

Fishery Management Report No. 16-22

Annual Management Report of the 2015 Yakutat Area Commercial Salmon Fisheries

by

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and

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June 2016

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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Weights and measures (metric)		General		Mathematics, statistics	
centimeter	cm	Alaska Administrative Code	AAC	<i>all standard mathematical signs, symbols and abbreviations</i>	
deciliter	dL	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	H _A
gram	g	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	base of natural logarithm	<i>e</i>
hectare	ha	at	@	catch per unit effort	CPUE
kilogram	kg	compass directions:		coefficient of variation	CV
kilometer	km	east	E	common test statistics	(F, t, χ^2 , etc.)
liter	L	north	N	confidence interval	CI
meter	m	south	S	correlation coefficient (multiple)	R
milliliter	mL	west	W	correlation coefficient (simple)	r
millimeter	mm	copyright	©	covariance	cov
		corporate suffixes:		degree (angular)	°
Weights and measures (English)		Company	Co.	degrees of freedom	df
cubic feet per second	ft ³ /s	Corporation	Corp.	expected value	<i>E</i>
foot	ft	Incorporated	Inc.	greater than	>
gallon	gal	Limited	Ltd.	greater than or equal to	≥
inch	in	District of Columbia	D.C.	harvest per unit effort	HPUE
mile	mi	et alii (and others)	et al.	less than	<
nautical mile	nmi	et cetera (and so forth)	etc.	less than or equal to	≤
ounce	oz	exempli gratia (for example)	e.g.	logarithm (natural)	ln
pound	lb	Federal Information Code	FIC	logarithm (base 10)	log
quart	qt	id est (that is)	i.e.	logarithm (specify base)	log ₂ etc.
yard	yd	latitude or longitude	lat or long	minute (angular)	'
		monetary symbols (U.S.)	\$, ¢	not significant	NS
Time and temperature		months (tables and figures): first three letters	Jan, ..., Dec	null hypothesis	H ₀
day	d	registered trademark	®	percent	%
degrees Celsius	°C	trademark	™	probability	P
degrees Fahrenheit	°F	United States (adjective)	U.S.	probability of a type I error (rejection of the null hypothesis when true)	α
degrees kelvin	K	United States of America (noun)	USA	probability of a type II error (acceptance of the null hypothesis when false)	β
hour	h	U.S.C.	United States Code	second (angular)	"
minute	min	U.S. state	use two-letter abbreviations (e.g., AK, WA)	standard deviation	SD
second	s			standard error	SE
				variance	
Physics and chemistry				population	Var
all atomic symbols				sample	var
alternating current	AC				
ampere	A				
calorie	cal				
direct current	DC				
hertz	Hz				
horsepower	hp				
hydrogen ion activity (negative log of)	pH				
parts per million	ppm				
parts per thousand	ppt, ‰				
volts	V				
watts	W				

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ABSTRACT

The 2015 Yakutat set gillnet fishery harvest of approximately 300,000 salmon was 17% below the recent 10-year average. The total harvest included 900 Chinook, 83,000 sockeye, 130,000 coho, 69,000 pink, and 700 chum salmon. The salmon harvest had an approximate exvessel value of \$1.4 million which was 67% of the 2014 exvessel value. The Yakutat set gillnet fishery was comprised of 112 active permit holders, slightly below the recent 10-year average. The 2015 sockeye salmon harvest of nearly 83,000 fish was 36% below the 10-year average. Sockeye salmon harvests in almost all Yakutat District fisheries were below average in 2015. Biological Escapement Goals (BEG) for sockeye salmon were met in all sockeye salmon producing systems, with the exception of the Lost River. The total coho salmon harvest of 130,000 was slightly above the recent 10-year average. The Situk-Ahrnklin River produced 86% of the total Yakutat Area coho salmon harvest, with the Tsiu River as the second-largest producer. The Chinook salmon harvest of 900 was 26% below the 10-year average. The top Chinook salmon producers were Yakutat Bay and the Alsek River. The 2015 preseason projection was for a total run of approximately 600 large Chinook salmon returning to the Situk River. Given recent fishery and harvest trends, a run of that size is not expected to achieve the escapement goal without fishery restrictions; subsistence, sport, and commercial fisheries were closed for Situk River Chinook salmon. The pink salmon harvest of nearly 69,000 fish was 20% below the recent 10-year average. The chum salmon harvest of 700 was half the 10-year average. The Situk-Ahrnklin Inlet and Yakutat Bay fisheries produced most of the pink salmon which were incidental to the sockeye salmon harvest.

Key words: Management, Annual Management Report (AMR), setnet, set gillnet, 2015 season, Chinook, sockeye, pink, chum, coho, salmon, Yakutat, Yakataga, district, statistical week, Situk River, Situk-Ahrnklin Inlet, Yakutat Bay, Tsiu River, Alsek River, East River, Akwe River, Italio River, Biological Escapement Goal (BEG), Sustainable Escapement Goal (SEG), catch per unit effort (CPUE)

INTRODUCTION

The Yakutat set gillnet fisheries (Figure 1) are divided into two fishing districts: the Yakutat District, which extends from Cape Fairweather to Icy Cape, and the Yakataga District, which extends from Icy Cape to Cape Suckling. Yakutat District set gillnet fisheries primarily target sockeye and coho salmon, although all five species of salmon are harvested. The Yakataga District fisheries only target coho salmon.

Although the bulk of the Yakutat salmon harvest is usually reported from four or five major fisheries (the Alsek, Situk-Ahrnklin, and Tsiu Rivers, and Yakutat Bay), upwards of 25 different areas are open to commercial fishing each year. With few exceptions, set gillnetting is confined to the intertidal area inside the mouths of the various rivers and streams, and to the ocean waters immediately adjacent to each. Due to the terminal nature of these fisheries, the department has been able to develop escapement goals for most of the major, and several of the minor fisheries (Table 1).

Escapement counts performed inseason become the driving force in establishing openings, closures, and fishing times for each fishery. The fisheries are managed to ensure that escapement goals are met. In the case of glacial systems, it is often either difficult to see escapement, or escapement does not become visible until after the fishery has occurred. Fisheries performance data, expressed as catch per unit effort (CPUE), are compared with historical data to estimate run strength for management purposes. Two ocean fisheries, Manby Shore and Yakutat Bay, occur within Yakutat Bay. Historical stock analysis of these fisheries indicates that the majority of sockeye salmon harvested, especially during the first six or seven weeks of the season, are of Situk-Ahrnklin origin. These fisheries are managed in accordance with Situk-Ahrnklin escapement goals.

YAKUTAT AREA SUMMARY

OVERVIEW

The 2015 Yakutat Area set gillnet fishery produced a cumulative harvest of approximately 300,000 salmon. This was 17% below the recent 10-year average (Tables 2 and 3). Of the 179 Yakutat set gillnet permits, 112 were active this season, which was slightly below the recent 10-year average. The average Yakutat permit holder earned approximately \$12,800 for the 2015 season; this was about 30% below the income earned in 2014 and 24% below the 10-year average (Table 4). Sockeye salmon harvests in the Yakutat District fisheries were all below average in 2015. The coho salmon harvest was slightly above the recent 10-year average. The Situk-Ahrnklin Inlet accounted for 86% of the area's total coho salmon harvest, whereas the Tsiu River accounted for 13% (Table 5). Almost all of the remote systems, although open to fishing, received little or no effort for coho salmon in 2015. Reduced fishing effort for coho salmon in the Yakutat District is mainly due to the lack of aircraft in the fall. A buying station was maintained on the Tsiu River for the eleventh time since 2001; however, fishing effort has significantly declined in recent years. Approximately 17,000 Tsiu River coho salmon were harvested in 2015 which is less than half the 2014 harvest and 65% below the recent average. The return of pink salmon to the Situk River was below the 10-year average but much stronger than the 2014 return. There is little economic incentive to harvest pink salmon, so they are harvested incidentally to sockeye and coho salmon. The harvest of approximately 52,400 pink salmon in the Situk-Ahrnklin Inlet was 30% below average. The chum salmon harvest in the Yakutat Area was below the recent 10-year average of 1,200 fish, and the Chinook salmon harvest of 934 fish was also below average.

SOCKEYE SALMON

The sockeye salmon harvest of 83,000 fish was below the recent 10-year average of 125,000 fish. The 2015 harvest of approximately 39,400 Situk-Ahrnklin sockeye salmon was below the recent five-year average of 64,500. The Situk-Ahrnklin Inlet was the peak producer for the area and accounted for nearly half of the Yakutat Area total sockeye salmon harvest. The Situk River weir count of 95,000 sockeye salmon was well above the BEG range of 30,000–70,000. This was the third year in a row the sockeye salmon counts through the Situk River weir were above the BEG range.

The East Alsek and Doame rivers are counted as one watershed and share a common BEG of 13,000–26,000 sockeye salmon. Commercial fishing remained closed until escapement counts indicated there was a harvestable surplus of sockeye salmon. The peak sockeye salmon escapement count to the East Alsek was 15,000 fish, recorded on August 9. Escapement goals were met and commercial fishing was opened to sockeye salmon harvest on July 19. The East and Doame rivers are two separate systems with genetically distinct sockeye salmon populations. Historically, Doame River sockeye salmon ran from June through early August, and East River sockeye salmon ran from late July through the end of September. The department believes that both sockeye salmon populations may be in a state of transition due to changes in hydrology and habitat within the drainage. It appears that the Doame stock is increasing in abundance and getting later in run timing. It also appears that East stocks are undergoing adaptation from age-0.3 to age-1.3 fish. The department will continue to monitor these changes and may reevaluate the spawning escapement goals in the future.

The Alsek River recorded an average sockeye salmon run in 2015. The Alsek River set gillnet fishery harvested 16,000 sockeye; this was half that of the 2014 harvest but only slightly below the recent five-year average (Tables 6 and 7). Yakutat Bay, with a harvest of approximately 13,500 sockeye salmon, was the third highest producer and accounted for 16% of the area's total sockeye salmon harvest. The Akwe River harvest of approximately 2,700 sockeye salmon was well below the recent five-year average of 10,000 fish. Less than three permits fished the Dangerous River in 2015 and all harvest information is confidential. The Manby Shore fishery harvest of 4,600 sockeye salmon was three times the 2014 harvest, however, slightly below the recent five-year average. Spoon River received more fishing effort in 2015, with a harvest of approximately 1,200 sockeye salmon.

COHO SALMON

The 2015 coho salmon harvest of 129,000 fish was just above the recent 10-year average of nearly 124,000 fish. Coho salmon returns during the period 1990–2002 were the strongest in the history of the Yakutat Area. Since 2002, coho salmon production for the Yakutat Area has fallen back to historical averages. The Situk-Ahrnklin Inlet harvest of approximately 111,000 coho salmon was 30% above the recent five-year average. The only other major coho salmon producer in Yakutat in 2015 was the Tsiu River in the Yakataga District. The presence of a buying station on the river again prompted sustained effort on the Tsiu for the eleventh year in a row. The Tsiu River harvest of 17,000 coho salmon was well below the recent five-year average of 48,000 fish. Yakutat Bay harvest of 865 coho salmon was also well below the recent average of 3,300 fish. Minimal effort was recorded on Spoon River in 2015 and catch figures are insignificant. Due to lack of aircraft most of the remote fisheries (Akwe, Italio, and East Alsek Rivers) received little or no effort for coho salmon harvest in 2015. The Kaliakh River, Sudden and Esker Streams, and Yahtse and Yana Rivers were not fished in 2015.

CHINOOK SALMON

With the exception of the troll fisheries, there are no directed fisheries for Chinook salmon in the Yakutat Area. All Chinook salmon are harvested incidentally in the sockeye salmon set gillnet fisheries. The principle producers of Chinook salmon are the Situk-Ahrnklin Inlet, the Alsek River and Yakutat Bay. The 2015 preseason total run estimate for large Chinook salmon for the Situk River was 619 fish (range 216–1,022). Although this projection was within the escapement goal range of 450 to 1,050 fish, it still does not allow for a viable fishery that would meet escapement goals. As mandated by 5 AAC 30.365, *Situk Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan*, conservation measures were taken for the fifth year in a row and the subsistence, sport, and commercial fisheries were closed to Chinook salmon in 2015. The BEG of 450–1,050 large Chinook salmon was not achieved in 2010–2012, and fishermen were not allowed to retain or sell Chinook salmon throughout those seasons. The Chinook salmon BEG was attained in 2013 for the first time since 2009 and subsistence, sport, and commercial fisheries were opened to the retention of Chinook salmon by mid-July. The 2014 Situk River weir count of 475 large Chinook salmon was within the BEG range but was achieved near the end of the run; all fisheries for Chinook salmon remained closed through the end of the sockeye salmon season. The preseason projection for Alsek River Chinook salmon in 2014 was for an above average return and the final escapement was within the BEG range of 800–1,200 fish.

Although all fisheries were closed to the harvest of Chinook salmon, an estimated 175 large Chinook salmon were counted through the Situk River weir and the BEG was not achieved in 2015. The Alsek River harvest of approximately 240 Chinook salmon was less than half the recent five-year average. A test fishery for Chinook was not conducted on the Alsek River in 2015. The Yakutat Bay harvest of 500 Chinook salmon doubled the recent five-year average for the Bay. Manby Shore and Spoon River fisheries harvest of 65 and 64 Chinook salmon, respectively, was above the recent five-year average. The Akwe River harvest of 28 Chinook salmon was well below average in 2015. The Alsek River and Yakutat Bay accounted for 80% of all Chinook salmon harvested in the Yakutat Area. The total Yakutat Area harvest of 930 Chinook salmon was 26% below the recent 10-year average. Set gillnet Chinook salmon prices were \$2.06/lb. this season, which was slightly above the recent average.

PINK SALMON

The 2015 area-wide pink salmon harvest of approximately 69,000 fish was three times the 2014 harvest but below the recent 10-year average of 86,000 fish. The pink salmon returns to Yakutat in 2010 and 2011 were two of the largest on record. In August 2011, an estimated three million pink salmon were observed in Yakutat Bay. The three-year period since 2011 has been a reversal of fortune, with all three years recording below-average harvest levels of pink salmon. Yakutat Bay and the Situk-Ahrnklin Inlet were the top two producers for the area in 2015. The two fisheries together accounted for almost all of the pink salmon harvested in the Yakutat Area. The Situk-Ahrnklin Inlet harvest of more than 52,000 pink salmon was 32% below the recent five-year average of 76,000 fish. The Yakutat Bay harvest of nearly 15,000 pink salmon was also below the recent five-year average of 19,000 however, a significant improvement in harvest compared to the past three years. Pink salmon harvested in Yakutat Bay are predominantly of Situk River and Humpback Creek origin. Approximately 75,000 pink salmon passed through the Situk River weir by the time the weir was removed on August 7. The Situk River has a Sustainable Escapement Goal (SEG) of 33,000 pink salmon counted through the weir by August 5 and the goal was achieved in 2015.

CHUM SALMON

Chum salmon are a non-target species in the Yakutat Area due to the combination of low abundance and low price, and the harvest is entirely incidental. The East River had been the only producer of chum in the Yakutat Area, however, the chum salmon run in the East River has been in decline for more than a decade, probably due to changes in habitat. In 2015, the East River fishery had a harvest of 100 chum salmon which was well below the recent five-year average and the lowest harvest on record during that time. The Situk-Ahrnklin Inlet and Yakutat Bay fisheries harvested 327 and 167 chum salmon respectively. The area wide chum salmon harvest of 660 fish was roughly half the recent 10-year average of approximately 1,200 fish. The Situk River and Yakutat Bay were the biggest chum producers in the Yakutat Area in 2015.

YAKUTAT DISTRICT FISHERIES

ALSEK RIVER

Alsek River salmon management is conducted in cooperation with Fisheries and Oceans Canada (DFO) under the auspices of the Pacific Salmon Commission (PSC). In February 2005, the PSC reached bilateral agreement to allow directed Chinook salmon fisheries in the Taku and Stikine

Rivers to begin in early May. Agreement was not reached to open the Alsek River Chinook salmon fishery until such time as run projections improved. ADF&G was granted permission to conduct test fisheries for Chinook salmon for inseason index of run timing and abundance of Chinook salmon stocks. These test fisheries were conducted from 2005 through 2008 but were discontinued in 2009 and 2010 due to poor Chinook salmon total returns. A test fishery for Chinook salmon was implemented again in 2011 and 2012 and again ceased in 2013 and 2014. The Chinook salmon run to the Alsek River was expected to be below average in 2015 and a test fishery was not conducted. The department has adopted regulatory language concerning a directed Chinook salmon fishery on the Alsek River pending bilateral agreement by the PSC.

A total of 19 permit holders on the Alsek River harvested approximately 250 Chinook, 16,000 sockeye, and 11 coho salmon in 2015. No chum or pink salmon were harvested (Tables 6 and 7). The sockeye salmon harvest was roughly half the 2014 harvest and 16% below the recent five-year average of 19,000 fish (Table 7). In 2015, the Alsek was opened to commercial fishing on June 7 during statistical week 24. Traditionally, in-season management of Alsek River sockeye salmon consists of monitoring the commercial fishery near the mouth of the Alsek River. Commercial fishery openings and closures are based on the performance of the fishery expressed in CPUE inseason versus the average CPUE taken in the past ten years. Parent-year escapement information is also considered when determining the weekly fishing periods. The overall Alsek drainage sockeye run was expected to be 84,000 sockeye salmon and above the 10-year average of 63,000 fish. The U.S. commercial fishery in the Alsek River was extended by one or two days in several weeks of the fishery through early August due to high catch rates of sockeye salmon. The number of days the fishery was open was below average, but the number of boats fishing during weekly openings was near the recent ten-year average throughout the season. Catches of sockeye salmon were above average in many weeks of the fishery and a total of 19 permits harvested 16,104 fish in 2015. The peak sockeye salmon harvest occurred during statistical week 28 with 11 permits fishing. By statistical week 32, fishing effort had declined, and by statistical week 33, management strategies became focused on coho salmon. Fishing time remained at three days per week for the rest of the season and there was no effort during the last five weeks the fishery was open. The commercial fishery closed for the season on October 28. The Chinook salmon harvest of nearly 250 fish was less than the 2014 harvest and the recent five-year average of 575 fish. The majority of these fish were harvested during the first three weeks of the season.

The Klukshu River is an important tributary in the upper Alsek River drainage in Canada. Status of Alsek River Chinook, sockeye, and coho salmon populations have been evaluated by monitoring escapement trends through the Klukshu River weir. The weir has been operated by DFO in cooperation with the Champagne-Aishihik First Nation since 1976. Escapement goals are in place for Chinook and sockeye salmon stocks spawning on the Klukshu. New escapement goals for Alsek-Klukshu River Chinook salmon (Bernard and Jones 2010) and sockeye salmon (Eggers and Bernard 2011) were recommended and revised in 2009. Final review and approval of the escapement goals by the Transboundary River Panel and Transboundary Technical Committee were adopted in February 2013.

The current analysis suggests the appropriate BEG for Klukshu River adult Chinook salmon is 800–1,200 fish. The Klukshu weir escapement of 1,432 Chinook salmon exceeded the upper bound of the BEG (Table 8). The revised and current spawning escapement goal for Klukshu River sockeye salmon is 7,500–11,000 fish. The weir count of 11,211 sockeye salmon was slightly above the upper bound of the BEG as well as the recent 10-year average (Table 8).

Aerial escapement surveys of sockeye salmon are typically conducted on the Tanis River and Cabin and Basin Creeks. Due to budget constraints and lack of airplane pilots in Yakutat, these systems have not been surveyed for several years and were not surveyed in 2015.

Effort levels in the Alsek generally plummet during coho salmon season; less than three permits were fished in the 2015 season. The Alsek remained opened to commercial fishing until October 28 and the river was not fished during the last five weeks of the season. Inclement weather during the fall makes it very difficult to obtain accurate escapement counts in local tributaries. The Klukshu weir escapement of 352 coho salmon was well below the recent 10-year average of just under 2,000 fish. The weir is usually removed prior to the completion of the coho salmon return and does not include fish that migrate after mid-October.

EAST RIVER

The East River has undergone major geological changes over the past several decades that have forced salmon stocks to adapt to their new environment. In the 1970s and 1980s, the East River was the peak sockeye salmon producer in Yakutat, this is no longer true. Salmon production in the East River now fluctuates from year to year. Historically, the East River commercial set gillnet fishery has opened after a minimum escapement count of 13,000 (lower bound of the BEG range) sockeye salmon have been observed. In 2015, surveys indicated strong sockeye salmon returns and the department opened the river to commercial fishing on July 19 for 48 hours. Fishing periods remained at one day for the next two weeks and then two days during statistical week 33. From statistical week 34 through the rest of the season fishing time was three days. There was minimal effort during the coho salmon season and catch was negligible. The East River was not fished during the last eight weeks of the season. A total of 14 permits harvested approximately 2,500 sockeye salmon in 2015 (Tables 9 and 10). The East River harvest of 100 chum salmon was below the recent five-year average. Although the East River is considered the only consistent producer of chum salmon in the Yakutat Area, chum salmon are not targeted due to transportation costs. Pink salmon are also a non-targeted species and the harvest was negligible. The peak escapement count of 15,000 sockeye salmon was recorded on August 9, within the BEG range of 13,000–26,000 fish. The East River was not surveyed for coho salmon in 2015 due to the lack of available pilots in the Yakutat Area.

AKWE RIVER

In 2015, four permits harvested 2,700 sockeye salmon in the Akwe River. This was 74% below the recent five-year average of approximately 11,000 sockeye salmon (Table 11). Although the harvest was up from 2014, it is the second lowest harvest in recent history. A peak aerial survey count of approximately 3,000 sockeye salmon was observed on August 9. The former BEG of 600–1,500 sockeye salmon was rescinded in 2006 (Geiger et al. 2005) and there is no formal BEG for any species in the Akwe River. The Akwe River commercial set gillnet fishery opened on the fourth Sunday in June and was fished for sockeye salmon during the first seven weeks of the season. During the coho salmon season, there was very little fishing effort and catch figures are confidential. The coho harvest was well below the average of 2,400 fish, mainly due to lack of fish transporters during fall fishing. Historically, aerial surveys of the Akwe River have been of little value in determining escapement due to the turbidity of the river. The dramatic retreat of Chamberlain Glacier, which feeds Akwe Lake, has improved water clarity and visibility in the river, and aerial surveys have become more effective in recent years. No aerial surveys were conducted for coho salmon in 2015 due to lack of pilots. Weekly fishing times are initially

announced at 1.5 days and then adjusted inseason according to fishery performance. Fishing periods were increased from 1.5 to 2.5 days during statistical week 32, and reduced to 2 days for the last two weeks of the sockeye salmon fishery. The river was opened 3 days a week throughout the coho salmon season.

ITALIO RIVERS

Three rivers make up the Italo River system: the Old, Middle, and New Italo Rivers. The Old Italo River has always been a separate river flowing into the Gulf of Alaska just east of the mouth of the Dangerous River. Geological changes in the mid-1980s changed the Italo River and created two distinct rivers where only one had existed before. The main river is now called the New Italo and the original river channel is the Middle Italo. All three systems support coho salmon populations and the New Italo River also has a small run of sockeye salmon. With the decline in sockeye salmon production, the New Italo has not been opened to commercial fishing since 1987. Aerial surveys are conducted and peak counts of no more than 1,500 sockeye salmon are usually recorded. In 2011, a peak aerial survey of 6,000 sockeye salmon was recorded on August 17. That was the highest sockeye salmon count in over 20 years and is still currently the highest count on record. The New Italo River sockeye salmon run appears to be rebuilding. In 2012, the U.S. Forest Service installed a fish weir above Italo Falls which is located just below Italo Lake. The weir was equipped with mini-DVR fish counting systems utilizing motion-detection video. The project results confirmed over 4,000 sockeye salmon escaped into the lake in 2012. The U.S. Forest Service continued the project in 2013 and 2014 with peak weir counts of 5,862 and 3,801 respectively. These projects along with the department's aerial surveys are helpful tools used to monitor the recovering Italo River sockeye salmon stocks. There are no formal BEGs in place for the Italo River salmon stocks. No late fall surveys were conducted in 2015 due to lack of aerial transportation. The Old and Middle Italo rivers were opened to commercial fishing for coho salmon but were not fished in 2015.

DANGEROUS RIVER

The Dangerous River was opened to commercial fishing on the second Sunday in June. Fewer than three permits fished the Dangerous River in 2015 and harvest information is confidential (Table 12). Escapement surveys of the Dangerous River are ineffective due to the glacially occluded water. Weekly fishing times are announced at 2.5 days by regulation and then adjusted in accordance with fishery performance. Although there was minimal fishing effort, harvest figures indicated a good sockeye run, and extra fishing times were warranted. During the 2015 coho salmon season, fishing time remained at 3.0 days throughout, but the Dangerous River was not commercially fished for coho salmon.

SITUK-AHRNKLIN INLET

The Situk-Ahrnklin Inlet commercial set gillnet fishery recorded below-average harvests for all species during the 2015 season with the exception of coho and chum salmon (Tables 13 and 14). The Situk-Ahrnklin Inlet generated 71% of the Yakutat Area set gillnet income (Tables 15 and 16). The total fishery value of approximately \$1 million was right on target with both the recent five-year and the historical 10-yr averages. The harvest of nearly 39,400 sockeye salmon was 39% below the recent average. Situk-Ahrnklin sockeye accounted for nearly half of the area's total sockeye salmon harvest. The coho salmon harvest of approximately 111,000 fish was above the 5-year average of 85,500 fish and accounted for 86% of the Yakutat Area's total coho salmon

harvest. The harvest of over 52,000 pink salmon was below the recent five-year average but accounted for 76% of the total Yakutat Area pink salmon harvest.

The Situk River weir was installed in the lower river for the 28th consecutive year and used for inseason management of the sockeye and Chinook salmon commercial fisheries (Table 17). Heavy rains and subsequent flooding are typical of the fall coho season, and the weir is not maintained during the coho salmon run.

Prior to the start of the season, the Division of Sport Fish announced a preseason projection total return of 619 large (ocean-age-3 and older) Chinook salmon to the Situk River in 2015, with a range of 216-1,022 fish. The forecast was generated using a sibling relationship model based on ocean age. The Situk River drainage is managed for a BEG of 730 large Chinook salmon with a range of 450-1,050 fish. Under the terms of 5 AAC 30.365, *Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan*, if the projected escapement is 451-730 large Chinook salmon, the department shall establish a non-retention Chinook salmon season and restrict the weekly fishing periods in the Situk-Ahrnklin Inlet and Lost River set gillnet fisheries. The preseason projection is for total return and does not factor in any harvest of fish below or above the Situk River weir. Although the 2015 preseason projection was for a total run of 619 large Chinook salmon, a run of that size was not expected to achieve the escapement goal. Sockeye and Chinook salmon run timing in the Situk-Ahrnklin Inlet is virtually identical. In order to provide for a commercial fishery for sockeye salmon and still attain escapement objectives for Chinook salmon, conservation measures for Chinook salmon were implemented for the fifth year in a row.

In 2011, Yakutat Area ADF&G staff attended meetings with the Yakutat Tlingit Tribe and the City and Borough of Yakutat to outline a plan that would allow commercial fishing for sockeye salmon while at the same time calling for stringent conservation measures for Chinook salmon. The plan appeared to be successful and was implemented again in both 2012 and 2013 with success. In 2013, the BEG for large Chinook salmon was reached for the first time since 2009, and the restrictions were lifted inseason. In 2014, conservative management measures were in place and the BEG was again attained. In 2015 conservative subsistence, commercial, and sport fishery management measures were once again implemented in order to protect Chinook salmon stocks in the Situk Inlet while providing fishing opportunities for sockeye salmon. The subsistence fishery for Chinook salmon was closed effective May 18, the sport fishery for retaining Chinook salmon closed May 8, and the retention and sale of Chinook salmon in the Situk-Ahrnklin Inlet was prohibited when the sockeye salmon fishery opened on June 20. Conservation restrictions remained in effect through the end of the Chinook salmon run in 2015. The plan as outlined contained three important provisions for Chinook salmon conservation:

1. There are three regulatory markers located where the Situk River enters the Inlet that delineate fresh river water at mean low tide, upstream of which are closed waters. Approximately 75% of Chinook salmon taken in the commercial fishery came from the nets in open waters immediately adjacent to the markers. The three markers were moved farther out and a fourth marker was added to increase the closure area and protect Chinook salmon from exposure to harvest (Figure 2). When conservation measures were no longer needed, the markers were returned to their normal regulatory locations.
2. Prior to 2012, 5 AAC 30.365 contained a “non-sale” provision under certain scenarios of low Chinook salmon abundance. At the BOF meeting in February 2012, the regulation

was changed from “non-sale” to “non-retention.” In other words, all Chinook salmon in the nets would be returned to the water immediately. To address a concern about the potential waste of salmon from net mortalities, dead Chinook salmon would be turned in to a buyer at the time of sockeye salmon sale for distribution to elderly, legally blind, or 70% disabled members of the community.

3. Finally, it was recognized that ADF&G did not have regulatory authority to require permit holders to closely attend gear while fishing; therefore, the close attendance of gear would have to be voluntary. The department would closely monitor the fishery to see if this experimental plan was effective. If it became clear that too many Chinook salmon were being killed, the only alternative would be to close the commercial sockeye salmon fishery for the season. For this plan to work, there must be a cooperative effort among all the parties: the department, the community, and the permit holders.

The Situk-Ahrnklin Inlet fishery opened by regulation on the third Sunday in June and the fishing period remained at 2.5 days throughout most of the sockeye season. For the initial opening, 39 permits harvested nearly 5,000 sockeye salmon, which matched the first opening in 2014. The peak harvest occurred during statistical week 27 with 38 permits harvesting over 6,000 sockeye salmon. The total Situk-Ahrnklin Inlet harvest of 39,400 sockeye salmon was 39% below the five-year average. An estimated 95,000 sockeye salmon passed through the Situk River weir in 2015. This exceeded the BEG range of 30,000–70,000 fish and was the third highest escapement count since 1988 (Table 17). A total of 176 large Chinook salmon passed the weir in 2015. This was well below the preseason projection and below the BEG range of 450–1,050 large Chinook salmon. During the “non-retention” period, a total of 20 dead Chinook salmon were retained from nets to be distributed to the Yakutat Senior Center.

The first Sunday in August fishing times were set at 3 days for coho salmon management. The harvest of 111,200 coho salmon was 30% above the recent five-year average of 85,500 fish. The 2015 coho salmon harvest was just below last year’s harvest and is the second highest harvest on record since 2004. The Situk River weir is dismantled before the coho salmon run is over. Float surveys are conducted to estimate peak escapement counts and to ensure desired escapement goals are achieved. A peak escapement count of approximately 7,000 coho salmon was recorded on September 27 and the BEG of 3,300–9,800 was attained. The commercial fishing period throughout the coho salmon season varied between three to five days. A peak count of 74 permits fished the Situk-Ahrnklin coho salmon fishery in 2015; this effort was above the recent average. With economic considerations limiting participation in more remote coho salmon fisheries, effort levels have increased in the Inlet during the fall.

The pink salmon harvest of nearly 52,400 was below the recent five-year average of approximately 85,500 fish. The peak of the pink salmon return occurs between the end of the sockeye season and the onset of the coho salmon season. Effort levels diminish during this time because fewer permits are willing to fish for pink salmon due to the comparatively low price. In 2015, the pink salmon price was \$0.18 per pound, which was less than last year’s price of \$0.34. Harvests of Situk River pink salmon increased in the past two decades from an average of 12,000 prior to 1990, to 34,000 in the 1990s, and to 80,000 in the 2000s. From 2001 to 2011, the Situk River harvest accounted for an average of 82% of the Yakutat Area pink salmon harvest. Pink salmon estimates of greater than 500,000 fish obtained during boat surveys of the Situk River in 2005, 2007, and 2010 also suggest pink salmon returns have been at their highest levels since statehood. However, the 2012 pink salmon return to the Situk River plummeted and was the

lowest harvest in the previous seven years. Although Southeast Alaska set a record for pink salmon harvest in 2013, this was not the case for the Yakutat Area. The 2014 pink salmon harvest was again well below average and now stands as the lowest harvest on record since 2002. The chum salmon harvest of just over 300 fish was slightly above the recent five-year average.

Escapement estimates of Situk River pink salmon have been assessed by weir or boat survey counts since 1991. However, the weir is usually removed in early August, well before the peak of the pink salmon run. In addition, peak annual survey counts are not conducted every year due to poor river conditions and/or lack of personnel. Given uncertainties regarding total escapements, the escapement goal was reevaluated and based on a more stable index of escapement (Piston and Heintz 2011). The new escapement goal is a lower-bound SEG of 33,000 pink salmon counted at the weir through August 5. In 2015, approximately 75,000 pink salmon were counted through the weir prior to its removal, which exceeded the escapement goal. No late fall surveys were conducted this year due to high water and poor visibility.

LOST RIVER

There has not been a directed fishery on sockeye salmon in the Lost River since 1998 and the last directed fishery for coho salmon in the Lost River took place in 2004. In 1999, the westward migration of the mouth of the Situk-Ahrnklin Inlet overlapped the mouth of the Lost River, and the Lost River has discharged into the Inlet ever since. Beginning in the 1999 season, regulatory markers have been placed in the Situk-Ahrnklin estuary to delineate areas closing the Lost River to commercial fishing. In 2012, the BOF adopted a regulation (5 AAC 30.350(7)) to permanently place regulatory markers at 100 yards downstream from the terminus of the Lost River and moved out to 500 yards during the second week of July. This closure forced the displacement of some traditional fishing sites and many of these fishermen have elected to relocate their operations to either the Situk-Ahrnklin Inlet or Yakutat Bay.

The Lost River was not opened to commercial set gillnetting in 2015. The peak sockeye salmon escapement count of 373 fish did not meet the lower-bound SEG of 1,000 fish for the Lost River. This was the fourth year in a row the SEG was not attained. The peak coho salmon escapement count of 2,015 fish met the lower-bound SEG of 2,000 fish. Historically, escapement surveys have been conducted in Tawah and Ophir Creeks along with various drainage ditches that are tributaries to the Lost River. Inconsistent surveys have been recorded over the years and the department recognized that a more systematic approach was needed. In 2014 and 2015, all surveys for coho and sockeye salmon were counted from Summit Lake to the Lost River Bridge. Sufficient surveys were conducted during the fall this year, although inclement weather and flood events did occur. It is assumed that Lost River salmon stocks are harvested in the Situk-Ahrnklin fishery. The lower end of the Situk-Ahrnklin estuary appears highly mutable, and the conservation measures enacted from 1999 to 2015 will continue to be necessary in the future.

YAKUTAT BAY

The Yakutat Bay fishery opened on the second Sunday in June and fishing time remained at 2.5 days per week for the first six weeks of the sockeye season. Fishing time was extended to 3.5 days during statistical week 31 and then 5 days during statistical week 32 once escapement goals were met on the Situk River. Yakutat Bay yielded harvests of approximately 500 Chinook, 13,500 sockeye, 865 coho, 15,000 pink, and 200 chum salmon in 2015 (Table 18). The sockeye salmon harvest was half the recent five-year average and the lowest harvest during that period

(Table 19). In 2015, the Yakutat Bay fishery was the third highest sockeye salmon producer in the area. A total of 38 permits fished in Yakutat Bay with a peak effort of 32 permits fishing during the first week of the season. Chinook salmon are harvested incidentally in the sockeye salmon fishery and the harvest of 500 Chinook salmon doubled the recent 5-year average.

Yakutat Bay has never produced high coho salmon harvests, perhaps due to the concentration of effort elsewhere during coho salmon season. The 2015 coho salmon harvest of 865 fish was well below the recent five-year average of 3,300 fish and was the second lowest harvest during that period. Effort levels always remain low in Yakutat Bay for coho salmon and only five permits fished the Bay during the first week of the coho salmon season.

The Yakutat Bay pink salmon harvest of nearly 15,000 fish was up from the past three years however, still slightly below the recent five-year average of 19,000. Pink salmon have not been targeted in Yakutat Bay in recent years due to the decline of the Humpback Creek fishery. The Bay had the highest historical return of pink salmon in 2011 with an estimated three million pink salmon within the Bay. Pink salmon were targeted in 2011 but permit holders claimed that a 75-fathom set gillnet was extremely inefficient gear for pink salmon. Systematic surveys to estimate spawning escapement into Humpback Creek have not been conducted since the mid-1990s. There has not been a directed fishery on Humpback Creek pink salmon stocks since 1996 (Woods 2003). In 2005, the escapement goal for Humpback Creek was eliminated due to lack of fishing effort on the stock (Heinl and Geiger 2005).

MANBY FISHERIES

The Manby Shore ocean fishery is located along the western shore of Yakutat Bay. This fishery harvests stocks that are destined for the Situk River and the Manby Shore streams. Historical data is difficult to interpret because prior to the mid-1980s harvests from the ocean fishery were combined with harvests from the area's inside waters. Also, before 1950, all the Manby Shore and Manby stream harvests were recorded with those from Yakutat Bay. It is likely that the ocean fishery for sockeye salmon developed in 1977 because fairly consistent sockeye harvests begin to appear in the record at that time. Weekly fishing periods are usually adjusted according to Situk River escapement needs. The Manby Shore fishery opened on the third Sunday of June with the usual effort of six permits. Fewer than three permits fished five of the eight total weeks. The harvest of 4,600 sockeye salmon was an improvement from the past two years but still slightly below the recent five-year average of approximately 6,000 fish (Table 20). The harvest of 65 Chinook salmon was above the recent average. The Manby Shore ocean fishery was not fished for coho salmon in 2015.

The Manby Shore stream fisheries include the waters of Manby Stream, Sudden Stream, Spoon River, and Esker Creek. The fishing history of these systems is imprecise because only some, or even none, may be fished in any given year. Sudden and Manby Streams target both sockeye and coho, whereas the Esker Creek and Spoon River fisheries target only coho salmon. In 2015, Esker, Mandby, and Sudden Creeks were not fished. Three permits fished Spoon River and harvested 64 Chinook and 1,200 sockeye salmon. Escapement counts are limited due to the glacial nature of most Manby area streams and no surveys of these inside waters were conducted in 2015. Escapement goals have not been formulated for the inside waters along the Manby Shore.

YANA RIVER TO ICY BAY

Neither the Yana nor the Yahtse Rivers were fished in 2015. No aerial surveys of these systems were conducted due lack of aerial transportation and budget constraints.

YAKATAGA DISTRICT FISHERIES

OVERVIEW

The Yakataga District opened on August 2, 2015. The Tsiu River sustained a normal commercial fishery for the eleventh year in a row. The Kaliakh River, Tashalich River, Eight Mile Creek, and the Seal River were open but not fished in 2015.

TSIU RIVER

The Tsiu River is home to a productive coho salmon run during a 6- to 8-week window from August to early October. The Tsiu River is remote from processors and whole fish have been transported 100 miles from the site by air taxi back to Yakutat. In 2015, Yakutat Seafoods maintained a buying station on the Tsiu River and flew fish to Yakutat with two single-turbine de Havilland Otters. Fish are also flown to Yakutat in a DC-3 and several other types of small fixed-wing aircraft. This marked the eleventh time since 2001 that a processor maintained a presence on the Tsiu River. A total of six permits fished on the Tsiu River in 2015 which was less than half the recent 5-year average of 15 permits. The harvest of nearly 17,000 coho salmon was 65% below the recent five-year average of 48,000 fish (Table 21).

In 2015, the Tsiu River presented a new scenario to both industry and ADF&G staff due to geophysical changes in the river itself. During the preceding year, the river mouth broke through a sand spit to the west and shortened the river by about two miles. One major and two minor overflow channels from the Tsiu River had cut across the sand flats inland of the Tsiu River, and the major overflow channel appeared to be the new migration route for coho salmon. This new confluence of the Tsiu and Tsiu River is approximately one half mile downstream of the regulatory markers located near the Yakutat Seafoods buying station, one half mile below Duck Camp Island. Those regulatory markers have been relocated because salmon are now turning right into the Tsiu River well before they reach the upper markers.

An aerial survey on August 23 revealed about 400 coho salmon in the river which is behind schedule for this time. Sport fishermen on the grounds reported catching bright sockeye salmon, which is extremely rare for the time of year, indicating late run-timing. In 2014, the markers were moved downstream to just above the Tsiu/Tsiu River confluence. A second set of markers was placed approximately 1,000 yards upstream of the confluence in the Tsiu River overflow channel. The river underwent little change in 2015 and the regulatory markers were put in the same locations as the 2014 marker placements.

A second aerial survey was conducted on August 29 and approximately 3,600 coho salmon had escaped above the markers. The Tsiu River opened to commercial fishing on September 1 which was about a week later than average. The river was fished for two 24-hour periods the first week with catches promising a strong coho run. Two 24-hour periods were announced for the second and third weeks. During the third week (statistical week 38), fishing time was extended a third day because there were fewer than three permits fishing the river. By mid-September, gale-force winds and flooding persisted for ten continuous days and Yakutat Seafoods shut down their

buying operation on the Tsiu River on September 20. Several attempted efforts to survey the river in poor conditions finally revealed a peak escapement count of 20,000 coho salmon on September 25. This estimate met the BEG range of 10,000–29,000 fish. Fishing effort declined by the end of September and the Tsiu River was open but not fished during the last 2 weeks of the coho salmon season.

The regulatory markers as defined in regulation for the Tsiu River no longer pertain to the situation on the ground. They will need to be placed each year by emergency order for the next three years until the 2018 Alaska Board of Fisheries meeting. At that time, it is recommended that a proposal be submitted to the board giving ADF&G responsibility for marker placement each year due to the ever-changing conditions on the Tsiu River.

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TABLES AND FIGURES

Table 1.–Yakutat salmon stock 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.

Table 2.—Total salmon harvest by species in the Yakutat Area set gillnet fishery by fishing period, 2015.

Week	Ending Date	Chinook	Sockeye	Coho	Pink	Chum	Total
24	13-Jun	75	381	0	0	0	456
25	20-Jun	168	3,400	3	1	8	3,580
26	27-Jun	218	9,521	23	6	13	9,781
27	4-Jul	190	10,900	34	98	13	11,235
28	11-Jul	168	14,839	136	417	16	15,576
29	18-Jul	63	10,056	105	4,140	22	14,386
30	25-Jul	33	7,362	207	11,436	35	19,073
31	1-Aug	8	9,757	111	15,061	89	25,026
32	8-Aug	3	6,932	137	14,700	100	21,872
33	15-Aug	4	6,286	1,731	9,112	159	17,292
34	22-Aug	3	1,750	1,901	4,609	104	8,367
35	29-Aug	0	1,191	9,630	9,204	66	20,091
36	5-Sep	0	260	17,266	0	16	17,542
37	12-Sep	0	85	22,904	1	8	22,998
38	19-Sep	0	9	16,061	0	6	16,076
39	26-Sep	0	0	24,064	0	3	24,067
40	3-Oct	1	4	10,378	0	0	10,383
41	10-Oct	0	3	23,243	0	1	23,247
42	17-Oct	0	0	1,135	0	1	1,136
Totals		934	82,736	129,069	68,785	660	282,184

Table 3.—Ten-year comparison of Yakutat area setnet effort and salmon harvest.

Year	Active Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
2005	115	1,140	79,443	82,887	60,436	525	224,431
2006	105	1,330	138,734	86,085	88,864	1,225	316,238
2007	120	1,879	236,869	76,550	87,997	2,782	406,077
2008	129	1,309	35,282	153,712	65,227	546	256,076
2009	123	1,533	105,825	133,808	76,956	871	318,993
2010	128	501	122,020	161,584	160,470	1,239	445,814
2011	122	1,123	167,704	126,215	205,261	900	501,203
2012	114	942	124,780	98,677	27,343	2,162	253,904
2013	107	1,401	168,356	158,046	67,344	1,428	396,575
2014	117	1,403	116,435	161,977	20,733	621	301,169
2015	112	934	82,736	129,069	68,785	660	282,184
2005–2014 Avg.	118	1,256	129,545	123,954	86,063	1,230	342,048
2015 Deviation ^a	-5%	-26%	-36%	4%	-20%	-46%	-17%

^a Percent deviation from 10-year average.

Table 4.–Average earnings from setnet fishing, Yakutat area, 1980–2015.

Year	Yakutat Setnet Income	Active Setnet Permits	Average Earning Per Permit	Previous 10-Year-Average Income
1980	\$1,929,752	150	\$12,865	-
1981	\$2,333,300	152	\$15,351	-
1982	\$2,084,140	149	\$13,988	-
1983	\$1,355,470	131	\$10,347	-
1984	\$2,375,790	137	\$17,342	-
1985	\$3,010,580	149	\$20,225	\$13,944
1986	\$1,981,807	153	\$12,953	\$15,283
1987	\$5,077,589	155	\$32,759	\$15,607
1988	\$8,944,228	160	\$55,901	\$17,302
1989	\$4,174,510	164	\$25,454	\$21,124
1990	\$4,493,681	161	\$27,911	\$22,018
1991	\$2,248,558	162	\$13,880	\$23,223
1992	\$5,238,058	165	\$31,745	\$23,076
1993	\$2,916,782	158	\$18,461	\$23,852
1994	\$3,331,851	151	\$22,065	\$25,663
1995	\$2,968,274	148	\$20,055	\$26,135
1996	\$2,375,047	140	\$16,925	\$26,118
1997	\$2,975,854	142	\$20,957	\$26,516
1998	\$1,350,752	144	\$9,380	\$25,335
1999	\$1,960,794	129	\$15,200	\$24,306
2000	\$1,478,049	125	\$11,824	\$23,171
2001	\$1,130,969	115	\$9,830	\$18,044
2002	\$747,218	88	\$8,491	\$17,636
2003	\$1,135,551	104	\$10,919	\$15,319
2004	\$1,606,082	112	\$14,340	\$14,565
2005	\$911,193	115	\$7,923	\$13,792
2006	\$1,695,830	105	\$16,150	\$12,579
2007	\$2,479,100	120	\$20,659	\$12,501
2008	\$1,693,845	129	\$13,131	\$12,472
2009	\$1,640,016	123	\$13,333	\$12,847
2010	\$2,185,611	128	\$17,075	\$12,660
2011	\$2,382,763	122	\$19,531	\$16,112
2012	\$1,496,399	114	\$13,242	\$17,644
2013	\$3,025,915	107	\$28,280	\$15,319
2014	\$2,141,760	117	\$18,306	\$14,565
2015	\$1,428,678	112	\$12,756	\$13,792
2005–14 Average	\$1,965,243	118	\$16,763	\$14,049
2015 Deviation ^a	-27%	-5%	-24%	-2%

^a Percent Deviation from 10-year average.

Table 5.–Harvest of salmon in the Yakutat area setnet fishery by fishing area, 2015.

Area	Chinook	Sockeye	Coho	Pink	Chum	Total
Alsek	243	16,104	11	0	0	16,358
East	0	2,542	4	1	101	2,648
Akwe	28	2,694	13	1594	56	4,385
Italio	Closed					
Middle Italio	Not Fished					
Old Italio	Not Fished					
Dangerous	5	1,741	0	1	0	1,747
Situk	20	39,397	111,174	52,367	327	203,285
Lost	Closed					
Yakutat Bay	509	13,586	865	14,796	167	29,923
Manby Shore	65	5,491	29	17	6	5,608
Manby Stream	Not Fished					
Spoon	64	1,157	5	9	2	1,237
Sudden	Not Fished					
Esker	Not Fished					
Yahtse	Not Fished					
Yana	Not Fished					
Jetty Creek	Not Fished					
Big River	Not Fished					
Kaliakh	Not Fished					
Tsiu	0	24	16,968	0	1	16,993
Seal River	Not Fished					
Tashalich	Not Fished					
Kiklukh	Not Fished					
Totals	934	82,736	129,069	68,785	660	282,184

^a Fewer than 3 permits, all catch figures are confidential.

Table 6.–Harvest of salmon in the Alsek River set gillnet fishery by fishing period, 2015.

Week	Ending Date	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
24	13-Jun	15	75	381	0	0	0	456	1.0
25	20-Jun	13	69	820	0	0	0	889	1.0
26	27-Jun	13	71	2,428	0	0	0	2,499	2.0
27	4-Jul	12	15	1,723	0	0	0	1,738	1.0
28	11-Jul	12	11	5,147	0	0	0	5,158	3.0
29	18-Jul	10	1	745	0	0	0	746	1.0
30	25-Jul	10	0	693	0	0	0	693	1.0
31	1-Aug	11	1	2,123	0	0	0	2,124	3.0
32	8-Aug	8	0	2,003	3	0	12	2,003	2.0
33–34	22-Aug	1	a	a	a	a	a	a	4.0
35–38	19-Sep	Not Fished							12.0
39	26-Sep	1	a	a	a	a	a	a	3.0
40–44	31–Oct	Not Fished							35.0
Totals		19	243	16,104	11	0	0	16,358	69.0

^aFewer than 3 permits, all catch figures are confidential.

Table 7.–Harvest of salmon in the Alsek River set gillnet fishery, 2015 and 5-year catch comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2010	19	273	12,668	1,884	0	9	16,498	17.0
2011	18	546	24,169	1,614	0	11	26,358	19.0
2012	16	510	18,217	536	0	1	19,264	20.0
2013	15	469	7,517	17	0	5	8,008	40.0
2014	15	1,074	33,668	3	0	12	34,757	47.0
2015	19	243	16,104	11	0	0	16,358	69.0
2010–2014 Average	17	574	19,248	811	0	8	20,977	29.0
2015 Deviation ^a	12%	-58%	-16%	-99%	0%	-100%	-22%	138%

^a Percent deviation from 5-year average.

Table 8.–Klukshu River Weir escapement, 1976–2015.

Year	Chinook ^a	Sockeye ^b	Coho
1976	1,278	11,691	1,572
1977	3,144	26,791	2,758
1978	2,976	26,867	30
1979	4,405	12,308	175
1980	2,637	11,739	704
1981	2,113	20,323	1,170
1982	2,369	33,699	189
1983	2,537	20,492	303
1984	1,672	12,727	1,402
1985	1,458	18,620	350
1986	2,708	24,880	62
1987	2,616	10,504	202
1988	2,037	9,341	2,774
1989	2,456	23,542	2,219
1990	1,915	25,995	315
1991	2,489	18,977	8,540
1992	1,366	20,215	1,145
1993	3,302	16,740	788
1994	3,735	15,038	1,232
1995	5,678	22,202	3,650
1996	3,602	8,317	3,465
1997	2,757	11,012	307
1998	1,347	13,580	1,961
1999	2,190	5,069	2,371
2000	1,365	5,551	4,832
2001	1,825	10,290	748
2002	2,240	25,711	9,921
2003	1,671	32,120	3,689
2004	2,525	15,348	750
2005	1,070	3,373	683
2006	568	13,455	420
2007	677	8,956	300
2008	436	2,731	4,275
2009	1,568	5,731	424
2010	2,357	18,936	2365
2011	1,670	21,389	2,119
2012	665	17,267	572
2013	1,261	3,902	7,322
2014	842	12,377	341
2015	1,432	11,211	352
2005–2014 average	1,111	10,812	1,882

^a Chinook salmon escapement goal range is 800 to 1,200 fish.

^b Sockeye salmon escapement goal range is 7,500 to 11,000 fish.

^c Coho salmon numbers are an index; weir is removed before run is over.

Table 9.–Harvest of salmon in the East River set gillnet fishery by fishing period, 2015.

Week	Ending Date	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
30	19-Jul	6	0	626	0	1	3	630	2.0
31	26-Jul	9	0	487	0	0	1	488	1.0
32	2-Aug	6	0	302	1	0	8	311	1.0
33	9-Aug	8	0	879	1	0	29	909	2.0
34	16-Aug	5	0	248	2	0	60	310	3.0
35–42	30-Aug	Not Fished							24.0
Totals		14	0	2,542	4	1	101	2,648	33.0

^a Fewer than 3 permits, all catch figures are confidential.

Table 10.–Harvest of salmon in the East River set gillnet fishery, 2015 and 5-year catch comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2010	5	0	103	680	0	214	997	17.0
2011	17	0	14,867	99	0	330	15,390	18.0
2012	17	5	12,124	78	4	1,223	13,434	15.0
2013	13	7	18,474	72	0	785	19,338	16.0
2014	10	2	3,069	24	14	212	3,321	34.0
2015	14	0	2,542	4	1	101	2,648	33.0
2010–2014 Average	12	3	9,727	191	4	553	10,496	20.0
2015 Deviation ^a	17%	-100%	-74%	-98%	-75%	-82%	-75%	65%

^a Percent deviation from 5-year average.

Table 11.–Harvest of salmon in the Akwe River set gillnet fishery, 2015, and 5-year-catch comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2010	7	43	6,080	6,351	30	255	12,759	34.0
2011	7	178	21,360	1,639	225	24	23,426	43.0
2012	5	36	5,888	1,187	564	381	8,056	39.0
2013	3	76	15,917	759	1,514	123	18,389	40.0
2014	6	19	1,726	2,201	291	66	4,303	35.0
2015	4	28	2,694	13	1,594	56	4,385	39.5
2010–2014 Average	6	70	10,194	2,427	525	170	13,387	38.2
2015 Deviation ^a	-33%	-60%	-74%	-99%	204%	-67%	-67%	3.0%

^aPercent deviation from 5-year average.

Table 12.–Harvest of salmon in the Dangerous River set gillnet fishery, 2015, and 5-year catch comparison

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2010	3	2	3,997	4	1	0	4,004	62.5
2011	5	9	4,114	6	0	0	4,129	51.0
2012	6	0	5,814	30	104	5	5,953	38.0
2013	3	2	7,046	0	3	1	7,052	21.5
2014	5	1	3,808	2	8	0	3,819	54.0
2015	2	a	a	a	a	a	a	48.0
2010–2014 Average	4	3	4,956	8	23	1	4,991	45.0
2015 Deviation ^b	-50%	67%	-65%	-100%	-96%	-100%	-65%	7%

^a Fewer than three permits, all catch figures are confidential .

Table 13.–Harvest of salmon in the Situk-Ahrnklin Inlet set gillnet fishery by fishing period, 2015.

Week	Ending Date	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
26	27-Jun	39	1	4,984	0	4	3	4,992	2.5
27	4-Jul	38	8	6,171	1	37	1	6,218	2.5
28	11-Jul	38	3	4,624	2	276	4	4,909	2.5
29	18-Jul	41	5	4,865	2	1,623	4	6,499	2.5
30	25-Jul	36	3	4,676	6	8,012	7	12,704	2.5
31	1-Aug	39	0	6,073	58	11,398	60	17,589	3.5
32	8-Aug	36	0	2,858	123	11,675	61	14,717	4.75
33	15-Aug	35	0	2,816	1,690	8,039	97	12,642	3.0
34	22-Aug	34	0	935	1,859	3,942	31	6,767	3.0
35	29-Aug	43	0	1,079	9,468	7,360	35	17,942	3.0
36	5-Sep	51	0	227	9,836	0	10	10,073	3.0
37	12-Sep	60	0	78	17,786	1	8	17,873	3.0
38	19-Sep	61	0	4	15,357	0	1	15,362	3.0
39	26-Sep	59	0	0	20,783	0	3	20,786	3.0
40	3-Oct	51	0	4	9,825	0	0	9,829	5.0
41	10-Oct	50	0	3	23,243	0	1	23,247	5.0
42	17-Oct	16	0	0	1,135	0	1	1,136	4.0
Total		78	20	188,042	111,174	52,367	327	351,930	55.75

Table 14.–Harvest of salmon in the Situk-Ahrnklin Inlet set gillnet fishery, 2015, and 5-year catch comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2010	85	50	72,185	70,727	143,234	310	286,506	58.0
2011	85	22	65,661	79,911	142,061	307	287,962	68.5
2012	71	89	53,168	48,328	21,395	254	123,234	44.5
2013	74	314	88,751	106,873	58,742	317	254,997	73.0
2014	83	27	42,782	121,411	15,788	125	180,133	57.5
2015	78	20	39,397	111,174	52,367	327	203,285	55.75
2010–2014 Average	80	100	64,509	85,450	76,244	263	226,566	60.0
2015 Deviation ^a	-3%	-80%	-39%	30%	-31%	24%	-10%	-7%

^a Percent deviation from 5-year average.

Table 15.–Exvessel value in US dollars of Situk-Ahrnklin set gillnet fishery relative to the total Yakutat area exvessel set gillnet fishery, 1975–2015.

Year	Yakutat setnet income	Situk setnet income	Percent value of Situk
1975	713,860	256,760	36%
1976	1,214,550	485,680	40%
1977	2,065,055	890,630	43%
1978	2,669,791	767,690	29%
1979	3,239,000	715,280	22%
1980	1,929,752	419,070	22%
1981	2,333,300	612,050	26%
1982	2,084,140	372,000	18%
1983	1,355,470	205,750	15%
1984	2,375,790	575,120	24%
1985	3,010,580	524,560	17%
1986	1,981,807	180,677	9%
1987	5,077,589	1,248,984	25%
1988	8,944,228	2,601,441	29%
1989	4,174,510	1,244,788	30%
1990	4,493,681	1,189,260	26%
1991	2,248,558	1,183,752	53%
1992	5,238,058	2,063,143	39%
1993	2,916,782	1,192,148	41%
1994	3,331,851	1,686,803	51%
1995	2,968,274	1,716,842	58%
1996	2,375,047	1,351,005	57%
1997	2,975,854	1,687,084	57%
1998	1,350,752	652,129	48%
1999	1,960,794	1,097,412	56%
2000	1,487,207	740,165	50%
2001	1,130,969	705,325	62%
2002	745,218	601,704	80%
2003	1,135,551	782,143	69%
2004	1,606,082	1,156,074	72%
2005	911,193	488,192	54%
2006	1,695,830	889,519	52%
2007	2,479,100	911,724	37%
2008	1,693,845	1,092,913	64%
2009	1,641,423	858,378	52%
2010	2,185,611	1,372,001	63%
2011	2,382,763	1,305,724	55%
2012	1,496,399	772,553	52%
2013	3,025,915	1,014,515	64%
2014	2,141,760	1,270,036	59%
2015	1,428,677	1,014,515	71%
2005–2014 Average	1,965,384	997,555	55%
2015 Deviation ^a	-27%	2%	29%

^a Percent deviation from average.

Table 16.—Value of salmon harvest in the Situk-Ahrnklin set gillnet fishery in dollars, 1975–2015.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1975	7,000	128,000	114,560	7,000	4	256,760
1976	24,000	345,300	108,000	8,300	80	485,680
1977	21,000	588,560	255,530	25,230	310	890,630
1978	10,000	333,150	417,270	7,140	126	767,690
1979	29,560	430,350	223,950	31,200	220	715,280
1980	22,540	155,130	218,190	23,100	106	419,070
1981	25,000	237,710	308,270	40,440	625	612,050
1982	5,610	170,940	191,240	3,800	410	372,000
1983	4,830	101,000	96,300	3,300	315	205,750
1984	12,310	50,740	498,530	10,640	2,400	575,120
1985	11,330	122,770	385,000	4,750	710	524,560
1986	3,276	59,771	116,648	688	294	180,677
1987	23,908	755,662	454,035	9,682	5,394	1,248,984
1988	10,350	1,018,060	1,522,176	40,223	10,632	2,601,441
1989	No Sale	899,505	283,090	58,445	3,748	1,244,788
1990	No Sale	816,615	352,937	18,638	1,070	1,189,260
1991	12,071	651,684	518,138	1,399	460	1,183,752
1992	29,404	929,241	1,093,096	9,816	1,586	2,063,143
1993	11,553	503,262	669,648	6,479	1,206	1,192,148
1994	27,336	309,766	1,342,174	7,102	425	1,686,803
1995	168,055	432,684	1,078,470	36,913	720	1,716,842
1996	58,024	578,758	703,278	10,342	603	1,351,005
1997	31,317	166,254	1,436,891	52,282	340	1,687,084
1998	24,845	196,850	390,977	39,163	93	652,129
1999	81,060	488,915	515,785	10,738	474	1,096,972
2000	28,905	222,598	464,086	22,852	584	740,165
2001	17,179	241,597	433,935	12,427	187	705,325
2002	4,832	180,146	413,938	2,751	38	601,704
2003	27,850	441,995	293,676	18,885	249	782,143
2004	22,693	165,665	963,105	3,400	1,211	1,156,074
2005	0	207,988	252,553	27,064	587	488,192
2006	20	432,874	411,629	44,637	386	889,519
2007	0	523,214	336,002	51,167	1,211	911,594
2008	0	87,572	949,730	55,204	407	1,092,913
2009	2,022	328,357	521,304	6,306	387	858,376
2010	173	645,752	544,028	180,304	1,744	1,372,001
2011	62	540,253	579,919	184,039	1,452	1,305,724
2012	0	373,835	372,174	25,195	1,350	772,554
2013	13,768	902,793	954,355	60,821	1,373	1,933,110
2014	0	384,644	864,835	20,007	550	1,270,036
2015	0	256,648	698,528	58,468	871	1,014,515
2005–14 Average	1,604	442,728	578,653	65,474	945	1,089,402
2015 Deviation ^a	-100%	-42%	21%	-11%	-8%	-7%

^a Percent deviation from 10-year average.

Table 17.—Situk River weir escapement counts, 1988–2015.

Year	Dates of Operation	Chinook ^a	Sockeye ^b	Coho ^c	Pink ^d	Chum
1988	6/7–8/21	885	46,404	1,694	78,754	228
1989	5/31–8/17	637	84,383	0	288,246	0
1990	6/1–7/28	1,274	61,375	0	0	0
1991	6/10–7/27	1,613	67,737	0	4,168	3
1992	4/18–8/5	1,985	63,877	0	29,278	0
1993	6/10–8/5	4,091	62,110	0	16,285	0
1994	5/21–8/4	4,416	72,474	4	79,055	4
1995	5/10–8/3	8,231	42,463	4	66,273	17
1996	5/6–8/6	4,151	61,269	65	157,012	15
1997	5/7–8/8	5,001	42,051	18	466,267	35
1998	5/3–8/5	5,329	50,546	8	97,392	0
1999	5/9–8/6	2,786	61,544	2	27,586	0
2000	5/10–8/8	3,091	41,544	189	332,510	53
2001	5/20–8/8	696	60,330	20	121,267	13
2002	5/10–8/8	1,024	68,743	40	98,190	22
2003	5/8–8/8	2,615	89,720	1	375,333	12
2004	5/8–8/9	798	42,544	184	145,914	111
2005	5/8–7/31	613	66,476	137	279,648	0
2006	5/11–8/13	749	90,383	320	115,079	283
2007	5/11–8/15	677	61,799	39	224,024	18
2008	5/11–7/23	414	22,540	0	1,275	6
2009	5/12–8/5	904	83,959	10	62,287	2
2010	5/11–8/5	170	47,865	2,706	84,594	1
2011	5/9–8/7	240	89,993	46	169,908	112
2012	6/1–8/7	321	62,467	17	33,620	11
2013	6/11–8/4	912	118,635	31	133,585	3
2014	6/9–8/6	475	102,308	13	28,284	20
2015	6/9–8/7	176	95,093	9	74,729	42
2005-14 Average		548	74,643	332	113,230	46

^a Chinook salmon weir counts are for large, three ocean or older, fish.

The Chinook salmon escapement goal range of 450–1,050 fish is for large fish.

^b Sockeye salmon escapement goal range is 30,000 to 70,000 fish.

^c The Situk weir is not operated through the end of the coho salmon return and is not a useful measure of escapement for this species.

^d The pink salmon escapement goal is to pass 33,000 by August

Note: In 1992 and from 1994 to the present, the weir has been operated by Sport Fish Division in May and early June to count emigrant steelhead

Table 18.–Harvest of salmon in the Yakutat Bay set gillnet fishery by fishing period, 2015.

Week	Ending Date	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
25	20-Jun	32	99	2,580	3	1	8	2,691	2.5
26	27-Jun	23	122	1,544	23	2	8	1,699	2.5
27	4-Jul	26	111	1,840	19	52	9	2,031	2.5
28	11-Jul	25	86	2,782	122	105	9	3,104	2.5
29	18-Jul	25	54	2,411	103	2,082	13	4,663	2.5
30	25-Jul	22	27	627	194	3,330	23	4,201	2.5
31	1-Aug	11	5	551	53	3,225	13	3,847	3.5
32	8-Aug	8	2	462	10	2,766	12	3,252	5.0
33	15-Aug	5	1	605	29	722	18	1,375	3.0
34	22-Aug	6	1	51	40	667	13	772	3.0
35	29-Aug	8	0	112	162	1,844	31	2,149	3.0
36–38	19-Sep	4	0	21	89	0	10	120	9.0
39	26-Sep	Not Fished							3.0
40	3-Oct	a	a	a	a	a	a	a	3.0
41–42	17-Oct	Not Fished							6.0
Totals		38	509	13,586	865	14,796	167	29,923	53.5

^a Fewer than three permits, all catch figures are confidential.

Table 19.–Harvest of salmon in the Yakutat Bay set gillnet fishery, 2015, and 5-year-catch comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2010	46	92	15,092	1,052	17,200	377	33,813	54.5
2011	50	257	27,612	6,646	62,774	215	97,504	67.0
2012	39	247	23,836	2,672	5,275	280	32,310	48.0
2013	36	492	26,837	5,362	6,145	192	39,028	40.0
2014	41	266	29,670	719	4,625	201	35,481	59.0
2015	38	509	13,586	865	14,796	167	29,923	53.5
2010–2014 Average	38	271	24,609	3,290	19,204	253	47,627	54.0
2015 Deviation ^a	-10%	88%	-45%	-74%	-23%	-34%	-37%	-1.0%

^a Percentage deviation from 5-year average.

Table 20.–Harvest of salmon in the Manby Shore Ocean set gillnet fishery, 2015, and 5-year-catch comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2010	13	33	8,938	52	5	71	9,099	48.0
2011	15	111	9,203	503	29	11	9,857	56.5
2012	7	55	5,084	25	1	12	5,177	44.5
2013	9	41	3,600	72	9	5	3,727	21.0
2014	5	14	1,712	4	7	5	1,742	55.5
2015	6	65	4,591	29	17	6	4,708	48.0
2010–2014 Average	10	51	5,707	131	10	21	5,920	45.1
2015 Deviation ^a	-40%	27%	-20%	22%	70%	-71%	-20%	6.0%

^a Percent deviation from 5-year average.

Table 21.–Harvest of salmon in the Tsiu River fishery, 2015, and 5-year catch comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2010	19	6	3	77,780	0	3	77,792	20.0
2011	21	0	16	34,745	171	2	34,934	34.0
2012	13	0	0	45,821	0	6	45,827	12.0
2013	13	0	0	44,887	0	0	44,887	23.0
2014	9	0	0	37,613	0	0	37,613	20.0
2015	6	0	24	16,968	0	1	16,993	31.0
2010–2014 Avg	15	1	4	48,169	34	2	48,211	22
2015 Deviation ^a	-60%	-100%	500%	-65%	-100%	-50%	-65%	41%

Note: For 5-year comparison, days are for coho salmon season only.

^a Percent deviation from 5-year average.

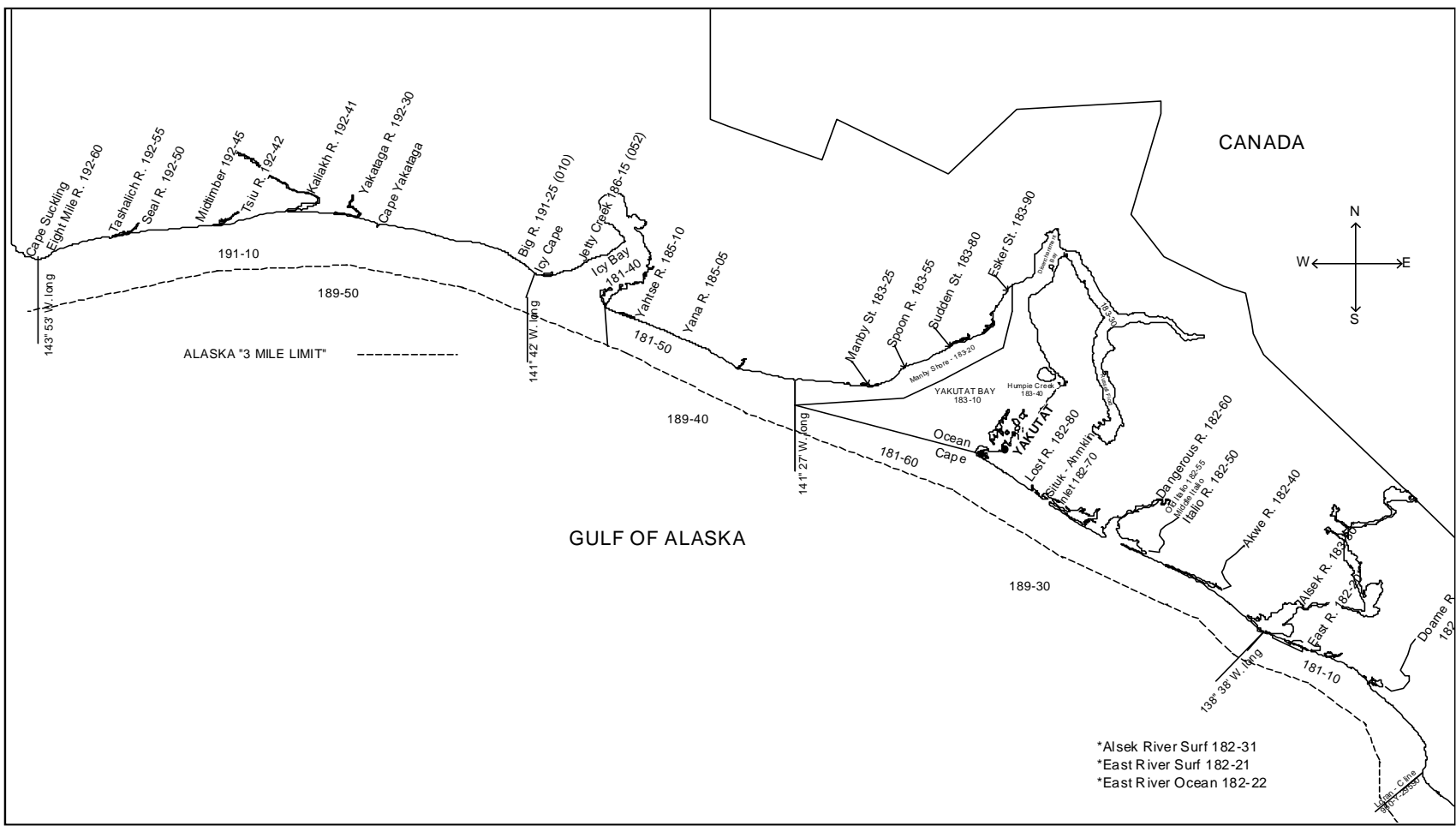


Figure 1.—Yakutat Area map, showing statistical reporting areas.



Figure 2.—Situk-Ahrnklin Inlet commercial set gillnet fishery closure area.