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2015 Yakutat Set Gillnet Fishery Management Plan

by

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and

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

Symbols and Abbreviations

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Weights and measures (metric)

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

Weights and measures (English)

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

Time and temperature

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

Physics and chemistry

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

General

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

Mathematics, statistics

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

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ABSTRACT

The 2015 Yakutat set gillnet fishing seasons and fishing periods will open by regulation on Sunday as specified in 5 AAC 30.310 and 5 AAC 30.320. The Alsek River will open on Sunday, June 7, Yakutat Bay will open on Sunday, June 14, the Situk-Ahrnklin Inlet and Manby Shore Outside Waters will open on Sunday, June 21. All Yakutat District fisheries will be open by Sunday, June 28 with the exception of the East Alsek River and the Italio rivers which will open by emergency order when sockeye escapement levels can be documented. The East Alsek River will be managed for sockeye salmon into September. Set gillnet fisheries are managed by adjusting fishing times and areas in response to inseason assessments of run strength. Management strategies will concentrate on sockeye and Chinook salmon in June and July. Following the first Sunday in August, fall fishing periods will go into effect and the emphasis for management strategies will switch to coho salmon. No formal preseason forecast program exists for the Yakutat salmon runs with the exception of Situk River Chinook salmon. The Division of Sport Fish provides a formal preseason forecast for Chinook salmon returning to the Situk River. The projected inriver return of Chinook salmon to the Situk River in 2015 is 619 large fish (range 216–1,022). Returns are expected to be average to above average for both sockeye and coho salmon.

Key words: Yakutat, set gillnet, fishing seasons, fishing periods, Chinook, sockeye, coho, pink and chum salmon, Biological Escapement Goals (BEGs), Sustainable Escapement Goals (SEGs), fishery management plan.

INTRODUCTION

The Yakutat area encompasses the waters of Alaska between Cape Suckling and Cape Fairweather. The area is divided into two fishing districts: the Yakataga District between Cape Suckling and Icy Cape, and the Yakutat District between Icy Cape and Cape Fairweather. All five salmon species are harvested in the Yakutat area, with coho, sockeye, Chinook, and pink salmon comprising the majority of the catch in order of commercial value.

Set gillnet gear is the only net gear permitted in the Yakutat area. A power and hand-troll fishery also occurs and is managed out of the Sitka Fish and Game office. About 170 commercial setnet entry permits are renewed annually. Setnet permit holders in the Yakutat area do not have registered sites and may fish in any open fishing area. They may also move between fishing areas during the season as long as not more than one area is fished concurrently.

There are 25 unique set gillnet fisheries in the Yakutat area. Most of these fisheries target sockeye salmon from mid-June through July and coho salmon in August and September. The only targeted pink salmon fishery occurs in the southeast portion of Yakutat Bay on fish returning to Humpback Creek. Set gillnet fisheries in the Yakataga District primarily harvest coho salmon.

In January 2006 the Alaska Board of Fisheries (BOF) adopted two regulations that permanently changed the weekly fishing periods and fishing seasons for the Yakutat Area from Monday to Sunday of each week starting in June. In 2015 the Alsek River will open on the first Sunday in June (June 7), Yakutat Bay and the Dangerous River will open on the second Sunday in June (June 14), and the Situk-Ahrnklin Inlet and Manby Shore Outside Waters will open on the third Sunday in June (June 21). By the fourth Sunday in June (June 28) all fisheries in the Yakutat District will be open with the exception of the East River and the Italio rivers, which will open by emergency order if expected returns are surplus to escapement needs. The East River will open in mid to late July when the lower end of the sockeye salmon escapement goal has been observed.

ANTICIPATED SALMON RETURN

No formal preseason forecast program exists for the Yakutat salmon runs except for Situk River Chinook salmon. Preseason expectations are based on parent-year spawning escapements, commercial catch trends, local observations of rearing conditions, and information on year-class strength. The projected inriver Chinook salmon return to the Situk River is 619 large (three year ocean age or older) fish (range 216–1,022). The 2015 Yakutat area salmon runs are expected to be average to above average for both sockeye and coho salmon. Detailed projections by specific drainage area are presented on pages 11–12.

FISHERY MANAGEMENT

Set gillnet fisheries in the Yakutat area are managed by adjusting fishing times and areas in response to inseason assessments of run strength. These actions are taken to provide adequate spawning escapements and to allow harvests of salmon that are surplus to escapement goals. Inseason assessment methods include both fishery performance and spawning escapement information. In the glacial systems, fishery performance data is utilized for management because poor visibility prevents the accurate observation of spawning escapements. Biological Escapement Goals (BEG) and Sustainable Escapement Goals (SEG) have been established for all major areas and salmon species in the Yakutat Area (Table 1). Ground and aerial surveys are conducted annually on rivers with established BEGs or SEGs to monitor escapement and assure escapement goals are achieved.

Table 1.–Yakutat area salmon escapement goals.

Species	System	Range	Year Established.
Chinook	Klukshu River (Alsek River)	800–1,200	2011
	Alsek River (total)	3,500–5,300	2011
	Situk River	450–1,050	2003
Sockeye	East Alsek-Doame River	13,000–26,000	2003
	Klukshu River	7,500–11,000	2011
	Lost River	1,000	2009
	Situk River	30,000–70,000	2003
Coho	Lost River	2,200	1994
	Situk River	3,300–9,800	1994
	Tsiu/Tsivat Rivers	10,000–29,000	1994
Pink	Situk River*	33,000	2011

Note: The Lost River sockeye and coho salmon, and Situk River pink salmon escapement goals are considered SEGs.

* The escapement goal is for 33,000 pink salmon through the weir by August 5.

During 2015, the major fishing areas can be expected to open on the dates shown in Table 2.

Table 2.–Opening dates for Yakutat area fisheries in 2015.

Yakutat District	
Area	**Opening Date**
Alsek River	7 June
Dangerous River	14 June
Yakutat Bay (south of 59˚40' N lat.)	14 June
Manby Shore Ocean	14 June
Situk-Ahrnklin Inlet	21 June
Lost River	by Emergency Order
East River	by Emergency Order
Akwe River	28 June
Manby Shore Inside	28 June
Remainder of the Yakutat District	28 June
Italio River	by Emergency Order

Yakataga District		
Season	**Area**	**Opening Date**
Sockeye salmon	All areas	by Emergency Order
Coho salmon	Kaliakh River	3 August
	Tsiu River	by Emergency Order (around August 18)

2015 SUMMER MANAGEMENT PLAN

This management plan concentrates on the major fisheries in the Yakutat area. Information on areas that are fished only occasionally is available from the Yakutat area management biologists listed at the end of the plan. Most Yakutat gillnet openings for sockeye salmon will generally run from 6:00 a.m. Sunday through 6:00 p.m. Tuesday, with the exception of the Alsek River which initially opens from 12:01 p.m., Sunday through 12:00 noon, Monday unless extensions are deemed necessary.

ALSEK RIVER

The Alsek River, located 45 miles southeast of Yakutat, is a major transboundary river that drains a large area east of the coastal mountain range and is located near the southeastern end of the Yakutat forelands. The Alsek extends approximately 130 miles from its mouth upriver into the Yukon Territory of Canada. The U.S./Canada border is approximately 40 miles upstream from the river mouth. The river supports large populations of Chinook, sockeye, and coho salmon, and small populations of pink and chum salmon. Alaska set gillnet fisheries target sockeye and coho salmon. Canadian subsistence and sport fisheries target sockeye and Chinook salmon.

Commercial salmon landings from the Alaska portion of the Alsek River averaged approximately 15,000 sockeye, 1,500 coho, and 550 Chinook salmon annually from 2009

through 2014. The Canadian subsistence and sport harvest has averaged approximately 130 Chinook, 800 sockeye, and 15 coho salmon during the same period. Subsistence and sport fisheries in the Alaska portion of the river are relatively minor, harvesting about 200 salmon annually.

Historically, the set gillnet fishery targeted Chinook salmon during May in the Alaska portion of the Alsek River. However, due to what was thought to be depressed runs, the directed Chinook salmon fishery has been closed since 1962 and Chinook salmon have been harvested only incidentally during the sockeye salmon fishery in early June. In 2005 the Transboundary River Panel of the Pacific Salmon Commission reached bilateral agreement to reopen the Stikine and Taku Inlet gillnet fisheries. At that time they also established a test fishery for the Alsek River that took place in late May of 2005–2008, 2011 and 2012. Because the lower end of the Chinook salmon escapement goal range of 1,100 fish in place at the time of the fisheries was not attained from 2005 through 2008, the test fishery was suspended in 2009 and 2010 to facilitate Chinook salmon escapement. Escapements improved in 2009 through 2011 and were within the desired objectives. The Chinook salmon escapement goal was not attained in 2012 but was attained in 2013. Test fishing for Chinook salmon was not conducted in 2013 and 2014, and will not be conducted in 2015. It is anticipated that the Transboundary River Panel will at some point reach bilateral agreement to reopen the Alsek River to commercial fishing for Chinook salmon in May if run strength allows. In January 2006 the BOF adopted regulatory language to allow for this fishery should an agreement be reached.

The principal escapement monitoring tool for Chinook salmon stocks in the Alsek River is the Klukshu River weir. The escapement goal of 1,100 to 2,300 Chinook salmon through the Klukshu weir was recently re-examined. A revised joint escapement goal for the Klukshu stock was agreed on by Fisheries and Oceans Canada (DFO), Canada and ADF&G in 2011, and it recommends an escapement goal range of 800 to 1,200 Chinook salmon in the Klukshu drainage. In February 2013 the bilateral TTC and bilateral Transboundary River Panel agreed to the revised BEG for Alsek River Chinook salmon and both Canadian and U.S. managers have managed the Alsek River fisheries to meet the new goal since 2013. The 2015 Chinook salmon run is expected to produce fish surplus to the Klukshu River escapement goal.

The 2015 overall Alsek drainage sockeye salmon run is expected to be approximately 84,000 fish; above the recent 10-year average of approximately 63,000 fish. Recent sockeye and Chinook salmon returns have been below average, primarily due to poor marine survival. The principal contributing brood years will be 2010 (Klukshu escapement of 18,550 sockeye salmon) and 2011 (Klukshu escapement of 5,635 sockeye salmon). Both the early and late run segments of the Alsek River sockeye salmon run are expected to be slightly above average in 2015. ADF&G will manage the Alsek River commercial set gillnet fishery to achieve the agreed upon escapement goal range of 7,500 to 11,000, plus 3,000 sockeye salmon in accordance with the 2009–2018 agreement reached during the U.S./Canada Pacific Salmon Treaty (PST) negotiations in February 2008. The sockeye salmon BEG was attained during the three-year period of 2010 through 2012. The BEG was not attained in 2013 and was the second lowest escapement in the previous 10 years. The sockeye salmon BEG was attained in 2014. In 2015 the Alsek River commercial set gillnet fishery will be monitored closely but will continue to be managed traditionally by comparing fishery performance data to historical CPUE for a given opening to adjust fishing time and area openings. The Alsek will open downstream from a marker located three miles below the southern end of Alsek Basin on the first Sunday in June (June 7). Weekly

openings will initially be 24 hours. The duration of weekly fishing periods will be based on fishery performance data (CPUE) and Klukshu weir data. Historically, set gillnets have been restricted to a maximum mesh size of six inches through July 1 to minimize Chinook salmon harvest. The mesh restriction was lifted in 2013 and 2014. The six inch mesh restriction will be reinstated for 2015 to ensure drainage-wide Chinook salmon escapement. Adjustments to inseason fishing regimes in the fisheries will be made if deemed necessary. Fishing times may be extended when CPUE warrants. The Alsek River surf fishing area is expected to be open during the same periods as the inriver fishery. The surf fishing area includes the shoreline three-quarters of a mile each side of the river mouth seaward to the outermost bar at mean low tide.

DANGEROUS RIVER

The Dangerous River will open downstream from the Dangerous River Bridge on June 14. Catch and effort from this system has been sporadic. During the parent year of 2010, 15 permits fished the Dangerous River and approximately 3,900 sockeye salmon were harvested. In 2014 only five permits fished and 3,800 sockeye salmon were harvested. These harvests were slightly below the recent five-year average of 4,500 fish. The Dangerous River is seldom fished for coho salmon. Marine waters adjacent to the mouth of the Dangerous will be open to the same fishing periods as the Dangerous River itself.

YAKUTAT BAY AND MANBY SHORE OCEAN FISHERIES

Three separate set gillnet fisheries occur in Yakutat Bay. The Yakutat Bay fishery occurs in the ocean waters of Yakutat Bay south of 59°40' N. latitude and will open on the second Sunday of June (June 14) for 2.5 days. The Manby Shore Ocean fishery encompasses the ocean waters of Yakutat Bay north of 59°40' N. latitude and will open the third Sunday of June (June 21). Weekly fishing periods will depend on Situk River sockeye salmon run strength. The Manby Shore Inside Waters fishery will open on the fourth Sunday of June (June 28) in streams along the northern shore of Yakutat Bay.

Both the Yakutat Bay and Manby Shore ocean fisheries harvest mixed stocks of sockeye salmon. Tag recovery data collected in 1987 indicated that a major portion of the Yakutat Bay sockeye harvest was of Situk River origin. Because of the high Situk River sockeye salmon contribution to the Yakutat Bay and Manby Shore ocean fisheries, both fisheries will be managed to conserve or harvest Situk River sockeye salmon from the third week in June through the third week of July. The weekly fishing period will be limited to a maximum of 4.5 days due to the mixed stock nature of the ocean fisheries and the potentially adverse impact on weaker Yakutat area stocks.

SITUK-AHRNKLIN INLET AND LOST RIVERS

The Situk-Ahrnklin Inlet is the site of the oldest and, historically, most productive fishery in the Yakutat area. Located about nine miles by road from Yakutat, the Situk-Ahrnklin fishery normally supports the largest concentration of fishing effort in Yakutat (up to 100 permits). Fishing occurs primarily in the inlet, although some fishing occurs at the river mouth and in the adjoining surf-fishing area. Sockeye salmon make up the major portion of the harvest during the summer and coho salmon dominate the catch during the fall. Situk-Ahrnklin Inlet harvests have averaged about 65,000 sockeye, 85,000 coho, and 70,000 pink salmon (2010–2014). The Situk-Ahrnklin Inlet commercial fishery for Chinook salmon has been closed since 2010.

The 2010 Situk River sockeye salmon escapement was approximately 48,000 fish. This was within the BEG range of 30,000 to 70,000 sockeye salmon established for the Situk River drainage. Recent trends and return per spawner data indicates that the 2015 Situk River sockeye salmon run could approach 125,000 fish. A mid-range escapement of 50,000 could leave 50,000–70,000 fish available for harvest. The Situk-Ahrnklin Inlet will open initially on Sunday, June 21. Fishing periods will be based on fishery performance and escapements through the Situk River weir. The escapement of Chinook and sockeye salmon through the weir serve as an inseason indicator of stock strength. Adjustment to the Situk-Ahrnklin Inlet commercial set gillnet fisheries may be made on the basis of these counts. A run-timing model will be used to estimate the total Situk River sockeye salmon run after several weeks of harvest and escapement data are available. A similar model will be used to project Situk Chinook salmon abundance.

Chinook salmon are taken incidentally in the set gillnet fishery and the Situk-Ahrnklin Inlet commercial harvest of Chinook salmon is largely dependent on fishing time allowed for sockeye salmon. The point estimate for the preseason Situk River Chinook salmon forecast in 2015 is 619 large (3-ocean age and older) fish, with a range of 216–1,022 fish. This year's estimate is below the 2014 forecast of 826 fish. The BEG for Situk River Chinook salmon is 730 3-ocean age and older fish, with a range of 450–1,050 fish. According to Yakutat Commercial Fishing Regulation 5 AAC 30.365, if the preseason projection is below 451–730 fish, the Commissioner **shall implement management measures for conservation purposes by restricting** the sport, subsistence, personal use, commercial set gillnet, and troll fisheries for Chinook salmon. No personal use fishery exists in the Situk-Ahrnklin Inlet. During the commercial set gillnet fishery for sockeye salmon, Chinook salmon may not be retained. The troll fishery in the marine waters adjacent to the mouth of the Situk-Ahrnklin Inlet will close at the start of the summer season on July 1, 2015. The Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan (5 AAC 30.365) makes no mention of sockeye salmon management strategies during periods of low Chinook salmon abundance. The projected Chinook salmon escapement for 2015 is below 730 fish. Chinook salmon abundance in the Situk River has been in decline for several years so strict management actions have been implemented for the past five years to protect and rebuild the Situk River Chinook salmon stocks. Efforts to reduce impacts on Chinook salmon will focus on the high abundance Chinook salmon area and migration corridors in the Situk-Ahrnklin Inlet. Although the department's conservative plan is proving to be successful, with high variability in recent survivals and uncertainty in accurate forecasts the department will again manage the fisheries conservatively in an attempt to achieve both Chinook and sockeye salmon escapement goals. Management measures anticipated by the department for Chinook salmon conservation during the sockeye salmon fishery in 2015 include:

a) The closed area at the mouth of the Situk River will be enlarged to encompass the area of high Chinook salmon abundance in the Inlet. The closed area will be west of a line from an ADF&G regulation marker located at the southeast end of Johnson Slough at 59°26.32' N. latitude, 139°32.83' W. longitude, to a regulation marker directly across the Inlet on Black Sand Spit at 59°25.85' N. latitude, 139°33.44' W. longitude, to a regulation marker westward along the Beach of Black Sand Spit at 59°26.54' N. latitude, 139°35.11' W. longitude, to a regulation marker west of the Yakutat Seafoods buying station at 59°26.77' N. latitude, 139°34.73' W. longitude. Chinook salmon may not be retained in the commercial fishery for individual personal use. Dead Chinook salmon may be delivered to the buying stations at the time of sockeye salmon delivery for distribution to

the Yakutat Senior Center and other needy in the community (blind, disabled, or 65 years of age or older).

b) The department requests that permit holders closely attend their gear when it is in fishing configuration and release Chinook salmon alive. The department has no regulatory authority to enforce this measure, but the alternative may be a closure of the fishery for sockeye salmon. If you, as a permit holder, want to fish for sockeye salmon, stay on your gear when it is in fishing configuration.
c) Subsistence fishing for Chinook salmon will be closed until Chinook salmon escapements warrants. It is a condition of the subsistence permit that subsistence fishermen in the Situk-Ahrnklin Inlet must closely attend their gear at all times when it is fishing. Chinook salmon may not be retained.
d) The commercial set gillnet fishery in the Situk-Ahrnklin Inlet will open by regulation on the third Sunday in June (June 21) for a 60 hour period (2.5 days). Subsequent weekly fishing periods may be adjusted as the effectiveness of this plan is evaluated inseason.
e) The sport fishery for Chinook salmon in the Situk River will be closed due to low projected abundance. Management measures may be adjusted inseason if Chinook returns meet escapement goals.

Management options for maximizing harvest of Situk River pink salmon are limited due to the overlap in run timing with sockeye and coho salmon. The historical biological escapement goals for pink salmon in the Situk River of 42,000 to 105,000 in even years and 54,000 to 200,000 in odd years was recently reevaluated. Given uncertainties regarding total escapements, the revised spawning escapement goal for Situk River pink salmon is now based on a more stable index of escapement. The recommended goal is a lower bound sustainable escapement goal (SEG) of 33,000 pink salmon counted through the Situk River weir by August 5 (Piston and Heinl 2011). The parent year (2013) escapement past the Situk weir was approximately 134,000 pink salmon.

Steelhead trout in post-spawning condition occasionally accumulate in the Situk River prior to the time they emigrate to the ocean. When the emigration is late, there is a potential for the Situk River set gillnet fishery to harvest a larger than normal number of adults. The rate of emigration of spawned-out steelhead often increases following periods of heavy rainfall. If a major emigration is expected to occur during a scheduled gillnet fishing period, the opening may be delayed for a few days to reduce the incidental harvest of steelhead. Alternately, steelhead may be held upstream from the weir for release during the commercial fishery closure.

During the winter of 1998/1999 the Lost River changed course and discharged into the Situk/Ahrnklin Inlet instead of the Gulf of Alaska. The Lost River continues to flow into the Situk/Ahrnklin Inlet. Prior to the 1999 fishing season ADF&G developed a management plan for the Lost River and Situk/Ahrnklin Inlet with the intent of meeting escapement requirements for the Lost River. This plan closed the Lost River and the North bank of the Situk/Ahrnklin Estuary between an ADF&G regulatory marker approximately 100 yards above the confluence of the Lost River and the Situk/Ahrnklin Estuary and a marker located 100 yards below the confluence. Sockeye salmon are never seen during escapement surveys in Tawah Creek prior to the week of July 10. During the week of July 10 both markers would be moved out to 500 yards from the confluence to protect returning sockeye salmon stocks to the Lost River drainage. This marker configuration was adopted into regulation at the 2015 BOF meeting (5 AAC30.350 (a)(7)), and remains in effect through the coho salmon season. While coho salmon escapement goals for both the Lost River and the Situk/Ahrnklin system have been met using this management scenario, the

escapement goal of 1,000 sockeye salmon for the Lost River was not attained in 2007–2009, or 2012–2014. Although the sockeye salmon escapement goals were achieved in 2010 and 2011, sockeye salmon productivity in the Lost River is thought to be declining due to geological changes in the system. It is anticipated that the Lost River will remain closed to commercial fishing for the entire season. The intent of this closure is to achieve the SEG for both sockeye and coho salmon, while providing for a normal fishery in the Situk-Ahrnklin Inlet. Regulatory marker placement at the mouth of the Lost River may change by emergency order during the course of the season as escapement or river channel movement warrants.

EAST ALSEK-DOAME RIVERS

The East Alsek River is a short, clear river originating from upwelling Alsek River water and local drainage of the eastern portion of Dry Bay. The Doame River is a tributary of the East Alsek River. The Doame River is a clear water system that drains from two lakes. Anadromous fish returning to the Doame River system must enter the East Alsek River and pass through the East Alsek commercial fishery area before branching off to return to spawn in the Doame River system. Although the East Alsek and Doame Rivers are part of the same drainage and escapement count, they have two different sockeye salmon stocks with two distinctly different run timings. The area open to inriver commercial fishing extends from the mouth of the East River to two miles upstream; the adjacent ocean waters within two miles of the mouth in each direction out to 500 yards from the shore at low tide are also open to commercial fishing. The surf and ocean areas are open during the same periods as the inriver fishery but that area seldom gets fished.

Prior to 1994 the East River was one of the most productive sockeye salmon fisheries in the Yakutat area, however due to geological changes the system is drying up and productivity has declined. The river was closed to commercial fishing for sockeye salmon from 1999 through 2002 and again in 2008. Prior to 1995 the BEG was 23,000–53,000 sockeye salmon. As productivity continued to decline a new formal BEG of 13,000–26,000 sockeye salmon was established in 2003. The East River sockeye salmon stocks appear to be adapting to changes in the system, and escapement has fluctuated dramatically over the years.

The East River will be managed to achieve the BEG of 13,000–26,000 sockeye salmon. Returns to the East River are predominantly age-4 (0.3). The 2011 parent-year escapement was above the BEG with a peak count of 36,000 sockeye salmon observed on August 18. Escapement will be closely monitored, and the East River will not open until the lower end of the escapement goal is attained. The duration of the weekly fishing periods will be based on escapement observations.

AKWE RIVER

The Akwe River is a glacial river system located about 35 miles south of Yakutat. The lower seven miles of the river are wide and shallow and flow parallel to the beach before entering the ocean. The commercial fishery occurs in this lower portion of the river. The 2010–2014 average Akwe River harvest was approximately 10,000 sockeye salmon and 85 Chinook salmon. Historically, the Akwe coho salmon harvest has averaged approximately 4,000 fish, but the recent average of 2,400 has been due to decreased effort because of market conditions.

The sockeye salmon return to the Akwe River is expected to be average to above average in 2015 based on parent-year fishery performance and effort. The 2010 parent year harvest of 7,000 sockeye salmon is below the recent five-year average, and is the third highest recorded harvest

during that time. Parent-year escapement counts were minimal due to the turbidity of the river. The system has undergone geologic change in the last two decades resulting in an increase in water flow from a glacial tributary and a reduction in water clarity that has limited the usefulness of aerial surveys in assessing escapement. An escapement goal (peak aerial count) of 600 to 1,500 sockeye salmon was once established for the Akwe River. In 2006, the BEG was eliminated as a result of the inability to adequately assess escapement.

The sockeye fishery in the Akwe River is scheduled to open on Sunday, June 28 and the season will extend through early August. Inseason management will be based on fishery performance and index escapement counts, and reductions in the normal 1.5-day weekly fishing period may be necessary to ensure adequate escapement. The Akwe River will be open upstream of regulatory markers located approximately 500 yards upstream from the confluence of the New Italio River to the upper markers located 2.5 miles downstream from the westernmost end of the sand dunes, a fishing area of about 3.5 miles.

MANBY SHORE INSIDE FISHERY

Management of the Manby Shore inside fisheries (waters upstream of the mean high tide line) will be based on the abundance of local stocks. During the summer, these fisheries harvest salmon primarily from Manby and Sudden Streams. A 2.5-day weekly fishing period can be expected during the initial opening period scheduled for June 28. Additional open periods will depend on fishery performance.

HUMPBACK (HUMPY) CREEK FISHERY

The Humpy Creek fishery located in the southeastern portion of Yakutat Bay only targets pink salmon when there is adequate abundance. However, due to low market prices for pink salmon and the ability to target higher priced salmon, effort and harvest is nil. A BEG was developed for this Yakutat Area stock in 1995 (peak aerial count of 3,300-8,000 pink salmon in even years and 7,000-18,000 pink salmon in odd years). There was very little fishing effort on the stock in the early 1990s, despite fishery openings, and there has been no directed fishery on Humpy Creek pink salmon since 1996. As a result, systematic surveys to estimate spawning escapement to Humpy Creek have not been conducted since the mid-1990s and there is no longer an escapement goal in place for this system. Humpback Creek stocks are now harvested in the Yakutat Bay fishery.

ITALIO RIVER

The Italio River is located adjacent to the Akwe River. The Italio supports small runs of sockeye and coho salmon. The course of the Italio River changed and flowed into the lower Akwe River during the winter of 1986/1987 and both rivers now share a common mouth. Both Italio and Akwe salmon stocks are present in this area and for some distance upstream in each river. Determination of Akwe or Italio run strengths based on fishing success in the junction area is not possible. Therefore, in order to protect Italio River stocks fishing is closed to set gillnet fishing from the mouth up to 500 yards upstream from the confluence of the New Italio River. The Italio River sockeye salmon fishery has not been open since 1987. When the Italio River changed channel and entered the Akwe River lagoon, the homing ability of Italio River sockeye salmon may have been negatively affected. As a result, it may take several years for the productivity of the Italio River sockeye stock to return to historic levels. The Italio River fishery may open by emergency order if good escapements are observed. Prior to 2002 an escapement goal of 2,500 to

7,000 sockeye was established for the Italio River. Based on an analysis completed in the winter of 2002–2003 the escapement goal for the Italio was rescinded and no formal goal is in place due to changes in productivity of the system.

YAKATAGA DISTRICT

The Yakataga District is not expected to be open during the sockeye season in 2015. It will open by emergency order in early August based on coho escapement.

2015 FALL MANAGEMENT PLAN

Fall fishing is directed primarily at harvesting coho salmon, although sockeye as well as fall chum salmon can contribute to the catches on the East River. The fall fishing season generally will start on the first Sunday of August. At that time, the regulatory weekly fishing period changes in most areas to a 12:01 p.m. opening, and 12:00 noon closing time. During the fall, set gillnet fishing occurs in both the Yakutat and Yakataga Districts. In the Yakutat District, the fall coho salmon fishery occurs primarily in the same areas as the summer sockeye salmon fishery. In the Yakataga District, there are areas where only coho salmon fishing takes place.

Overall catches and escapements of coho salmon in the Yakutat area were slightly above average in the parent year (2011). Escapement survey conditions on the Situk River were not optimal and the peak escapement count of 3,600 coho salmon was within the BEG of 3,300-9,800 fish. The peak escapement count for Tsiu River coho salmon of 21,000 fish fell within the BEG range of 10,000–29,000 fish. The 2015 coho salmon run is expected to be average to above average area-wide.

A potential concern regarding Yakutat area coho salmon is based on both climatic and geological effects. Yakutat has been in a drought stage for nearly a decade. The land is rising away from the water table due to some of the highest rates of isostatic rebound found in the world. These factors dramatically affect fresh water rearing habitat for coho salmon. Forest Highway 10 crosses many streams, tributaries of the Situk and Ahrnklin rivers and of Seal Creek. At least five of these streams, although listed in the Anadromous Waters Catalog as important for both spawning and rearing of coho salmon, no longer exist. These streams have not had any water in them at all for almost ten years. It is possible that these events will negatively impact coho salmon production in the Yakutat area.

YAKUTAT DISTRICT

Fall fishing will begin on Sunday, August 2 in the Yakutat District, except in the East River where management will continue to be based on sockeye salmon run strength through most of August and into September. The initial fishing periods can be expected to extend from 12:01 p.m. Sunday through 12:00 noon Wednesday. Inseason management of all Yakutat District fall fisheries will be based on fishery performance data and inseason coho salmon escapement surveys.

BEGs were developed for seven Yakutat area coho salmon producers in 1994, based on stock-recruit analyses that contained several untested assumptions, including expansion factors for peak survey counts. Three of the systems have supported only minimal commercial fisheries in recent years and are no longer consistently surveyed for coho salmon escapements. The BEGs for Kaliakh, East Alsek, and Akwe rivers have been eliminated and currently only three systems have escapement goals for coho salmon, one of which is in the Yakataga District. The two coho

salmon stocks in the Yakutat District that have escapement goals are the Situk River (BEG of 3,300-9,800 fish) and the Lost River (SEG of 2,200 fish).

Fishing time and area adjustments will be made for each river as needed for conservation. A closed area can be expected in the Yahtse River to protect schools of milling coho salmon at tributary mouths. The actual closed water area will be based on inseason observations of coho schooling behavior, which is related to river flow conditions. Several small coho streams are located along the forelands west of the Yahtse River to Cape Yakataga. Most of these streams have very small numbers of spawning coho and cannot support inriver set gillnet fisheries. The area from the Yahtse River to Cape Yakataga will remain closed until harvestable surpluses are evident.

YAKATAGA DISTRICT

The major fisheries in the Yakataga District occur for coho salmon on the Kaliakh and Tsiu Rivers, located about 125 miles northwest of Yakutat. The Tsiu River is the more productive of the two rivers; in recent years, harvests have averaged about 50,000 coho salmon. The Kaliakh River has not been fished in the last four years and had only minor effort in 2004 and from 2006 through 2010. The Tsiu River recorded minor effort in 2004 and supported a more normal fishery from 2005 through 2014. Prior to 2004 it had not been fished since 2001 due to market conditions. The parent-year (2011) escapement count of 21,000 coho salmon was within the BEG range of 10,000 to 29,000 fish. No later surveys were flown after September 22 due to inclement weather. The Kaliakh has not been surveyed since 2007. The 2015 coho salmon return is expected to be average to above average in both the Tsiu and Kaliakh Rivers.

The Tsiu River will open by emergency order and opening dates and fishing periods will be determined from observed escapements above and below the regulatory markers. Due to either extremely low water levels or major geological changes in the Tsiu River, the regulatory markers have been moved to ensure escapement before opening the commercial fishery. Changes in the river occur annually and it should be expected that the regulatory markers could be moved again in 2015. The Kaliakh River weekly fall fishing periods will normally open from 9:00 a.m., Sunday through 9:00 a.m., Wednesday, beginning on August 2. Market conditions will determine whether or not the Yakataga District is fished in 2015. The area is remote and fish must be flown to Yakutat to be processed at a high expense. It is possible that it will be economically unfeasible to fish the district.

2015 SALMON RUN EXPECTATIONS

As mentioned above, no formal preseason forecast program exists for the Yakutat salmon runs except for Situk River Chinook salmon. Expected returns of Yakutat salmon stocks are derived from parent-year escapements, trends in the commercial harvest, and rearing conditions.

SOCKEYE SALMON

Alsek River

The parent-year (2010) sockeye salmon escapement was approximately 18,500 through the Klukshu River Weir. A total catch of around 7,000 to 15,000 sockeye salmon is expected in 2015.

East River

The parent year (2011) escapement was approximately 35,000 sockeye salmon. A normal return this year could lead to a catch of approximately 10,000 to 15,000 fish.

Akwe River

The parent year (2010) sockeye salmon harvest was 7,000 fish. Only one survey was conducted and no fish were seen due to the turbidity of the water. The Akwe has shown above average sockeye salmon production in recent years. A catch of 5,000 to 10,000 sockeye salmon is expected based on parent year performance and recent fishery trends.

Italio River

Parent-year escapements were low and it is unlikely there will be a directed sockeye salmon fishery in the Italio River in 2015.

Situk River

The parent-year (2010) escapement was approximately 48,000 sockeye salmon. A catch of around 50,000 to 70,000 with an escapement of about 50,000 sockeye salmon is expected. Sockeye salmon harvest and escapement may be affected by Chinook salmon conservation measures.

COHO SALMON

Tsiu/Kaliakh River

If there is any effort, a catch of over 40,000 coho may be possible in the Tsiu River in 2015. In the Kaliakh River, a harvest of 1,000 to 3,000 coho salmon is possible.

Area wide

Parent-year escapements were average to above average in most places. Based on recent trends in the fishery, the run is expected to be average to above average. The area wide set gillnet harvest is expected to be about 80,000 to 120,000 coho salmon. Effort, and how it is distributed throughout the area, will largely determine how many coho salmon are harvested.

CHINOOK SALMON

Situk River

The point estimate for the preseason Situk River Chinook salmon forecast in 2015 is 619 large (3-ocean age and older) fish, with a range of 216–1,022 fish. Commercial, sport, and subsistence fisheries will remain closed until the BEG for Chinook salmon is attained.

Chinook salmon returns to the Alsek River are expected to be above average and the Canadian preseason forecast is for 2,000 Chinook at the Klukshu River weir.

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