

Fishery Management Report No. 14-29

Annual Management Report of the 2013 Yakutat Area Commercial Salmon Fisheries

by

Gordon F. Woods

and

Nicole L. Zeiser

June 2014

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	e
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	
milliliter	mL	west	W	(multiple)	R
millimeter	mm	copyright	©	correlation coefficient (simple)	r
		corporate suffixes:		covariance	cov
Weights and measures (English)		Company	Co.	degree (angular)	$^\circ$
cubic feet per second	ft ³ /s	Corporation	Corp.	degrees of freedom	df
foot	ft	Incorporated	Inc.	expected value	E
gallon	gal	Limited	Ltd.	greater than	>
inch	in	District of Columbia	D.C.	greater than or equal to	\geq
mile	mi	et alii (and others)	et al.	harvest per unit effort	HPUE
nautical mile	nmi	et cetera (and so forth)	etc.	less than	<
ounce	oz	exempli gratia	e.g.	less than or equal to	\leq
pound	lb	(for example)		logarithm (natural)	ln
quart	qt	Federal Information Code	FIC	logarithm (base 10)	log
yard	yd	id est (that is)	i.e.	logarithm (specify base)	log ₂ , etc.
		latitude or longitude	lat. or long.	minute (angular)	'
Time and temperature		monetary symbols (U.S.)	\$, ¢	not significant	NS
day	d	months (tables and figures): first three letters	Jan, ..., Dec	null hypothesis	H_0
degrees Celsius	°C	registered trademark	®	percent	%
degrees Fahrenheit	°F	trademark	™	probability	P
degrees kelvin	K	United States (adjective)	U.S.	probability of a type I error (rejection of the null hypothesis when true)	α
hour	h	United States of America (noun)	USA	probability of a type II error (acceptance of the null hypothesis when false)	β
minute	min	U.S.C.	United States Code	second (angular)	"
second	s	U.S. state	use two-letter abbreviations (e.g., AK, WA)	standard deviation	SD
Physics and chemistry				standard error	SE
all atomic symbols				variance	
alternating current	AC			population sample	Var
ampere	A			sample	var
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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COMMERCIAL SALMON FISHERIES**

by
Gordon F. Woods
and
Nicole L. Zeiser

Alaska Department of Fish and Game, Division of Commercial Fisheries, Yakutat

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska, 99518-1565

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*Gordon F. Woods,
and
Nicole L. Zeiser
Alaska Department of Fish and Game, Division of Commercial Fisheries
P.O. Box 49 Yakutat, Alaska 99689 USA*

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ABSTRACT

The 2013 Yakutat set gillnet fishery produced a cumulative harvest of approximately 400,000 salmon; this was 20% above the 2003–2012 average. The total harvest included 1,400 Chinook, 168,300 sockeye, 158,000 coho, 67,300 pinks, and 1,400 chum salmon. The salmon harvest had an approximate exvessel value of \$3.0 million to 107 active permit holders. The number of active permits was 9% below the recent 10-year average and comprised 60% of the total set gillnet permits in Yakutat. The 2013 sockeye salmon harvest of 168,300 was above average. Sockeye salmon harvests in almost all the Yakutat District fisheries were above average with the exception of the Alsek and Manby Shore fisheries, which fell below average. Biological Escapement Goals (BEG) for sockeye salmon were met in all sockeye salmon producing systems in Yakutat with the exception of the Lost River and the Kluksu River (tributary of the Alsek River). The area's total coho salmon harvest of 158,000 was 33% above the recent 10-year average. The Situk-Ahrnklin and the Tsiu River produced 96% of the area coho salmon harvest. The area's Chinook salmon harvest of 1,400 was up from recent years but still slightly below the recent 10-year average of 1,600 fish. The top Chinook salmon producers were the Alsek River and Yakutat Bay. All fisheries for Chinook salmon—commercial, subsistence, and sport—were closed initially on the Situk-Ahrnklin River due to a low preseason projection. Management measures were adjusted inseason after the lower bound of the BEG range for Chinook salmon was attained. The Situk-Ahrnklin Inlet was open to the retention of Chinook salmon in mid-July. The pink salmon harvest of 67,300 fish was below the recent 10-year average. The chum salmon harvest of 1,400 was slightly above 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, 2013 season, Chinook, sockeye, pink, chum, coho, salmon, Yakutat, Yakataga, fish ticket, 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.

While 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 long after the fishery has occurred. Fisheries performance data, expressed as CPUE, are compared with historical data to estimate run strength for management purposes. Two ocean fisheries, the Manby Shore and the Yakutat Bay fisheries, 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 2013 Yakutat Area set gillnet fishery produced a cumulative harvest of approximately 397,000 salmon. This was 20% above the recent 10-year average (Tables 2 and 3). Of the 179 Yakutat set gillnet permits, 107 were active this season which was slightly below the recent 10-year average of 117 permits. The average Yakutat permit holder earned \$28,300 for the 2013 season; this was double the 10-year average (Table 4). Sockeye salmon harvest in the Situk-Ahrnklin Inlet, East Alsek River, Dangerous River, Akwe and Yakutat Bay fisheries was well above average while the Alsek River and Manby Shore fisheries were below average. The coho salmon harvest was above the recent 10-year average in 2013. The Situk-Ahrnklin Inlet accounted for 68% of the coho salmon harvest while the Tsiu River accounted for 28% (Table 5). Almost all of the remote systems, although open to fishing, received little or no effort for coho salmon in 2013. A buying station was maintained on the Tsiu River for the ninth time since 2001, and 45,000 coho salmon were harvested. Coho salmon accounted for 40% of the total Yakutat Area salmon harvest. The return of pink salmon to the Situk River was average in 2013. There is little economic incentive to harvest pink salmon, so they are harvested incidentally to sockeye and coho salmon. The harvest of nearly 59,000 pink salmon in the Situk-Ahrnklin Inlet was slightly below average. The chum salmon harvest in the Yakutat Area was slightly above the recent 10-year average, and the Chinook salmon harvest of 1,400 fish was 14% below the recent average.

SOCKEYE SALMON

The sockeye salmon harvest of 168,400 was above the recent 10-year average of 125,300 fish and the second highest harvest during that time. The 2013 harvest of approximately 88,800 Situk-Ahrnklin sockeye salmon was well above the recent 5-year average of 52,500. The Situk-Ahrnklin Inlet was the peak producer for the area and accounted for 53% of the sockeye salmon harvest. The Situk River weir count of 118,600 sockeye salmon was well above the BEG range of 30,000–70,000.

The peak sockeye salmon escapement count to the East Alsek River (East River) was 24,000 fish. The peak sockeye salmon count to the Doame River was 2,500 fish. The Doame River was not surveyed as extensively as the East River due to pilot time constraints, and the count of 2,500 fish should be considered a partial count. These two systems are counted as one watershed and share a common BEG of 13,000–26,000 sockeye salmon, which was exceeded in 2013. Commercial fishing does not open in the East River until escapement of 13,000 fish has been observed. Commercial fishing was opened to sockeye salmon harvest on the East River in 2013. The East and Doame rivers are two separate systems with genetically distinct sockeye salmon populations; run timing for each is completely different. The department believes that the sockeye salmon populations may be in a state of transition due to changes in 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-0.4 to age-1.5 fish. The department will continue to monitor these changes and may re-evaluate the spawning escapement goals in the future.

The Alsek River recorded a below average sockeye salmon run in 2013. The Alsek River set gillnet fishery harvested 7,500 sockeye; this was approximately half the recent five-year average

of 14,000 fish (Tables 6 and 7). Yakutat Bay, with a harvest of 26,800 sockeye, accounted for 16% of the total sockeye salmon harvest. The Akwe River harvest of 15,900 sockeye salmon doubled the recent five-year average, and was nearly three times the 2012 harvest of 6,000 fish. The Dangerous River harvest of 7,000 sockeye was above the recent five-year average of 5,000 fish. In the Manby Shore fishery, fewer than three permits fished and the harvest is confidential.

COHO SALMON

The 2013 coho salmon harvest of 158,000 was 33% above the recent 10-year average of 119,000 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 nearly 107,000 coho salmon was above the recent five-year average of 73,000 fish. The only other major coho salmon producer in Yakutat in 2013 was the Tsiu River in the Yakutaga District. The presence of a buying station on the river again prompted sustained effort on the Tsiu for the ninth year in a row. The Tsiu River harvest of 44,900 coho salmon was 10% below the recent five-year average. Yakutat Bay harvest of 5,400 coho salmon was above the recent average of 3,000 fish. The Alsek and East rivers and Manby Shore contributed small numbers of coho salmon to the total harvest in 2013. Minimal effort was recorded on Manby Stream and harvest is confidential. The Kaliakh River, Sudden Stream, and the Yahtse and Yana rivers were not fished in 2013.

CHINOOK SALMON

With the exception of the troll fisheries, there are no directed fisheries for Chinook salmon in the Yakutat Area, so 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 preseason projection for the Situk River was for a below average run in 2013 so conservation measures were taken for the third year in a row as mandated by 5 AAC 30.365, *Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan*. The commercial, sport, and subsistence fisheries for Chinook salmon on the Situk-Ahrnklin Inlet were closed at the start of the season in 2013. 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 BEG of 450–1,050 large Chinook salmon was attained in 2013 for the first time since 2009 and subsistence, sport, and commercial fisheries were opened to the retention of Chinook salmon in mid-July. The preseason projection for the Alsek River in 2013 was for a slightly above average Chinook salmon return, and the final escapement exceeded the upper bound of the BEG range. The Alsek River harvest of approximately 500 Chinook salmon was near the recent five-year average. A test fishery for Chinook was not conducted on the Alsek River in 2013. The Yakutat Bay harvest of 500 Chinook salmon was 65% above the recent five-year average for the Bay. The Akwe River harvest of 80 Chinook salmon was right on target with the recent five-year average. The Alsek River and Yakutat Bay accounted for over half of all Chinook salmon harvested in the Yakutat Area. The total harvest of 1,400 Chinook salmon was slightly below the recent 10-year average of 1,600 fish. Set gillnet Chinook salmon prices were \$2.33/lb. this season, which was slightly above the recent average.

PINK SALMON

The pink salmon return to Yakutat in 2011 was one of the largest on record with an estimated three million pink salmon in Yakutat Bay by early August. By contrast, the Yakutat Area

experienced a reversal of fortune in 2012 and had one of the poorest pink salmon returns since 2002. In 2013, the pink salmon harvest of 67,300 fish was 20% below the recent 10-year average of 84,000. Yakutat Bay and the Situk-Ahrnklin Inlet were the top two producers for the area. The two fisheries together accounted for almost all of the pink salmon harvested in the Yakutat Area. The Situk-Ahrnklin Inlet harvest of nearly 59,000 pink salmon was below the recent five-year average of 83,000 fish. The Yakutat Bay harvest of 6,100 pink salmon was well below the recent five-year average of 23,000 fish and the second lowest harvest during that time. Pink salmon harvested in Yakutat Bay are predominantly of Situk River and Humpback Creek origin. Approximately 133,600 pink salmon passed through the Situk River weir achieving the Lower-bound Sustainable Escapement Goal (SEG) of 33,000 fish by August 5.

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 2013, the East River fishery had a harvest of approximately 800 chum salmon which doubled the recent average. The area-wide chum salmon harvest of 1,400 fish was slightly above the recent 10-year average of approximately 1,200 fish. The East River was the biggest chum producer in the Yakutat Area.

YAKUTAT DISTRICT FISHERIES

ALSEK RIVER

Alsek River salmon management is conducted in cooperation with the Canadian Department of Fisheries and Oceans 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. The department was granted permission to conduct test fisheries for Chinook salmon. A test fishing study was initiated because of the need for an inseason index of run timing and abundance for Alsek River Chinook salmon stocks. These test fisheries were conducted from 2005 through 2008, but were discontinued in 2009 and 2010 due to poor Chinook salmon returns. A test fishery for Chinook salmon was implemented again in 2011 and 2012. A test fishery was not conducted in 2013 based on concerns that this fishery may have impacted the predicted poor sockeye salmon return. 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 15 permit holders on the Alsek River harvested approximately 500 Chinook, 7,500 sockeye, 17 coho, 5 chum, and no pink salmon in 2013 (Tables 6 and 7). The sockeye salmon harvest was about half the recent five-year average of 14,000 fish (Table 7). In 2013, the Alsek was opened to commercial fishing on June 2 during statistical week 23. Traditionally, adjustments to weekly fishing periods during the sockeye salmon season rely heavily on fishery performance data; the decision to extend any given period is generally based on CPUE data gathered during that period. Parent-year escapement information is also considered when determining the weekly fishing periods. The Alsek River commercial fishery was initially opened for 24 hours. The overall Alsek drainage sockeye run was expected to be below average in 2013 so conservative management measures were implemented. No extended fishing time was

given until near the end of the sockeye salmon season. The peak sockeye salmon harvest occurred during statistical week 31 with only 3 permits fishing. By statistical week 31 there was a substantial drop in effort 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 the river was not fished during the last seven weeks the fishery was opened. The Chinook salmon harvest of almost 500 fish was near the recent five-year average. 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. The BEG for sockeye salmon was not attained at the Klukshu weir in 2008 and 2009 so conservation measures took place in 2010. Both sockeye and Chinook salmon BEGs were met in 2010 and 2011. In 2012 the sockeye salmon escapement was above average and above the BEG range of 7,500–15,000 fish; however the Chinook salmon BEG of 1,100–2,300 fish was not achieved. 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 was completed in February 2013.

The current analysis suggests the appropriate spawning escapement goal for Klukshu River adult Chinook salmon is 800–1,200 fish. The Klukshu weir escapement of approximately 1,300 Chinook salmon met the top end of the new BEG (Table 8). The revised spawning escapement goal for Klukshu River sockeye salmon is 7,500 to 11,000 fish. The Klukshu River weir count of 3,900 sockeye salmon was well below the recent 10-year average of approximately 14,000 sockeye salmon and the BEG was not achieved (Table 8). Aerial escapement surveys of sockeye salmon are typically conducted on the Tanis River, Cabin, and Basin Creeks. Due to lack of airplane pilots in Yakutat, these systems were not surveyed in 2013.

Effort levels in the Alsek generally plummet during coho salmon season, and no more than three permits fished during the coho salmon season. The Alsek remained opened through the second week in October, and the river was not fished during the last seven 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 7,300 coho salmon was well above the recent 10-year average of approximately 1,600 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 which 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. Those glory days were seen again in 2007. In 2008, the East River experienced a harsh turn of events, experiencing what was by far the poorest run on record, and the river was not open to commercial fishing for sockeye salmon. By contrast, the 2009 escapement surveys indicated a strong run and the river opened to commercial fishing. In 2010, the sockeye run was just below the lower bound of the escapement goal range of 13,000–26,000 fish and the river was once again closed to commercial fishing for sockeye salmon. In 2011 and 2012, surveys indicated strong sockeye salmon runs, and the department opened the river to commercial fishing. In 2013, the East River commercial set gillnet fishery initially opened on July 23 for 48 hours. Fishing periods were extended from three days the following week to 5 days during statistical week 32. Fishing times remained at three

days throughout the rest of the season. A total of 13 permits harvested approximately 18,500 sockeye salmon in 2013 (Tables 9 and 10). The peak escapement count of 24,000 sockeye salmon was recorded on August 1, achieving the BEG of 13,000–26,000 fish. The East River was only fished for coho salmon during two of the last seven weeks of the season. There was minimal effort during the coho salmon season, and catch information is negligible. The East River harvest of nearly 800 chum salmon was well above the recent 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. There was no pink salmon harvest on the East River in 2013. The East River was not surveyed for coho salmon in 2013 due to the lack of available pilots in the Yakutat Area at that time.

AKWE RIVER

The Akwe River harvest of nearly 16,000 sockeye salmon was 82% above the recent five-year average of approximately 9,000 fish (Table 11). It was the second highest harvest for that time period. The Akwe opened on the fourth Sunday in June and was fished for sockeye salmon during the first eight weeks of the season. No more than three permits fished the Akwe River in 2013. A peak aerial survey count of approximately 13,700 sockeye salmon was well above the BEG range of 600–1,500 fish. This count was conducted by the U.S. Forest Service by raft and is currently the highest escapement count on record for the Akwe River. Fewer than three permits fished during the coho salmon season and harvest information is confidential. 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. Weekly fishing times are initially announced at 1.5 days and then adjusted inseason according to fishery performance. Fishing periods were extended to 2.5 days for the following three weeks, then extended to 3.5 days for the last two weeks of the season due to strong sockeye salmon escapement counts.

Prior to 2012, the lower Akwe River regulatory markers were approximately one-half mile downstream from the confluence of the Akwe and Italio rivers, and set gillnet permits targeting Akwe River fish could intercept the declining New Italio River stocks in the common river waters below the markers. Since 1987 the department has protected New Italio River stocks by placing the markers 500 yards upstream from the confluence of the two rivers by emergency order. During the Alaska Board of Fisheries (BOF) meeting in February, 2012, a proposal to make this marker movement permanent was adopted into regulation (5 AAC 30.350).

ITALIO RIVERS

Three different rivers comprise the Italio River system: the Old, Middle, and New Italio rivers. The Old Italio 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 Italio River and created two distinct rivers where only one had existed before. The main river is now called the New Italio, and the original river channel is the Middle Italio. All three systems support coho populations, and the New Italio River also has a small run of sockeye salmon. With the decline in sockeye salmon production, the New Italio 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. The U.S. Forest Service continued the project this year and recorded slightly less than 6,000 sockeye salmon through the weir. These projects along with the department's aerial surveys are helpful tools used to monitor the recovering Italo River sockeye salmon stocks. The Italo River has an established BEG for coho salmon of 1,400–3,600 fish. No late fall surveys were conducted in 2013 due to lack of aerial transportation and inclement weather. The Italo rivers (Old, Middle, and New) were not open to commercial fishing for coho in 2013.

DANGEROUS RIVER

The Dangerous River was opened to commercial fishing on the second Sunday in June. A total of three permits fished the Dangerous River in 2013 and 7,000 sockeye salmon were harvested (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 strong sockeye run and extra fishing times were warranted. Fishing time remained at 3.0 days throughout the coho salmon season but the Dangerous River was not fished for coho salmon.

SITUK-AHRNKLIN INLET

The Situk-Ahrnklin Inlet commercial set gillnet fishery recorded above average harvests for all species during the 2013 season with the exception of pink salmon (Tables 13 and 14). The Situk-Ahrnklin Inlet generated 64% of the Yakutat Area set gillnet income (Tables 15 and 16). The total value of approximately \$2.0 million was 12% above the five-year average and about \$1.0 million more than the historical average. The harvest of just under 89,000 sockeye salmon was also above the recent average. Situk-Ahrnklin sockeye accounted for 53% of the area sockeye salmon harvest. The coho salmon harvest of approximately 107,000 fish was 46% above average, and accounted for more than half of the area's total coho salmon production. A harvest of nearly 59,000 pink salmon was 29% below the recent average and accounted for 87% of the total Yakutat Area pink salmon harvest.

The Situk River weir was installed in the lower river for the 26th consecutive year and used for inseason management of the sockeye and Chinook salmon fisheries (Table 17). This was the 19th year that the resistance board or “floating” weir was used. 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 total return forecast of 475 large (ocean-age-3) Chinook salmon to the Situk River in 2013, with a range of 173-769 fish. This year's estimate was slightly below last year's forecast of 500 large Chinook salmon. The BEG for Situk River Chinook salmon is 730 ocean-age-3 and older fish, 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 return of large Chinook salmon is less than 350 fish, the department shall close the Chinook salmon sport, subsistence, personal use, commercial set gillnetting, and trolling in State waters adjacent to the mouth of the Inlet for

Chinook salmon. Although the projection was greater than 350 Chinook salmon, it was too close to the lower bound of the BEG range. With poor Chinook salmon returns for several years in a row, the department opted to manage the fisheries with strict conservation measures. All these fisheries were closed by emergency order prior to the initial opening for the Situk-Ahrnklin Inlet set gillnet fishery.

5 AAC 30.365 makes no mention of sockeye salmon under this scenario. Sockeye and Chinook salmon run timing in the Situk-Ahrnklin Inlet is virtually identical. The case could be made that for Chinook salmon conservation, the sockeye salmon commercial and sport fisheries should be closed, while subsistence fisheries remain open. There is a dilemma in conducting a commercial net fishery for sockeye salmon in the Inlet when the subsistence fishery for Chinook salmon is closed. As stated previously, the Situk-Ahrnklin Inlet gillnet fishery produces, on average, over 50% of the exvessel value of the Yakutat gillnet fisheries, and the loss of the sockeye salmon fishery would have a negative economic impact on the community. The preseason projection for sockeye salmon was also for below average returns in 2013 so area managers were faced with difficult management decisions. If the projection was off and there was a harvestable surplus of fish with no net fishery, there could be potential for over-escapement. In 2011 department staff attended meetings with the Yakutat Tlingit Tribe and with the City & 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 2012 with success. In 2013, the same strict conservation plan was in effect at the beginning of the season. The subsistence fishery for Chinook salmon was closed, effective May 19, and the retention and sale of Chinook salmon in the Situk-Ahrnklin Inlet was prohibited when the sockeye salmon fishery opened on the third Sunday in June. The BEG for large Chinook salmon was reached for the first time in three years and the restrictions were lifted by July 16. The plan as outlined contained three important provisions for Chinook salmon conservation:

1. There are three markers in place where the Situk River enters the Inlet that delineate fresh river water at mean low tide, upstream of which are closed waters. It was recognized that approximately 75% of Chinook salmon taken in the commercial fishery came from the nets in open waters immediately adjacent to the closure lines. The markers would be moved further out to eliminate those sets, thus tripling the area of closed waters. When conservation measures were no longer needed, the markers would be returned to normal positioning.
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 board amended the regulation from “non-sale” to “non-retention.” 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 within the community.
3. Finally, it was recognized that the department 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 working. 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 for the first three weeks of the season. For the initial opening, 48 permits harvesting over 16,700 sockeye salmon. This was the second highest initial opening harvest on record for the Situk-Ahrnklin Inlet. The highest opening harvest occurred in 1966 when 21,000 sockeye salmon were harvested. The total Situk-Ahrnklin Inlet harvest of nearly 89,000 sockeye salmon was 69% above the five-year average. An estimated 118,600 sockeye salmon passed through the Situk River weir in 2013. This exceeded the BEG range of 30,000–70,000 fish and was the fourth highest escapement count on record. A total of 912 large Chinook salmon passed the weir in 2013 surpassing the preseason projection of 475 fish and was the first time the BEG range of 450–1,050 large Chinook salmon had been achieved since 2009. Once the mid-range goal of 730 large Chinook salmon was attained, the department opened all fisheries, subsistence, sport, and commercial, to the retention of Chinook salmon as of July 16, 2013. This was the first time since 2009 that retention and sale of Chinook salmon was allowed in the Situk Inlet fishery. During the “non-retention” period, a total of 62 dead Chinook salmon were retained from nets to be distributed to the Yakutat Senior Center. The department will continue to take measures to ensure that Chinook salmon are conserved in the Situk-Ahrnklin Inlet while providing opportunities for harvesting sockeye salmon.

The harvest of nearly 107,000 coho salmon was 46% above the recent five-year average of 73,000 fish. The 14-year period from 1992 to 2005 was the most productive in the history of the Situk-Ahrnklin Inlet coho salmon fishery, with ten of the fourteen years recording a harvest in excess of 100,000 coho salmon. Seven of those fourteen years recorded harvests in excess of 150,000 fish. There has been a downturn in this level of production since 2003, however it appears stocks are rebuilding. The 2013 harvest was the highest harvest in the past five years. The long-term historical record yields a different perspective. During the 30-year period, 1961–1991 the average coho salmon harvest in the Situk-Ahrnklin Inlet fishery was 31,500, and only four of those years produced a harvest of over 50,000 coho salmon. Although escapement survey conditions were poor throughout most of the 2013 season, a peak Situk River escapement survey of approximately 15,000 coho salmon was recorded on August 29, exceeding the BEG range of 3,300–9,800 by over 5,000 fish. This was by far the highest survey count ever recorded during the month of August. The commercial fishing period varied between three to five days throughout the coho salmon season. A peak count of 61 permits fished during the second week of September, and this effort was above average for recent coho salmon seasons. This year continues the recent reversal of historical effort patterns. Prior to 2000 peak effort levels in the Situk-Ahrnklin Inlet were recorded during the sockeye salmon season when as many as 90 permits fished the Inlet. Effort then dropped to about 50 permits during the fall when some effort shifted to some of the more remote coho salmon systems. Now, more effort is remaining in Yakutat Bay during the sockeye salmon season. And 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 59,000 was below the recent 5-year average of approximately 83,000 fish. The peak of the pink return occurs between the end of the sockeye season and the onset of the coho salmon season. Effort levels always diminish during this time, as fewer permits are willing to fish for pink salmon because of the comparatively low price. In 2013 the pink

salmon price was \$0.31 per pound. 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 last seven years. Although Southeast Alaska set a record for pink salmon harvest in 2013, this was not the case for the Yakutat Area. The chum salmon harvest of 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 lack of man power and/or poor river conditions. 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 5th. In 2013, 133,500 pink salmon were counted through the weir prior to its removal, and the goal was well attained. 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. This closure forced the displacement of some traditional fishing sites and many of these fishermen have elected to transfer their enterprises to either the Situk-Ahrnklin Inlet or to Yakutat Bay.

The Lost River was not opened to commercial set gillnetting in 2013. The peak sockeye salmon escapement count of fewer than 600 fish did not meet the lower-bound SEG of 1,000 fish for the Lost River. The peak coho salmon escapement count of approximately 2,600 was above the lower-bound SEG of 2,000 fish. 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 2013 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 2.5 days per week throughout the the sockeye season. Yakutat Bay recorded harvests of 500 Chinook, 26,800 sockeye, 5,400 coho, 6,100 pink and 200 chum salmon in 2013 (Table 18). The sockeye salmon harvest was 38% above the recent five-year average (Table 19). In 2013 the Yakutat Bay fishery was the second highest sockeye salmon producer in the area. A total of 36 permits fished in Yakutat Bay, with a peak effort of 25 permits fished during the first week of the

season. Chinook salmon are harvested incidentally in the sockeye salmon fishery, and the harvest of 500 Chinook salmon was 65% above the recent 5-year average.

Yakutat Bay has never been a major coho salmon producer, perhaps due to the concentration of effort elsewhere during coho salmon season. The 2013 coho salmon harvest of 5,400 fish was 71% above the recent five-year average and was the second highest harvest during that time. Effort levels always remain low in Yakutat Bay for coho salmon, and only eight permits fished the Bay during the first week of the coho salmon season.

The Yakutat Bay pink salmon harvest of 6,100 fish was 74% below the recent 5-year average of 23,000 fish and was the second lowest pink salmon harvest in the Bay during that time period. 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 seen 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 Humpy Creek have not been conducted since the mid-1990s, because there was very little fishing effort at Humpy Creek in the early 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 streams harvests were recorded with those from Yakutat Bay. It is likely that the ocean fishery for sockeye developed in 1977 since fairly consistent sockeye salmon 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 and was fished for the next five weeks. Fewer than three permits fished three of those six total weeks. A total of nine permits harvested 3,600 sockeye salmon, and this was 33% below the recent five-year average (Table 20). The harvest of 40 Chinook salmon was similarly below the recent average. The Manby Shore ocean fishery was not fished for coho in 2013.

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 some, or none, may be fished in any given year. Sudden and Manby Streams produce both sockeye and coho, while the Esker Creek and Spoon River fisheries target only coho salmon. In 2013 fewer than three permits fished Manby Stream for sockeye salmon and harvest records are confidential. Sudden Stream, Spoon River, and Esker Creek were not fished in 2013. Escapement counts are limited due to the glacial nature of most Manby area streams and no surveys of these inside waters were conducted in 2013. 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 2013. No aerial surveys of these systems were conducted due budget constraints.

YAKATAGA DISTRICT FISHERIES

OVERVIEW

The Yakataga District opened on August 1, 2013. The Tsiu River sustained a normal commercial fishery for the ninth year in a row. The Kaliakh River, Tashalich River, Eight Mile Creek, and the Seal River were open, but not fished in 2013.

TSIU RIVER

The Tsiu River is home to a productive coho salmon run during a 6–8 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 2013 Yakutat Seafoods maintained a buying station on the Tsiu River and flew fish to Yakutat with different aircrafts including a DC-3 and a single turbine Otter. This marked the ninth time since 2001 that a processor maintained a presence on the Tsiu. A total of 13 permits fished on the Tsiu River in 2013. This was about half the number of permits that fished in 2011, but near the recent average. The harvest of nearly 45,000 coho salmon was slightly below the recent 5-year average of 50,000 fish (Table 21).

There are no processing facilities on the grounds, no slime line, no ice making capability, and nets can only be in the water when the weather is good enough to fly fish to market. To an extent, an attempt is made to schedule openings around the weather, but in many instances this is not possible. The Tsiu River area is notorious for foul weather conditions during the fall so fishing times vary from year to year. In 2010 there was an abnormally dry season and the river was extremely low, preventing fish from making it up past the markers and into the spawning grounds. The regulatory markers on the Tsiu River were moved approximately 1½ miles downriver to open the fishery in the lower half of the river while protecting approximately 10,000 coho salmon holding in the middle of the river. Low water levels along with strong coho salmon returns led to a harvest of 78,000 fish. The 2010 harvest is the second highest harvest on record following the 1992 record harvest of 92,000 coho salmon. In 2011, the Tsiu River fishery returned to normal conditions. In 2012, the markers were initially placed a few hundred yards downstream from their regulatory location to protect fish that were prevented migrating upstream by low water conditions. As water levels improved, these fish moved on upriver, and the markers were moved back to the location established by regulation. Inclement weather on the Tsiu River limited commercial fishing times and the river was only fished three out of the six weeks opened to commercial fishing. In 2013, dramatic geological changes occurred in the Tsiu River altering channels and creating new ones. This made it difficult to determine which route the fish would take to get to the spawning grounds. Once again, the department moved the regulatory markers approximately two miles downstream to protect an estimated 8,000 coho salmon holding in the river above and below the new channels to ensure escapement before opening the commercial fishery. After desired escapements were observed, the initial opening was scheduled for Sunday, August 25. Fishermen were unable to fish due to flooding on the runway and the fishery was extended one day. The river was fished two 24-hour periods that first week with catches promising a strong coho run. Two 24-hour periods were announced for the second week, but the second period had little attempted effort due to gale force winds and more flooding. The third week was opened by regulation but storm conditions persisted for the next ten days with gales and heavy rain causing massive flooding and unfishable conditions. The river was finally fished

again for two 24-hour periods the week of September 16 with high harvests. An aerial survey revealed a peak escapement count of over 47,000 coho salmon on September 15 and the markers were moved back up to their regulatory location. The coho salmon escapement was well over the BEG range of 10,000–29,000 fish, and was the third highest escapement count since 1973. More surveys were conducted thereafter, but survey conditions were not optimal. Fishing effort declined by the end of September and the Tsiu River was open, but not fished, during the second week of October.

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TABLES AND FIGURES

Table 1.–Summary of Yakutat salmon stock escapement goals (EG) and source documentation.

Species	Stock	Type	Escapement Goal	ADF&G EG/ Document
Sockeye	Situk River	Weir-Total Count	30,000–70,000	RIR No. 1J95-22 ^a
Sockeye	Akwe River	Aerial Survey Index	600–1,500	RIR No. 1J95-16 ^b
Sockeye	East Alsek River	Aerial Survey Index	13,000–26,000	SP No. 03-04 ^c
Sockeye	Lost River	Aerial Survey Index	1,000	RIR No. 1J95-16 ^b
Sockeye	Klukshu River	Weir-Total Count	7,500–15,000	RIR No. 1J00-24 ^d
Chinook	Klukshu River	Weir-Total Count	1,100–2,300	FMR No. 98-2 ^e
Chinook	Situk River	Weir-Total Count	450–1,050	SP No. 03-01 ^f
Pink	Situk River	Weir-pass by August 5	33,000	SP No. 11-18 ^g
Coho	E. Alsek-Doame	Aerial Survey Index	2,500–8,500	RIR No. 1J94-14 ^h
Coho	Akwe River	Aerial Survey Index	1,800–5,000	RIR No. 1J94-14 ^h
Coho	Italio River	Aerial Survey Index	1,400–3,600	RIR No. 1J94-14 ^h
Coho	Situk River	Aerial Survey Index	3,300–9,800	RIR No. 1J94-14 ^h
Coho	Lost River	Aerial Survey Index	2,200	RIR No. 1J94-14 ^h
Coho	Kaliakh River	Aerial Survey Index	4,000–14,000	RIR No. 1J94-14 ^h
Coho	Tsiu/Tsivat	Aerial Survey Index	10,000–29,000	RIR No. 1J94-14 ^h

Note: All but three escapement goals are biological escapement goals. The Lost River sockeye and coho, and the Situk River pink salmon escapement goal are lower-bound sustainable escapement goals (SEG).

^a Clark et al. 1995b

^b Clark et al. 1995a

^c Clark et al. 2003

^d Clark and Etherton 2000

^e McPherson et al. 1998

^f McPherson et al. 2003

^g Piston and Heintz 2011

^h Clark and Clark 1994

Table 2.–Total salmon harvest by species in the Yakutat Area set gillnet fishery by fishing period, 2013.

Week	Ending Date	Chinook	Sockeye	Coho	Pink	Chum	Total
23	8-Jun	96	162	0	0	0	258
24	15-Jun	311	3,193	51	2	81	3,561
25	22-Jun	230	18,404	547	2	26	19,183
26	29-Jun	141	14,469	877	3	6	15,493
27	6-Jul	129	18,816	316	53	8	19,320
28	13-Jul	175	32,803	2,255	755	28	36,008
29	20-Jul	146	26,059	215	2,476	34	28,922
30	27-Jul	114	22,540	610	7,361	156	30,769
31	3-Aug	32	14,219	603	14,222	117	29,178
32	10-Aug	15	12,854	1,063	13,339	324	27,566
33	17-Aug	8	3,146	2,090	12,433	502	18,174
34	24-Aug	1	1,197	5,729	8,775	87	15,779
35	31-Aug	2	357	29,598	6,311	17	36,282
36	7-Sep	1	113	38,643	1,608	12	40,377
37	14-Sep	0	11	17,250	0	9	17,270
38	21-Sep	0	11	34,745	4	6	34,766
39	28-Sep	0	1	15,359	0	13	15,373
40	5-Oct	0	1	6,872	0	1	6,874
41	12-Oct	0	0	1,223	0	1	1,224
Totals		1,401	168,356	158,046	67,344	1,428	396,377

Table 3.–Ten-year comparison of Yakutat Area set gillnet effort and salmon harvest.

Year	Active Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
2003	104	3,847	154,441	74,343	48,418	542	281,591
2004	112	2,734	88,282	196,930	23,207	1,555	312,708
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
2003–2012 Average	117	1,634	125,338	119,079	84,418	1,235	331,704
2013 ^a	-9%	-14%	34%	33%	-20%	16%	20%

^a Percentage deviation from 10-year average.

Table 4.–Average earnings from set gillnet fishing, Yakutat Area, 1980–2013.

Year	Yakutat Setnet Income	Active Setnet Permits	Average Earning Per Permit	Previous 10- Year Aver. 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	113	\$13,242	\$17,644
2013	\$3,025,915	107	\$28,280	\$15,319
2003-2012 Average	\$1,722,639	\$117	\$14,630	\$14,049
2013 Deviation ^a	76%	-9%	93%	9%

^a Percentage deviation from 10-year average.

Table 5.–Harvest of salmon in the Yakutat Area set gillnet fishery by fishing area, 2013.

Area	Chinook	Sockeye	Coho	Pink	Chum	Total
Alsek	469	7,517	17	0	5	8,008
East	7	18,474	72	0	785	19,338
Akwe	76	15,917	759	1,514	123	18,389
Italio	Closed					
Middle Italio	Closed					
Old Italio	Closed					
Dangerous	2	7,046	0	3	1	7,052
Situk	314	88,751	106,873	58,742	317	254,997
Lost	Closed					
Yakutat Bay	492	26,837	5,362	6,145	192	39,028
Manby Shore	41	3,600	72	9	5	3,727
Manby Stream	Not Fished					
Spoon	Not Fished					
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	0	44,887	0	0	44,887
Seal River	Not Fished					
Tashalich	Not Fished					
Kiklukh	Not Fished					
Totals	1,401	168,356	158,046	67,344	1,428	396,575

Table 6.–Harvest of salmon in the Alsek River set gillnet fishery by fishing period, 2013.

Week	Ending Date	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
23	8-Jun	9	96	162	0	0	0	258	1.0
24	15-Jun	12	204	671	2	0	4	881	1.0
25	22-Jun	11	92	505	0	0	0	597	2.0
26	29-Jun	9	46	451	0	0	0	497	1.0
27	6-Jul	10	20	659	0	0	0	679	1.0
28	13-Jul	11	8	718	0	0	0	726	1.0
29	20-Jul	9	1	1,008	0	0	0	1,009	1.0
30	27-Jul	6	1	918	0	0	0	919	1.0
31	3-Aug	^a	^a	^a	^a	^a	^a	^a	^a
32	10-Aug	3	1	2,188	4	0	0	2,193	3.0
33-34	24-Aug	^a	^a	^a	^a	^a	^a	^a	^a
35-41	12-Oct	Not Fished							
Totals		15	469	7,517	17	0	5	8,008	19.0

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

Table 7.–Harvest of salmon in the Alsek River set gillnet fishery, 2013 and 5-year harvest comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2008	20	593	2,870	2,668	0	2	6,133	33.0
2009	14	602	12,906	3,454	0	20	16,982	38.0
2010	19	273	12,668	1,884	0	9	16,498	17.0
2011	18	546	24,169	1,614	0	11	26,358	59.0
2012	16	510	18,217	536	0	1	19,264	20.0
2013	15	469	7,517	17	0	5	8,008	19.0
2008–2012 Average	17	505	14,166	2,031	0	9	17,047	17.0
2013 Deviation ^a	-12%	-7%	-47%	-100%	0%	-44%	-53%	12.0%

^a Percentage deviation from 5-year average.

Table 8.–Klukshu River Weir escapement, 1976–2013.

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	18,960	2,365
2012	665	17,267	572
2013	1,261	3,902	7,322
2003–2012 average	1,321	13,931	1,560

^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 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, 2013.

Week	Ending Date	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
30	27-Jul	16	4	5,391	1	4	63	5,463	.0
31	3-Aug	13	1	4,463	2	0	214	4,680	3.0
32	10-Aug	10	0	1,245	11	0	323	1,579	5.0
33	17-Aug	8	0	1,012	18	0	468	1,498	3.0
34	24-Aug	3	0	13	12	0	75	100	3.0
35-41	12-Oct	Not Fished							0.0
Totals		13	7	18,474	72	0	785	19,338	16.0

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

Table 10.–Harvest of salmon in the East River set gillnet fishery, 2013 and 5-year harvest comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2008	3	0	1	165	0	0	166	18.0
2009	22	10	7,388	1,042	4	275	8,719	33.0
2010	5	0	103	680	0	214	997	17.0
2011	17	0	14,867	99	0	330	15,390	39.0
2012	17	5	12,124	78	4	1,223	13,434	27.0
2013	13	7	18,474	72	0	785	19,338	16.0
2008–2012 Average	13	3	6,897	413	2	408	7,741	18.0
2013 Deviation ^a	0%	133%	168%	-83%	-100%	92%	150%	-11%

^a Percentage deviation from 5-year average.

Table 11.–Harvest of salmon in the Akwe River set gillnet fishery, 2013, and 5-year harvest comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2008	8	72	3,120	2,535	1	3	5,731	36.5
2009	5	90	7,251	2,270	56	15	9,682	32.0
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
2008–2012 Average	6	84	8,740	2,796	175	136	11,931	37.0
2013 Deviation ^a	-50%	-10%	82%	-73%	756%	-10%	54%	8.0%

^a Percentage deviation from 5-year average.

Table 12.–Harvest of salmon in the Dangerous River set gillnet fishery, 2013, and 5-year harvest comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2008	7	21	2,800	24	104	7	2,956	41.5
2009	22	44	8,747	256	498	31	9,576	55.0
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
2008–2012 Average	9	15	5,094	64	141	9	5,324	50.0
2013 Deviation ^a	-67%	-87%	38%	-100%	-98%	-89%	32%	-57%

^a Percentage deviation from 5-year average.

Table 13.–Harvest of salmon in the Situk-Ahrnklin Inlet set gillnet fishery by fishing period, 2013.

Week	Ending Date	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
25	22-Jun	48	8	16,691	16	2	0	16,717	2.5
26	29-Jun	51	9	10,717	8	2	1	10,737	2.5
27	6-Jul	53	27	12,058	8	28	2	12,123	2.5
28	13-Jul	48	19	14,737	6	430	16	15,208	5.5
29	20-Jul	46	131	18,017	127	2,222	19	20,516	5.5
30	27-Jul	49	89	8,129	136	5,309	43	13,706	6.75
31	3-Aug	36	20	4,639	472	12,325	89	17,545	7.0
32	10-Aug	33	7	2,030	773	12,169	49	15,028	5.0
33	17-Aug	41	1	974	1,841	11,434	21	14,271	3.5
34	24-Aug	39	1	445	5,446	8,053	24	13,969	3.0
35	31-Aug	51	1	177	12,540	5,160	12	17,890	3.0
36	7-Sep	58	1	113	27,873	1,608	12	29,607	5.0
37	14-Sep	61	0	11	17,250	0	9	17,270	5.0
38	21-Sep	54	0	11	23,274	0	6	23,291	4.0
39	28-Sep	50	0	1	11,119	0	12	11,132	5.0
40	5-Oct	42	0	1	4,761	0	1	4,763	4.0
41	12-Oct	12	0	0	1,223	0	1	1,224	3.0
Total		74	314	88,751	106,873	58,742	317	254,997	73.0

Table 14.–Harvest of salmon in the Situk-Ahrnklin Inlet set gillnet fishery, 2012 and 5-year harvest comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2008	80	91	10,625	95,874	43,250	166	150,006	45.0
2009	84	307	49,016	69,978	66,640	147	186,088	70.0
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
2008–2012 Average	81	112	52,514	72,964	83,316	237	206,759	57.0
2013 Deviation ^a	-7%	180%	69%	46%	-29%	34%	23%	28%

^a Percentage deviation from 5-year average.

Table 15.–Exvessel value of Situk-Ahrnklin set gillnet fishery relative to the total Yakutat Area exvessel set gillnet fishery, 1975–2013.

Year	Yakutat Setnet Income (\$USD)	Situk Setnet Income (\$USD)	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	772,554	52%
2013	3,025,915	1,933,110	64%
2003–2012 Average	1,722,780	962,922	57%
2013 Deviation ^a	76%	101%	12%

^a Percentage deviation from 10-year average.

Table 16.–Dollar value of salmon harvest in the Situk-Ahrnklin set gillnet fishery, 1975–2013.

Year	Chinook (USD)	Sockeye (USD)	Coho (USD)	Pink (USD)	Chum (USD)	Total (USD)
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
2003–2012 Average	5,282	374,750	522,412	59,620	898	962,909
2013 Deviation ^a	161%	141%	83%	2%	53%	101%

^a Percentage deviation from 10-year average.

Table 17.–Situk Weir escapement counts, 1988–2013.

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	2706	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	6/1-8/4	912	118,635	31	133,585	3
2008–2012 Average		410	61,365	556	70,337	26
2013 Deviation ^e		-78%	93%	-94%	90%	-88%

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

^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 30,000–70,000 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 Pink salmon escapement goal (SEG) is 33,000 fish passed through the weir by August 5.

^e Percentage deviation from 10-year average.

Table 18.—Harvest of salmon in the Yakutat Bay set gillnet fishery by fishing period, 2013.

Week	Ending Date	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
24	15-Jun	25	107	2,522	49	2	77	2,757	2.5
25	22-Jun	18	110	946	523	0	26	1,605	2.5
26	29-Jun	15	44	1,000	823	0	1	1,868	2.5
27	6-Jul	15	49	1,974	307	19	2	2,351	2.5
28	13-Jul	23	143	15,747	2,238	318	8	18,454	4.5
29	20-Jul	10	8	1,132	67	179	6	1,392	4.5
30	27-Jul	12	17	1,893	385	847	11	3,153	4.5
31	3-Aug	10	7	665	131	1,672	15	2,490	4.5
32	10-Aug	8	2	510	286	1,170	29	1,997	3.0
33	17-Aug	7	5	308	195	998	4	1,510	3.0
34	24-Aug	6	0	116	254	722	10	1,102	3.0
35	31-Aug	3	0	24	104	218	3	349	3.0
36–41	12-Oct	Not fished							
Totals		36	492	26,837	5,362	6,145	192	39,028	40.0

Table 19.—Harvest of salmon in the Yakutat Bay set gillnet fishery, 2013, and 5-year harvest comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2008	56	518	14,976	2,072	21,869	362	39,737	47.5
2009	56	380	15,367	3,246	9,258	348	28,599	60.5
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
2008–2012 Average	49	299	19,377	3,138	23,275	316	46,393	55.5
2013 Deviation ^a	-27%	65%	38%	71%	-74%	-39%	-16%	-27%

^a Percentage deviation from 5-year average.

Table 20.—Harvest of salmon in the Manby Shore Ocean set gillnet fishery, 2013, and 5-year harvest comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2008	6	14	885	21	2	6	928	37.0
2009	12	100	2,830	60	378	33	3,401	48.0
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
2008–2012 Average	11	63	5,388	132	83	27	5,692	47.0
2013 Deviation ^a	-18%	-35%	-33%	-45%	-89%	-81%	-35%	-55%

^a Percentage deviation from 5-year average.

Table 21.—Harvest of salmon in the Tsiu River set gillnet fishery, 2013, and 5-year harvest comparison.

Year	Boats	Chinook	Sockeye	Coho	Pink	Chum	Total	Days
2008	10	0	2	49,292	1	0	49,293	23.0
2009	10	0	74	43,723	121	2	43,920	23.2
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
2008–2012 Average	15	1	19	50,272	59	3	50,353	22.5
2013 Deviation ^a	-13%	-100%	-100%	-10%	-100%	-100%	-11%	-5%

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

^a Percentage deviation from 5-year average.

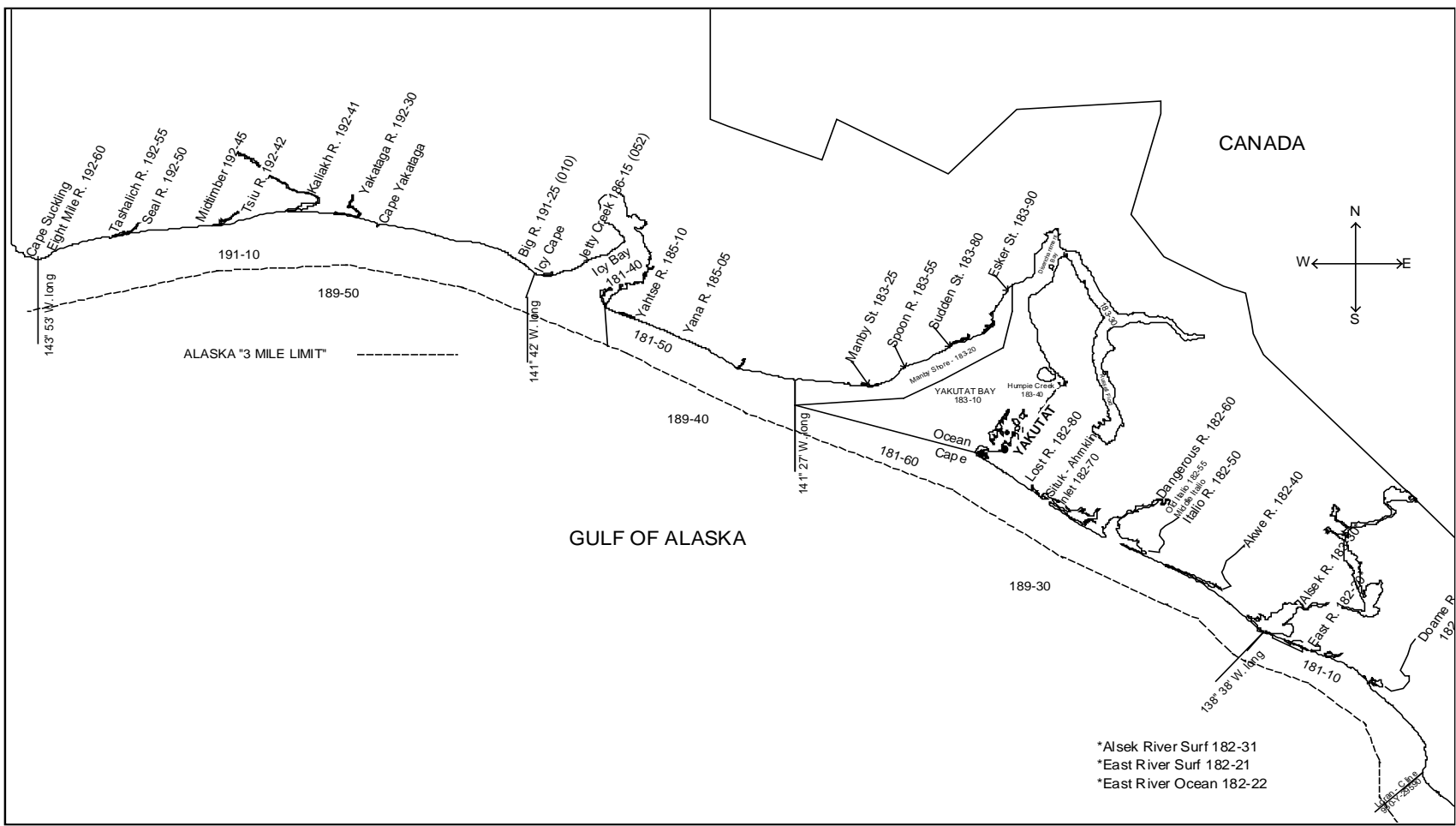


Figure 1.—Yakutat Area map, showing statistical reporting areas.