

**Regional Information Report No. DRAFT**

---

---

# **2024 Yakutat Set Gillnet Fishery Management Plan**

by

**Richard A. Hoffman**

---

---

Month 2024

Alaska Department of Fish and Game

Division of Commercial Fisheries



## Symbols and Abbreviations

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

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

***REGIONAL INFORMANTION REPORT NO. XXXX-XX***

**2024 YAKUTAT SET GILLNET FISHERY MANAGEMENT PLAN**

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

Alaska Department of Fish and Game  
Division of Commercial Fisheries, Publications Section  
802 3<sup>rd</sup> Street, Douglas, AK 99824

May 2024

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

Product names used in this publication are included for completeness and do not constitute product endorsement. The Alaska Department of Fish and Game does not endorse or recommend any specific company or their products.

*Richard A. Hoffman*  
*Alaska Department of Fish and Game, Division of Commercial Fisheries,*  
*1 Fish and Game Plaza*  
*P.O. Box 49*  
*Yakutat, AK 99689, USA*

*This document should be cited as follows:*

*R. A. Hoffman. In prep. 2024 Yakutat set gillnet fishery management plan. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report, Douglas.*

The Alaska Department of Fish and Game (ADF&G) administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act (ADA) of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

**If you believe you have been discriminated against in any program, activity, or facility please write:**

ADF&G ADA Coordinator, P.O. Box 115526, Juneau, AK 99811-5526

U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, MS 2042, Arlington, VA 22203

Office of Equal Opportunity, U.S. Department of the Interior, 1849 C Street NW MS 5230, Washington DC 20240

**The department's ADA Coordinator can be reached via phone at the following numbers:**

(VOICE) 907-465-6077, (Statewide Telecommunication Device for the Deaf) 1-800-478-3648,

(Juneau TDD) 907-465-3646, or (FAX) 907-465-6078

**For information on alternative formats and questions on this publication, please contact:**

ADF&G, Division of Sport Fish, Research and Technical Services, 333 Raspberry Rd, Anchorage AK 99518 (907) 267-2375

# TABLE OF CONTENTS

	<b>Page</b>
LIST OF TABLES.....	II
LIST OF FIGURES.....	II
ABSTRACT.....	1
INTRODUCTION.....	1
2024 SALMON RUN EXPECTATIONS.....	2
Sockeye Salmon.....	2
Alsek River.....	2
East River.....	2
Akwe River.....	2
Italio River.....	2
Situk-Ahrnklin Inlet.....	2
Coho Salmon.....	3
Situk-Ahrnklin Inlet.....	3
Tsiu/Tsivat River.....	3
Chinook salmon.....	3
Alsek River.....	3
Situk-Ahrnklin River.....	3
Fishery Management.....	4
2024 SUMMER MANAGEMENT PLAN.....	4
Alsek River.....	4
East Alsek River.....	5
Akwe River.....	6
New Italio River.....	6
Dangerous River.....	6
Situk-Ahrnklin Inlet.....	7
Yakutat Bay and Manby Shore Outside Fisheries.....	9
Manby Shore Inside Fishery.....	9
Yakataga District.....	9
2024 FALL MANAGEMENT PLAN.....	9
Yakutat District.....	10
Yakataga District.....	10
REFERENCES CITED.....	12
FISHERY CONTACTS.....	12
TABLES AND FIGURES.....	13

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
Table 1.– Yakutat Management Area commercial set gillnet fisheries 2024 opening dates. ....	14
Table 2.–Yakutat Management Area salmon escapement goals.....	14

## LIST OF FIGURES

<b>Figure</b>	<b>Page</b>
Figure 1.–Yakutat Management Area statistical reporting areas. ....	15

## ABSTRACT

This management plan provides an overview of the expected salmon runs, spawning escapement goals, harvest projections, and management measures for the 2024 Yakutat commercial set gillnet fisheries. The Alaska Department of Fish and Game develops formal preseason forecasts for only the Situk River Chinook salmon, but a forecast was not done for 2024. Canada develops preseason forecasts for Klukshu River Chinook and sockeye salmon runs and is forecasting a total run of 1,500 Chinook salmon and 31,400 sockeye salmon. Other Yakutat Area sockeye and coho salmon runs are expected to be average to above average based on parent-year harvests and escapements. The Yakutat set gillnet fishery will open by regulation as described in 5 AAC 30.310 and 5 AAC 30.320, or by emergency order. Set gillnet fisheries are managed by adjusting fishing time and area in response to inseason assessments of run strength. Management emphasis will focus on sockeye (*Oncorhynchus nerka*) and Chinook salmon (*Oncorhynchus tshawytscha*) in June and July, and transition to coho salmon beginning the first Sunday in August. Continued poor productivity of Chinook salmon and sockeye salmon stocks warrants conservative fishery management during June and July.

Keywords: Yakutat, Yakutat Management Area (YMA), Yakataga District, commercial set gillnet, fishing seasons, fishing periods, Chinook, sockeye, coho, pink and chum salmon, Biological Escapement Goals (BEGs), Sustainable Escapement Goals (SEGs), fishery management plan, preseason run expectations, forecasts, 2024.

## INTRODUCTION

This management plan provides an overview of salmon run outlooks, spawning escapement goals, harvest projections, and expected management measures to be used during the 2024 Yakutat commercial set gillnet fisheries. Average, unless defined otherwise, refers to the most recent 10-year average (2014–2023). Harvest, escapement, and run forecasts and outlooks, unless otherwise indicated, are in numbers of fish.

The Yakutat Management Area (YMA) encompasses the waters of Alaska between Cape Suckling and Cape Fairweather. The area is divided into 2 fishing districts: the Yakutat District between Cape Fairweather and Icy Cape, and Yakataga District between Icy Cape and Cape Suckling. All species of salmon are harvested in the Yakutat Area, with coho (*Oncorhynchus kisutch*), pink (*O. gorbuscha*), sockeye (*O. nerka*), Chinook (*O. tshawytscha*) and chum (*O. keta*) in order of total harvest.

Set gillnet gear is the only net gear permitted and the set gillnet fishery is the primary commercial salmon fishery in the Yakutat Area. A troll fishery also occurs and is managed by the Alaska Department of Fish and Game (ADF&G) out of the Sitka. Approximately 160 commercial set gillnet limited entry permits are renewed annually and up to 102 permits have been actively fished in the past 10 years. Set gillnet permit holders do not have registered sites; they may fish in any open fishing area and may move among fishing areas during the season but only one area may be fished at a time.

There are 25 unique set gillnet fisheries in the YMA, although only about half have been actively fished in recent history (Figure 1). Most of these fisheries target sockeye salmon from June through July and coho salmon in August and September. Historically, Humpback Creek supported a commercial pink salmon fishery but directed harvest has not occurred since 1996. With the high variability of the pink salmon run and low commercial value of pink salmon, fishermen targeted other species of higher commercial value. The Situk-Ahrnklin Inlet is the most productive fishery in the YMA and normally supports the largest concentration of fishing effort (up to 90 permits). Set gillnet fisheries in the Yakataga District predominantly harvest coho salmon. The primary fisheries for coho salmon occur in the Situk, Tsiu and Kaliakh Rivers. The commercial fishing effort on the

Tsiu River has declined in recent years due to dramatic geological changes that decreased the fishable area.

There are no directed set gillnet fisheries for Chinook salmon in the YMA. Chinook salmon are harvested incidentally in the sockeye salmon set gillnet fisheries. The Alsek River, Manby Shore Outside Waters and Yakutat Bay fisheries are the principle harvesters of Chinook salmon.

## **2024 SALMON RUN EXPECTATIONS**

The department produces annual run forecasts for only Situk River Chinook salmon in the YMA. Harvest projections or outlooks are produced by the Yakutat Area Management Biologist and are included in this management plan. Outlooks are more qualitative with reference to brood year escapements, trends in the commercial harvest, rearing conditions, and information on year class strength, and should not be considered official department forecasts. Canada Department of Fisheries and Oceans (DFO) produces run forecasts for Alsek and Klukshu Rivers sockeye and Chinook salmon. Overall, Yakutat Area salmon runs are expected to be average to above average for 2024.

### **SOCKEYE SALMON**

#### **Alsek River**

The Alsek River sockeye salmon run is expected to be 136,700 fish; above the recent average run size estimate of 88,000 sockeye salmon. Principal contributing brood years are 2019 (Klukshu River escapement of 19,000 sockeye salmon) and 2020 (Klukshu River escapement of 4,300 sockeye salmon); the average Klukshu River sockeye salmon escapement is approximately 14,000 fish. The expected harvest from the drainage on run of this size is 3,000 to 6,000 fish (TTC 2024).

#### **East River**

The East River sockeye salmon escapement is expected to be average. The 2020 parent-year sockeye salmon commercial harvest was 109 fish with a peak escapement count of 13,700 fish, both were below average. The fishery will open once the lower bound of the sustainable escapement goal (SEG) is observed. If the run returns as expected, a harvest of 3,000 to 5,000 fish is anticipated.

#### **Akwe River**

The Akwe River sockeye salmon escapement is expected to be average to above average for 2024. In the 2020 parent year, sockeye salmon were not commercially fished, and the peak escapement count of 2,100 fish was near average. The fishery will not open until desired levels of escapement are observed.

#### **Italio River**

The sockeye salmon run is expected to be average in 2024. Even though run is expected to be average based on parent-year escapements, directed sockeye salmon fishing is not anticipated in 2024 due poor run performance in recent years. The department will monitor the run and may open the fishery if adequate escapement levels are observed.

#### **Situk-Ahrnclin Inlet**

The Situk River 2020 parent-year sockeye salmon commercial harvest was 14,400 fish with the escapement of 63,400 sockeye salmon near the upper end of the BEG range of 30,000 to 70,000



fish. Based on past escapement and recent harvest trends, escapement is expected to be achieved with an anticipated harvest of 20,000 to 40,000 fish in 2024. Higher harvest levels could be achieved depending on management actions needed to conserve to Situk River Chinook salmon.

## **COHO SALMON**

### **Situk-Ahrnklin Inlet**

The primary brood year (2021) for Situk River coho salmon was good with commercial harvest of 61,600 fish and no escapement information is available since no surveys were conducted due to high water but given recent trends it is likely that the SEG range of 3,800 to 9,600 fish was met. Based on recent trends in harvest and escapement, a harvest of 60,000 to 90,000 fish is anticipated for the Situk-Ahrnklin Inlet in 2024.

### **Tsiu/Tsivat River**

The primary brood year (2021) for the Tsiu/Tsivat coho salmon was good with a commercial harvest of 5,700 fish, no peak escapement information is available but given recent trends it is likely that the SEG range of 10,000 to 29,000 fish was met. It is anticipated there could be a commercial harvest of over 30,000 coho salmon from Tsiu River in 2024, if there is commercial effort.

### **Kaliakh River**

The Kaliakh River has not had an aerial survey since 1998 and prior to 2018 had not been fished since 2010. The 2018–2023 average coho salmon harvest has been 9,000 fish. If there is once again effort in 2024, a harvest of 5,000 to 10,000 coho salmon is expected.

### **Areawide**

Parent-year escapements were average in most systems. Based on recent trends in the fishery harvests, coho salmon runs are expected to be average to above average in 2024. The areawide set gillnet harvest is expected to be 90,000–140,000 coho salmon. Effort distribution and corresponding harvest throughout the region will be dependent on coho salmon abundance in individual fishing areas and the ability to transport fish to market.

## **CHINOOK SALMON**

### **Alsek River**

The Alsek River Chinook salmon terminal run size forecast is currently derived by expanding the Klukshu River (tributary to Alsek River) forecast. The Klukshu River preseason forecast is for an escapement of 1,500 Chinook salmon through the weir. This expands to a terminal run size forecast of 6,300 Chinook salmon to the entire Alsek River drainage. A forecast of this size is above average and at upper end of the Alsek River BEG range of 3,500 to 5,300 fish (TTC 2024).

### **Situk-Ahrnklin River**

For the 2024 season, no Situk River Chinook salmon forecast has been generated, due to not enough age information being collected in 2023. If the run comes back as based on the 10-year average then, the Situk River Chinook salmon BEG escapement goal of 450 to 1,050 large Chinook salmon will be met if no harvest occurs. Commercial, sport, and subsistence Chinook salmon

fisheries in the Situk River will remain closed unless the inseason escapement projections indicate the midpoint of the BEG range for Chinook salmon will be attained.

## **FISHERY MANAGEMENT**

Set gillnet fisheries in the YMA are managed by adjusting fishing time and area in response to preseason run forecasts and inseason assessments of run strength when they become available. During periods of poor production, managers often must curtail or even close fisheries to allow enough fish to reach the spawning grounds. Inseason assessment methods include fishery performance in terms of catch per unit effort (CPUE), and escapement information. In glacial systems, fishery performance data is utilized for management because poor visibility prevents accurate observations of escapements. Formal escapement goals have been established for many major index systems and salmon species in the YMA (Table 1). Ground and aerial surveys are conducted annually on several drainages to monitor escapement and assure escapement goals are achieved. Fishing areas are expected to open by regulation as described in 5 AAC 30.310 and 5 AAC 30.320, or by emergency order (Table 2).

The Alek and Situk Rivers Chinook salmon stocks are 2 of the 6 Pacific Salmon Treaty (treaty) indicator stocks in Southeast Alaska (SEAK). The SEAK, Transboundary Rivers, and Northern British Columbia Chinook salmon stocks are experiencing unprecedented levels of poor production. This has led the department to restrict the retention of Chinook salmon throughout SEAK. Situk River Chinook salmon stock was one of the SEAK wild indicator stocks that did not achieve its BEG in 2023. However, the Alek River did achieve its BEG in 2023. The 2024 Chinook salmon forecasts indicate returns to SEAK systems, will likely be below long-term average. Management actions are being taken across all SEAK fisheries, including sport, commercial, personal use, and subsistence, to reduce harvest of wild Chinook salmon.

## **2024 SUMMER MANAGEMENT PLAN**

This management plan provides information for the primary fisheries in the YMA. Information on areas that are fished only occasionally are available from the Yakutat Area management biologists listed at the end of this report. Most openings for sockeye salmon are generally from 6:00 A.M., Sunday, through 6:00 P.M., Tuesday, except for the Alek River which opens from 12:01 P.M., Sunday, through 12:00 noon, Monday, unless extensions are announced. The Alek River will open on the first Sunday in June (June 2), Yakutat Bay and Dangerous River will open on the second Sunday in June (June 9), and the Situk-Ahrnklin Inlet, and Manby Shore Outside Waters will open on the third Sunday in June (June 16). By the fourth Sunday in June (June 23), all fisheries in the Yakutat District will be open by regulation, with the exceptions of the East Alek, Akwe and the Italio rivers, which will open by emergency order (Table 1).

### **ALSEK RIVER**

The Alek River set gillnet fishery average harvest is 9,100 sockeye, 255 Chinook, and 80 coho salmon. Canada's subsistence and sport harvest has averaged approximately 30 Chinook, 820 sockeye and a small number of coho salmon during the same period. The 2023 Alek River Chinook salmon harvest of 170 Chinook and 2,700 sockeye salmon were below average harvests.

Canada's subsistence fishery will be open in 2024 unless run size estimates indicate the escapement goal will not be achieved (TTC 2024). The U.S. subsistence fishery will remain open as the U.S. subsistence harvests are relatively minor, harvesting a total of 190 salmon annually.

A variable proportion of the drainage-wide escapement of Alsek River sockeye salmon stocks are enumerated at a counting weir on the Klukshu River operated by DFO. Alsek River sockeye salmon are managed for an escapement goal range of 24,000 to 33,500 fish per the treaty despite the department no longer having a formal escapement goal for Alsek River sockeye salmon. Alsek River escapement is based on the Klukshu River weir counts. The Klukshu River sockeye salmon BEG of 7,500 to 11,000 fish has been achieved in 7 of the past 10 years (2014–2023). Based on a stock-recruit model, the preseason forecast for 2024 is 31,400 fish, above the average run size of 14,000 fish. Principal contributing brood years are 2019 (Klukshu River escapement of 19,100 sockeye salmon) and 2020 (Klukshu River escapement of 4,300 sockeye salmon).

Chinook salmon returns to the Klukshu River have been variable with signs of poor productivity. The Klukshu River Chinook salmon BEG range is 800–1,200 fish and Alsek River drainage Chinook salmon BEG range is 3,500–5,300 fish. Escapement has been achieved 8 of the last 10 years (2014–2023) for the Klukshu River and 6 of the last 10 years for the Alsek River drainage. The Klukshu River Chinook salmon escapements for 2019 was 1,600 fish and for 2020 was 1,300 fish. Based on these primary brood year escapements, the preseason run forecast for 2024 is 1,500 Klukshu River Chinook salmon; above the average of 1,100 fish and above the BEG range. The Alsek River drainage preseason run forecast of approximately 6,300 Chinook salmon, which derived from expanding Klukshu River preseason forecast and is above the average run size of 4,300 Chinook salmon.

The Alsek River set gillnet sockeye salmon fishery traditionally opens for a 24-hour period at noon on the first Sunday in June. For 2024, the fishery will open June 2 (first Sunday in June) in statistical week (SW) 23. Initial weekly openings will be 2 days. Time and area may be adjusted for subsequent weeks based on comparisons of current year's CPUE to historical CPUE levels and Chinook salmon harvest levels. Preseason run size forecasts are also considered when determining the weekly fishing periods, especially early in the season. A 6-inch maximum mesh size restriction will be implemented through July 14 and the department will request that all live and healthy Chinook salmon caught be released. Restrictions in fishing time will be taken if inseason information warrants action.

The Alsek River surf fishing area will be open during the same periods as the inriver fishery. The surf fishing area includes the shoreline half mile on each side of the river mouth seaward to the outermost bar at mean low tide.

Beginning in mid-August, management of the set gillnet fishery will be based on the run strength of coho salmon. Inseason management will be based on evaluation of fishery harvest trends, fishing effort, and CPUE relative to historical levels, similar to the management of sockeye salmon. Recent years have seen a decline in fishing effort during the coho salmon season on the Alsek River, primarily due to economic struggles (low prices and high cost of processing fish) and lack of aircraft to transport fish to town. It is anticipated that there will be minimal to no fishing effort for coho salmon in 2024.

## **EAST ALSEK RIVER**

The East Alsek River is located on the Alsek River flood plain approximately 56 miles (90 km) southeast of Yakutat. In 2018, the combined East Alsek-Doame Rivers BEG range of 13,000 to 26,000 fish was eliminated by the escapement goal review committee and replaced with a SEG range of 9,000 to 24,000 sockeye salmon for only the East Alsek River. Basing the escapement goal on the just the dominant East Alsek River sockeye salmon run simplifies management of the

set gillnet fishery in this area. Escapement will be closely monitored throughout the run and the East Alsek River will open by emergency order when the lower bound of the SEG range is attained. The length of weekly openings will be dependent on sockeye salmon run strength. If the fishery is opened, weekly openings are expected to be from 12:01 p.m., Sunday, through 12:00 p.m., Wednesday. The East Alsek River surf fishing area would be open for the same time periods as the East Alsek River. The East Alsek River will be managed for sockeye salmon abundance until September.

## **AKWE RIVER**

The Akwe River is a clear river system located about 35 miles south of Yakutat. The lower 7 miles of the river are wide and shallow and flow parallel to the beach before entering the ocean. The Akwe River had a BEG range of 600 to 1,500 sockeye salmon but BEG was eliminated in 2006 due to the inability to adequately assess escapement. There were closures during the sockeye salmon fishery due to low escapement from 2018 to 2022.

The sockeye salmon run to the Akwe River is expected to be average to above average in 2024 given recent run trends and escapement was above average for the primary parent year. In the 2020 parent year there was a peak escapement count 2,100 fish.

In 2024, the sockeye salmon fishery will not open until an adequate level of escapement is observed. If a commercial fishery is announced, subsequent fishing time will be based on fishery performance and observations of escapement. Reductions in the normal 1.5 day weekly fishing period may be necessary to ensure adequate escapement. The Akwe River fishery will take place upstream of regulatory markers located approximately 500 yards upstream from the confluence of the New Italo River to the upper markers located 2.5 miles downstream from the westernmost extent of the sand dunes, about 3.5 river miles.

## **NEW ITALIO RIVER**

In the winter of 1986/87, the Italo River changed course to empty into the Akwe River near its outlet into the Gulf of Alaska. This new course became what is called the “New” Italo River and supports runs of sockeye and coho salmon. Determination of either Akwe or Italo Rivers’ run strengths based on fishery performance below the confluence is not possible. Therefore, to protect New Italo River stocks, the set gillnet fishery will be closed from the mouth of the Akwe River to 500 yards upstream from the confluence.

The Italo River sockeye salmon fishery has not been open since 1987. The Italo River had an escapement goal of 2,500 to 7,000 sockeye salmon, but in 2002 the escapement review committee eliminated the escapement goal because directed fishing was no longer occurring, and escapement information was not reliable. The department has continued to conduct aerial surveys of the New Italo River and based on those surveys the sockeye salmon stocks appear to be stable at new levels. Aerial surveys will be conducted throughout the 2024 season to monitor run strength. The set gillnet fishery may open if adequate escapement is observed.

## **DANGEROUS RIVER**

The Dangerous River will open downstream of the Dangerous River Bridge on June 9. Weekly openings will be from 6:00 A.M., Sunday, through 6:00 P.M., Tuesday, until closed by emergency order. Fishing effort and corresponding harvest data for this system has been sporadic during the last 10 years and during the last 5 years (2019–2023), less than 3 permits fished a year. Marine

waters adjacent to the river mouth will be open for the same fishing periods as the Dangerous River.

## **SITUK-AHRNKLIN INLET**

The Situk-Ahrnklin Inlet is located approximately 9 miles by road from Yakutat and is the oldest and historically most productive fishery in the YMA. The fishery occurs primarily in the inlet, although some fishing occurs in the surf area. Sockeye salmon typically comprise the majority of the harvest during the summer season. The Situk-Ahrnklin Inlet commercial set net fishery has been closed to the retention of Chinook salmon from 2010 through 2020 due to poor run strength. In 2021 and 2022 the commercial set gillnet fishery was opened to retention of Chinook salmon after inseason projections indicated escapement would be made. Harvests have averaged 16 Chinook, 29,000 sockeye, 91,400 coho, 27,700 pink and 100 chum salmon over the prior 10 years (2014–2023).

The 2020 sockeye salmon parent-year escapement was 63,400 fish; within the BEG range of 30,000 to 70,000 fish. Based on this strong parent-year escapement and recent harvest trends, a harvest of 20,000 to 40,000 fish with an escapement of approximately 70,000 fish is expected for 2024. The Situk-Ahrnklin Inlet will open by regulation on June 16, for a 60-hour period (2.5 days). Future fishing periods will be based on escapement through the Situk River weir. Escapements of sockeye salmon through the weir serve as the primary inseason indicator of run strength and adjustments to the Situk-Ahrnklin Inlet commercial set gillnet fisheries may be made on the basis of these counts. A run timing model will be used to estimate the total Situk River sockeye salmon run after several weeks of harvest and escapement data are available.

Chinook salmon commercial, subsistence, and sport fisheries in the Situk River drainage are managed under the guidelines of the *Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan* (5 AAC 30.365) to achieve a BEG range of 450 to 1,050 large (3-ocean age and older) Chinook salmon. The Division of Commercial Fisheries annually develops a Chinook salmon run size forecast which is used to set various management actions per the management plan. For 2024, there is no Situk River Chinook preseason run forecast due to low run in 2023 and not enough age information collected to run forecast models.

Situk River Chinook salmon runs in recent years have been erratic. In response, management restrictions in all fisheries have been implemented since 2010. Despite these restrictions, the Situk River BEG has been achieved in 6 (2014, 2017, 2019, 2020, 2021, 2022) of the last 10 years. Expected management measures in 2024 for Chinook salmon conservation during the sockeye salmon fishery include:

- a) The regulatory closure around the mouth of the Situk River will be enlarged to encompass the area of high Chinook salmon abundance. Commercial and subsistence fisheries will be prohibited within the regulatory markers located at southeast end of Johnson Slough (59°26.27' N lat, 139°32.62' W long) to a regulatory marker directly across the Inlet on Black Sand Spit (59°25.77' N lat, 139°33.18' W long) to a regulatory marker westward along the beach of Black Sand Spit (59°26.49' N lat, 139°35.01' W long) to a regulatory marker west of the Yakutat Seafoods buying station (59°26.72' N lat, 139°34.61' W long).
- b) Chinook salmon may not be sold or retained for personal use in the commercial fishery. Dead Chinook salmon may be delivered to the buying stations at the time of sockeye salmon delivery for distribution to the Yakutat Senior Center and those in the community who are blind, disabled, or 65 years of age or older.

- c) The department requests that permit holders closely attend their gear and release all live, healthy Chinook salmon. The department has no regulatory authority to enforce this measure, but the alternative may be a closure of the sockeye salmon fishery.
- d) Retention of Chinook salmon in the subsistence fishery will be prohibited until the Situk River Chinook salmon BEG is attained. All subsistence permit holders in the Situk-Ahrnklin Inlet must closely attend their gear at all times when it is being used to take salmon (5 AAC 01.670[c]).

The Situk River pink salmon run has traditionally supported the largest pink salmon harvest in the YMA. Pink salmon have been counted annually at the Situk River weir since 1976 and more sporadically during boat surveys. In 1995, ADF&G established BEG ranges for even-year returns of 42,000 to 105,000 fish and odd-year returns of 54,000 to 200,000 fish, (Clark 1995). However, weir counts do not capture full escapements in all years because the weir is removed before the pink salmon run peaks in late August to early September (Piston and Heintz 2020). In 2012, ADF&G adopted a lower bound SEG of 33,000 pink salmon counted at the weir through August 5 in an effort to provide a consistent early season index of abundance and to maintain a goal for fisheries management (Piston and Heintz 2020). After 7 years the escapement goal did not provide a consistent early season index of abundance as pink salmon escapement was highly variably from year to year in early August. In January 2018, the escapement goal review committee eliminated the Situk River pink salmon escapement goal, given the limited utility of available escapement information and the low harvest rates on the stock.

Pink salmon harvest in 2024 is expected to be minimal. In recent years, the low value of pink salmon has provided little economic incentive to target pink salmon. In addition, pink salmon management options for maximizing harvest are limited due to the overlap in run timing with sockeye and coho salmon.

Steelhead kelts occasionally accumulate in the Situk River prior to emigrating to the ocean during the early part sockeye salmon fishery. When the emigration is late, there is a potential for the Situk River set gillnet fishery to incidentally harvest emigrating steelhead kelts. The rate of emigration of steelhead kelts often increases following periods of heavy rainfall. If a major emigration is expected to occur during a scheduled gillnet fishing period, the opening may be delayed to reduce the incidental catch of steelhead kelts. Alternately, steelhead kelts may be held upstream from the weir for release during a commercial fishery closure.

## **LOST RIVER**

In the winter of 1998/99, the Lost River changed course to discharge into the Situk/Ahrnklin Inlet instead of the Gulf of Alaska. As a result, Lost River stocks have since been harvested incidentally in the Situk-Ahrnklin set gillnet fishery since 1999. The escapement goal review committee eliminated the Lost River sockeye salmon escapement goal in 2018. The goal was eliminated because survey methods were not standardized; the survey type (aerial, foot, boat), area (Tawah Creek, Ophir Creek, or Summit Lake, or combinations of multiple areas), and timing varied considerably over the decades. Prior to 2018, the Lost River was managed to achieve the SEG lower bound of 1,000 sockeye salmon. Although the sockeye salmon SEG was eliminated, the department continues to monitor and take actions to protect Lost River salmon stocks. However, more than 1,000 sockeye salmon have not been observed in the Lost River in any year during the past 10 years (2014–2023).

An area closure around the mouth of the Lost River has been implemented to reduce harvest of Lost River salmon stocks since 1999. The area closure includes an area from 100 to 500 yards on either side of the mouth of the Lost River. The regulatory closure (5 AAC 30.350 [a][7]) will be enlarged to the 500 yards for the duration of the season. The intent of this closure is to protect Lost River sockeye salmon stocks and provide for normal weekly fishing periods in the Situk-Ahrnklin Inlet for Situk River salmon stocks.

The 2020, sockeye salmon parent-year peak escapement was not observed due to high water events, but 330 sockeyes were observed on one survey. Based on parent-year escapement and recent low productivity, the 2024 Lost River sockeye salmon run is expected to be below average.

## **YAKUTAT BAY AND MANBY SHORE OUTSIDE FISHERIES**

Two separate set gillnet fisheries occur in Yakutat Bay. The Yakutat Bay fishery occurs in the ocean waters of Yakutat Bay south of 59°40' N lat and will open June 9 for 2.5 days. The Manby Shore Outside fishery encompasses the ocean waters of Yakutat Bay north of 59°40' N lat and will open June 16 for 2.5 days.

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

## **MANBY SHORE INSIDE FISHERY**

The Manby Shore Inside Waters fishery will open June 23 in streams along the northern shore of Yakutat Bay. Management of the Manby Shore Inside fisheries (waters upstream of the mean high tide line) will be based on the abundance of local stocks. Sockeye salmon are primarily harvested from Manby and Sudden Streams. A 2.5 day per week fishing period can be expected during the initial opening period scheduled for June 23. Additional fishing periods will depend on fishery performance.

## **YAKATAGA DISTRICT**

The Yakataga District is not expected to be open during the sockeye salmon season in 2024. Openings are not expected to occur until early August and will be based on observations of coho salmon escapement.

## **2024 FALL MANAGEMENT PLAN**

The fall fishing season generally begins the first Sunday of August. At that time, the regulatory weekly fishing period change in most areas to 12:01 P.M. opening and 12:00 noon closing times. During the fall season, set gillnet fishing occurs in both the Yakutat and Yakataga districts. In the Yakutat District, the fall coho salmon fishery occurs primarily in the same areas as the summer sockeye salmon fishery. In the Yakataga District, the coho salmon fishery is the only fishery that takes place.

Overall harvest and escapements of coho salmon in the YMA were average in the primary parent year (2021). The 2021 Situk River peak escapement was not observed due to high water events, but it is likely that the SEG range of 3,800 to 9,600 fish was achieved. There was no escapement count of coho salmon in the Tsiu River in 2021. The 2021, Tawah Creek peak escapement count was 1,384 coho salmon. But it is likely that the lower bound of the coho salmon SEG of 1,400–4,200 fish was achieved. The 2024 coho salmon run is expected to be average to above average areawide.

A potential concern regarding Yakutat Area coho salmon is based on both climatic and geological effects. The land is rising away from the water table due to some of the highest rates of isostatic rebound in the world. These factors dramatically affect freshwater rearing habitat for coho salmon. Forest Highway 10 crosses many streams, tributaries of the Situk and Ahrnklin Rivers, and of Seal Creek. At least 5 of these streams, although listed in the Anadromous Waters Catalog as important for both spawning and rearing of coho salmon, no longer exist. These streams have not had stream flows for almost 10 years. It is possible that these events will negatively impact coho salmon production in the Yakutat Area.

## **YAKUTAT DISTRICT**

Fall fishing for coho salmon will generally begin Sunday, August 4; however, sockeye management will continue in the East Alsek River through September and in the Alsek River until the end of SW 35 (August 31). The initial fishing periods for coho management are expected to be from 12:01 P.M., Sunday, through 12:00 noon, Wednesday. Inseason management of all Yakutat District fall fisheries will be based on fishery performance data and coho salmon escapement surveys.

BEGs were developed for 7 Yakutat Area coho salmon streams in 1994 based on stock-recruit analyses that contained several untested assumptions, including expansion factors for peak survey counts. Three of the systems have supported only minimal commercial fisheries in recent years and are no longer consistently surveyed for coho salmon escapements. The BEGs for Kaliakh, East Alsek, and Akwe Rivers have been eliminated and currently only 3 systems have escapement goals for coho salmon, one of which is in the Yakataga District. The 2 coho salmon stocks in the Yakutat District that have escapement goals are the Situk River with a SEG of 3,800 to 9,600 fish and the Tawah Creek with a SEG of 1,400 to 4,200 fish.

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

## **YAKATAGA DISTRICT**

The major fisheries in the Yakataga District target coho salmon on the Kaliakh and Tsiu Rivers and are located about 125 miles northwest of Yakutat. The Tsiu River recorded minor effort in 2004 and supported a more normal fishery from 2005 through 2013. Fishing effort has substantially declined on the Tsiu River the last 7 years due to changes in the river with fewer areas to fish and minimal air transportation. The Tsiu River has a 5-year average (2018–2022)



harvest of 2,200 coho salmon and the Kaliakh River has 5-year average (2019–2023) harvest of 1,700 coho salmon. The Kaliakh River had only minor effort in 2004 and 2006–2010, and moderate effort in 2018–2023. Escapement surveys of the Kaliakh River have not been conducted since 2007. The Tsiu River parent-year (2021) escapement was not observed, but it is likely the SEG of 10,000 to 29,000 fish was achieved. The current Tsiu River coho salmon escapement goal was met or exceeded in every year since 1973, except for years when surveys were curtailed by inclement weather.

The 2024 coho salmon runs are expected to be average to above average in both the Tsiu and Kaliakh Rivers. The Tsiu River will open by emergency order and opening dates and fishing periods will be determined from observed escapements above and below the regulatory markers. Due to either extremely low water levels or major geological changes in the Tsiu River, the regulatory markers have been moved annually to ensure adequate escapement before opening the commercial fishery. In 2013, dramatic geological changes occurred altering existing channels and creating new channels which altered coho salmon migratory patterns. One of the overflow channels from the Tsiu River cut across the sand flats inland of the Tsiu River and became a major tributary and new migration route for coho salmon. At the 2018 Alaska Board of Fisheries Southeast and Yakutat Finfish meeting, the department submitted a proposal to move the regulatory markers to a location that better reflected the current topography. The board amended 5 AAC 30.350(a)(12) and the new closed waters on the Tsiu/Tsiu Rivers are north of 60°5.34' N lat, and west of 143°3.66' W long.

The Kaliakh River will open on August 4. Weekly fishing periods will be 72-hours starting no earlier than 9:00 a.m., Sunday and may be spread over the week. Market conditions and weather will determine if the Yakutat District is fished in 2024. The area is remote, and fish must be flown to Yakutat for processing at a high expense or boated to Cordova.

## REFERENCES CITED

- Clark, J. H. 1995. Biological escapement goals for even and odd-year pink salmon returning to the Situk River and to Humpy Creek near Yakutat, Alaska. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report No. 1J95-08, Juneau.
- Piston, A. W., and S. C. Heinl. 2020. Pink salmon stock status and escapement goals in Southeast Alaska through 2019. Alaska Department of Fish and Game, Special Publication No.20-09, Anchorage
- TTC (Transboundary Technical Committee). 2024. Salmon management and enhancement plans for the Stikine, Taku, and Alsek rivers, 2024. Pacific Salmon Commission Report TCTR (24)-01, Vancouver. Canada.

## FISHERY CONTACTS

The following people are Division Commercial Fisheries contacts for this management plan:

Richard Hoffman—Area Management Biologist	1 Fish and Game Plaza Yakutat, Alaska 99689 (907) 784-3255 (May 1–Oct. 31) (907) 465-4209 (Nov. 1–April 30)
Lowell Fair—Regional Supervisor	802 3 <sup>rd</sup> Street Douglas, Alaska 99824 (907) 465-4250
Troy Thynes—Regional Management Coordinator	P.O. Box 667 Petersburg, Alaska 99833 (907) 772-3801

## **TABLES AND FIGURES**

Table 1.– Yakutat Management Area commercial set gillnet fisheries 2024 opening dates.

Area	Opening Date
<u>Yakutat District</u>	
Alsek River	2 June
Dangerous River	9 June
Yakutat Bay (south of 59°40' N lat)	9 June
Manby Shore Ocean	16 June
Situk-Ahrnklin Inlet	16 June
Lost River	by Emergency Order
East Alsek River	by Emergency Order
Akwe River	23 June or by Emergency Order
Manby Shore Inside	23 June
Remainder of the Yakutat District	23 June
Italio River	by Emergency Order
<u>Yakataga District</u>	
All areas	by Emergency Order
Kaliakh River	4 August
Tsiu River	by Emergency Order

Table 2.–Yakutat Management Area salmon escapement goals.

Species	System	Escapement Goal	Goal Type	Year Established	Assessment Method
Chinook	Klukshu River <sup>a,b,d</sup> (Alsek)	800–1,200	Treaty	2013	Weir
	Alsek River (total) <sup>b</sup>	3,500–5,300	BEG	2013	MR
	Situk River	450–1,050	BEG	2003	Weir
Sockeye	East Alsek River	9,000–24,000	SEG	2018	HS, IE
	Alsek River	24,000–33,500	Treaty	2013	Expansion
	Klukshu River (Alsek)	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, (AS) aerial survey, (BS) boat survey, (IE) index escapement, (MR)Mark–recapture assessment.

<sup>a</sup> Chinook salmon goals for Klukshu and Alsek rivers are for all fish; Situk River is for large fish ( $\geq 660$  mm mid eye to fork length, or fish age 1.3 and older).

<sup>b</sup> Escapement to the Alsek River is calculated through mark–recapture assessment project.

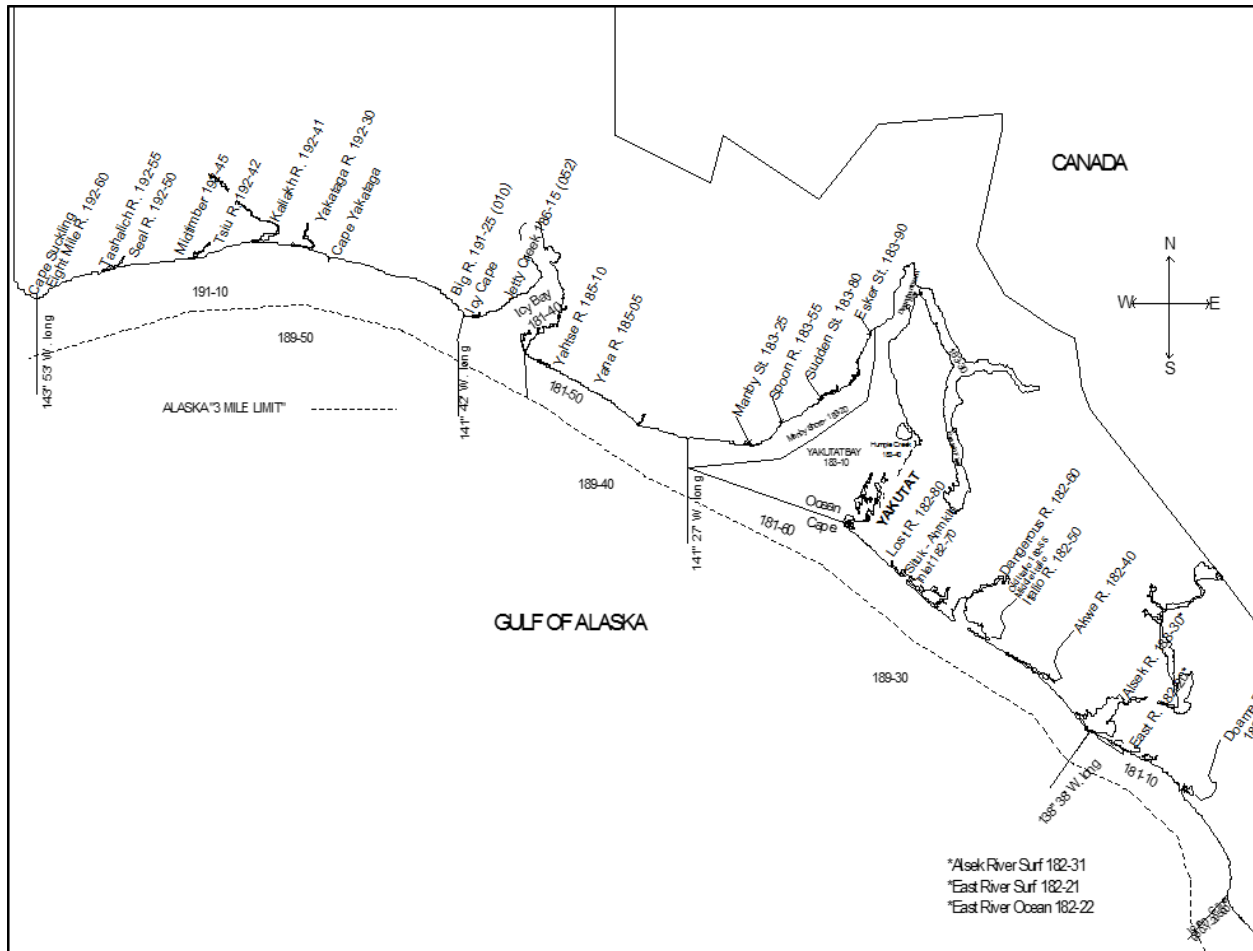


Figure 1.—Yakutat Management Area statistical reporting areas.