Table 3.–Expected 2011 Returns to SSRAA enhancement projects by release location.

Species/Run	Release Location	Common property Harvest	Terminal	Total Return
Coho	Herring Cove	19,700	8,400	28,100
Coho	Nakat Inlet	19,100	1,600	20,700
Coho	Anita Bay	16,200	4,000	20,200
Coho	Neets Bay	157,500	52,500	210,000
Coho	Bakewell	14,200	6,100	20,300
Coho	Crystal Lake	2,250	2,250	5,000
Summer Coho	Burnett Inlet	9,500	11,600	21,100
Summer Coho	Neck Lake	67,200	44,800	112,000
Chinook	Whitman Lake	5,100	11,900	17,000
Chinook	Anita Bay	3,000	7,000	10,000
Chinook	Neets Bay	6,750	15,750	22,500
Chinook	Crystal Lake	850	850	1,700
Summer Chum	Neets Bay	233,800	935,200	1,169,000
Summer Chum	Anita Bay	92,500	92,500	185,000
Summer Chum	Kendrick Bay	356,300	152,700	509,000
Summer Chum	Nakat Inlet	114,000	76,000	190,000
Fall Chum	Nakat Inlet	36,000	23,900	59,900
Fall Chum	Neets Bay	88,500	265,000	354,000

NORTHERN DISTRICTS PURSE SEINE FISHERY

2009 PINK SALMON RETURNS

Parent year pink salmon escapement indices were within the recommended biological escapement goal ranges for the Northern Southeast Inside subregion which includes Districts 9–12, 14 and 15, and Subsection 13-C as well as the Northern Southeast Outside subregion which includes Sections 13-A and 13-B (Table 1). Management targets in the 2009 parent year were within or above target ranges for all Districts and Sections in Northern Southeast Alaska. For 21 stock groups in Northern Southeast Inside area four were below the target range (Eliza Harbor and Saginaw Bay in District 9, and Pybus/Gambier Bays and Seymour Canal in Districts 10 and 11). The 17 other stock groups were within or exceeded goals. For the Northern Southeast Outside Subregion, in Sections 13-A and 13-B, all seven stock groups met or exceeded the management target range.

MANAGEMENT CONCERNS

Pink salmon escapements to northern Southeast Alaska during the 2009 parent-year were within or above the management target range in all districts. However, pink salmon runs to the inside waters of northern Southeast Alaska were slightly below average in 2009 and several stock groups in Districts 9, 10, and 11 did not meet escapement goals. An early-season management concern will be to prevent excessive interception of weak salmon stocks in mixed stock fishing corridors (e.g., Icy Strait and West Admiralty) until run strengths to near-terminal and terminal areas can be adequately assessed. With regard to possible implementation of a five-day fishing schedule, ADF&G and the fishing industry will have to be flexible and be able to react quickly in season to changes from historical fishing patterns. Above all, meeting escapement goals will continue to be the number-one objective of the department. Within that conservation mandate,

the department will attempt to meet the objective of the modified fishing strategy and provide a more stable supply of fresher fish.

Summer Chum Salmon

In 2009, ADF&G adopted a sustainable escapement goal threshold 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 Southeast Alaska inside waters. Escapements of summer chum salmon have been below this newly adopted escapement goal threshold for the past three seasons. Summer chum salmon escapements in this subregion have trended downwards since the late 1990s, but had consistently exceeded the escapement goal threshold through 2007. Recent low returns of summer chum salmon in northern Southeast Alaska may have been related in part to the same extreme environmental conditions outlined previously for summer chum salmon in southern Southeast Alaska. The department plans to monitor summer chum salmon closely in 2011, but at this time there are no plans for directed management actions to reduce the harvest of wild chum salmon.

MANAGEMENT PLAN

The Northern Southeast Alaska 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 the Hidden Falls and Deep Inlet Hatchery terminal fisheries.

Fishing Regime Implementation

If run strengths are strong enough to warrant additional fishing time, the fisheries will go from 15-hour and 39-hour openings to 2-on/2-off or more continuous openings. Implementation of a five-day fishing regime will depend on the inseason region-wide projection of total harvest exceeding 43 million pink salmon and area specific run strength and effort levels. If a five-day schedule is implemented, managers will adapt the five-day fishing schedule to the needs of meeting escapement goals in specific areas that might include a fishing schedule of 5:0, 4:1, 3:2, 2:3, and 1:4.

Inside Fishing Areas, Early Runs

The 2011 seining season will begin on Sunday, June 19, with initial open periods of 15 hours to gauge the strength of summer chum and early pink salmon returns. During the first open period, seining will be allowed in portions of District 12 in Tenakee Inlet and Point Augusta in Chatham Strait; the opening will be in conjunction with the first opening at the Hidden Falls Terminal Harvest Area.

Escapements of summer chum salmon for the 2006–2007 parent years in Tenakee Inlet were mixed. Although no formal forecasts are made for these stocks, some expectations can be based on parent-year escapements. In 2006, parent year escapement was equal to the 10-year average and well above the sustainable escapement goal threshold. However, the primary parent year contributing to the 2011 return is 2007, a year that experienced well below average escapement and was just equal to the sustainable escapement goal threshold. The 2009 parent-year pink salmon escapement index for Tenakee Inlet of 0.29 million fish is within the management target range but below the 10-year average index count of 0.42 million fish. The upper portion of Tenakee Inlet may be opened and fishing will continue as long as escapement continues to build adequately. Portions of the Basket Bay shoreline may also be opened to harvest pink salmon

returns to Tenakee Inlet and Peril Strait if escapements to local streams are adequate, including escapement of Kook Lake sockeye. Commercial seining has routinely been closed within 4 nautical miles of state marine waters around the entrance to Basket Bay to manage for sockeye escapement to Kook Lake and for the Basket Bay subsistence fishery.

Parent-year pink salmon escapements were good in Section 13-C (Peril Strait and Hoonah Sound) with a 2009 escapement index near the middle of the management target of 320,000–760,000 pink salmon. Parent-year chum salmon escapements to Saook Bay and Rodman Bay were good in 2006 and 2007. Beginning June 26, portions of Section 13-C will be open to harvest surplus salmon and to assess run strength of pink and chum salmon returning to Hoonah Sound streams. Further openings in 13-C will be determined inseason based on catch and observations of escapement. In the event that chum salmon returns provide for sufficient escapement, ADF&G may adjust open area in the associated bays for limited times to provide for harvest opportunities. In mid-July, the west boundary of the fishing area in Peril Strait may be moved towards Chatham Strait to improve the quality of the harvest and to ensure pink salmon escapements for Hoonah Sound and Peril Strait streams are obtained. Portions of Section 13-C, west of the Duffield Peninsula, and Section 13-A in lower Peril Strait, may remain open to provide fishing opportunity on pink salmon migrating through Salisbury Sound and western Peril Strait to Hoonah Sound streams.

The parent-year escapement index for District 10 was 0.60 million pink salmon, within the management target range of 0.59–1.45 million fish. Even though the escapement index is within the goal range, the index was largely comprised of one system's escapement in which the escapement was exceptional. The Pybus Bay/Gambier Bay stock group did not meet escapement goals and several mainland systems had escapements below desired levels. The mainland portion of District 10 is scheduled to open on Sunday, June 26. The parent-year escapement index for Seymour Canal (Section 11D) was 0.13 million pink salmon; 80% of the lower management target of 0.16 million fish. Escapements to Seymour Canal streams were uniformly weak so commercial seine openings are not anticipated but will ultimately depend on the performance of developing returns.

Commercial seining directed on early-run pink salmon returns will be based upon 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 one-mile 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 with Point Gardner to assess the strength and timing of the pink salmon returns entering Frederick Sound. The Point Gardener test fishery will start on or about June 29 and the Kingsmill Point test fishery will start on or about July 6. Both test fisheries are scheduled to occur weekly through the month of July. Test fishing will also occur along the Hawk Inlet Shoreline beginning June 24 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.

In District 12, based on a well-defined evaluation of run strength and timing, the Hawk Inlet shoreline fishery is 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 Fishery Management Plan (5AAC 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 returns 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 District 10 and 11 and continue as long as Chatham Strait and Fredrick Sound escapements 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 either the last week of July or in early August. Because Kanalku sockeye salmon transit through this area in June and July, and because the Kanalku sockeye stock is an important subsistence salmon resource, the department consistently closes an area of approximately nine nautical miles along the west Admiralty shoreline from Parker Point to Point Samuel for an extended period into early August. Parent-year pink salmon escapements were within management target ranges for streams on the northern Chatham Strait shoreline of Chichagof Island and the west Admiralty shoreline. Openings along these shorelines will depend on developing returns of local stocks as well as Peril Strait and Tenakee Inlet stocks. Fishing may begin in this area in mid to late July depending on the observed run strength.

Seining is expected to begin in Section 9-A near Red Bluff Bay in mid to late-July, and in early August in Section 9-A near Little Port Walter north of Armstrong Point. Parent-year escapements of pink salmon to Red Bluff Bay were within the management target range and openings can be expected. July openings 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 occur beginning in early August, depending upon pink salmon abundance. If pink salmon escapements into Red Bluff Bay are sufficient, openings inside of the bay may occur to harvest pink salmon surplus to escapements. In Section 9-A south of Patterson Point, parent-year pink salmon escapements were within the management target range. Openings can be expected beginning early to mid-August, depending upon inseason observations of pink salmon abundance.

Parent-year escapements of pink salmon were poor to moderate in Section 9-B. The Tebenkof Bay area was the only stock group of the three Section 9-B stock groups that was within its management target range. The other two stock groups escapement indices were just below the lower end of the target ranges for those stocks. Openings in lower Section 9-B are expected occur starting the first week of August. In upper Section 9-B, openings are expected to be limited. The escapement index for all of District 9 was 0.84 million fish, within the 0.63 to 1.5 million management target range.

Pink salmon escapement in District 14 was within management target ranges in 2009. As a result, openings to harvest local stocks at Idaho Inlet and Port Althorp are expected to occur in late July or early August. To try to attract effort to these remote areas, fishery openings in these locations may be announced out of cycle before or after regionwide openings. The decision when these remote areas will be open will be made based on inseason information. The Whitestone shoreline area in District 14 may open in late July or early August with fishing times and areas dependent upon observed strengths of local pink salmon stocks. The department will also monitor pink salmon escapements in streams adjacent to Porpoise Islands along Homeshore and

will consider seine openings in this area if there is a 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 from 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 the Hidden Falls hatchery if wild chum and pink salmon escapements are being met. Parent year escapement of pink salmon to Kelp Bay streams was above the management target range and well distributed to Kelp Bay streams. Openings to harvest surplus pink salmon will be based on inseason assessment of run strength. Parent-year chum salmon escapements to Kelp Bay streams were fair to good. Since 2002, chum salmon escapements to Clear River have been well below historic levels. If chum salmon returns to Middle Arm are in excess to escapement needs then limited area in Kelp Bay may be provided to specifically target Middle Arm chum salmon.

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 fishing is allowed 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 Management Plan (5AAC 33.366). This plan 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 also consider the conservation of all species, and the area must be closed in July after 15,000 wild sockeye salmon have been harvested. In January 2006, the Board of Fisheries clarified that only the harvest of wild sockeye salmon would count toward the 15,000 fish cap.

During August, openings along the Hawk Inlet shore may extend northward to the latitude 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 stocks are strong, seining will be allowed only south of Point Marsden.

Openings along the Hawk Inlet shore north of Point Marsden will be 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 escapement of pink salmon stocks for Stephens Passage, Taku River, and Lynn Canal. Stephens Passage escapement was below average in 2009 but within the management target range. Taku River fish wheel pink salmon catch was 60% of average. Lower Lynn Canal escapement was 140% of the management target range index upper threshold.
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. 2011 pink salmon catches in the department's Taku River fish wheels.
5. 2011 pink salmon marine sport fish catch rates in the Juneau area (lower Lynn Canal and upper Stephens Passage).

6. 2011 fishery performance of District 11 and District 15 drift gillnet fisheries.

In 2003, the Alaska Board of Fisheries adopted a department proposal codifying the sockeye salmon reporting requirements for the Hawk Inlet shoreline fishery. The provisions of that proposal encapsulated the agreement reached between net gear groups during the January 1994 meeting in Ketchikan. The regulation is summarized below:

> "All sockeye salmon harvested by any seine boat the department identifies as fishing north of Point Marsden during any July fishing period when other nearby areas (i.e., Point Marsden to Point Hepburn, Whitestone Shore, or the Point Augusta Test Fishery) are open concurrently, will be counted against the 15,000 sockeye salmon quota for the Hawk Inlet fishery north of Point Marsden. During the openings, the department will utilize fishery overflights, on-the-grounds sampling, and interviews to estimate the sockeye salmon harvest north of Point Marsden."

The purpose of this change was to provide the department with more flexibility to open areas adjacent to the Hawk Inlet shore fishery (e.g., south of Point Marsden, Point Augusta, and Whitestone Shore) when pink salmon run strength warrants.

Based on good parent year escapements to District 11 and 15, the department anticipates opening this shoreline to purse seine fishing in 2011.

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, parent-year pink salmon escapements for all stock groups were within or above the management target ranges. Openings can be expected to begin around the third week in July depending upon observed pink salmon abundance. In Section 13-B, parent-year pink salmon escapements in Sitka Sound, West Crawfish and Whale Bay were within management target ranges and seine fisheries can be expected in all of these areas depending on inseason observations. Purse seine openings could begin as early as mid-July.

Summer chum salmon returns will be monitored to determine run strengths beginning in early July. If harvestable surpluses can be identified, seiners may expect portions of Sections 13-A and 13-B to be 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 needs and subsistence fishery needs are met. Targeted sockeye salmon openings are also a possibility at Redoubt Bay between July 15 and August 31 provided that the inseason forecast, based on historic run timing and inseason enumeration of sockeye salmon through a weir operated by the United States Forest Service, indicates that an escapement greater than 40,000 will occur.

If the pink salmon returns are strong enough to warrant a 4-on/1-off fishing regime, the fishing patterns in southern Sitka Sound will likely be scheduled as alternating 2-on/3-off and 3-on/2-off

due to the expected concentration of effort targeting enhanced chum salmon in the Sitka Sound area. This will maintain the historic 50% seine fishing opportunity while ensuring adequate pink salmon escapement to southern Sitka Sound streams. This will also prevent changes in the allocation of enhanced chum salmon returning to the Deep Inlet THA that are also targeted by the other gear groups. Extended or continuous fishing opportunities may be provided on specific stock groups in the Sitka Management Area if run size and fleet distribution allow for it. Consecutive 15-hour openings will also be considered as a management option to 39-hour or continuous openings at intermediate run sizes in order to ensure escapement needs will be met.

Fall Chum Salmon Fisheries

Portions of Northern Southeast Alaska support returns of fall-run chum salmon that are harvested by purse seine gear. Fishing opportunities are not expected in Port Camden due to lower than normal escapement during the parent year. Fishing in Security Bay usually occurs the first week in September if the observed run strength is good. Escapements in Security Bay were good in both the 2006 and 2007 parent years. Fishing opportunities in Excursion Inlet may occur in late August or early September. Parent-year escapements to Excursion River were some of the lowest recorded in 2006 but within the management goal range in 2007 which is the primary brood year contributing to the 2011 return. Southwest Admiralty streams do not have a good time series of survey data relating to fall chum salmon escapement. Therefore the department may provide some short openings in this area to test the run strength and will monitor fall chum salmon escapements to these systems opportunistically. Targeted seine fisheries will 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.

Hidden Falls Terminal Hatchery Fishery

The Hidden Falls Hatchery, operated by the Northern Southeast Regional Aquaculture Association (NSRAA), expects a return of approximately 1,195,000 chum salmon in 2011. Of this total return, approximately 955,000 will be available for the common property harvest after allowing 90,000 for cost recovery and 150,000 for broodstock requirements. In 2011, cost recovery will be managed by NSRAA to harvest 720,000 pounds, and the goal in numbers of fish will be adjusted as needed to achieve the goal in pounds. The initial Hidden Falls opening for the 2011 season is scheduled for June 19. In the event that a large abundance of chum salmon develops early, the Hidden Falls Terminal Harvest Area may open prior to June 19. As usual, seiners are advised that openings at Hidden Falls during the 2011 season may be announced with a minimum 24-hour notice if necessary in order to maximize fish quality. NSRAA cost recovery fishing will likely begin the week of June 27. A mid-week opening on Thursday, June 23 is considered unlikely at this time. Decisions to provide for mid-week openings will depend on both run strength and progress toward cost recovery goals. ADF&G will coordinate with NSRAA to provide updates in purse seine news releases, including any changes in the seasonal cost recovery goal, progress made toward reaching the cost recovery goal, and other pertinent information such as average weights or sex ratios.

The Hidden Falls Hatchery Terminal Harvest Area Management Plan (5AAC 33.374) provides guidelines for allocation of hatchery produced chum and Chinook salmon in the Hidden Falls

THA. The management plan sets forth different management approaches through June 30 and beginning July 1. If it becomes necessary to close a purse seine fishery to chum salmon that is scheduled in this plan in June in order to achieve broodstock and cost recovery goals, then troll retention of chum salmon in the THA will be prohibited as long as at least seven days remain until July 1. Troll non-retention of chum salmon would occur in June in the event that there is no purse seine fishery on June 19. 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 terminal harvest area boundary definition is being modified to provide for 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 two miles offshore Baranof Island. Additionally, during the Purse Seine Task Force meeting in December, 2010, seiners requested that the southern boundary of the THA be moved a short distance to the south to provide for easier use of a hook-off point that currently lies on the traditional boundary line and the department agreed to move the boundary line south approximately 150 yards. 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. latitude, 134° 51.78' W. longitude to a point offshore at 57° 16.28' N. latitude, 134° 48.00' W. longitude, then running south to a point at 57° 06.76' N. latitude, 134° 43.00' W. longitude then due west to a point on the Baranof Island shoreline, approximately one mile south of Takatz Bay, at 57° 06.76' N. latitude, 134° 47.50' W. longitude. 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 less than two miles off of the Baranof Island shoreline may occur if pink salmon escapements to neighboring areas are lacking and are unlikely to meet escapement goals. Any boundary expansions or area contractions will be determined based on inseason observations of run strength.

Deep Inlet Terminal Hatchery Fishery

The terminal hatchery fishery at Deep Inlet will be managed jointly with NSRAA and according to BOF management plans. The open seine and gillnet fishing times and any modifications of the terminal fishing area will be announced by ADF&G news releases prior to, and during the fishing season.

Terminal Area–Deep Inlet [5AAC 33.376]

NSRAA expects a return of 1,060,000 chum salmon to the Deep Inlet remote release site and the Medvejie Hatchery in 2011. Cost recovery and broodstock goals for the Deep Inlet returns are approximately 82,600 fish and 70,000 fish respectively, allowing for a common property harvest of approximately 907,400 chum salmon by purse seine, drift gillnet, and troll gear. In 2011, cost

recovery will be managed by NSRAA to harvest 661,000 pounds. Actual numbers of chum salmon harvested for cost recovery will be adjusted to achieve this total weight. The majority of the common property harvest can be expected to occur in the Deep Inlet THA by drift gillnet and purse seine gear, but significant harvest also occurs outside the THA in traditional troll and purse seine fisheries as well.

The Deep Inlet THA fishery will be managed jointly with NSRAA, and in accordance with the Deep Inlet Terminal Harvest Management Plan (5AAC 33.376). The plan provides for the distribution of the harvest of hatchery-produced salmon between the purse seine and drift gillnet fleets. The Alaska Board of Fisheries, during it's February 2009 meeting, adopted a new regulation modifying the time ratio of gillnet fishing time to purse seine fishing time from 2:1 to 1:1 during chum salmon management beginning the third Sunday in June. The time ratio of gillnet fishing time to purse seine fishing time during Chinook salmon management prior to the third Sunday in June will remain 2:1.

The NSRAA board has requested that the common property rotational fishery begin on Sunday, May 29, in order to provide for additional common property harvest of hatchery Chinook salmon returning to the Medvejie Hatchery. Beginning on May 29 and continuing through June 18, the schedule will include four days of gillnet and two days of seine per week. Beginning June 19, the THA will be opened to three days of seine and three days of gillnet per week and will remain on this schedule through August 6. After August 6, the fishing schedule will change to a continuous alternating schedule of two days seine and two days gillnet for the remainder of the season except for when the Deep Inlet THA is closed for cost recovery. NSRAA is taking a new approach to Deep Inlet chum salmon cost recovery which is scheduled to begin sometime between August 11 and August 23 when larger numbers of chum salmon begin entering the Deep Inlet THA. The intent of this plan is to conduct the cost recovery harvest in as short a time period as possible. Also, the inner portion of Deep Inlet will not be closed during common property openings as has been the practice in recent years to enhance cost recovery. This season, prior to August 6, NSRAA will begin evaluating chum salmon abundance to determine the most appropriate time to close the Deep Inlet THA in order to begin cost recovery harvest. The department will be in close consultation with NSRAA staff and will issue a news release prior to August 6 announcing continued common property openings or a closure date. The closure for cost recovery can be expected to occur after a 2-day gillnet rotation. Once cost recovery is complete, the Deep Inlet THA will be reopened. NSRAA Board has requested that the re-opening schedule include two days of trolling prior to the opening of the rotating net gear schedule. The exception to this will be if no cost recovery seine boast are available during the cost recovery closure period, the Deep Inlet THA will be opened to trolling provided there is sufficient abundance of chum salmon in the THA. If this occurs, the net gear rotational fishery will resume immediately after cost recovery is complete.

The following rotational fishing schedule will be in effect for the 2011 season:

May 29–June 18:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Seine	Gillnet	Gillnet	Seine	Gillnet	Gillnet	Troll

From June 19 until August 6:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Seine	Gillnet	Gillnet	Gillnet	Seine	Seine	Troll

From August 6 until the end of the season:

Rolling schedule of two days seine and two days gillnet for the remainder of the season except as described above for the closure and reopening of the THA for the purpose of cost recovery.

The schedule indicated above is subject to inseason adjustments to ensure that NSRAA cost recovery remains on schedule and the seasonal cost recovery goal is achieved. A detailed initial schedule for common property harvest in the THA will be published in a news release at the outset of the season. When changes are necessary the revised schedule will be issued in a subsequent news release.

Cost recovery management is planned such that NSRAA may conduct cost recovery in the Deep Inlet Special Harvest Area and in the Silver Bay Special Harvest Area. In January of 2006 the BOF implemented changes to Deep Inlet SHA and Silver Bay SHA. The Silver Bay Special Harvest (SHA) area was expanded to include most of Silver Bay and Eastern Channel east of a line from Makhnati Island to Sentinel Rock to Cape Burunof through July 21 and after the troll coho salmon closure in August or August 20 if there is no August coho salmon closure. From July 22 until the end of the August troll coho salmon closure, or August 20 if there is no August coho salmon closure, the Silver Bay SHA includes the waters of Eastern Channel and Silver Bay east of Galankin Island to Silver Point and the waters of Sitka Sound enclosed by a line from the southernmost tip of Galankin Island, to Simpson Rock Light, to the Makhnati Island Buoy, to Black Rock, to the southernmost tip of Neva Island, to the northernmost tip of Sasedni Island and from the southernmost tip of Volga Island to the northernmost tip of Galankin Island. The Deep Inlet SHA is defined in 5AAC 40.042 (a) (7) and includes all the waters of the Deep Inlet THA except that the western boundary of the SHA has now been moved westward to also include the waters enclosed by a line from the westernmost tip of Cape Burunof to a point west of Cape Burunof at 56° 59.11' N. latitude, 135° 23.59' W. longitude, to a point one-mile west of the westernmost tip of Long Island at 57° 00.17' N. latitude, 135° 22.69' W. longitude to the westernmost tip of Long Island.

The terminal harvest area during the 2011 season will be as follows:

Deep Inlet THA: Deep Inlet, Aleutkina Bay, and contiguous waters south of a line from a point west of Pirates Cove at 56°59.35' N. latitude, 135°22.63' W. longitude, to the westernmost tip of Long Island to the easternmost tip of Long Island to the westernmost tip of Emgeten Island to the westernmost tip of Error Island to the westernmost tip of Berry Island to the southernmost tip of Berry Island to the westernmost tip of the southernmost island in the Kutchuma Island group to the easternmost tip of the southernmost island in the Kutchuma Island group to the westernmost tip of an unnamed island at 57°00.30' N. latitude, 135°17.67' W. longitude, to a point on the southern side of

the unnamed island at 57°00.08' N. latitude, 135°16.78' W. longitude, and then to a point on the Baranof Island Shore at 56°59.93' N. latitude, 135°16.53' W. longitude with the following restrictions:

Sandy Cove: will be closed.

During the 2011 season, the boundaries of the Deep Inlet THA may be changed by NSRAA and ADF&G to help resolve conflicts between fishers 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.

In order 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 2011 by emergency order under authority of 5AAC 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 interception 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 historic run timing and inseason observations of abundance. Since voluntary compliance with reporting of coho salmon in the Deep Inlet Terminal Harvest Area 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.

Gunnuk Creek Hatchery Returns

Chum salmon returns to Gunnuk Creek Hatchery at Kake and Southeast Cove on northeast Kuiu Island in Keku Strait are expected to be significantly better than the past 4 years. These returns occur primarily in July and are taken incidentally in seine fisheries in Chatham Strait and western Frederick Sound during that time period. A total return of 275,000 chum salmon is expected. In addition to chum salmon, Gunnuk Creek Hatchery is expecting a total return of 375,000 pink salmon and about 3,350 coho.

Table 4.–Expected 2011 returns to Northern Southeast area enhancement projects by hatchery organization and release location.

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

Species	Release Location	Common Property Harvest	Cost Recovery	Broodstock	Total Return
		NSRAA			
Chum	Medvejie/Deep Inlet	907,400	82,600	70,000	1,060,000
Chum	Hidden Falls	955,000	90,000	150,000	1,195,000
Chinook	Medvejie/Deep Inlet	23,360	7,188	4,000	34,5500
Chinook	Hidden Falls	4,700	500	2,000	7,200
Coho	Hidden Falls	96,200	98,600	10,000	204,800
Coho	Deer Lake (Mist Cove)	44,100	42,000	NA	86,100
Coho	Deep Inlet	NA	NA	NA	NA
		Armstrong Keta, Inc.			
Pink	Port Armstrong	472,000	481,000	120,000	1,074,000
Chum	Port Armstrong	49,000	158,000	40,000	247,000
Coho	Port Armstrong	121,000	118,000	3,000	242,000
Chinook	Port Armstrong	1,700	2,150	400	4,250
		Sheldon Jackson College			
Pink	Crescent Bay	32,000	14,000	3,000	49,000
Chum	Crescent Bay	19,000	9,500	1,500	30,000
Coho	Crescent Bay	3,000	1,400	200	4,400
Chinook	Crescent Bay	400	200	0	600
		Gunnuck Creek Hatchery			
Chum	SE Cove	38,500	121,500	0	160,000
Chum	Kake	34,500	0	80,500	115,000
Pink	Kake	150,000	205,000	20,000	375,000
Coho	Kake	3,000	0	350	3,350

LIST OF MANAGEMENT CONTACTS

The following ADF&G Division of Commercial Fisheries management staff may be contacted regarding this plan:

Scott Kelley
Region 1 Supervisor
P.O. Box 110024
Douglas, AK 99811
(907) 465-4250

Bill Davidson
Region 1 Management Biologist
304 Lake Street, Room 103
Sitka, AK 99835
(907) 747-6688

Kevin Monagle and Dave Harris
Management Biologists
P.O. Box 110024
Douglas, AK 99811
(907) 465-4250

Troy Thynes and Kevin Clark
Management Biologist
P.O. Box 667
Petersburg, AK 99833
(907) 772-3801

Scott Walker, Justin Breese, and Bo Meredith
Management Biologists
2030 Sea Level Drive, Suite 205
Ketchikan, AK 99901
(907) 225-5195

Thomas Kowalske
Management Biologist
P.O. Box 200
Wrangell, AK 99929
(907) 874-3822

Dave Gordon and Eric Coonradt
Management Biologists
304 Lake Street, Room 103
Sitka, AK 99835
(907) 747-6688

Jim Craig
Publications and Information
P.O. Box 110024
Douglas, AK 99811
(907) 465-4236

The following is a list of telephone numbers that may be called during the fishing season to obtain recorded announcements concerning areas open to purse seine fishing:

Ketchikan	(907) 225-6870
Petersburg	(907) 772-3700
Sitka	(907) 747-1009
Juneau	(907) 465-8905

REFERENCES CITED

Bergmann, W.R., S.N. Forbes, S.C. Heinl, B.L. Meredith, A.W. Piston, and S.B. Walker, 2009. McDonald Lake sockeye salmon action plan, 2009. Alaska Department of Fish and Game, Regional Information Report Series No. 1J09-03, Douglas, Alaska.

Eggers, D. M., J. H. Clark, R. L. Bachman, and S. C. Heinl. 2008. Sockeye salmon stock status and escapement goals in Southeast Alaska. Alaska Department of Fish and Game, Special Publication No. 08-17, Anchorage.

Orsi, J.A., E.A. Fergussion, M.V. Sturdevant, B.L. Wing, A.C. Wertheimer, and W.R. Heard, 2006. Annual survey of juvenile salmon and ecologically related species and environmental factors in the marine waters of Southeastern Alaska, May–August 2005. (NPAFC Doc. 955) Auke Bay Lab., Alaska Fish. Sci. Cen., Nat. Mar. Fish. Serv., NOAA, 11303 Glacier Highway, Juneau, AK 99801-8626, USA, 108 p.

Piston, A. W., and S. C. Heinl. 2010. Disappearance Creek Chum Salmon Weir Study, 2008. Alaska Department of Fish and Game, Fishery Data Series No. 10-15, Anchorage.