Fishery Management Report No. 22-06

Annual Management Report for the 2021 Yakutat Commercial Set Gillnet Salmon Fisheries

by

Richard A. Hoffman

September 2022

Alaska Department of Fish and Game **Divisions of Sport Fish and Commercial Fisheries**

Symbols and Abbreviations

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Weights and measures (metric)

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

Weights and measures (English)

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

Time and temperature

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

Physics and chemistry

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

General

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

Mathematics, statistics

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

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by
Richard A. Hoffman
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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Richard A. Hoffman
Alaska Department of Fish and Game, Division of Commercial Fisheries,
1 Fish and Game Plaza, Yakutat, Alaska 99689 USA

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ABSTRACT

This report provides an overview of the 2021 Yakutat Management Area commercial set gillnet fisheries and salmon stock status. Total commercial harvest of all salmon species was 192,000 fish with an estimated exvessel value of $1.6 million, an 11% decrease from the recent 10-year average value of $1.8 million. Harvest included 580 Chinook, 88,000 sockeye, 75,000 coho, 28,000 pink, and 70 chum salmon. The Situk-Ahrnklin Inlet fishery accounted for 74% of the total exvessel value. The total number permits fished was 95, below the recent 10-year average of 108 permits. Harvests of Chinook, sockeye, coho, pink, and chum salmon were below recent and long-term averages. The Situk-Ahrnklin Inlet fishery accounted for 48% of the total sockeye salmon harvest and 82% of the coho salmon harvest. Chinook salmon retention was allowed in all Situk-Ahrnklin Inlet fisheries after inseason run size projections indicated the upper bound of escapement goal range would be exceeded. The 2021 Situk River weir count of 1,064 large Chinook salmon exceeded the biological escapement goal (BEG) range of 450 to 1,050 fish. The Alsek River Chinook salmon estimated escapement of 5,600 fish was above the BEG range of 3,500 to 5,300 fish. The Situk River weir count of 119,072 sockeye salmon was well above the BEG range of 30,000 to 70,000 fish. The Klukshu River weir count of 25,700 sockeye salmon was above the BEG range of 7,500 to 11,000 fish. The East Alsek River count of 29,700 sockeye salmon was above the SEG range of 9,000 to 24,000 fish.

Keywords: Management, Annual Management Report (AMR), set gillnet, 2020 season, Yakutat Management Area (YMA), Chinook, sockeye, pink, chum, coho, salmon, Yakutat, Yakataga, district, statistical week (SW), Situk River, weir, Situk-Ahrnklin Inlet, Yakutat Bay, Tsiu River, Alsek River, East Alsek River, Doame River, Akwe River, Italio River, Biological Escapement Goal (BEG), Sustainable Escapement Goal (SEG), catch per unit effort (CPUE)

INTRODUCTION

Yakutat set gillnet fisheries are divided into 2 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 5 species of salmon are harvested. Yakataga District fisheries only target coho salmon (Figure 1).

Although the bulk of the Yakutat salmon harvest is usually reported from 7 major fisheries (Situk-Ahrnklin Inlet; Yakutat Bay; Manby Shore; and the Alsek, East Alsek, Kaliakh, and Tsiu/Tsivat Rivers), up to 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 biological escapement goals (BEGs) and sustainable escapement goals (SEGs) for most of the major and several of the minor fisheries (Table 1). Two ocean fisheries, Manby Shore Outside and Yakutat Bay, occur within Yakutat Bay. Historical stock analysis of these fisheries indicates the majority of sockeye salmon harvested, especially during the first 6 or 7 weeks of the season, are of Situk-Ahrnklin origin. Therefore, these fisheries are managed to meet Situk-Ahrnklin escapement goals.

Systems mentioned in this report and noted as index streams are used in managing commercial set gillnet fisheries in the Yakutat and Yakataga districts. Escapement counts performed inseason are the primary data used in establishing open time and area for each fishery. The fisheries are managed to ensure escapement goals are met. In the case of glacial systems, it is often difficult to see fish, and escapement is not apparent until fish have passed through the fishery into clearwater tributaries. Fisheries performance data, expressed as catch per unit effort (CPUE), are compared with historical data to estimate run strength for management purposes.

This report summarizes the 2021 commercial salmon fishing season: commercial harvest by fishery, historical commercial harvest, fishing effort, and management actions. General

information concerning escapements and economic value is also contained in this report. Average, unless defined otherwise, refers to the most recent 10-year average (2011–2020). Harvest and escapement, unless otherwise indicated, are in numbers of fish.

YAKUTAT AREA SUMMARY

OVERVIEW

The 2021 Yakutat management area (YMA) set gillnet fishery produced a cumulative harvest of 192,000 salmon (Table 2). The total harvest was 69% of the average of 279,000 fish. Up to 166 Yakutat set gillnet permits are renewed annually (CFEC 2021), and of those, an average of 108 permits are actively fished each year. In 2021, 144 permits were renewed, and 95 permits actively fished. The total exvessel value for the YMA was below the average value of $1.8 million (Table 3). The average earning per permit was estimated at $17,300 for the 2021 season, 150% of 2020 and 2% above average (Table 3).

Salmon runs to the YMA in 2021 were variable, yielding a below-average total salmon harvest. Sockeye salmon runs were generally average to above average in 2021. The Situk-Ahrnklin Inlet accounted for nearly all of the YMA coho salmon harvest. Most remote coho salmon fishing areas, although open to fishing, received little or no effort primarily due to economics of the fisheries (i.e., lack of air transport for getting fish to the processor and low salmon prices). The Kaliakh and Tsiu Rivers were the only areas to receive effort in the Yakataga District in 2021. The 2021 pink salmon run to the Situk River was late and average. Pink and chum salmon are harvested incidentally to sockeye and coho salmon because there is little economic incentive to target them. Chinook salmon are also harvested incidentally to sockeye and coho salmon. Due to continuing concerns for Chinook salmon, extensive conservation efforts were again taken to reduce Chinook salmon harvest, and as a result the 2021 harvest was below average (Table 4).

SOCKEYE SALMON

Sockeye salmon runs to the YMA in 2021 were average to above average, as indicated by harvests and escapements. Directed sockeye salmon fisheries occurred in Alsek and East Alsek Rivers, Dangerous River, the Situk-Ahrnklin Inlet, Yakutat Bay, Manby Shore-Outside, and Sudden Stream (Manby Shore-Inside) in 2021. The total sockeye salmon harvest of 87,900 fish was below the average of 96,200 fish (Table 4).

Situk-Ahrnklin Inlet sockeye salmon runs were above average in 2021. The sockeye salmon run to the Situk-Ahrnklin Inlet was late but did not result in reduced fishing time for the Situk-Ahrnklin Inlet and Yakutat Bay. The Situk-Ahrnklin Inlet sockeye salmon harvest of 42,500 fish was above the average harvest of 40,700 fish (Table 5). The Situk-Ahrnklin Inlet was the primary producer in the YMA, accounting for 48% of the total sockeye salmon harvest (Table 6). The Situk River weir count of 119,072 sockeye salmon was above the BEG range of 30,000 to 70,000 fish (Table 7).

The sockeye salmon run to the East Alsek River was above average in 2021. The East Alsek River sockeye salmon harvest of 18,400 fish was above the average harvest of 8,600 fish and was the second-highest harvest in the last decade (Table 8). The East Alsek River was the second highest producer in the YMA, accounting for 21% of the total sockeye salmon harvest (Table 6). The lower bound of the SEG range of 9,000 to 24,000 sockeye salmon was achieved on July 18, and the peak count of 29,700 fish was above the upper end of the range (Table 9).

The Alsek River sockeye salmon run was above average in 2021. The set gillnet fishery harvest of 8,900 sockeye salmon was below the average harvest of 12,500 fish (Table 10). The Klukshu River weir count of 25,700 fish was well above the upper end of the BEG range of 7,500 to 11,000 fish. The total Alsek River sockeye salmon escapement was estimated to be 98,700 fish (Table 11).

The remaining sockeye salmon fisheries in the YMA were below average to above average. Yakutat Bay was the sixth-highest producer in the YMA with a below-average harvest of 5,900 sockeye salmon. The Manby Shore–Outside fishery was the fourth-highest producer with an average harvest of 7,900 sockeye salmon. The Manby Shore–Inside fishery and the Dangerous River harvest information is confidential because fewer than 3 permits fished in each of these areas. The Akwe River was not fished, and the Italio River remained closed due to low escapement (Table 6).

COHO SALMON

Coho salmon runs to the YMA were expected to be average to above average, although 2021 harvest and escapement did not indicate average to above-average runs. Surveying conditions complicated evaluating run strength in several systems. The 2021 coho salmon harvest of 75,000 fish was below the average harvest of 123,700 fish (Table 4). The Situk-Ahrnklin Inlet harvest of 61,600 coho salmon was below average (Table 5). Yakutat Bay harvest of 680 coho salmon was also below average (Table 12). In 2021, the Kaliakh River received fishing effort for the fourth time since 2010 and was the third-highest producer of coho salmon in the YMA with 4,800 fish harvested (Table 6). The Manby Shore–Outside waters harvest of 2,200 coho salmon was above average (Table 13). In the Yakataga District, fishing effort was composed entirely of Cordova-based set gillnet permit holders and consequently the harvest was landed in Cordova. Due to lack of aircraft services during the fall, many of the remote fisheries in the Yakutat and Yakataga districts received little to no effort during the coho salmon season. The Tsiu River received minimal effort and the Seal, Spoon, Yahtse, and Yana Rivers were opened but not fished in 2021.

CHINOOK SALMON

There are no directed set gillnet fisheries for Chinook salmon in the YMA. All Chinook salmon are harvested incidentally in sockeye salmon fisheries. The principal harvest areas of Chinook salmon are the Situk-Ahrnklin Inlet, the Alsek River, and Yakutat Bay. The total YMA harvest of 580 Chinook salmon was below the average harvest of 810 fish. The Alsek River and Yakutat Bay accounted for 85% of all Chinook salmon harvested in the YMA (Table 4).

The Situk-Ahrnklin Inlet set gillnet fishery was open to the retention of Chinook salmon for the first time since 2010. The 2021 preseason total run estimate for large Situk River Chinook salmon was 1,550 large fish. This projection was above the BEG range of 450 to 1,050 fish but did not allow for the achievement of the escapement goal if normal fisheries were prosecuted. As directed in 5AAC 30.365, *Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan*, conservation measures were taken for the 11th year in a row and the subsistence, sport, and commercial fisheries were initially closed to Chinook salmon retention. After a cumulative weir count of more than 700 large fish was reached on July 11, it was apparent the Chinook salmon run would be better than expected and the subsistence fishery was opened for retention of Chinook salmon. After continued good daily weir counts, retention of Chinook salmon below the weir was allowed in the sport fishery and Chinook salmon caught in the commercial fishery were allowed to be retained for personal use and eventually to be sold. A total of 67 Chinook salmon were

retained in the subsistence (6), sport (1[1]), and commercial (60) fisheries. The 2021 weir count of 1,064 large Chinook salmon was above the BEG range (Table 7).

The 2021 preseason projection for Alsek and Klukshu Rivers Chinook salmon stocks was for a below-average run to the Klukshu River and an average run for the Alsek River. In response to the low expected run sizes, a 6″ mesh size restriction was implemented. Despite the Alsek River being YMA's largest producer of Chinook salmon in 2021, the harvest was below average with 340 Chinook salmon harvested. The Klukshu River weir count of 1,380 was above average and the Alsek River estimated escapement of 5,600 exceeded the BEG of 3,500 to 5,300 fish (Table 11).

Chinook salmon were also harvested in other YMA fisheries. The Yakutat Bay harvest of 150 Chinook salmon was below the average harvest of 300 fish and was the second-largest harvest in the YMA for 2021 (Table 13). The Situk-Ahrnklin fisheries harvest of 60 Chinook salmon was above average, but 2021 was the first time since 2013 that Chinook salmon could be sold. The Manby Shore–Outside fisheries harvest of 20 Chinook salmon was below average (Table 14).

PINK SALMON

Pink salmon runs to the YMA are sporadic and show no trend in even or odd years, unlike the rest of the region. The 2021 areawide pink salmon harvest of 28,000 fish was well below the average harvest of 58,000 fish (Table 4). The Situk-Ahrnklin Inlet was the largest producer of pink salmon, accounting for 90% of the harvest in the YMA. The Situk-Ahrnklin Inlet harvest of 25,300 pink salmon was below the average harvest of 44,400 fish (Table 5). The Yakutat Bay harvest of 2,700 pink salmon was below the average harvest of 12,700 fish (Table 13). Pink salmon harvested in Yakutat Bay are predominantly of Situk River and Humpback Creek origin. An estimated 55,800 pink salmon were counted through the Situk River weir by the time the weir was removed on August 10 (Table 7).

CHUM SALMON

There are no directed chum salmon fisheries in the YMA due to the combination of low abundance and low price. All chum salmon harvest is incidental to sockeye and coho salmon harvests. Historically, the East Alsek River was a major producer as well as the only producer of chum salmon in the YMA. East Alsek River chum salmon productivity has declined for more than a decade and it is speculated that changes in habitat are the driving factor in the decline. In 2021, the Situk River fishery was the largest producer of chum salmon with a harvest of 40 chum salmon, which was below the average harvest of 180 fish (Table 5). Yakutat Bay was the second-largest producer with 20 chum salmon harvested, below the average harvest of 170 fish (Table 12). The areawide chum salmon harvest of 70 fish was well below the average harvest of 790 fish (Table 4).

YAKUTAT DISTRICT FISHERIES

ALSEK RIVER

Alsek River stocks contribute to the U.S. commercial set gillnet fisheries located in Dry Bay, at the mouth of the Alsek River. No commercial fishery exists in the Canadian portions of the Alsek River drainage, although aboriginal and recreational fisheries occur in the Tatshenshini River and some of its headwater tributaries (Figure 2). Harvest-sharing arrangements of Alsek River salmon stocks between Canada and the U.S. have not been specified. Annex IV of the Pacific Salmon

[1] Sport fish harvest is based on creel information; statewide harvest information is not available.

Treaty[2] (PST) calls for the development and implementation of cooperative abundance-based management plans and programs for Alsek River Chinook and sockeye salmon. Alsek River salmon management is conducted in cooperation with Canada's Department of Fisheries and Oceans (DFO) under the auspices of the PST. Agreement was reached to not open the Alsek River Chinook salmon fishery until run projections improved. ADF&G was granted permission through the PST process to conduct Chinook salmon test fisheries in the Alaska portion of the Alsek River to develop an inseason index of run timing and abundance in 2005–2008 and 2011–2012. Due to depressed Alsek River Chinook salmon stocks, test fishing ceased in 2013.

A large and variable proportion of the drainage wide escapement of Alsek River Chinook, sockeye, and coho salmon populations are enumerated at a counting weir on the Klukshu River (Figure 2). The Klukshu River is an important tributary in the upper Alsek River drainage in Canada. The weir has been operated by DFO in cooperation with the Champagne-Aishihik First Nation (CAFN) since 1976. Escapement goals are in place for Chinook and sockeye salmon stocks spawning on the Klukshu River and the mainstem of the Alsek River. The Alsek River Chinook salmon escapement goal is a maximum sustained yield (MSY) point goal of 4,700 fish with BEG of 3,500 to 5,300 fish, and Klukshu River sockeye salmon MSY point goal is 9,700 fish with a BEG range of 7,500 to 11,000 fish. The BEGs of 800 to 1,200 Klukshu River Chinook salmon and 24,000 to 33,500 Alsek River sockeye salmon were eliminated after the 2017 season (Heinl et al, 2017); however, those goals are still recognized by Transboundary Technical Committee (TTC) and Transboundary Rivers Panel of the Pacific Salmon Commission.

The Alsek River (Dry Bay) commercial set gillnet fishery is managed in accordance with the PST to achieve the established Chinook salmon escapement goal range, Alsek River sockeye salmon escapement goal range and the Klukshu River sockeye salmon escapement goal range plus 3,000 sockeye salmon. Time and area openings are adjusted by monitoring CPUE data and comparing it to historical CPUE. The duration of weekly fishing periods is based on CPUE and Klukshu River weir data. Parent-year escapement information and harvest trends are also considered when determining the weekly fishing periods. Historically, set gillnets have typically been restricted to a maximum mesh size of 6 inches through July 1 to minimize Chinook salmon harvest.

Preseason forecasts were for below-average Chinook and sockeye salmon runs to the Klukshu and Alsek Rivers in 2021. The U.S. commercial set gillnet sockeye salmon fishery first opened June 6 in statistical week (SW) 24 with a 24-hour opening and then opened for 24 hours in each successive week until July 18 in SW 30. A 6-inch maximum mesh restriction was in effect through July 18 as a Chinook salmon conservation measure. The total number of permits fished during the season was 14, below the average of 15 permits (Table 11). During the sockeye salmon fishery, the weekly sockeye salmon CPUE was exceeded in SWs 30–32, and therefore the fishery was granted 24-hour extensions in each of those weeks. The 2021 sockeye salmon harvest of 8,900 fish was below the average harvest of 12,500 fish. Harvests of Chinook salmon through late June were below average. The Chinook salmon harvest of 340 fish was below the average harvest of 350 fish (Table 11).

Coho salmon are targeted by the third week of August when fishing effort typically declines. Since 2010, fishing effort during the coho salmon season has been reduced due to a lack of aircraft charters for transport of fish to Yakutat for processing. By SW 33, management emphasis was

[2] Treaty between the government of Canada and the government of the United States of America concerning Pacific salmon. Annex IV, Chapter 1. Available at https://www.psc.org/publications/pacific-salmon-treaty/.

focused on coho salmon and fishing time increased to 3 days per week. In 2021, there was no effort during the last 10 weeks of the season (SWs 33–42) and the Dry Bay fishery closed for the season on October 14. The 2021 commercial fishery was opened for a total of 42 days but was only actively fished for 12 days (Table 15).

Current escapement monitoring programs including the Klukshu and Village Creek video weirs, run reconstructions based on genetic stock identification (GSI), and aerial surveys allow annual comparisons of escapement indices. Historically, the department conducted aerial surveys on Tanis River and Cabin and Basin Creeks to monitor sockeye and Chinook salmon abundance. Due to budget constraints and air charter service availability in Yakutat, these systems have not been surveyed since 2001. The most reliable, long-term comparative escapement index for Alsek River drainage salmon stocks is the Klukshu River weir count. Total Alsek River run estimates for Chinook salmon are generated by expanding the total Klukshu River weir count by a factor of 4. Sockeye salmon run estimates are generated by using the proportion of Klukshu River sockeye salmon in the Dry Bay fishery harvest determined by GSI analysis to expand Klukshu River weir counts.

The Klukshu River weir count of 25,700 sockeye salmon was well above the BEG range of 7,500 to 11,000 fish. The Alsek River Chinook salmon escapement estimate of 5,600 fish was above the BEG of 3,500 to 5,300 fish. The aboriginal (food and basic needs) fishery was unrestricted in 2021 for both Chinook and sockeye salmon. The Klukshu River coho salmon weir count of 3,560 fish was above average, but this count does not serve as a reliable run strength indicator because the weir is removed well before the end of the coho salmon run (Table 12).

EAST ALSEK-DOAME RIVER SYSTEM

The East Alsek River is located approximately 56 miles southeast of Yakutat on the Alsek River flood plain. Prior to the early 1900s, the East Alsek River was a tributary of the Alsek River and transitioned to an overflow channel to clear running groundwater with no direct connection to the Alsek River until 2021. On August 13, 2021, the Alsek River overflowed its banks and flowed into the East Alsek River for the first time in 37 years. The Doame River is a clear water system with 2 lakes located just east of the East Alsek River. The Doame River once entered the Gulf of Alaska directly, but an earthquake in 1966 caused the river to change course and it now empties into the East Alsek River, just upstream from fisheries in the East Alsek River lagoon. The East Alsek River has undergone major geophysical changes over the past several decades that have forced salmon stocks to adapt to a new environment. In the 1970s and 1980s, the East Alsek River was the largest sockeye salmon producer in Yakutat, but this is no longer the case.

In 2003, a BEG of 13,000 to 26,000 sockeye salmon was established for the East Alsek and Doame Rivers combined. In September 2017, the escapement goal review committee recommended eliminating the combined East Alsek–Doame River BEG range and replacing it with a sustained escapement goal (SEG) range of 9,000 to 24,000 sockeye salmon for just the East Alsek River (Table 1). Although there is no longer a formal escapement goal for the Doame River, the department still monitors the river's salmon stocks.

There was adequate water to access all spawning grounds of the Doame River in 2021. Since 2018, it was unusually dry during July and sections of the upper Doame River were without water. Sections of exposed riverbed varied in length from ½ to 1 mile. In previous years, sockeye salmon were observed below dry sections waiting for water levels to rise with some fish spawning before

they reached the lake. There is still concern these dry events will affect future runs through reduced freshwater survival.

The East Alsek commercial fishery opened on July 18 (SW 30) after the bottom end of the SEG range was obtained as observed through aerial surveys. Aerial surveys initially indicated a strong but delayed sockeye salmon run. A peak escapement count of 29,700 sockeye salmon was observed on August 16 (Table 9). The initial week's opening was 48 hours and successive weekly openings increased to 96 hours for SWs 31–32, then 72 hours for the remainder of the season (SWs 33–42; Table 10). The East Alsek River was only fished during SWs 30 through 32. The 2021 harvest of 18,400 sockeye salmon was well above average. A total of 10 individual permit holders fished with a peak effort of 7 permits (Table 8). Chinook salmon are harvested incidentally in the sockeye salmon fishery. The 2021 harvest of 4 Chinook salmon was above average (Table 8). There was no effort during the coho salmon season due to lack of air support to fly the harvest to Yakutat for processing.

Aerial surveys of the East Alsek/Doame River drainage for coho salmon escapement were not conducted in 2021 due to air charter service availability.

AKWE RIVER

By regulation, the Akwe River commercial fishery may open and typically did open on the fourth Sunday in June. Due to low sockeye salmon escapements in recent years, the fishery has been closed until desired escapement levels were observed. Aerial surveys of the Akwe River have historically been of little value in determining escapement due to the turbidity of the river. The former BEG of 600 to 1,500 sockeye salmon was eliminated in 2006 (Heinl and Geiger 2005), and currently there are no formal escapement goals for any salmon species in the Akwe River. The dramatic retreat of the Chamberlain Glacier, which feeds Akwe Lake, has improved water clarity and visibility in the river, making aerial surveys more effective in recent years. The first full aerial survey was conducted on July 25 and 5,100 sockeye salmon were observed. This count exceeded the former escapement goal, which triggered the fishery to open on July 27 (SW 31) for 2 days per week starting SW 31; however, the system was not fished. The fishery opened for coho salmon harvest on August 1 (SW 32) for 3 days per week until October 14 (SW 42) but was not fished (Table 16). As is typical with most remote fisheries in the YMA, fishing effort dropped in the fall during the coho salmon season due to lack of means to transport fish to the processor and poor value of the fishery. Aerial surveys were not conducted for coho salmon in 2021 due to air charter service availability.

ITALIO RIVERS

Three rivers make up the Italio River system: 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 2 distinct rivers where only 1 had existed before. The main river is now called the New Italio, and the original river channel is the Middle Italio. All 3 systems support coho salmon 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 open to commercial fishing since 1987. There are currently no formal escapement goals for any Italio River salmon stocks after the former BEG of 2,500 to 7,000 sockeye salmon was eliminated in 2006 (Heinl and Geiger 2005). The New and Middle Italio Rivers are monitored weekly by aerial surveys when staff time and conditions permit. Peak

counts of no more than 2,000 sockeye salmon were observed on an annual basis through 2010 but have generally been increasing over the past decade. In 2012, the U.S. Forest Service (USFS) installed a weir above Italio Falls, located just below Italio Lake, equipped with a video to record fish passage. The weir counted over 4,000 sockeye salmon in 2012, confirming aerial survey counts. The USFS continued the project in 2013 with a total weir count of 5,862 sockeye salmon and in 2014 with total weir count of 3,801 sockeye salmon. The weir project was discontinued after 2014 and, despite being run for only a few years, was a helpful project for validating department aerial surveys. The 2015 peak aerial survey count of 8,000 fish observed on August 9 is the highest sockeye salmon count on record. Since 2015, peak counts obtained from aerial surveys have declined but have mostly been near or above historical counts, still suggesting the sockeye salmon run is building. In 2021, a peak count of 1,770 sockeye salmon was observed and no surveys were conducted for coho salmon because of pilot availability on the New Italio River. The Old and Middle Italio Rivers were not opened to commercial fishing for coho salmon in 2021 due to lack of interest and surplus coho salmon for harvest. Aerial surveys were conducted on the Middle Italio River and a peak count of 1,100 coho salmon was observed.

DANGEROUS RIVER

The Dangerous River opened to commercial fishing by regulation the second Sunday in June for weekly fishing periods of 2.5 days per week during the sockeye salmon season. After SW 31 the Dangerous River opened for 3 days a week during the coho salmon season. In 2021, the Dangerous River was opened for a total of 53.5 days but received minimal fishing effort (Table 17). Less than 3 permits fished, and harvest information is confidential. Escapement surveys of the Dangerous River are not conducted due to the glacially occluded water.

SITUK-AHRNKLIN INLET

The Situk River is located on the Yakutat forelands and is accessible by road from the community of Yakutat. The river flows into the Situk-Ahrnklin Inlet, the site of the historically oldest, most productive set gillnet fishery in the YMA that still supports the largest concentration of fishing effort (up to 100 permits). The 2021 effort was 67 permits, which is below the average of 75 permits. The total commercial harvest of 129,500 fish was below the average harvest of 181,100 fish (Table 20). The exvessel value of the Situk-Ahrnklin set gillnet fishery was estimated to be $1.2 million, 74% of the total YMA set gillnet exvessel value of $1.6 million (Table 19). The harvest of 42,500 sockeye salmon was above average and accounted for 48% of the YMA total sockeye salmon harvest. The coho salmon harvest of 61,600 fish was below the average harvest of 95,700 fish and accounted for 82% of the YMA total coho salmon harvest. The pink salmon harvest of 25,300 fish was below the average harvest of 44,400 fish and accounted for 90% of the total YMA pink salmon harvest (Table 6).

Sockeye and Chinook salmon escapements have been enumerated annually at an adult counting weir on the Situk River since 1976. The department manages the Situk-Ahrnklin Inlet fisheries to achieve escapement goals for Chinook, sockeye, and coho salmon and uses weir counts and boat surveys as an inseason assessment tools. Heavy rains and subsequent flooding are typical of the fall coho season, and the weir is removed before the end of the pink and coho salmon runs. The Situk River weir count of 119,100 sockeye salmon was well above the BEG range of 30,000 to 70,000 fish, the weir count of 1,100 Chinook salmon was above the BEG range of 450 to 1,050 fish and the weir count of 38 coho salmon was below the average 118 fish. (Table 7).

The commercial, subsistence, and sport fisheries in the Situk River drainage are managed according to the *Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan* (5 AAC 30.365). The plan directs the department to manage the fisheries to achieve a BEG of 450 to 1,050 large (ocean-age-3 and older) Chinook salmon (Table 1). Due to poor runs, conservation measures in accordance with the plan have been implemented since 2010. The Situk River Chinook salmon BEG has not been achieved 5 of the last 10 years (Table 7). Commercial fishery management actions were focused on area restrictions while trying to maintain weekly opportunity for the directed sockeye salmon fishery that begins the third Sunday in June. Management options for maximizing harvest of Situk-Ahrnklin Inlet sockeye salmon are limited due to the overlap in run timing with Chinook salmon. In addition, an area around the Lost River mouth is closed by regulation (5 AAC 30.350 [a][7]) to conserve Lost River sockeye and coho salmon that are harvested incidentally in the Situk-Ahrnklin Inlet fishery. Area closures have displaced some traditional fishing sites (up to 10 permits) and fishers have moved to other fishing sites in the Situk-Ahrnklin Inlet or in Yakutat Bay.

The 2021 preseason forecast was for a total run of 1,550 large (age-4 and older) Chinook salmon to the Situk River. The forecast was generated using a sibling relationship model in which the 2019 and 2020 estimated cumulative total returns from brood years 2016 and 2017 were used to predict the total run for 4- and 5-year-old fish in 2021. According to the *Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan*, if the projected escapement is 451 to 730 large Chinook salmon or less, the department shall implement nonretention of Chinook salmon and restrict the weekly fishing periods in the Situk-Ahrnklin Inlet and Lost River set gillnet fisheries. The preseason projection is for total run and does not factor in harvest of fish below or above the Situk River weir. A total run forecast of 1,550 large Chinook salmon was not expected to achieve the escapement goal if normal fisheries were prosecuted. The department closed the commercial, sport, and subsistence fisheries to the retention of Chinook salmon for the 11th year in a row. Additional Chinook salmon conservation measures that were implemented until inseason projections indicated Chinook salmon escapement would be achieved are described below.

1. By regulation, there are 3 regulatory markers located where the Situk River enters the Inlet that delineate freshwater at mean low tide, upstream of which are closed waters. The open area immediately adjacent to these markers is a known migration corridor where high numbers of Chinook salmon are typically encountered. In past years, approximately 75% of commercially harvested Chinook salmon were harvested in this area. To further reduce Chinook salmon harvest in 2021, this area was closed by extending the closure into the inlet. An extended area around Johnson Slough has been closed to commercial fishing since 2016 and was closed again in 2021. Closed waters returned to the regulatory closure at the onset of the coho salmon fishery.
2. Prior to 2012, 5 AAC 30.365 contained a nonsale provision under certain scenarios of low Chinook salmon abundance. At the Alaska Board of Fisheries (BOF) meeting in February 2012, the regulation was changed from nonsale to nonretention, meaning that Chinook salmon could not be retained for any reason (i.e., personal use). To alleviate concerns about the potential waste, all live Chinook salmon were required to be returned to the water immediately and any dead Chinook salmon were required to be relinquished to the buyer for distribution to the elderly, legally blind, or 70% disabled members of the community.
3. The department does not have regulatory authority to require permit holders to closely attend gear while fishing. Therefore, the department requested that permit holders closely

attend their gear on a voluntary basis. The department closely monitored the fishery to determine whether permit holders were attending their gear and to determine the number of Chinook salmon being caught. If too many Chinook salmon were being caught, the fishery would have closed for the remainder of the sockeye season.

4. Subsistence fishing was prohibited in waters around the mouth of the Situk River in 2021. The USFS implemented nonretention of Chinook salmon in the federal subsistence fishery. By regulation, waters are closed 100 yards on either side of the Lost River terminus. In 2021, this area was enlarged to protect depressed Lost River sockeye salmon.

Midway through July 2021, the Chinook salmon run projection indicated the upper bound of the escapement goal would be exceeded. In accordance with the *Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan*, subsistence fishing was opened on July 16 in the waters of the Situk Ahrnklin Inlet for the retention of Chinook salmon. On July 16, the USFS opened the federal subsistence fishery within the Situk River, and on July 20, the Division of Sport Fish opened the waters below the weir to Chinook salmon retention in the sport fishery.

The Situk-Ahrnklin Inlet fishery opened by regulation on the third Sunday in June (SW 26) for a fishing period of 2.5 days. Situk River weir sockeye salmon counts were slightly below the long-term average, indicating a potentially weaker run than forecasted, but were consistent enough to not warrant reduced fishing time through the initial portion of the season. For the initial opening, 25 permit holders harvested 5,000 sockeye salmon. By SW 29 weir counts had improved and it was projected the midpoint of the BEG would be achieved. As a result, fishing time increased to 4 days per week in SWs 29–31. The peak harvest occurred in SW 30 with 26 permit holders harvesting 10,200 sockeye salmon (Table 20). The Situk-Ahrnklin Inlet fishery total harvest of 42,500 sockeye salmon was above the average harvest of 40,700 fish (Table 5).

The Situk-Ahrnklin Inlet fishery was managed based on coho salmon abundance beginning the first Sunday in August (SW 32). Commercial fishing periods throughout the coho salmon season varied between 3 and 4 days each week until the fishery closed on October 14 (SW 42). Approximately 61,600 coho salmon were harvested by 54 permit holders (Table 20). With economic considerations limiting participation in more remote coho salmon fisheries, effort levels in recent years have increased in the Situk-Ahrnlin Inlet during the fall. The Situk River weir was dismantled before the coho salmon run was complete, as is typically done, and float surveys were conducted after the weir was removed to obtain a peak escapement count. Prior to 2022, the Situk River had an escapement goal that was based on a BEG range of 3,300 to 9,800. In 2021, the department's escapement goal review committee recommended changing the Situk River coho salmon escapement to a sustainable escapement goal based on the 25th and 75th percentiles of the Situk River escapement survey counts (Heinl et al. 2021). The high count of 906 coho salmon was recorded on September 15 and was below the SEG range of 3,800 to 9,600 fish; however, due to high water levels and very poor surveying conditions for late September and early October, it is likely the peak escapement was not observed in 2021.

The pink salmon harvest of 25,300 fish was below the average harvest of 44,400 fish (Table 5). Peak run timing for pink salmon typically occurs between the end of the sockeye season and the onset of the coho salmon season in mid-August. Effort levels diminished during this time because fewer permit holders were willing to fish for pink salmon due to the comparatively low price. In 2021, the pink salmon price was $0.30 per pound.

There is no formal escapement goal for pink salmon. The assessment program to monitor Situk River pink salmon includes boat surveys conducted from Nine-Mile Bridge to the Lower Situk River. Prior to 2018, the Situk River had an escapement goal that was based on an index of early-season escapement at the weir (Piston and Heinl 2011). In September 2017, the department's escapement goal review committee recommended eliminating the Situk River pink salmon escapement goal given the limited utility of available escapement information and the low harvest rates on this stock (Heinl et al. 2017). Approximately 55,800 pink salmon were counted through the Situk River weir before its removal on August 10. Boat surveys are typically sporadic and not conducted every year due to limited staff and generally poor river conditions in the fall. Late fall pink salmon surveys were not conducted for 2021.

There is no directed fishery for chum salmon. Chum salmon are harvested incidentally in the sockeye and coho salmon fisheries. The 2021 chum salmon harvest of 40 fish was below average (Table 5).

LOST RIVER

The Lost River was not opened to commercial set gillnetting in 2021. There has not been a directed sockeye salmon fishery in the Lost River since 1998, and the last directed coho salmon fishery was in 2004. In 1999, the westward erosion and movement of the mouth of Situk-Ahrnklin Inlet overlapped the mouth of the Lost River. The Lost River has discharged into the inlet ever since. It is assumed that Lost River salmon stocks are harvested in the Situk-Ahrnklin Inlet fishery, but the extent of the harvest is unknown. Beginning in the 1999 season, an area around the mouth of the Lost River was closed to commercial fishing by emergency order. In 2012, the BOF adopted a regulation (5 AAC 30.350[a][7]) that expanded the closure from 100 yards to 500 yards downstream from the terminus of the Lost River beginning the second week of July. This expanded closure closed some traditional fishing sites forcing displaced fishers to relocate their operations within the Situk-Ahrnklin Inlet or other areas in the Yakutat District.

Beginning with the 2017 season, the 500-yard closure around the terminus has been implemented for the entirety of the fishing season as a conservation measure for Lost River salmon stocks. Currently, there is no formal escapement goal for Lost River sockeye salmon. In September 2017, the escapement goal committee recommended the elimination of the Lost River sockeye salmon SEG (Heinl et al. 2017). The department continues to monitor Lost River salmon through systematic boat surveys. A peak count of 311 sockeye salmon was observed in 2021.The high count of 1,384 coho salmon was below the SEG range of 1,400 to 4,200 fish. Due to high water levels and very poor surveying conditions for late September and early October, it is likely that peak escapement was missed. 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 were recorded over several years and the department recognized that a more systematic approach was needed. Since 2014, all surveys for coho and sockeye salmon were conducted from Summit Lake to the Lost River Bridge (Zeiser 2019).

YAKUTAT BAY

The 2021 Yakutat Bay fishery opened on the second Sunday in June (SW 25). Weekly fishing time for SWs 25 through 28 was 2.5 days. Fishing time was increased to 3.5 days in SW 29 through the remainder of the sockeye salmon season. The 2021 harvest of 5,900 sockeye salmon was below average. A total of 22 permit holders fished with a peak effort of 10 permits fishing during the first

week of the season (Table 21). Chinook salmon are harvested incidentally in the sockeye salmon fishery. The 2021 harvest of 150 Chinook salmon was below average (Table 22).

The coho salmon fishery in Yakutat Bay has never yielded large harvests. Effort is typically low because fishermen concentrate in other areas with more robust coho salmon runs. The 2021 coho salmon harvest of 680 fish was below average (Table 22). Yakutat Bay was not fished for the last 6 weeks of coho season (SWs 37–42). Fishing time during the coho salmon season was 3 days per week for entire coho salmon season (Table 21).

The pink salmon fishery typically occurs in August; however, pink salmon have not been targeted in Yakutat Bay since 1996 due to the decline of the Humpback Creek pink salmon run and low prices. Systematic surveys to estimate spawning escapement into Humpback Creek have not been conducted since the mid-1990s. In 2005, the escapement goal for Humpback Creek was eliminated due to lack of consistent surveys and low fishing effort (Heinl and Geiger 2005). During the pink salmon run in August, effort was low with 3 or fewer permits fishing and fishing time was 3 days per week (Table 21). The Yakutat Bay pink salmon harvest of 2,700 fish was below the average of 12,700 fish (Table 22).

MANBY SHORE OUTSIDE AND INSIDE FISHERIES

The Manby Shore Outside fishery is located along the western shore of Yakutat Bay (Figure 1). This fishery harvests sockeye salmon stocks that are destined for the Situk River and the Manby Shore streams. Historical data is difficult to interpret because harvests from the ocean fishery and from inside waters were combined prior to the mid-1980s. In addition, before 1950 all the Manby Shore outside- and inside-waters streams harvests were recorded with those from Yakutat Bay. Weekly fishing periods during the sockeye salmon fishery are primarily based on the Situk River sockeye salmon abundance. The overall fishing time in 2021 was average with a total of 51 days open. The Manby Shore Outside waters opened on the third Sunday of June (SW 26) and less than 3 permits fished. Overall effort in 2021 was above average with 10 permits fished (Table 14). The sockeye salmon harvest of 7,900 fish was above the average of 5,900 fish. The coho salmon harvest of 2,200 fish was above the average harvest of 1,000 fish. The increased coho salmon harvest was probably due to 2 factors: a change in the type of net webbing, and favorable weather conditions that allowed fishery participants to continue to fish in outside waters into the fall season. The harvest of 20 Chinook salmon was below the average harvest of 60 fish (Table 23).

The Manby Shore Inside or "Inland" fisheries include the waters above the mean high tide line of Manby Stream, Sudden Stream, Spoon River, and Esker Creek. The fishing history of these systems is inconsistent because only some, or even none, may be fished each year. Sockeye and coho salmon are targeted at Sudden and Manby Streams and only coho salmon are targeted at Esker Creek and Spoon River. In 2021, Sudden Stream was fished during the sockeye salmon season; however, harvest information is confidential due to fewer than 3 permits fishing (Table 24). Escapement counts are limited due to the glacial nature of most Manby area streams, and no surveys of these systems were conducted in 2021. Escapement goals have not been established for the Manby Shore Inside systems.

YANA RIVER TO ICY BAY

Neither the Yana nor the Yahtse Rivers were fished in 2021. These fisheries are remote and have not been fished, despite being open, for several years due to a lack of air support. Aerial surveys of these systems were not conducted in 2021.

YAKATAGA DISTRICT FISHERIES

OVERVIEW

The Yakataga District coho salmon fishery opened on August 1 (SW 32). Coho salmon are the only salmon species targeted in the Yakataga District. Since 2014, the Tsiu River has continued to experience low fishing effort due to dynamic changes of the river creating unfavorable and inefficient fishing conditions. There was no buying station on the Tsiu River for the fifth year in a row. The lack of a buying station on the Tsiu River and air support has contributed to the reduction in fishing effort. The Kaliakh and Tsiu Rivers were fished, and the Seal River, Eight Mile Creek, and Tashalich River were opened but not fished in 2021.

TSIU AND TSIVAT RIVER DRAINAGE

The Tsiu and Tsivat Rivers are very productive coho salmon systems. Coho salmon return to these rivers during a 6- to 8-week period from August to early October. The Tsiu River has been commercially fished since the 1960s; it once supported 40 individual permit holders and harvests of 100,000 coho salmon were common. The Tsivat River is adjacent to the Tsiu and has a few overflow channels that drain into the Tsiu River. Due to its remote location, there are no processors, and whole fish must be transported by air approximately 125 miles to Yakutat for processing. Historically, larger harvests necessitated fish transport via DC-3 or similar large aircraft. Effort and therefore coho salmon harvests have fallen well below historic levels over the past decade. Effort has continued to plummet in recent years due to unfavorable fishing conditions, geological changes of the river, and lack of a buying station and air support.

The Tsiu River is highly mutable and can change drastically from year to year. In 2012, the Tsiu River presented a new scenario to both industry and the department 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 approximately 2 miles. In addition, 1 major and 2 minor overflow channels from the Tsivat River had cut across the sand flats creating a new confluence with the Tsiu River that is inland of the original confluence. These new channels became the primary migration route for coho salmon. This new confluence of the Tsiu and Tsivat Rivers is approximately one-half mile downstream of the regulatory closure near the Yakutat Seafoods buying station located one-half mile below Duck Camp Island. Salmon are no longer migrating up the Tsiu River and are instead entering the Tsivat River well before reaching the historical closure. To account for the new migration route, the BOF adjusted the regulatory closure at the 2018 Southeast Alaska and Yakutat Finfish and Shellfish meeting.

The Tsiu River fishery typically opens after 2,500 to 3,000 coho salmon have migrated above the commercial fishery closure. The fishery was opened for 2 days beginning August 15, due to low expected effort. During an aerial survey on August 28, approximately 850 coho salmon were observed above the commercial fishing area. No further aerial surveys were conducted due to poor weather conditions and lack of available air taxi service. A peak count was not observed for the Tsiu/Tsivat drainage in 2021. The commercial fishing effort of 5 permits was below average and fishing only occurred during SWs 37 and 38. The fishery's harvest of 5,700 coho salmon was below the average harvest of 19,600 fish (Table 25). Coho salmon harvest from the Tsiu River was the second highest in the YMA. The 2021 season marked the fifth time a fish buying station was not maintained since 2001. All fish harvested on the Tsiu River were transported to tenders operating in Controller Bay.

OTHER YAKATAGA STREAMS

The Kaliakh River received commercial fishing effort in 2021 for the fourth season in row. Prior to the 2018 season, fishing effort was inconsistent, with 2010 being the last time the Kaliakh River received effort. In the spring of 2021, there was again interest by fishers out of Cordova to fish the Kaliakh River. The Kaliakh River opened for commercial fishing on August 1 (SW 32) with one 72-hour opening. From SW 34 through SW 39, weekly fishing periods consisted of two 36-hour openings per week through 39. Weekly effort was minimal with the maximum effort occurring in SW 38 with 5 permits fished. Coho salmon harvest from the Kaliakh River was the third highest in the YMA with a harvest of 4,800 fish (Table 6). Aerial surveys cannot be effectively conducted on Kaliakh River due to high turbidity caused by glacial water. Fisheries have been managed conservatively because there is no consistent yearly harvest information to use as an index of relative abundance.

REFERENCES CITED

CFEC (Commercial Fisheries Entry Commission). 2021. Fishery Statistics–Permits and Permit Holders–Permit Status–Fishery Statistics–Participation and Earnings–Basic Information Table–Salmon, S04D. http://www.cfec.state.ak.us/fishery statistics/permits.htm (Accessed November 1, 2021).

Heinl, S. C., and H. J. Geiger. 2005. Chapter 4: Pink salmon stock status and escapement goals in Southeast Alaska and Yakutat. Pages 153-189 [*In*] J. A. Der Hovanisian and H. J. Geiger, editors. Stock status and escapement goals for salmon stocks in Southeast Alaska 2005. Alaska Department of Fish and Game, Special Publication No. 05-22, Anchorage.

Heinl, S.C., E. L. Jones III, A. W. Piston, P. J. Richards, L. D. Shaul, B. W. Elliott, S. E. Miller, R. E. Brenner, and J. V. Nichols. 2017. Review of salmon escapement goals in Southeast Alaska, 2017. Alaska Department of Fish and Game, Fishery Manuscript Series No. 17-11, Anchorage.

Heinl, S. C., E. L. Jones III, A. W. Piston, P. J. Richards, J. T. Priest, J. A. Bednarski, B. W. Elliott, S. E. Miller, R. E. Brenner, and J. V. Nichols. 2021. Review of salmon escapement goals in Southeast Alaska, 2020. Alaska Department of Fish and Game, Fishery Manuscript Series No. 21-03, Anchorage.

Piston, A. W., and S. C. Heinl. 2011. Pink salmon stock status and escapement goals in Southeast Alaska. Alaska Department of Fish and Game, Special Publication No. 11-18, Anchorage.

Zeiser, N. Z. 2019. Operational plan: Yakutat salmon escapement surveys, 2019–2021. Alaska Department of Fish and Game, Regional Operational Plan ROP.CF.1J.2019.01, Douglas.

TABLES AND FIGURES

Table 1.–Yakutat area Chinook, sockeye, and coho salmon escapement goals.

Species	System	Escapement Goal	Goal Type	Year Established	Assessment Method
Chinook	Alsek River (total)[a,b]	3,500–5,300	BEG	2013	Expansion
	Situk River	450–1,050	BEG	2003	Weir
Sockeye	East Alsek River	9,000–24,000	SEG	2018	HS, IE
	Klukshu (Alsek) River	7,500–11,000	BEG	2013	Weir
	Situk River	30,000–70,000	BEG	2003	Weir
Coho	Tawah Creek (Lost River)	1,400–4,200	SEG	2015	BS, IE
	Situk River	3,800–9,600	SEG	2022	BS, IE
	Tsiu/Tsivat Rivers	10,000–29,000	SEG	2018	AS, IE

Note: BEG = biological escapement goal, SEG = sustainable escapement goal, HS = helicopter survey, BS = boat survey, IE = index escapement.

[a] The Chinook salmon goal for the Alsek River is for all fish; Situk River is for large fish (≥660 mm mid eye to tail fork, or fish age 1.3 and older).

[b] Escapement to the Alsek River is calculated through expansion of the Klukshu River inriver weir count by a factor of 4.0 and subtraction of any inriver harvests above the weir and in Dry Bay in the lower Alsek River.

Table 2.–Yakutat area set gillnet weekly salmon harvest, 2021.

Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Total
24	6-Jun	119	142	0	0	0	261
25	13-Jun	164	545	0	0	3	712
26	20-Jun	81	6,944	0	0	5	7,030
27	27-Jun	31	6,177	1	8	0	6,217
28	4-Jul	33	10,846	1	48	2	10,930
29	11-Jul	26	9,949	10	190	4	10,179
30	18-Jul	70	20,916	6	2,400	6	23,398
31	25-Jul	36	16,294	99	3,499	9	19,937
32	1-Aug	11	11,972	120	4,502	20	16,625
33	8-Aug	0	555	116	553	2	1,226
34	15-Aug	1	1,188	833	3,452	5	5,479
35	22-Aug	3	1,856	4,264	4,386	6	10,515
36	29-Aug	0	461	12,948	9,033	5	22,447
37	5-Sep	2	4	22,121	0	2	22,129
38	12-Sep	0	1	14,364	0	0	14,365
39	19-Sep	0	0	13,689	0	0	13,689
40	26-Sep	0	0	5,741	0	0	5,741
41	3-Oct	0	0	677	0	0	677
42	10-Oct	0	0	24	0	0	24
Totals		577	87,850	75,014	28,071	69	191,581

Table 3.–Yakutat area set gillnet fishery exvessel value and effort, 1985–2021.

Year	Yakutat setnet	Active setnet permits	Avg earning per permit ($USD)
1985	$2,777,108	148	$18,764
1986	$2,044,606	154	$13,277
1987	$4,587,640	154	$29,790
1988	$8,703,413	159	$54,738
1989	$4,217,986	160	$26,362
1990	$4,560,978	158	$28,867
1991	$2,330,261	161	$14,474
1992	$5,320,994	159	$33,465
1993	$3,000,832	157	$19,114
1994	$3,653,893	150	$24,359
1995	$2,479,193	147	$16,865
1996	$2,406,670	139	$17,314
1997	$3,216,870	141	$22,815
1998	$1,416,481	142	$9,975
1999	$2,324,296	128	$18,159
2000	$1,491,218	125	$11,930
2001	$1,134,695	114	$9,953
2002	$741,392	87	$8,522
2003	$1,140,130	104	$10,963
2004	$1,629,266	112	$14,547
2005	$926,824	114	$8,130
2006	$1,724,122	104	$16,578
2007	$2,516,647	120	$20,972
2008	$1,657,225	128	$12,947
2009	$1,681,645	122	$13,784
2010	$2,157,567	127	$16,989
2011	$2,311,802	121	$19,106
2012	$1,536,822	113	$13,600
2013	$3,018,685	106	$28,478
2014	$2,117,425	117	$18,098
2015	$1,324,263	112	$11,824
2016	$1,930,288	109	$17,709
2017	$2,549,101	113	$22,558
2018	$1,089,417	102	$10,681
2019	$1,548,185	94	$16,470
2020	$1,058,014	91	$11,627
2021	$1,646,540	95	$17,332
2011–2020 Avg	$1,848,400	108	$17,015
2021[a]	-11%	-12%	2%

Note: Estimated exvessel values from 1975 to 2020 are from CFEC data. Exvessel values from 2021 are from fish ticket data.

[a] Percent deviation from 10-year average.

Table 4.–Yakutat area set gillnet fishery effort and salmon harvest, 1985–2021.

Year	Active permits	Chinook	Sockeye	Coho	Pink	Chum	Total
1985	148	1,231	234,896	202,772	16,410	12,468	467,777
1986	154	1,428	150,770	92,097	7,263	16,616	268,174
1987	154	2,072	259,989	124,407	12,920	14,555	413,943
1988	159	893	162,168	205,926	120,212	29,256	518,455
1989	160	798	329,454	176,773	57,195	16,259	580,479
1990	158	663	344,606	148,891	30,840	5,825	530,825
1991	161	1,747	229,903	166,731	3,052	2,984	404,417
1992	159	2,025	314,175	290,095	18,526	7,604	632,425
1993	157	1,311	345,887	237,446	9,909	4,065	598,618
1994	150	3,820	206,760	343,843	12,324	4,229	570,976
1995	147	9,374	153,723	295,030	54,041	2,585	514,753
1996	139	4,854	209,029	227,802	31,295	1,803	474,783
1997	141	3,264	110,078	322,776	93,658	808	530,584
1998	142	2,804	77,189	197,629	86,066	1,351	365,039
1999	128	5,108	128,751	187,055	29,554	928	351,396
2000	125	2,460	99,182	170,948	64,349	1,185	338,124
2001	114	2,631	141,449	205,344	32,230	406	382,060
2002	87	2,510	112,656	200,888	15,590	204	331,848
2003	104	3,842	154,384	74,343	48,418	542	281,529
2004	112	2,734	88,282	196,930	23,207	1,555	312,708
2005	114	766	79,221	82,887	60,436	525	223,835
2006	104	1,208	138,510	86,085	88,864	1,225	315,892
2007	120	1,562	236,289	76,550	87,997	2,782	405,180
2008	128	850	35,227	153,712	65,227	546	255,562
2009	122	1,533	105,825	133,808	76,956	871	318,993
2010	127	501	122,022	161,460	160,470	1,239	445,814
2011	121	1,123	167,704	125,830	205,261	900	501,203
2012	113	942	124,780	98,677	27,343	2,162	253,904
2013	106	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	82,748	129,069	68,785	660	282,184
2016	109	343	93,052	144,032	21,778	554	259,759
2017	113	946	120,665	140,844	91,933	912	356,046
2018	102	295	7,213	95,954	29,072	132	131,356
2019	94	316	54,810	100,473	33,048	395	189,049
2020	91	404	26,384	81,709	14,657	122	123,276
2021	95	577	87,850	75,004	28,071	69	191,571
2011–2020 Avg	108	811	96,215	123,661	57,995	789	279,452
2021[a]	-12%	-29%	-9%	-39%	-52%	-91%	-31%

[a] Percentage deviation from 10-year average.

Table 5.–Situk-Ahrnklin set gillnet fishery effort and salmon harvest, 1985–2021.

Year	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
1985	89	44.0	484	18,620	55,160	8,846	166	83,276
1986	62	17.5	202	7,617	14,760	1,512	120	24,211
1987	94	58.0	891	63,595	29,899	10,861	986	106,232
1988	105	54.0	299	52,108	61,689	15,325	886	130,307
1989	109	75.0	1	99,927	39,291	42,994	822	183,035
1990	95	73.0	0	90,737	45,074	23,896	283	159,990
1991	117	71.0	784	120,123	89,648	2,534	186	213,275
1992	116	76.0	1,504	105,423	133,956	13,585	389	254,857
1993	107	69.0	790	103,977	136,966	8,757	433	250,923
1994	111	98.0	2,656	56,007	217,129	10,454	264	286,510
1995	108	101.0	8,107	73,732	172,618	41,187	340	295,984
1996	106	93.0	3,717	101,161	155,514	29,918	276	290,586
1997	103	70.0	2,339	40,893	183,850	74,646	285	302,013
1998	97	58.0	2,101	37,884	81,710	76,608	185	198,488
1999	99	66.0	3,810	61,500	103,049	27,018	396	195,773
2000	83	47.0	1,318	34,551	93,674	51,307	353	181,203
2001	83	90.5	1,087	62,192	164,748	28,567	188	256,782
2002	69	100.0	1,078	71,015	189,828	14,037	34	275,992
2003	81	88.0	2,342	84,248	72,183	43,568	454	202,795
2004	90	98.0	1,222	27,518	178,804	19,842	1,386	228,772
2005	78	73.0	1	32,887	50,933	48,269	330	132,420
2006	74	77.0	19	62,118	49,336	72,139	457	184,069
2007	77	54.5	83	61,846	41,900	61,591	415	165,835
2008	80	45.0	91	10,625	95,874	43	166	106,799
2009	84	70.0	307	49,016	69,978	66,640	147	186,088
2010	85	58.0	50	72,185	70,727	143,234	310	286,506
2011	86	68.5	22	65,661	79,911	142,061	307	287,962
2012	71	44.5	89	53,168	48,328	21,395	254	123,234
2013	74	75.0	314	88,751	106,873	58,742	317	254,997
2014	83	57.5	27	42,782	121,411	15,788	125	180,133
2015	78	56.0	20	39,397	111,174	52,367	327	203,285
2016	77	51.5	20	32,787	130,216	15,492	59	178,574
2017	74	56.5	18	51,062	135,686	77,635	166	264,567
2018	79	35.0	2	2,788	84,972	17,651	28	105,441
2019	63	50.5	0	16,469	71,534	28,762	173	116,938
2020	67	49.0	0	14,452	66,444	14,535	52	95,483
2021	67	54.0	60	42,466	61,614	25,270	40	129,450
2011–2020 Avg	75	54.0	51	40,732	95,655	44,443	181	181,061
2021[a]	-11%	-1%	17%	4%	-36%	-43%	-78%	-29%

[a] Percentage deviation from 10-year average.

Table 6.–Yakutat Area set gillnet harvest by fishing area, 2021.

Area	Chinook	Sockeye	Coho	Pink	Chum	Total
Alsek	340	8,877	0	0	0	9,217
East Alsek	4	18,427	1	0	1	18,433
Akwe	Not fished	Not fished	Not fished	Not fished	Not fished	Not fished
Italio	Closed	Closed	Closed	Closed	Closed	Closed
Middle Italio	Closed	Closed	Closed	Closed	Closed	Closed
Old Italio	Closed	Closed	Closed	Closed	Closed	Closed
Dangerous	*	*	*	*	*	*
Situk	60	42,466	61,614	25,270	40	129,450
Lost	Closed	Closed	Closed	Closed	Closed	Closed
Yakutat Bay	149	5,936	676	2,718	22	9,501
Manby Shore	21	7,891	2,220	73	4	10,209
Manby Stream	Not fished	Not fished	Not fished	Not fished	Not fished	Not fished
Spoon	Not fished	Not fished	Not fished	Not fished	Not fished	Not fished
Sudden	*	*	*	*	*	*
Esker	Not fished	Not fished	Not fished	Not fished	Not fished	Not fished
Yahtse	Not fished	Not fished	Not fished	Not fished	Not fished	Not fished
Yana	Not fished	Not fished	Not fished	Not fished	Not fished	Not fished
Jetty Creek	Not fished	Not fished	Not fished	Not fished	Not fished	Not fished
Big River	Not fished	Not fished	Not fished	Not fished	Not fished	Not fished
Kaliakh	0	0	4,843	0	0	4,843
Tsiu	0	0	5,650	0	0	5,650
Seal River	Not fished	Not fished	Not fished	Not fished	Not fished	Not fished
Tashalich	Not fished	Not fished	Not fished	Not fished	Not fished	Not fished
Kiklukh	Not fished	Not fished	Not fished	Not fished	Not fished	Not fished
Totals	577	87,850	75,004	28,071	69	191,571

* Harvests are confidential.

Table 7.–Situk River weir counts, 1985–2021.

Year	Dates of Operation	Chinook[a]	Sockeye	Coho[b]	Pink[b]	Chum
1985	6/17–8/16	1,521	107,586	0	365,862	1
1986	6/4–8/17	2,067	71,543	0	43,955	0
1987	6/11–8/18	1,799	72,720	0	12,513	0
1988	6/7–8/21	885	46,404	1,854	78,754	230
1989	5/31–8/17	637	84,383	112	288,246	157
1990	6/1–7/28	628	61,375	0	0	0
1991	6/10–7/27	897	67,237	0	3,668	3
1992	4/18–8/5	1,618	76,733	0	29,278	0
1993	6/10–8/5	871	62,110	0	16,285	0
1994	5/21–8/4	1,311	72,474	4	79,055	4
1995	5/10–8/3	4,700	42,463	4	66,273	17
1996	5/6–8/6	2,175	61,269	65	157,012	15
1997	5/7–8/8	2,690	42,050	18	466,267	35
1998	5/3–8/5	1,353	50,546	8	97,392	0
1999	5/9–8/6	1,947	61,544	2	27,386	0
2000	5/10–8/8	2,518	41,554	189	331,510	53
2001	5/20–8/8	696	60,334	21	121,267	9
2002	5/10–8/8	1,024	68,773	40	98,790	21
2003	5/8–8/8	2,615	89,720	1	374,533	12
2004	5/8–8/9	798	43,278	224	144,938	552
2005	5/8–7/31	613	66,476	1	281,135	0
2006	5/11–8/13	1,328	90,351	320	114,779	288
2007	5/11–8/15	677	61,799	39	229,033	18
2008	5/11–7/23	453	22,520	0	1,232	6
2009	5/12–8/5	904	83,959	12	62,787	5
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
2016	6/8–8/11	330	55,723	200	42,200	5
2017	6/7–8/10	1,188	91,146	370	263,830	443
2018	6/11–8/7	420	26,704	16	53,781	23
2019	6/6–8/10	623	72,541	435	222,895	32
2020	6/11–8/7	1,197	63,133	42	22,831	9
2021	5/15–8/10	1,064	119,072	38	55,759	3
2011–2020 Avg		588	77,774	118	104,566	70

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

[a] Chinook salmon weir counts are for large (ocean-age-3 or older) fish.

[b] The Situk weir is not operated through the end of the coho or pink salmon runs and is not a useful measure of escapement.

Table 8.–East Alsek River set gillnet fishery effort and salmon harvest, 1985–2021.

Year	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
1985	89	42.0	119	184,962	8,932	1,019	10,707	205,739
1986	87	29.0	111	74,972	2,825	348	14,317	92,573
1987	98	51.5	187	133,740	4,890	148	10,225	149,190
1988	98	40.0	40	61,483	20,148	2,634	24,461	108,766
1989	99	43.0	42	145,426	7,286	678	13,757	167,189
1990	101	36.0	44	161,383	7,483	532	4,590	174,032
1991	94	30.0	49	45,334	3,857	2	2,196	51,438
1992	75	44.0	7	144,378	21,550	6	6,838	172,779
1993	92	48.0	13	189,207	4,529	25	3,423	197,197
1994	73	74.0	37	99,998	18,736	36	3,674	122,481
1995	47	26.0	134	11,772	8,914	21	1,501	22,342
1996	70	28.0	111	55,025	3,538	43	1,143	59,860
1997	46	38.0	28	12,665	3,579	31	338	16,641
1998	25	22.0	3	5,802	2,163	0	891	8,859
1999	0	0.0	0	0	0	0	0	0
2000	0	0.0	0	0	0	0	0	0
2001	0	0.0	0	0	0	0	0	0
2002	5	46.0	0	10	246	0	0	256
2003	8	36.0	0	2,617	1	0	0	2,618
2004	9	66.0	6	4,590	21	0	34	4,651
2005	13	56.5	8	5,099	27	36	0	5,170
2006	15	49.5	4	14,848	316	0	5	15,173
2007	33	51.0	13	63,080	56	203	1,256	64,608
2008	3	18.0	0	1	165	0	0	166
2009	22	38.0	10	7,388	1,042	4	275	8,719
2010	5	17.0	0	103	680	0	214	997
2011	17	39.0	0	14,867	99	0	330	15,296
2012	17	27.0	5	12,124	78	4	1,223	13,434
2013	13	37.0	7	18,474	72	0	785	19,338
2014	10	34.0	2	3,069	24	14	212	3,321
2015	14	33.0	0	2,542	4	1	101	2,648
2016	12	39.0	3	8,771	56	0	427	9,257
2017	12	45.0	4	14,236	0	0	367	14,607
2018	4	30.0	0	216	0	0	25	241
2019	15	46.0	5	11,500	195	8	118	11,826
2020	2	32.0	*	*	*	*	*	*
2021	10	41.0	4	18,427	1	0	1	18,433
2011–2021 Avg	12	36.2	3	8,591	72	3	359	9,027
2021[a]	-14%	0.1	54%	114%	-99%	-100%	-100%	104%

* Harvests are confidential.

[a] Percent deviation from 10-year average.

Table 9.–East Alsek River peak escapement counts, 1985–2021.

Year	Dates of peak count	Sockeye
1985	14-Sep	60,000
1986	18-Aug	80,000
1987	25-Aug	34,000
1988	27-Sep	38,100
1989	5-Sep	30,000
1990	3-Sep	42,000
1991	21-Sep	38,000
1992	23-Aug	45,500
1993	23-Aug	45,250
1994	29-Aug	32,600
1995	29-Aug	28,000
1996	9-Sep	28,000
1997	20-Aug	28,000
1998	12-Aug	30,400
1999	9-Aug	19,500
2000	2-Aug	21,000
2001	27-Aug	17,000
2002	31-Jul	14,200
2003	22-Aug	34,300
2004	15-Aug	31,000
2005	14-Aug	50,400
2006	7-Aug	29,000
2007	14-Aug	40,100
2008	13-Jul	7,000
2009	3-Aug	12,250
2010	14-Aug	12,500
2011	17-Aug	35,000
2012	22-Jul	16,000
2013	2-Aug	26,000
2014	28-Jun	9,800
2015	9-Aug	15,000
2016	1-Aug	19,200
2017	16-Aug	22,500
2018	30-Jul	10,500
2019	20-Aug	27,300
2020	20-Aug	13,700
2021	16-Aug	29,700
2011–2020 Avg		19,500

Table 10. –East Alsek River set gillnet fishery weekly effort and salmon harvest, 2021.

Week	Start Date	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
23–29	31-May	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
30	18-Jul	6	2	0	3,857	0	0	0	3,857
31	25-Jul	7	4	3	8,090	0	0	1	8,094
32	1-Aug	7	4	1	6,480	1	0	0	6,482
33–42	8-Aug	0	31	0	0	0	0	0	0
Totals		10	41	4	18,427	1	0	1	18,433

Table 11.–Alsek River set gillnet fishery effort and salmon harvest, 1985–2021.

Year	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum
1985	26	32.0	213	5,792	5,490	3	427
1986	43	34.0	481	24,791	1,344	13	462
1987	32	40.5	347	11,393	2,517	0	1,924
1988	31	34.0	223	6,286	4,986	7	908
1989	31	38.0	228	13,513	5,972	2	1,031
1990	33	38.0	78	17,013	1,437	0	495
1991	32	49.0	103	17,542	5,956	0	105
1992	30	46.0	301	19,298	3,116	1	120
1993	36	40.0	300	20,043	1,215	0	49
1994	32	61.0	728	19,716	4,182	0	32
1995	40	53.5	670	33,112	14,184	13	347
1996	31	51.5	772	15,182	5,514	0	165
1997	33	59.0	568	25,879	11,427	0	34
1998	26	41.0	550	15,007	4,925	1	145
1999	20	44.0	511	11,441	5,660	0	112
2000	19	37.0	677	9,522	5,103	5	130
2001	14	50.0	541	13,995	2,909	8	17
2002	16	73.0	700	16,918	9,525	0	1
2003	15	60.0	937	39,698	47	0	0
2004	24	81.0	656	18,030	2,475	0	2
2005	19	43.0	286	7,572	1,196	0	0
2006	19	45.0	530	9,842	701	2	3
2007	21	47.0	400	19,795	134	0	0
2008	19	33.0	128	2,815	2,668	0	2
2009	17	44.0	602	12,906	3,454	0	20
2010	19	37.0	273	12,668	1,884	0	9
2011	17	46.0	546	24,169	1,614	0	11
2012	16	39.0	510	18,217	536	0	1
2013	15	40.0	469	7,517	17	0	5
2014	15	47.0	1,074	33,668	3	0	12
2015	19	62.0	243	16,104	11	0	0
2016	18	65.5	132	6,709	655	0	4
2017	13	47.0	127	4,883	114	0	0
2018	10	32.5	88	1,363	2	0	0
2019	12	40.5	79	9,787	1	0	0
2020	13	38.5	182	2,518	0	0	0
2021	14	42.0	340	8,877	0	0	0
2011–2020 Avg	15	45.8	345	12,494	295	0	3
2021[a]	-5%	-0.1	-1%	-29%	-100%	0%	-100%

[a] Percent deviation from 10-year average.

Table 12.–Klukshu River and Alsek River drainage escapement, 1985–2021.

	Klukshu River[a]			Alsek River Drainage[c]	
Year	Chinook	Sockeye	Coho[b]	Chinook	Sockeye
1985	1,283	17,259	350	6,087	75,039
1986	2,607	22,936	71	11,069	99,722
1987	2,491	9,346	202	11,276	40,635
1988	1,994	7,737	2,774	8,852	33,639
1989	2,289	21,636	2,219	10,178	94,070
1990	1,742	24,607	315	8,775	106,987
1991	2,248	17,645	8,540	11,667	76,717
1992	1,242	18,269	1,145	5,773	79,430
1993	3,220	14,921	788	13,917	64,874
1994	3,628	13,892	1,232	15,970	60,400
1995	5,394	19,817	3,614	24,772	86,161
1996	3,382	7,891	3,465	15,922	34,309
1997	2,829	11,303	307	12,494	49,143
1998	1,347	13,580	1,961	6,833	59,043
1999	2,168	5,101	2,531	14,615	22,178
2000	1,321	5,422	4,832	7,905	37,142
2001	1,738	9,329	748	6,705	29,987
2002	2,134	23,587	9,921	5,569	93,172
2003	1,661	32,120	3,689	5,904	100,712
2004	2,445	15,348	750	7,083	81,581
2005	963	3,373	683	4,390	57,223
2006	566	13,455	420	2,321	47,574
2007	676	8,956	300	2,827	N/A
2008	466	2,731	4,275	1,885	N/A
2009	1,518	5,731	424	6,239	N/A
2010	2,259	18,936	2,365	9,526	N/A
2011	1,610	21,389	2,119	6,850	83,899
2012	693	17,267	572	3,027	76,598
2013	1,227	3,902	7,322	4,992	83,771
2014	832	12,377	341	3,357	87,093
2015	1,388	11,211	352	5,697	63,709
2016	646	7,584	2,141	2,834	58,836
2017	443	3,711	1,000	1,926	101,564
2018	1,087	7,031	790	4,312	N/A
2019	1,573	19,053	1,668	6,341	114,000
2020	1,316	4,287	3,869	5,330	28,000
2021	1,384	25,670	3,559	5,620	98,731
2011–2020 Avg	1,082	10,781	2,017	4,467	N/A

Note: N/A signifies sockeye escapement could not be determined.

[a] Escapement is weir count less harvest above the weir.

[b] Coho salmon numbers are an index; weir is removed before run is over.

[c] 1985–1999 Klukshu River sockeye salmon escapement expanded using 23% to determine Alsek River drainage escapement; 2000–2004 Klukshu River escapement expanded using mark–recapture estimate; 2005 to present escapement based on GSI analysis of Dry Bay commercial fishery to determine Alsek River drainage. 1997–2005 Alsek River drainage escapement expanded using mark–recapture; 2007, 2011–2013 Klukshu River Chinook escapement expanded using GSI; 2014 to present Klukshu River Chinook salmon escapement has been multiplied by 4 to get the Alsek River drainage escapement.

Table 13.–Yakutat Bay set gillnet fishery effort and salmon harvest, 1985–2021.

Year	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
1985	56	45.5	240	11,665	3,414	5,515	685	21,519
1986	70	37.0	212	21,956	3,070	5,240	688	31,166
1987	69	46.0	329	25,240	2,417	1,750	197	29,933
1988	62	65.5	196	14,210	3,086	7,792	627	25,911
1989	76	68.0	297	24,524	4,712	8,503	307	38,343
1990	67	61.0	304	41,854	5,473	4,969	359	52,959
1991	56	58.0	391	28,581	5,299	507	400	35,178
1992	54	58.5	147	31,706	6,567	4,892	236	43,548
1993	39	60.0	148	19,138	4,398	1,054	72	24,810
1994	36	84.5	211	14,524	6,728	1,741	179	23,383
1995	42	85.0	266	17,312	7,865	8,978	270	34,691
1996	42	85.0	184	17,039	4,256	529	189	22,197
1997	30	66.0	236	17,574	3,563	17,735	112	39,220
1998	29	63.5	107	6,782	973	7,992	110	15,964
1999	55	58.5	618	41,739	6,768	2,510	411	52,046
2000	44	47.5	285	24,757	3,946	12,963	628	42,579
2001	60	91.0	703	34,044	4,738	3,585	200	43,270
2002	35	97.5	548	17,899	1,201	1,552	165	21,365
2003	33	65.0	238	14,358	578	4,834	63	20,071
2004	47	90.5	690	22,920	3,721	3,339	130	30,800
2005	41	60.0	271	17,844	4,846	11,920	190	35,071
2006	46	64.0	317	35,893	3,254	16,681	725	56,870
2007	58	54.0	818	59,602	6,384	25,808	1,100	93,712
2008	56	47.5	524	14,976	2,072	21,869	362	39,803
2009	56	60.5	394	15,423	3,308	9,263	353	28,741
2010	46	54.5	92	15,092	1,052	17,200	377	33,813
2011	50	67.0	257	27,612	6,646	62,774	215	97,504
2012	39	48.0	247	23,836	2,672	5,275	280	32,310
2013	36	58.0	492	26,837	5,362	6,145	192	39,028
2014	41	59.0	266	29,670	719	4,625	201	35,481
2015	38	53.5	509	13,586	865	14,796	167	29,923
2016	42	49.0	130	20,818	324	6,220	59	27,551
2017	42	57.0	713	31,387	2,236	12,599	322	47,257
2018	36	40.5	175	1,208	794	10,361	75	12,613
2019	32	47.0	142	8,437	104	4,106	88	12,877
2020	23	51.0	149	2,619	278	61	66	3,247
2021	22	53.5	149	5,936	676	2,718	22	9,501
2011–2020 Avg	38	53.0	308	18,601	2,000	12,696	167	33,779
2021[a]	-42%	1%	-52%	-68%	-66%	-79%	-87%	-72%

[a] Percent deviation from 10-year average.

Table 14.–Manby Shore-Outside set gillnet fishery effort and salmon, 1985–2021.

Year	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
1985	22	45.5	8	5,723	16,282	243	7	22,263
1986	0	90.0	0	0	0	0	0	0
1987	14	48.5	15	8,109	7,606	0	4	15,734
1988	13	17.5	12	9,153	1	0	0	9,166
1989	31	54.5	23	30,370	260	22	2	30,677
1990	29	33.5	44	20,735	119	3	41	20,942
1991	14	52.5	30	8,413	24	0	26	8,493
1992	17	50.5	5	4,526	2	7	4	4,544
1993	9	54.0	6	3,634	107	3	22	3,772
1994	25	75.0	94	8,720	41	2	9	8,866
1995	14	82.5	11	3,402	2,203	5	13	5,634
1996	13	82.5	9	7,740	266	7	5	8,027
1997	7	61.5	12	1,320	0	2	0	1,334
1998	2	61.0	*	*	*	*	*	*
1999	9	56.0	89	1,309	405	21	7	1,831
2000	10	45.0	1	2,734	80	28	8	2,851
2001	8	87.5	0	7,602	24	11	0	7,637
2002	3	95.0	14	1,449	0	0	0	1,463
2003	7	58.5	21	2,725	294	14	3	3,057
2004	8	65.0	7	2,494	13	26	0	2,540
2005	14	57.5	82	8,732	169	205	1	9,189
2006	9	59.5	34	5,823	6	14	1	5,878
2007	8	51.5	6	1,014	1	42	1	1,064
2008	6	37.0	14	885	21	2	6	928
2009	12	48.0	100	2,830	60	378	33	3,401
2010	13	48.0	33	8,938	52	5	71	9,099
2011	15	56.5	111	9,203	503	29	11	9,857
2012	7	44.5	55	5,084	25	1	12	5,177
2013	9	55.5	41	3,600	72	9	5	3,727
2014	5	55.5	14	1,712	4	7	5	1,742
2015	6	48.0	65	5,491	29	17	6	5,608
2016	10	48.5	23	11,701	881	33	0	12,648
2017	5	49.5	76	7,382	1,069	90	13	8,630
2018	4	38.0	29	1,047	575	96	4	1,751
2019	11	50.5	88	8,140	5,645	163	16	14,052
2020	8	49.5	72	5,895	1,398	59	4	7,428
2021	10	51.0	21	7,891	2,220	73	4	10,209
2011–2020 Avg	8	50.0	57	5,926	1,020	50	8	7,062
2021[a]	25%	3%	-63%	33%	118%	45%	-47%	45%

* Harvests are confidential.

[a] Percent deviation from 10-year average.

Table 15.–Alsek River set gillnet fishery weekly effort and salmon harvest, 2021.

Week	Starting Date	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
23	30-May	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
24	6-Jun	11	1	119	142	0	0	0	261
25	13-Jun	11	1	139	344	0	0	0	483
26	20-Jun	12	1	56	416	0	0	0	472
27	27-Jun	11	1	17	634	0	0	0	651
28	4-Jul	9	1	6	1,135	0	0	0	1,141
29	11-Jul	11	1	2	1,004	0	0	0	1,006
30	18-Jul	9	2	1	2,124	0	0	0	2,125
31	25-Jul	4	2	0	1,630	0	0	0	1,630
32	1-Aug	3	2	0	1,448	0	0	0	1,448
33–42	8-Aug	Not fished	30	0	0	0	0	0	0
Totals		14	42	340	8,877	0	0	0	9,217

Table 16.–Akwe River set gillnet fishery effort and salmon harvest, 1985–2021.

Year	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
1985	12	20.5	144	4,686	4,429	94	27	9,380
1986	22	32.5	384	9,107	8,629	43	101	18,264
1987	23	40.0	257	12,175	7,119	33	501	20,085
1988	20	37.0	100	12,476	13,705	1,686	2,288	30,255
1989	22	27.0	192	8,653	10,096	491	314	19,746
1990	16	28.0	193	3,996	6,718	11	42	10,960
1991	7	32.0	265	4,172	5,697	2	67	10,203
1992	7	31.5	41	3,034	3,402	1	13	6,491
1993	7	34.5	30	3,973	3,168	10	39	7,220
1994	2	63.0	*	*	*	*	*	*
1995	5	47.5	73	2,200	11,095	7	87	13,462
1996	3	37.0	10	2,975	1,335	2	15	4,337
1997	8	51.0	18	2,671	15,915	63	14	18,681
1998	7	31.5	10	2,439	8,873	1	7	11,330
1999	5	41.5	73	3,648	4,647	1	2	8,371
2000	14	36.0	159	21,129	5,162	2	52	26,504
2001	12	41.0	294	17,294	90	1	1	17,680
2002	4	62.0	170	3,754	0	1	4	3,929
2003	8	50.0	304	8,418	0	1	0	8,723
2004	6	80.5	149	11,860	5,342	0	1	17,352
2005	6	40.0	108	5,529	287	2	2	5,928
2006	7	51.0	256	5,833	3,725	25	34	9,873
2007	9	45.0	238	24,087	1,987	0	10	26,322
2008	8	36.0	72	3,120	2,535	1	3	5,731
2009	5	43.5	90	7,251	2,270	56	15	9,682
2010	7	36.5	43	6,082	6,351	30	255	12,761
2011	7	43.0	178	21,360	1,639	225	24	23,426
2012	5	39.0	36	5,888	1,187	564	381	8,056
2013	3	46.0	76	15,917	759	1,514	123	18,389
2014	6	35.0	19	1,726	2,201	291	66	4,303
2015	4	39.5	28	2,694	13	1,594	56	4,385
2016	3	25.5	7	501	706	4	3	1,221
2017	6	38.5	11	8,070	1	1,375	19	9,476
2018	0	27.0	0	0	0	0	0	0
2019	0	27.0	0	0	0	0	0	0
2020	0	36.5	0	0	0	0	0	0
2021	0	35.0	0	0	0	0	0	0
2011–2020 Avg	3	36.0	36	5,616	651	557	67	6,926
2021[a]	-100%	-2%	-100%	-100%	-100%	-100%	-100%	-100%

* Harvests are confidential.

[a] Percent deviation from 10-year average.

Table 17.–Dangerous River set gillnet fishery salmon harvest, 1985–2021.

Year	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
1985	8	38.0	7	557	17	16	0	597
1986	8	42.0	10	2,811	202	22	8	3,053
1987	4	46.0	4	2,433	0	0	0	2,437
1988	3	41.5	0	1,305	0	0	0	1,305
1989	3	47.0	0	1,122	421	2	2	1,547
1990	2	41.0	*	*	*	*	*	*
1991	3	50.0	104	390	0	0	0	494
1992	1	48.5	*	*	*	*	*	*
1993	5	50.0	6	1,655	869	13	8	2,551
1994	7	56.5	5	3,107	302	1	4	3,419
1995	5	60.0	8	4,757	1,438	6	3	6,212
1996	3	48.0	15	8,158	132	4	3	8,312
1997	8	58.5	23	7,793	56	52	10	7,934
1998	14	55.0	6	6,800	246	8	2	7,062
1999	4	55.5	7	7,713	3	0	0	7,723
2000	18	47.0	20	5,584	305	44	12	5,965
2001	5	61.0	5	5,740	0	0	0	5,745
2002	2	81.0	*	*	*	*	*	*
2003	2	56.0	*	*	*	*	*	*
2004	3	67.5	2	865	0	0	0	867
2005	4	52.0	10	1,558	0	4	2	1,574
2006	3	53.0	41	2,352	0	3	0	2,396
2007	5	54.0	4	5,768	18	2	0	5,792
2008	7	41.5	21	2,800	24	104	7	2,956
2009	13	54.5	30	8,691	194	493	26	9,434
2010	3	50.5	2	3,997	4	1	0	4,004
2011	5	51.0	9	4,114	6	0	0	4,129
2012	6	49.0	0	5,814	30	104	5	5,953
2013	3	53.0	2	7,046	0	3	1	7,052
2014	5	54.0	1	3,808	2	8	0	3,819
2015	2	48.5	*	*	*	*	*	*
2016	1	47.0	*	*	*	*	*	*
2017	1	44.0	*	*	*	*	*	*
2018	5	37.5	1	215	0	0	0	216
2019	2	50.0	*	*	*	*	*	*
2020	0	50.5	0	0	0	0	0	0
2021	1	53.5	*	*	*	*	*	*
2011–2021 Avg	3	48.0	2	2,326	4	12	1	2,344
2021[a]	-70%	10%	67%	-100%	-100%	-100%	67%	-100%

* Harvests are confidential.

[a] Percent deviation from 10-year average.

Table 18.–Situk-Ahrnklin set gillnet fishery exvessel value, 1985–2021.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
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	$1,248,681
1988	$10,350	$1,018,060	$1,522,176	$40,223	$10,632	$2,601,441
1989	$0	$899,505	$283,090	$58,445	$3,748	$1,244,788
1990	$0	$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	$651,928
1999	$81,060	$488,915	$515,785	$10,738	$474	$1,096,972
2000	$28,905	$222,598	$464,086	$22,852	$584	$739,025
2001	$17,179	$241,597	$433,935	$12,427	$187	$705,325
2002	$4,832	$180,146	$413,938	$2,751	$38	$601,705
2003	$27,850	$441,995	$293,676	$18,885	$249	$782,655
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	$889,546
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	$1,305,725
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
2016	$4	$249,929	$1,141,887	$15,832	$249	$1,407,901
2017	$0	$525,168	$1,143,843	$107,080	$803	$1,776,894
2018	$0	$34,711	$818,280	$17,651	$168	$870,810
2019	$0	$146,145	$813,050	$29,617	$626	$989,438
2020	$0	$105,939	$656,612	$14,256	$88	$776,894
2021	$851	$436,262	$748,061	$28,489	$72	$1,213,735
2011–2020 Avg	$1,383	$352,006	$804,348	$53,297	$753	$1,211,788
2021[a]	-38%	24%	-7%	-47%	-90%	0%

[a] Percent deviation from 10-year average.

Table 19.–Situk-Ahrnklin set gillnet fishery exvessel value relative to the total Yakutat Area set gillnet exvessel value, 1985–2021.

Year	Yakutat Area	Situk-Ahrnklin	Percent Value of Situk-Ahrnklin
1985	$2,777,108	$524,560	19%
1986	$2,044,606	$180,677	9%
1987	$4,587,640	$1,248,984	27%
1988	$8,703,413	$2,601,441	30%
1989	$4,217,986	$1,244,788	30%
1990	$4,560,978	$1,189,260	26%
1991	$2,330,261	$1,183,752	51%
1992	$5,320,994	$2,063,143	39%
1993	$3,000,832	$1,192,148	40%
1994	$3,653,893	$1,686,803	46%
1995	$2,479,193	$1,716,842	69%
1996	$2,406,670	$1,351,005	56%
1997	$3,216,870	$1,687,084	52%
1998	$1,416,481	$652,129	46%
1999	$2,324,296	$1,097,412	47%
2000	$1,491,218	$740,165	50%
2001	$1,134,695	$705,325	62%
2002	$741,392	$601,704	81%
2003	$1,140,130	$782,143	69%
2004	$1,629,266	$1,156,074	71%
2005	$926,824	$488,192	53%
2006	$1,724,122	$889,519	52%
2007	$2,516,647	$911,724	36%
2008	$1,657,225	$1,092,913	66%
2009	$1,681,645	$858,378	51%
2010	$2,157,567	$1,372,001	64%
2011	$2,311,802	$1,305,724	56%
2012	$1,536,822	$772,553	50%
2013	$3,018,685	$1,407,902	47%
2014	$2,117,425	$1,270,036	60%
2015	$1,324,263	$1,014,515	77%
2016	$1,930,288	$1,407,901	73%
2017	$2,549,101	$1,776,894	70%
2018	$1,089,417	$870,810	80%
2019	$1,548,185	$989,437	64%
2020	$1,058,014	$776,894	73%
2021	$1,646,540	$1,210,748	74%
2011–2020 Avg	$1,848,400	$1,159,267	65%
2021[a]	-11%	4%	13%

[a] Percent deviation from 10-year average.

Table 20.–Situk-Ahrnklin set gillnet fishery weekly effort and salmon harvest, 2021.

Week	Ending Date	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
26	20-Jun	25	2.5	0	5,034	0	0	0	5,034
27	27-Jun	24	2.5	0	3,487	0	6	0	3,493
28	4-Jul	24	2.5	0	5,833	0	29	0	5,862
29	11-Jul	22	4.5	0	6,708	0	150	2	6,860
30	18-Jul	26	4.0	28	10,191	0	2,236	4	12,459
31	25-Jul	28	4.0	23	4,662	17	3,199	6	7,907
32	1-Aug	22	3.0	6	3,358	48	4,065	20	7,497
33	8-Aug	12	3.0	0	402	90	409	2	903
34	15-Aug	27	3.0	1	775	558	2,654	0	3,988
35	22-Aug	26	3.0	0	1,600	3,693	3,795	3	9,091
36	29-Aug	47	3.0	0	414	9,836	8,727	1	18,978
37	5-Sep	54	3.0	2	1	14,479	0	2	14,484
38	12-Sep	54	3.0	0	1	12,772	0	0	12,773
39	19-Sep	49	4.0	0	0	13,689	0	0	13,689
40	26-Sep	40	3.0	0	0	5,741	0	0	5,741
41	3-Oct	11	3.0	0	0	667	0	0	667
42	10-Oct	1	3.0	*	*	*	*	*	*
Total		67	54.0	60	42,466	61,590	25,270	40	129,450

* Harvests are confidential.

Table 21.–Yakutat Bay set gillnet fishery weekly effort and salmon harvest, 2021.

Week	Start Date	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
25	13-Jun	10	2.5	22	197	0	0	2	221
26	20-Jun	8	2.5	23	954	0	0	4	981
27	27-Jun	8	2.5	10	375	1	1	0	387
28	4-Jul	6	2.5	17	243	0	12	0	272
29	11-Jul	8	3.5	22	684	6	33	1	746
30	18-Jul	8	3.5	40	1071	6	159	2	1,278
31	25-Jul	7	3.5	10	994	82	297	2	1,385
32	1-Aug	6	3.0	4	592	71	437	0	1,104
33	8-Aug	3	3.0	0	153	26	144	0	323
34	15-Aug	7	3.0	0	413	275	798	5	1,491
35	22-Aug	7	3.0	1	236	161	569	2	969
36	29-Aug	4	3.0	0	24	48	268	4	344
37-42	5-Sep	Not fished	18.0	0	0	0	0	0	0
Totals		22	53.5	149	5,936	676	2,718	22	9,501

Table 22.–Yakutat Bay set gillnet fishery effort and salmon harvest, 1985–2021.

Year	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
1985	56	45.5	240	11,665	3,414	5,515	685	21,519
1986	70	37.0	212	21,956	3,070	5,240	688	31,166
1987	69	46.0	329	25,240	2,417	1,750	197	29,933
1988	62	65.5	196	14,210	3,086	7,792	627	25,911
1989	76	68.0	297	24,524	4,712	8,503	307	38,343
1990	67	61.0	304	41,854	5,473	4,969	359	52,959
1991	56	58.0	391	28,581	5,299	507	400	35,178
1992	54	58.5	147	31,706	6,567	4,892	236	43,548
1993	39	60.0	148	19,138	4,398	1,054	72	24,810
1994	36	84.5	211	14,524	6,728	1,741	179	23,383
1995	42	85.0	266	17,312	7,865	8,978	270	34,691
1996	42	85.0	184	17,039	4,256	529	189	22,197
1997	30	66.0	236	17,574	3,563	17,735	112	39,220
1998	29	63.5	107	6,782	973	7,992	110	15,964
1999	55	58.5	618	41,739	6,768	2,510	411	52,046
2000	44	47.5	285	24,757	3,946	12,963	628	42,579
2001	60	91.0	703	34,044	4,738	3,585	200	43,270
2002	35	97.5	548	17,899	1,201	1,552	165	21,365
2003	33	65.0	238	14,358	578	4,834	63	20,071
2004	47	90.5	690	22,920	3,721	3,339	130	30,800
2005	41	60.0	271	17,844	4,846	11,920	190	35,071
2006	46	64.0	317	35,893	3,254	16,681	725	56,870
2007	58	54.0	818	59,602	6,384	25,808	1,100	93,712
2008	56	47.5	524	14,976	2,072	21,869	362	39,803
2009	56	60.5	394	15,423	3,308	9,263	353	28,741
2010	46	54.5	92	15,092	1,052	17,200	377	33,813
2011	50	67.0	257	27,612	6,646	62,774	215	97,504
2012	39	48.0	247	23,836	2,672	5,275	280	32,310
2013	36	58.0	492	26,837	5,362	6,145	192	39,028
2014	41	59.0	266	29,670	719	4,625	201	35,481
2015	38	53.5	509	13,586	865	14,796	167	29,923
2016	42	49.0	130	20,818	324	6,220	59	27,551
2017	42	57.0	713	31,387	2,236	12,599	322	47,257
2018	36	40.5	175	1,208	794	10,361	75	12,613
2019	32	47.0	142	8,437	104	4,106	88	12,877
2020	23	51.0	149	2,619	278	61	66	3,247
2021	22	53.5	149	5,936	676	2,718	22	9,501
2011–2020 Avg	38	53.0	308	18,601	2,000	12,696	167	33,779
2021[a]	-42%	1%	-52%	-68%	-66%	-79%	-87%	-72%

[a] Percent deviation from 10-year average.

Table 23.–Manby Shore-Outside set gillnet fishery effort and salmon, 1985–2021.

Year	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
1985	22	45.5	8	5,723	16,282	243	7	22,263
1986	0	90.0	0	0	0	0	0	0
1987	14	48.5	15	8,109	7,606	0	4	15,734
1988	13	17.5	12	9,153	1	0	0	9,166
1989	31	54.5	23	30,370	260	22	2	30,677
1990	29	33.5	44	20,735	119	3	41	20,942
1991	14	52.5	30	8,413	24	0	26	8,493
1992	17	50.5	5	4,526	2	7	4	4,544
1993	9	54.0	6	3,634	107	3	22	3,772
1994	25	75.0	94	8,720	41	2	9	8,866
1995	14	82.5	11	3,402	2,203	5	13	5,634
1996	13	82.5	9	7,740	266	7	5	8,027
1997	7	61.5	12	1,320	0	2	0	1,334
1998	2	61.0	*	*	*	*	*	*
1999	9	56.0	89	1,309	405	21	7	1,831
2000	10	45.0	1	2,734	80	28	8	2,851
2001	8	87.5	0	7,602	24	11	0	7,637
2002	3	95.0	14	1,449	0	0	0	1,463
2003	7	58.5	21	2,725	294	14	3	3,057
2004	8	65.0	7	2,494	13	26	0	2,540
2005	14	57.5	82	8,732	169	205	1	9,189
2006	9	59.5	34	5,823	6	14	1	5,878
2007	8	51.5	6	1,014	1	42	1	1,064
2008	6	37.0	14	885	21	2	6	928
2009	12	48.0	100	2,830	60	378	33	3,401
2010	13	48.0	33	8,938	52	5	71	9,099
2011	15	56.5	111	9,203	503	29	11	9,857
2012	7	44.5	55	5,084	25	1	12	5,177
2013	9	55.5	41	3,600	72	9	5	3,727
2014	5	55.5	14	1,712	4	7	5	1,742
2015	6	48.0	65	5,491	29	17	6	5,608
2016	10	48.5	23	11,701	881	33	0	12,648
2017	5	49.5	76	7,382	1,069	90	13	8,630
2018	4	38.0	29	1,047	575	96	4	1,751
2019	11	50.5	88	8,140	5,645	163	16	14,052
2020	8	49.5	72	5,895	1,398	59	4	7,428
2021	10	51.0	21	7,891	2,220	73	4	10,209
2011–2020 Avg	8	50.0	57	5,926	1,020	50	8	7,062
2021[a]	25%	3%	-63%	33%	118%	45%	-47%	45%

* Harvests are confidential.

[a] Percent deviation from 10-year average.

Table 24.–Manby Shore-Inside set gillnet fishery effort and salmon harvest, 1985–2021.

Year	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
1985	6	43.0	0	0	16,366	0	0	16,366
1986	6	43.5	0	5,012	1,013	0	4	6,029
1987	0	0.0	0	0	0	0	0	0
1988	9	55.0	0	2,138	13,656	89	2	15,885
1989	7	43.0	0	1,989	4,263	0	1	6,253
1990	7	15.0	0	4,930	11,349	0	0	16,279
1991	8	43.0	0	2,558	3,272	0	0	5,830
1992	7	42.0	0	317	3,859	0	0	4,176
1993	4	43.5	0	239	5,083	0	0	5,322
1994	6	61.5	0	918	5,431	0	1	6,350
1995	8	54.0	1	4,116	4,947	1	1	9,066
1996	0	47.0	0	0	0	0	0	0
1997	9	59.0	0	0	6,635	0	0	6,635
1998	10	53.5	0	534	1,883	0	0	2,417
1999	6	53.5	0	1,336	1,856	4	0	3,196
2000	5	42.0	0	905	1,065	0	2	1,972
2001	4	81.0	1	524	642	44	0	1,211
2002	0	77.0	0	0	0	0	0	0
2003	0	51.0	0	0	0	0	0	0
2004	2	62.5	*	*	*	*	*	*
2005	0	47.0	0	0	0	0	0	0
2006	3	48.0	7	1,801	51	0	0	1,859
2007	1	48.0	*	*	*	*	*	*
2008	0	34.5	0	0	0	0	0	0
2009	2	46.5	*	*	*	*	*	*
2010	1	45.5	*	*	*	*	*	*
2011	1	49.0	*	*	*	*	*	*
2012	1	42.0	*	*	*	*	*	*
2013	1	45.0	*	*	*	*	*	*
2014	0	53.0	0	0	0	0	0	0
2015	3	45.5	64	1,157	5	9	2	1,237
2016	4	47.0	28	11,740	21	7	2	11,798
2017	3	46.0	0	5,423	375	43	0	5,841
2018	2	33.5	*	*	*	*	*	*
2019	0	48.0	0	0	0	0	0	0
2020	1	45.5	*	*	*	*	*	*
2021	2	48.5	*	*	*	*	*	*
2011–2020 Avg	2	45.0	9	2,071	66	99	0	2,246
2021[a]	25%	7%	-100%	105%	-100%	-90%	150%	90%

* Harvests are confidential.

[a] Percent deviation from 10-year average.

Table 25.–Tsiu River set gillnet fishery effort and salmon harvest, 1985–2021.

Year	Boats	Days	Chinook	Sockeye	Coho	Pink	Chum	Total
1985	39	20.0	0	0	63,922	0	0	63,922
1986	44	11.0	0	0	21,193	0	0	21,193
1987	41	15.0	0	0	35,297	0	0	35,297
1988	42	20.0	0	24	56,116	3	3	56,146
1989	26	19.0	0	41	62,939	3	0	62,983
1990	31	13.0	0	31	33,827	2	0	33,860
1991	24	31.0	0	0	38,329	0	1	38,330
1992	25	25.0	0	57	92,290	0	1	92,348
1993	22	20.0	1	20	56,736	0	0	56,757
1994	27	41.0	0	9	64,135	0	0	64,144
1995	12	29.0	0	0	50,399	0	0	50,399
1996	8	38.5	0	0	35,697	0	0	35,697
1997	17	35.0	0	0	58,647	0	0	58,647
1998	26	24.0	0	70	70,955	0	0	71,025
1999	31	30.5	0	3	61,483	0	0	61,486
2000	23	21.5	0	0	59,075	0	0	59,075
2001	11	51.0	0	0	31,734	14	0	31,748
2002	0	48.0	0	0	0	0	0	0
2003	0	22.0	0	0	0	0	0	0
2004	2	55.5	0	0	3,512	0	0	3,512
2005	8	25.0	0	0	25,429	0	0	25,429
2006	12	25.0	0	0	26,438	0	0	26,438
2007	12	12.0	0	5	22,318	0	0	22,323
2008	10	27.0	0	2	49,292	1	0	49,295
2009	10	23.5	0	74	43,723	121	2	43,920
2010	19	21.0	6	3	77,780	0	3	77,792
2011	20	16.0	0	16	34,360	171	2	34,549
2012	13	12.0	0	0	45,821	0	6	45,827
2013	13	27.0	0	0	44,887	0	0	44,887
2014	9	20.0	0	0	37,613	0	0	37,613
2015	6	31.0	0	24	16,968	0	1	16,993
2016	3	29.0	0	15	11,173	22	0	11,210
2017	2	6.0	*	*	*	*	*	*
2018	4	24.5	0	0	2,077	0	0	2,077
2019	0	8.0	0	0	0	0	0	0
2020	4	33.5	0	0	3,056	0	0	3,056
2021	5	18.0	0	0	5,650	0	0	5,650
2011–2020 Avg	7	21.0	0	6	19,646	20	1	19,672
2021[a]	-32%	-13%	0%	-100%	-71%	-100%	-100%	-71%

Note: For 10-year comparison, days are for coho salmon season only.

* Harvests are confidential.

[a] Percent deviation from 10-year average.

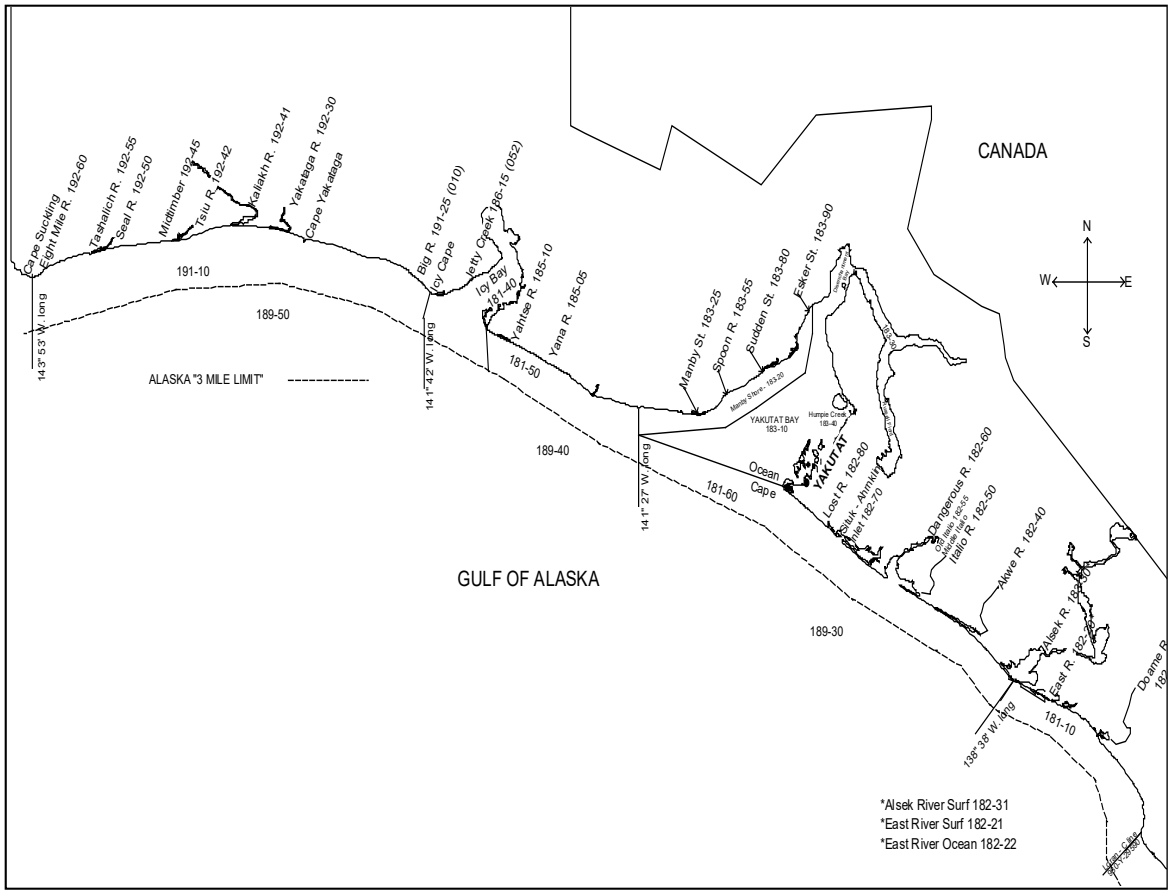

Figure 1.–Yakutat Management Area map, showing statistical reporting areas.

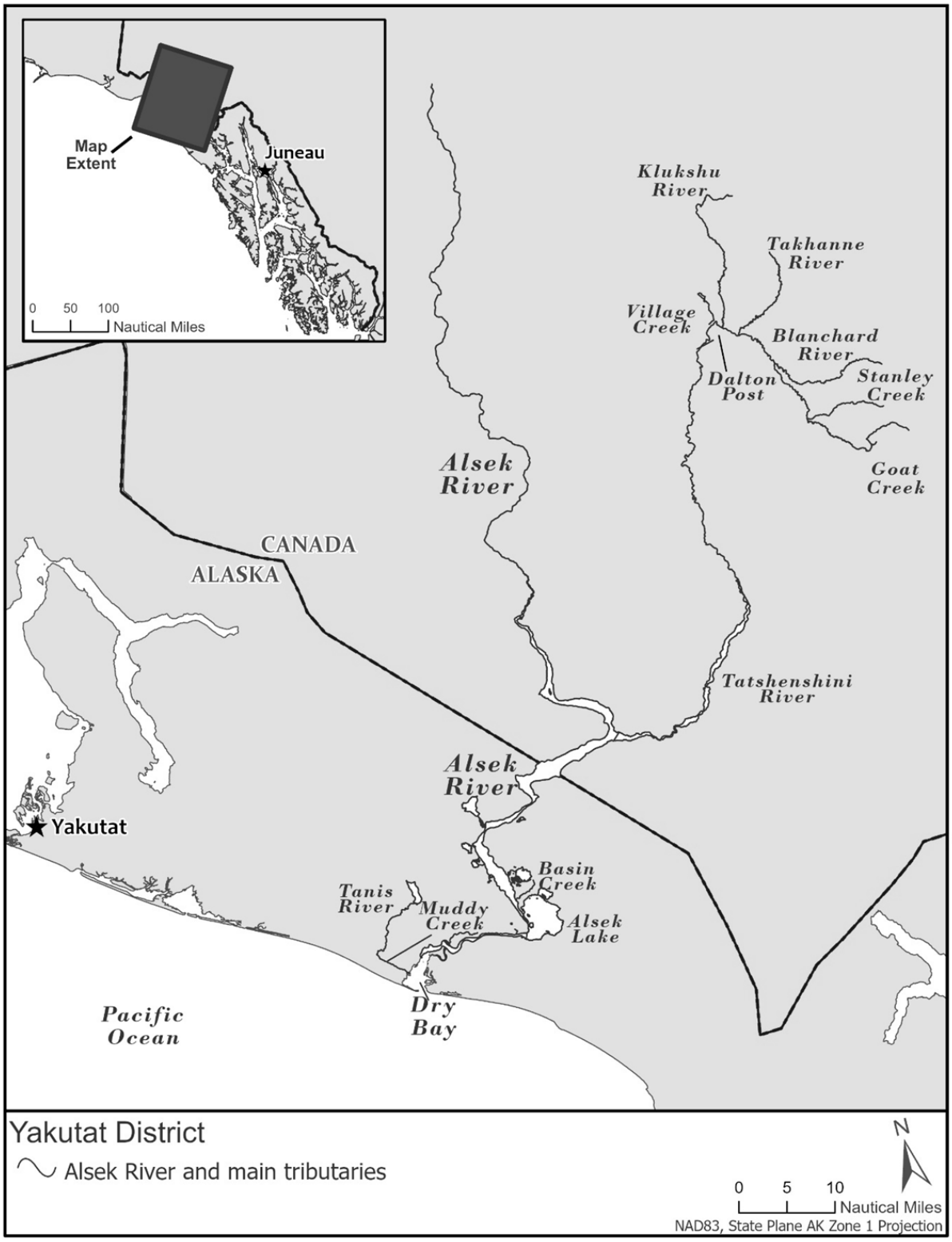

Figure 2.–Alsek River Drainage map.