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Chignik Management Area Salmon Annual Management Report, 2023

by

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and

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

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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
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TABLE OF CONTENTS

Page

LIST OF TABLES ii
LIST OF FIGURES iii
LIST OF APPENDICES iii
ABSTRACT 1
INTRODUCTION 1
OVERVIEW OF MANAGEMENT PLANS 2
Chignik Salmon Management Plan 2
Cape Igvak Salmon Management Plan 2
Southeastern District Mainland Salmon Management Plan 2
2023 CHIGNIK SALMON MANAGEMENT 3
Chignik Bay and Central Districts Commercial Salmon Fishery 3
Eastern District Commercial Salmon Fishery 3
Western and Perryville Districts Commercial Salmon Fishery 3
Inseason Management 3
Escapement and Harvest Data 4
Stock Separation Techniques and Genetic Stock Identification 4
Escapement Goals 5
2023 Escapement Information 6
Chinook Salmon 6
Sockeye Salmon 7
Coho Salmon 8
Pink Salmon 8
Chum Salmon 8
2023 Harvest Information 8
Chinook Salmon 9
Sockeye Salmon 9
Coho Salmon 9
Pink Salmon 10
Chum Salmon 10
ECONOMIC VALUE 10
CHIGNIK LAGOON TEST FISHERY 10
SUBSISTENCE SALMON 10
REFERENCES CITED 11
TABLES AND FIGURES 13
APPENDIX A. SUMMARY OF 2023 EMERGENCY ORDERS 87
APPENDIX B. 2023 CHIGNIK RIVER SOCKEYE SALMON POST-WEIR ESCAPEMENT ESTIMATE MEMORANDUM 91
APPENDIX C. CHIGNIK AREA ESTIMATED PEAK ESCAPEMENT COUNTS FOR SOCKEYE, PINK, AND CHUM SALMON, 2023 95

LIST OF TABLES

Table		Page
1.	Chignik River sockeye salmon escapement objectives, 2023.	14
2.	Estimated Chignik River sockeye salmon escapement, by day and management objective period, 2023.	15
3.	Genetic stock proportions of estimated Chignik River sockeye salmon escapement, by day, 2023.	17
4.	Estimates of genetic stock composition, with upper and lower 90% credibility intervals, and SD for escapement through the Chignik River weir, by sample date, 2010–2021.	20
5.	Estimated Chignik River Chinook, coho, pink, and chum salmon, and Dolly Varden escapement, by day, 2023.	23
6.	Estimated Chignik River Chinook, coho, pink, and chum salmon, and Dolly Varden escapement, by year, 1980–2023.	26
7.	Total Chignik River sockeye salmon escapement and escapement goals, based on postseason analysis, by run and year, 1980–2023.	28
8.	Estimated peak sockeye salmon escapement estimates for Black Lake tributaries, 1980–2023.	30
9.	Estimated peak sockeye salmon escapement estimates for Chignik Lake and Black River tributaries, 1980–2023.	32
10.	Estimated Chignik Management Area peak pink salmon combined escapement of index streams and escapement objectives, 2006–2023.	34
11.	Estimated Chignik Management Area peak chum salmon combined escapement of index streams and escapement objectives, 2006–2023.	35
12.	Total annual Chignik Management Area commercial salmon harvests, by species and year, 1980–2023	36
13.	Annual Chignik Management Area Chinook salmon harvest, 1980–2023.	38
14.	Chignik Management Area Chinook salmon harvest, by district and year, 1980–2023	40
15.	Chignik Management Area Chinook salmon harvest, by district and statistical week, 2023.	42
16.	Total harvest of sockeye salmon considered by regulation to be Chignik-bound in the Chignik, Cape Igvak, and Southeastern District Mainland commercial salmon fisheries, 1970–2023.	43
17.	Total annual Chignik Management Area sockeye salmon harvest, by district, 1980–2023.	45
18.	Chignik Management Area sockeye salmon harvest, by district and statistical week, 2023.	47
19.	Harvest of sockeye salmon considered by regulation to be Chignik-bound: Chignik and Southeastern District Mainland commercial salmon fisheries through July 25, 1978–2023; and Cape Igvak through July 25, 1978–2019, and through July 5, 2020–2023.	48
20.	Chignik sockeye salmon escapement, total harvest considered Chignik-bound, and total run, by year, 1970–2023.	50
21.	Chignik sockeye salmon forecasts and actual runs, by run and year, 1994–2023, in millions of fish.	52
22.	Chignik Management Area coho salmon harvest, by year, 1980–2023.	53
23.	Chignik Management Area coho salmon harvest, by district and year, 1980–2023	55
24.	Chignik Management Area pink salmon harvest, by district and statistical week, 2023	57
25.	Chignik Management Area pink salmon harvest, by district and year, 1980–2023.	58
26.	Chignik Management Area pink salmon harvest, by district and year, 1980–2023.	60
27.	Chignik Management Area pink salmon harvest, by district and statistical week, 2023	62
28.	Chignik Management Area chum salmon harvest, by year, 1980–2023.	63
29.	Chignik Management Area chum salmon harvest, by district and year, 1980–2023.	65
30.	Chignik Management Area chum salmon harvest, by district and statistical week, 2023.	67
31.	Value of the commercial salmon harvest, by species, and average value per active permit, in dollars, in the Chignik Management Area, 1970–2023.	68
32.	Historical number of subsistence permits issued and returned and estimated subsistence salmon harvest, by species and year, 1980–2022.	71

LIST OF FIGURES

Figure **Page**

1. Map of the Alaska Peninsula illustrating the relative locations of the Chignik, Kodiak, and Alaska Peninsula management areas. 73
2. Map of the Chignik Management Area illustrating district, section, and statistical area boundaries. 74
3. Map depicting the Inner and Outer Castle Cape Subsections of the Western District. 75
4. Map of upper Chignik Lagoon showing the location of the Pillar Rock, Mensis Point, Humes Point, Mallard Duck, and Schooner Bay marker locations. 76
5. Representation of days open to commercial salmon fishing, by district for June through October 2023. 77
6. Chignik River estimated daily and cumulative Chinook salmon escapement, 2023. 78
7. Chignik River Chinook salmon escapement compared to the current escapement goal range, by year, 1980–2023. 79
8. Chignik River sockeye salmon daily and cumulative escapement, including post-weir estimate, 2023. 80
9. Chignik River sockeye salmon early, late, and combined-run escapements 1980–2023 compared to established escapement goals. 81
10. Chignik-bound sockeye salmon early-run harvest, 1980–2023 82
11. Chignik-bound sockeye salmon late-run harvest, 1980–2023. 83
12. Total sockeye salmon escapement and catch considered Chignik-bound including home pack, the department's test fishery harvest, and Cape Igvak and Southeastern District Mainland allocations, by year and run, 1980–2023. 84
13. Average exvessel value per permit and total permits fished by year, 1980–2023. 85

LIST OF APPENDICES

Appendix **Page**

A1. Summary of the 2023 Chignik Management Area emergency orders. 88
B1. 2023 Chignik river sockeye salmon post-weir escapement estimate memorandum 92
C1. Chignik Area estimated peak escapement counts for pink and chum salmon, 2023. 96
C2. Chignik watershed sockeye salmon spawning ground surveys, 2023. 100
C3. Estimated age composition of Chignik early-run sockeye salmon escapement, 2023. 101
C4. Estimated age composition of Chignik River late-run sockeye salmon escapement, 2023. 102
C5. Length composition of Chignik River sockeye salmon escapement samples by age and sex, 2023. 104
C6. Estimated sex composition of Chignik River sockeye salmon escapement by week, 2023. 105
C7. Chignik River early-run sockeye salmon escapement, estimated catch, and estimated total run, by age, 2023. 106
C8. Chignik River late-run sockeye salmon escapement, estimated catch, and estimated total run, by age, 2023. 107

ABSTRACT

This report summarizes the 2023 commercial Pacific salmon *Oncorhynchus* spp. fisheries within the Chignik Management Area (CMA; Area L). The CMA encompasses all coastal waters and inland drainages of the northwest Gulf of Alaska between Kilokak Rocks and Kupreanof Point. All 5 species of North American Pacific salmon were commercially harvested in the CMA: Chinook *O. tshawytscha,* sockeye *O. nerka*, coho *O. kisutch*, pink *O. gorbuscha*, and chum *O. keta* salmon. In 2023, the Chignik River Chinook salmon *O. tshawytscha* estimated escapement of 267 fish was below the escapement goal range of 1,300 to 2,700 fish. The 2023 Chignik River early-run sockeye salmon *O. nerka* estimated escapement of 431,283 fish was above the optimal escapement goal (OEG) range of 300,000 to 400,000 fish. The late-run sockeye salmon estimated escapement of 457,071 fish exceeded the late-run OEG range of 240,000 to 360,000 fish. The total 2023 CMA sockeye salmon harvest of 1,069,712 fish was above all recent averages. The 2023 indexed peak pink salmon escapement estimate of 621,000 fish was above the odd-year sustainable escapement goal (SEG) range of 260,000 to 450,000 fish. The indexed peak escapement of 183,000 chum salmon was above the SEG range of 45,000 to 110,000 fish. CMA coho, pink, and chum salmon harvests were comparable to recent averages. A total of 35 CMA permit holders made deliveries in 2023. The exvessel value for commercial salmon harvest in the CMA for 2023 totaled approximately $5.1 million.

Keywords: Chignik Management Area, CMA, Chignik River, *Oncorhynchus*, salmon, Alaska Board of Fisheries, 2023 commercial fisheries management, Chignik Salmon Management Plan, harvest, escapement

INTRODUCTION

This report describes the 2023 commercial salmon management plan, fishing activity, escapements, and harvests in the Chignik Management Area (CMA; Area L). Most tables in this report have been verified against the Westward Region electronic fish ticket (1970 to present) and historical escapement databases (1960 to present). The salmon harvest estimates reported in this document were summarized from the fish ticket database on February 21, 2024. Data published in this report supersede any data previously published.

Alaska Department of Fish and Game (ADF&G or the department) manages commercial fisheries of all Pacific salmon *Oncorhynchus* species within the CMA. The CMA encompasses all coastal waters and inland drainages of the northwest Gulf of Alaska between Kilokak Rocks and Kupreanof Point (Figure 1). For management purposes, these waters are divided into 5 fishing districts: Eastern, Central, Chignik Bay, Western, and Perryville Districts. Each district is further broken down into sections and statistical reporting areas (Figure 2). There are more than 100 salmon producing streams in the CMA, with the Chignik River, located in the Chignik Bay District, being the major sockeye salmon *O. nerka* producer for the CMA.

There are 5 species of Pacific salmon that are commercially harvested in the CMA: Chinook *O. tshawytscha*, sockeye *O. nerka*, coho *O. kisutch*, pink *O. gorbuscha*, and chum *O. keta* salmon. Sockeye salmon are the primary species targeted and the most important commercial and subsistence salmon species in the CMA. ADF&G manages all CMA commercial salmon resources by emergency order based on inseason evaluation of local stock abundance and escapement objectives. The majority of fishing effort is concentrated on salmon returning to the Chignik River watershed. Commercial salmon fishing is the economic mainstay for 5 villages: Chignik Bay, Chignik Lagoon, Chignik Lake, Perryville, and Ivanof Bay (Figure 1).

OVERVIEW OF MANAGEMENT PLANS

The 2023 CMA commercial salmon fishery was managed based on the *Chignik Salmon Management Plan* (5 AAC 15.357).[1] Sockeye salmon bound for the Chignik River watershed are also allocated under 2 additional management plans: the *Cape Igvak Salmon Management Plan* (5 AAC 18.360) in the Kodiak Management Area (Area K),[2] and the *Southeastern District Mainland* (SEDM) *Salmon Management Plan* (5 AAC 09.360) in the Alaska Peninsula Management Area (Area M; Figure 1).

CHIGNIK SALMON MANAGEMENT PLAN

The *Chignik Salmon Management Plan* (5 AAC 15.357) was originally adopted in 1999. The goal of this plan is to allow traditional salmon fisheries in the CMA while achieving the established escapement goals for early-run (Black Lake) and late-run (Chignik Lake) sockeye salmon (Table 1), as well as local stocks of Chinook, pink, coho, and chum salmon. Purse seines and hand purse seines are the only legal commercial salmon fishing gear within the CMA. Legal seine gear ranges from 100 to 125 fathoms in length in the Chignik Bay District, and from 100 to 225 fathoms in length in all other districts (5 AAC 15.332). To assist management efforts, the management plan is organized into districts or groups of districts: the Chignik Bay and Central Districts, the Eastern District, and the Western and Perryville Districts (Figure 2).

CAPE IGVAK SALMON MANAGEMENT PLAN

The *Cape Igvak Salmon Management Plan* (5 AAC 18.360) was officially adopted in 1978 and has since undergone several amendments to change allocation criteria in the plan (Anderson et al. 2023). The Cape Igvak Section is the westernmost section of Area K, located directly northeast of the CMA (Figure 1). During the 2020 Kodiak Finfish Board of Fisheries (BOF) meeting, the BOF made changes to the current *Cape Igvak Salmon Management* Plan. Under the current plan criteria, from June 1 through July 5, 90% of the sockeye salmon harvested within the Cape Igvak Section are allocatively considered to be Chignik-bound (5 AAC 18.360(d)). If the harvestable surplus of sockeye salmon in the CMA is above or expected to be above certain thresholds (5 AAC 18.360 (a–c)), then 7.5% of the total Chignik sockeye salmon harvest (total includes sockeye salmon caught in the CMA, in the Cape Igvak Section, and within certain portions of SEDM) is allocated to Area K commercial fishers. After July 5, there are no allocative ties between the CMA and Area K.

SOUTHEASTERN DISTRICT MAINLAND SALMON MANAGEMENT PLAN

The *Southeastern District Mainland Salmon Management Plan* (5 AAC 09.360) was formally adopted in 1980 and has undergone several amendments, mostly to allocation criteria (Fox et al. 2022). The SEDM is composed of a group of sections at the eastern end of Area M, located directly southwest of the CMA (Figure 1). Under the current plan criteria, from June 1 through July 25, 80% of the sockeye salmon harvested within certain SEDM sections during specific times are allocatively considered to be Chignik-bound. If the harvestable surplus of

[1] ADF&G. 2023. 2023–2024 Alaska Peninsula, Atka-Amlia Islands, Aleutian Islands, and Chignik Areas Commercial Salmon Fishing Regulations. Alaska Department of Fish and Game, Juneau.

[2] ADF&G. 2024–2027. Kodiak Area Commercial Salmon Fishing Regulations. Alaska Department of Fish and Game. Juneau.

sockeye salmon in the CMA is above or expected to be above certain thresholds, then 7.6% of the total estimated CMA sockeye salmon harvest is allocated to SEDM fishers (5 AAC 09.360 (a–g)).

2023 CHIGNIK SALMON MANAGEMENT

Inseason management of the CMA commercial salmon fishery is structured around 5 districts that are further broken down into 13 sections. These districts and sections are further subdivided into statistical reporting areas for harvest reporting and management purposes (Figure 2).

The first commercial fishing period may not open in the CMA until at least 40,000 sockeye salmon have escaped into the Chignik River, or if ADF&G determines that a strong buildup of sockeye salmon exists in the Chignik Lagoon, and it is anticipated that 40,000 sockeye salmon will escape into the Chignik River. The purpose of this regulation is to allow subsistence fishing opportunity prior to the commercial fishing season and to avoid a large buildup of salmon in the lagoon.

Chignik Bay and Central Districts Commercial Salmon Fishery

Once the 40,000 sockeye salmon minimum has been achieved or is expected to be achieved, the Chignik Bay, Central, and Eastern Districts, as well as the Inner Castle Cape Subsection of the Western District (Figures 2 and 3) may open concurrently as long as Chignik Lake's sockeye salmon runs are meeting escapement objectives (5 AAC 15.357 (b)). Management action may also be taken for local stocks of Chinook, coho, pink, and chum salmon. Beginning August 1 through September 15, the Chignik Bay and Central Districts, as well as the Inner Castle Cape Subsection of the Western District, is open 6:00 AM Monday to 10:00 PM Friday each week if late-run sockeye salmon escapement is being met.

Eastern District Commercial Salmon Fishery

In June, the Eastern District, by regulation (5 AAC 15.357 (c)(1)), opens concurrently with the Chignik Bay and Central Districts and the Inner Castle Cape Subsection of the Western District (Figures 2 and 3). Beginning in July, management of the Eastern District is based on local pink and chum salmon stocks as well as the strength of the Chignik River sockeye salmon runs. After July 31, the Eastern District is managed based on the department's evaluation of local pink, chum, and coho salmon, or the strength of the Chignik Lake sockeye salmon run (5 AAC 15.357 (d)(3)).

Western and Perryville Districts Commercial Salmon Fishery

By regulation, the Inner Castle Cape Subsection of the Western District opens concurrently with the Chignik Bay and Central Districts throughout the commercial salmon fishing season (5 AAC 15.357 (b); Figures 2–4). Also, by regulation (5 AAC 15.357 (d)), from June 1 through July 5, in the Western District, excluding the Inner Castle Cape Subsection, and in the Perryville District, the department may open the commercial salmon fishery concurrently with the Chignik Bay and Central Districts, and the Inner Castle Cape Subsection of the Western District. After July 5, the majority of the Western and Perryville Districts are managed based on the department's evaluation of local pink, chum, coho, and Chignik Lake sockeye salmon, depending on time and section.

INSEASON MANAGEMENT

The first 2023 commercial salmon fishing period began on June 29, and the last commercial fishing period ended on October 31, although commercial effort ceased after August 25 when processors ended fish purchasing operations (Figure 5). A total of 35 CMA commercial salmon permit holders participated in the 2023 commercial salmon season.

All commercial salmon resources in the CMA are managed by emergency order based on inseason evaluation of local stock abundance and escapement objectives. The Chignik River weir was operational June 1 through August 26 in 2023, and provided daily escapement counts used to manage most of the commercial fisheries within the CMA (Tables 2 and 3). Aerial surveys from a fixed-wing aircraft were used to enumerate local stocks of pink, chum, and coho salmon that return to systems without weirs (Appendix C1).

During the 2023 season, ADF&G applied an average stock proportion curve developed from genetic data collected during the 2010–2021 seasons and an Expectation-Maximization algorithm to the 2022 season. The model from which the curve was developed assumed that early-run fish escape upriver through July 31. Late-run sockeye salmon begin escaping in mid-June, and all fish passing the weir after July 31 are considered late-run.

Between July 6 and July 15, ADF&G may conduct 1 or more 48-hour fishing periods in select bays of the Central, Eastern, Western, and Perryville Districts to provide early harvest opportunity on pink and chum salmon (Burnside 2023). After July 15, management of these areas is based on inseason escapement information.

Early-run sockeye salmon escapement fell behind minimum interim escapement objectives early in June and failed to develop until late June. As a result of the poor early-run escapement throughout most of June, there were no fishing periods scheduled until June 29. Fishing periods in July occurred throughout the entire CMA for the harvest of sockeye, pink, and chum salmon stocks after early- and late-run sockeye were meeting escapement objectives.

Typically, in mid- to late June, late-run sockeye salmon begin to enter the Chignik watershed. Commercial fishing is frequently curtailed during this time for ADF&G to evaluate the strength of the late run. The late run of sockeye salmon met all interim escapement goals throughout the 2023 season with escapement trending along or above the top end of interim escapement objectives until early August where escapement exceeded the upper end of escapement objectives.

On June 29, commercial salmon fishing was allowed in the Eastern, Central, Chignik Bay, Western, and Perryville Districts for 48 hours to assess the development of incoming sockeye salmon. This initial commercial salmon fishing period was continuously extended in all but the Perryville District. Due to a small fleet size, sockeye salmon escapement into the Chignik River system was not significantly reduced, allowing all districts to be continuously extended for the season barring some required regulatory closures in the Perryville District before July 5 and in the Central and Chignik Bay Districts after August 1. Harvest effort ceased after August 25 when processors ended fish purchasing operations (Appendix A1).

ESCAPEMENT AND HARVEST DATA

Stock Separation Techniques and Genetic Stock Identification

There are 2 genetically distinct sockeye salmon runs (an early and late run) that enter the Chignik River watershed and temporally overlap during late June and July (Templin et al. 1999). Prior to 2004, scale pattern analysis (SPA) was used to differentiate stock composition during this time, and the fishery was managed in season based on the results of this analysis (Witteveen and Botz 2004). Due to funding limitations, the Chignik SPA program was discontinued prior to the 2004 season. However, examination of SPA data revealed that, on average, the number of early-run sockeye salmon that passed the Chignik River weir after July 4 was approximately equal to the number of late-run sockeye salmon that passed the weir prior to July 4. From 2004 through

2013, fishing periods were based on achievement of early-run escapement objectives through July 4, then switched to late-run escapement objectives on July 5. Beginning in 2014, inseason management was based on results of genetic sampling of the sockeye salmon runs.

From 2010 through 2012, as part of an Alaska Sustainable Salmon Fund (AKSSF) project, sockeye salmon genetic samples were collected at the Chignik River weir approximately every 4–6 days before, during, and after the overlap period (11 sampling periods; Table 4). Genetic tissue (axillary process) was clipped from approximately 190 sockeye salmon during each sampling event. Samples were sent to ADF&G's Gene Conservation Lab where genomic DNA was extracted and assayed for 96 sockeye salmon single nucleotide polymorphisms from each fish. The goal was to provide quantifiable inseason estimates of the contribution of both early- and late-run sockeye salmon stocks to Chignik River escapement estimates (Russell and Foster 2014). Beginning in 2013, sampling intensity was reduced, with effort focused during the critical overlap period (6 sampling periods; Table 4).

Due to the lag time in receiving the genetic results, incorporating inseason genetic estimates effectively as an adaptive management tool often proved to be difficult. In all years of inseason genetic sampling (2010–2021), 3 timing categories for the run transition have been discernible: early, mid, and late. The crossover between the categories can happen quickly and often be determined by 1 data point; however, that is not known until several days after the fish have passed the weir when sample results are received. Due to these difficulties, ADF&G decided that managing on a central tendency would lead to a greater chance of being within the range of both escapement goals. During the 2023 transition period, the daily early- and late-run sockeye salmon escapement was initially determined by applying an average stock proportion curve developed from past inseason genetic information (2010–2021) and an Expectation-Maximization algorithm (2022).

All harvest caught in the CMA, and as outlined in regulation for SEDM of Area M and the Igvak Section of Area K, are apportioned as Chignik-bound sockeye salmon based on genetic stock information (Dann et al. 2012; Shedd at al. 2016). Postseason, to estimate the early- and late-run stock proportions as well as total sockeye salmon run size for the 2023 season, Chignik-bound harvest are temporally aligned with Chignik River weir escapement counts to the day the harvest would have arrived at the weir had they not been caught based on Conrad (1983). The mixDist[3] package in R[4] is used to identify daily early- and late-run stock proportions for building the run reconstruction by modeling probability density functions with an Expectation-Maximization algorithm. This method employs the best available data, is reproducible, and yields stock proportions not significantly different than those derived using genetic information. A post-weir estimate of escapement is also calculated. Early- and late-run sockeye salmon escapement and post-weir results can be found in Appendix B1 and Table 7.

Escapement Goals

In 2015, a salmon escapement goal review team, including staff from the Divisions of Commercial Fisheries and Sport Fish, was formed to review salmon escapement goals in the CMA (Schaberg et al. 2015). The team recommended changing the areawide even- and odd-year pink

[3] Macdonald, P. 2018. mixdist. R package version 0.5-5. https://cran.r-project.org/package=mixdist (accessed November 25, 2024).

[4] The R project for statistical computing. Version 2024.09.0+375. Pittsburg, PA. https://www.r-project.org/ (accessed November 25, 2024).

salmon sustainable escapement goals (SEG), as well as the areawide chum salmon SEG. These new goals were targeted beginning in the 2016 season.

The new areawide pink salmon escapement goals were developed based on 8 index systems distributed throughout 4 of the 5 fishing districts of the CMA. These 8 systems have consistently been surveyed and have represented approximately 53% of the annual pink salmon indexed escapement over the last 35 years. The new chum salmon goal was developed based on 6 index systems distributed throughout 4 of the 5 fishing districts that have represented approximately 57% of the annual chum salmon indexed escapement over the last 35 years. During past seasons, ADF&G has surveyed 49 pink salmon index streams and 42 chum salmon index streams in order to monitor the CMA salmon runs and to calculate an escapement estimate based on peak aerial surveys. These streams will continue to be monitored by ADF&G in season to evaluate the health and spatial distribution of the CMA pink and chum salmon runs. The new areawide pink salmon SEG in even years is 170,000–280,000 fish and 260,000–450,000 fish in odd years. The new chum salmon SEG is 45,000–110,000 fish. In 2022, these goals were again reviewed by an escapement goal review team from the Divisions of Commercial Fisheries and Sport Fish, and no changes were recommended.

In 2022, the salmon escapement goal team recommended changing the early-run sockeye salmon BEG of 350,000–450,000 fish and late-run sockeye salmon SEG of 220,000–400,000 fish to a single Chignik River system sockeye salmon run goal of 450,000–800,000 fish. At the 2023 Board of Fisheries (BOF) meeting, an optimal escapement goal (OEG) of 300,000–400,000 fish and 240,000–360,000 fish was implemented for the early- and late-run sockeye salmon, respectively, by which harvest would be managed beginning with the 2023 season (Table 1). Additionally, the late-run inriver run goal (IRRG) of 20,000 sockeye salmon (10,000 fish in August and 10,000 fish September 1–30) was removed at the 2023 BOF meeting.

No changes were recommended to the Chignik River Chinook salmon BEG range of 1,300–2,700 fish.

2023 ESCAPEMENT INFORMATION

In 2023, salmon escapement into the Chignik River was enumerated using a weir. There were 2 gates in the weir which were open 24 hours a day to allow for unrestricted fish passage. Underwater video equipment was used to count fish passing through the weir gates. At night, lights incorporated in the camera gates allowed fish to be counted. The number of fish passing the weir, by species, were counted for the first 10 minutes of each hour and then multiplied by 6 to obtain hourly escapement estimates. Hourly estimates were summed to provide an estimate of daily fish passage. Video footage from each 10-minute escapement count as well as full 24 hour/7 days a week video footage from June 21 through August 31 was recorded and archived.

The first count of the 2023 season was on June 1, and the last full count was on August 26, after which the weir was removed. A post-weir sockeye salmon estimate was produced using times series analysis for August 27 through September 30 (Tables 2, 3, and 5).

Chinook Salmon

The Chignik River is the primary stream with substantial Chinook salmon escapement within the CMA. Chinook salmon began entering the Chignik River in late June. The largest day of escapement occurred on July 13 of approximately 30 Chinook salmon. The run peaked by mid-July and was over by mid-August (Table 5, Figure 6). The Chinook salmon escapement in

2023 of 267 fish was below the BEG range of 1,300–2,700 fish and the lowest in recorded history (Table 6, Figure 7; Schaberg et al. 2019). As part of the Chinook salmon action plan established at the 2023 BOF meeting, retention of Chinook salmon greater than 28 inches in length was not allowed within the Chignik Bay and Central Districts, as well as the Inner Castle Cape Subsection of the Western District. Mortality of Chinook salmon released from commercial purse seines in the CMA is unknown. The Chinook BEG of 1,300–2,700 has not been achieved in 6 of the last 7 years (Figure 7). Additionally, federal and state subsistence harvest of Chinook salmon was restricted beginning July 5.

Sockeye Salmon

Chignik sockeye salmon in 2023 were managed based on incremental escapement objectives by run (Table 1). The Chignik River sockeye salmon early run peaked in late June to early July and the late run peaked in late July (Table 3, Figure 8). The 2023 estimated total Chignik River watershed sockeye salmon escapement of 888,354 fish was above the 5-, 10-, and 20-year averages, and exceeded the BEG of 450,000–800,000 (Table 7). The early-run escapement was estimated at 431,294 sockeye salmon and was above the early-run OEG of 300,000–400,000 fish (Table 7, Figure 9). The late-run estimated escapement of 457,060 sockeye salmon was also above the late-run OEG range of 240,000–360,000 fish (Table 7, Figure 9). The late-run escapement includes a post-weir estimate for August 27–September 30 (37,059 fish; Table 2).

Survey conditions for Chignik Lake, Black River, and Black Lake and their tributaries during annual spawning ground surveys (late July–early September) were poor, and an accurate peak estimate of the number of sockeye salmon was unable to be made (Tables 8 and 9).

Age, sex, and length (ASL) data were collected following procedures outlined in published operation plans (Wattum and Foster 2021). Ages were recorded using European notation (Koo 1962), where a decimal point separates the number of winters spent in freshwater (after emergence) from the number of winters spent in saltwater. The total age of the fish includes an additional winter representing the time between egg deposition and fry emergence. Length measurements were taken from mid eye to tail fork in millimeters, and sex was determined from external morphological characteristics. All data were typically recorded in field notebooks and then digitized using netbook computers and entered into the database via the Kodiak intranet salmon aging utility. Age and sex composition estimates were linearly interpolated for days between sampling events and extrapolated using data from the nearest statistical week in which age and sex data were available for periods before and after samples were collected, then summarized by statistical week. Length composition data were summarized by age and sex and represent only the fish sampled. Descriptions of component programs used to compute age, length, and sex composition summaries can be found in database end user documentation (ADF&G Division of Commercial Fisheries database documentation, Neil Moomey, Kodiak, Alaska, 2023, unpublished).

A total of 1,795 scale samples were ageable and used to represent an escapement of 431,282 early-run sockeye salmon (Appendix C3), and a total of 2,425 scale samples were ageable and used to represent and escapement of 457,071 late-run sockeye salmon at Chignik River (Appendix C4). The average length of sampled sockeye salmon was 540 mm (Appendix C5). Chignik River sockeye salmon escapement was composed of 57.6% female sockeye salmon (Appendix C6).

The early sockeye salmon run to Chignik River was an estimated 690,959 fish in 2023, with age-1.3 fish accounting for 53.4%, age-1.2 fish accounting for 21.4%, and age-0.3 fish accounting

for 18.6% of the run (Appendix C7). The late sockeye salmon run to Chignik River was an estimated 1,273,546 fish in 2023, with age-1.3 fish accounting for 63.7%, age-2.2 fish accounting for 15.9%, and age-2.3 fish accounting for 9.8% of the run (Appendix C8).

Coho Salmon

Coho salmon begin to enter CMA drainages in mid-August and generally continue through November. There were 1,366 coho salmon counted during 2023 at the Chignik River weir before it was removed August 27 (Table 5). Due to the early removal of the Chignik weir compared to coho salmon run timing, estimates of the total coho salmon run returning to the Chignik River are not well known. Late season coho salmon stream surveys in the CMA are not typically conducted in September due to staff departure from Chignik prior to the majority of the coho salmon returning to the CMA.

Due to late season run timing and limited directed effort, escapement goals for coho salmon have not been established in the CMA (Schaberg et al. 2019).

Pink Salmon

Pink salmon began entering the Chignik River in early July and peaked in mid-August with a total escapement of 79,151 fish observed passing the weir (Table 5). The 2023 Chignik River pink salmon escapement was above all recent odd-year averages (Table 6).

Escapements into other CMA streams were monitored via aerial surveys. During the season, streams that have been historically monitored for pink salmon were surveyed and compared to historical run timing and distribution. The current odd-year index SEG of 260,000–450,000 pink salmon is composed of 8 index streams in 4 of the 5 districts in the CMA. The 2023 calculated peak escapement, based on aerial surveys of eight index streams, exceeded the even-year SEG with 621,000 fish (Table 10).

Chum Salmon

A limited number of chum salmon return to the Chignik River, mainly in late July and August (Table 5). The 2023 Chignik River chum salmon escapement was 26 fish, which was below all recent average escapements (Table 6).

Escapements into other CMA streams were monitored via aerial surveys. During the season, streams that have been historically monitored for chum salmon were surveyed and compared to historical run timing and distribution. The current SEG of 45,000–110,000 is based on 6 index streams located in 4 of the 5 CMA districts. The peak aerial surveys from index streams were summed and compared to the areawide aggregate SEG for chum salmon (Schaberg et al. 2019). The 2023 CMA chum salmon escapement estimate of 183,000 fish based on the 6 index streams exceeded the SEG for chum salmon and was above the 10-year average (Table 11).

2023 HARVEST INFORMATION

Commercial salmon harvest in the CMA is organized into 3 categories. The first category includes salmon commercially harvested that are retained for private use (home pack). The second category includes salmon harvested and sold as part of ADF&G's test fishery program. The third category includes salmon commercially harvested and sold within the CMA. Additionally, sockeye salmon harvested under the Cape Igvak and SEDM management plans are reported separately in this

report. For allocative purposes, the BOF has determined that specific portions of these harvests are considered bound for the Chignik River by regulation.

One processor purchased salmon within the CMA in 2023. Due to the low number of buyers in 2023, confidentiality requirements and agreements limit the release of certain information in this report.

Salmon harvested under subsistence regulations, in ADF&G's Chignik Lagoon test fishery, or retained as home pack from the commercial fishery were not included in any of the harvest allocations. All harvest information in this report was aggregated from the ADF&G fish ticket database and supersedes any previously published data.

Chinook Salmon

A total of 2,302 Chinook salmon were harvested in 2023, below the recent 10- and 20-year averages. Chinook salmon harvested in the CMA are typically harvested incidentally during commercial openings for sockeye, pink, and chum salmon. In 2023, the majority of Chinook salmon were caught in the Western District (1,874 fish; Tables 14 and 15). The most recent 10-year average harvest of Chinook salmon in the CMA is 5,504 fish (Tables 12, 13, and 14).

Sockeye Salmon

The 2023 Chignik River early run of sockeye salmon did not develop until late June, and no directed sockeye salmon commercial fishing periods occurred until June 29. The 2023 CMA sockeye salmon harvest of 1,069,712 fish was above the recent 5-, 10-, and 20-year averages (Tables 12 and 16). The majority of the sockeye salmon harvest came from Chignik Bay (869,727 fish). Sockeye salmon harvest in the CMA occurred in late June through August with the majority occurring within July (Table 18).

Neither the SEDM section of Area M nor the Cape Igvak section of Area K opened to commercial salmon fishing during the allocation period in 2023 (June 1 through July 25, and June 1 through July 5, respectively). As a result, all sockeye salmon harvested that were considered Chignik-bound by regulation came from the CMA (Table 19).

In 2023, Western Alaska Salmon Stock Identification Program data were used to apportion CMA sockeye salmon harvest that was Chignik River system bound for run reconstruction purposes. Total sockeye salmon harvest that was estimated to be bound for the Chignik River system in 2023 was 1,076,150 fish (Table 20). Of this, approximately 259,678 early-run sockeye salmon were harvested, above the 5-year and below the 10- and 20-year averages (Tables 20 and 21, Figure 10). The late-run harvest of 816,472 sockeye salmon was above the 5-, 10-, and 20-year averages (Table 20, Figure 11). The total run estimate (Chignik River system-bound harvest plus escapement) of Chignik-bound sockeye salmon is 1,964,504 fish (Table 20, Figure 12). Total sockeye salmon harvest estimated to be Chignik River system bound was slightly higher than sockeye salmon harvest in the CMA due to minimal harvest in SEDM after July 25.

Coho Salmon

A total of 52,644 coho salmon were harvested in the CMA during 2023, which was below all recent average harvests (Tables 12, 22, and 23). All commercially harvested coho salmon were sold to processors (Table 22). The majority of the 2023 coho salmon harvest occurred in the Western District during late July and August (Tables 23 and 24).

Pink Salmon

The 2023 CMA pink salmon harvest of 2,143,701 fish was comparable to recent odd-year averages (Tables 12, 25, and 26). All commercially harvested pink salmon were sold to processors (Table 25). The majority of the 2023 pink salmon harvest occurred in the Western and Eastern Districts (1,267,273 and 470,393 fish, respectively) during August (Tables 26 and 27). Pink salmon harvest in the CMA occurred from mid-July through August with the majority occurring within the first half of August (Table 27).

Chum Salmon

A total of 109,695 chum salmon were harvested from the CMA during the 2023 season, which was comparable to recent averages (Tables 12, 28, and 29). All commercially harvested chum salmon were sold to processors (Table 28). The largest chum salmon harvest occurred in the Western District (63,815 fish; Tables 29 and 30). Chum salmon harvest in the CMA occurred from mid-July through August (Table 30).

ECONOMIC VALUE

In 2023, 35 CMA permit holders made at least 1 delivery (Table 31). The exvessel value of the 2023 CMA commercial salmon harvest was about $5.13 million, or approximately $147,000 per active permit holder. CMA commercial salmon harvest was above the 5-year average and below the 10- and 20-year average exvessel values, whereas value per active permit holder was above all recent averages (Table 31, Figure 13). The majority of value was from sockeye salmon at approximately 75% of exvessel revenue ($110,095 per active permit holder). Pink salmon harvest was the second largest value in the commercial fisheries making up approximately 21% of the 2023 CMA exvessel revenue ($30,954 per active permit holder). The 2023 Chinook, coho, and chum salmon harvest provided approximately $109, $763, and $4,659, respectively, per active permit holder (Table 31).

CHIGNIK LAGOON TEST FISHERY

ADF&G conducts test fisheries in Chignik Lagoon for multiple purposes. The primary purpose of the Chignik Lagoon test fisheries is to assess sockeye salmon abundance in Chignik Lagoon during closures and at the start of the season. Test fisheries are also used to offset operational costs at the Chignik weir (Wilburn 2015). Due to the late timing of the early run, no test fisheries were conducted in 2023. Cost-recovery fisheries were put out to bid in August but received no bidders.

SUBSISTENCE SALMON

Both state and federal subsistence fishing for sockeye salmon remained open the entire season.

Due to poor Chinook salmon escapement through the Chignik weir, both state and federal subsistence fishing for Chinook salmon was restricted on July 5. ADF&G closed the entire Chignik Bay District to the harvest of Chinook salmon greater than 28 inches in length, and all Chinook salmon in the Chignik River Drainage, from Mensis Point upstream including Chignik Lake and its tributaries to all users through December 31, 2022. Subsistence fishing for Chinook salmon on all federal public waters was closed through August 31 (Appendix A1).

The 2023 CMA subsistence harvest will not be available until after subsistence permits are returned and tabulated in the spring of 2024. Historical subsistence harvests can be found in Table 32.

REFERENCES CITED

Anderson, T. J., J. Jackson, and A. E. Dorner. 2013. Kodiak Management Area commercial salmon fishery annual management report, 2013. Alaska Department of Fish and Game, Fishery Management Report No. 23-23, Anchorage.

Burnside, C. 2023. Chignik Management Area commercial salmon fishery harvest strategy, 2023. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report No. 4K23-07, Kodiak.

Conrad, R. H. 1983, Management applications of scale pattern analysis methods for the sockeye salmon runs to Chignik, Alaska. Master of Science thesis. University of Washington, Seattle.

Dann, T. H., C. Habicht, S. D. Rogers Olive, H. L. Liller, E. K. C. Fox, J. R. Jasper, A. R. Munro, M. J. Witteveen, T. T. Baker, K. G. Howard, E. C. Volk, and W. D. Templin. 2012. Stock composition of sockeye salmon harvests in fisheries of the Western Alaska Salmon Stock Identification Program (WASSIP), 2006–2008. Alaska Department of Fish and Game, Special Publication No. 12-22, Anchorage.

Fox, E. K. C., T. D. Lawson, and M. D. Keyse. 2022. 2022 South Alaska Peninsula salmon annual management report and 2021 subsistence fisheries in the Alaska Peninsula, Aleutian Islands, and Atka-Amlia Islands management areas. Alaska Department of Fish and Game, Division of Commercial Fisheries, Fishery Management Report No. 22-32, Anchorage.

Koo, T. S. Y. 1962. Studies of Alaska red salmon. University of Washington, Publications in Fisheries, New series, Volume I, Seattle, WA.

Russell, C. W., and M. B. Foster. 2014. Chignik River sockeye salmon escapement and genetic stock identification sampling operational plan, 2014. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Operational Plan No. CF.4K.2014.14, Kodiak.

Schaberg, K. L., D. A. Tracy, M. B. Foster, and M. Loewen. 2015. Review of salmon escapement goals in the Chignik Management Area, 2015. Alaska Department of Fish and Game, Fishery Manuscript Series No. 15-02, Anchorage.

Schaberg, K. L., M. B. Foster, and A. St. Saviour. 2019 Review of salmon escapement goals in the Chignik Management Area, 2018. Alaska Department of Fish and Game, Fishery Manuscript Series No. 19-02, Anchorage.

Shedd, K. R., T. H. Dann, H. A. Hoyt, M. B. Foster, and C. Habicht. 2016. Genetic baseline of North American sockeye salmon for mixed stock analyses of Kodiak Management Area commercial fisheries, 2014–2016. Alaska Department of Fish and Game, Fishery Manuscript Series No. 16-03, Anchorage.

Templin, W., L. Seeb, P. Crane, and J. Seeb. 1999. Genetic analysis of sockeye salmon populations from the Chignik watershed Alaska. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report No. 5J99-08, Juneau.

Wattum, M. L., and M. B. Foster. 2021. Kodiak Management Area salmon catch and escapement sampling operational plan, 2020–2022. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Operational Plan No. ROP.CF.4K.2021.06, Kodiak.

Wilburn, D. M. 2015. Chignik Lagoon sockeye salmon test fishery operational plan, 2015–2016. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Operational Plan No. ROP.CF.4K.2015.01, Kodiak.

Witteveen, M. J., and J. C. Botz. 2004. Chignik Lakes scale pattern analysis, run assignment, and sockeye salmon catch sampling results, 2004. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report No. 4K04-30, Kodiak.

TABLES AND FIGURES

Table 1.–Chignik River sockeye salmon escapement objectives, 2023.

	Black Lake			Chignik Lake			Combined		
Date	Lower	–	Upper	Lower	–	Upper	Lower	–	Upper
5-Jun	3,100	–	8,500	0	–	0	3,100	–	8,500
10-Jun	11,200	–	45,800	0	–	0	11,200	–	45,800
15-Jun	37,200	–	101,400	0	–	0	37,200	–	101,400
20-Jun	83,200	–	186,500	200	–	1,500	83,400	–	188,000
25-Jun	140,100	–	269,500	600	–	6,100	140,700	–	275,600
30-Jun	193,400	–	334,300	2,400	–	15,800	195,800	–	350,100
5-Jul	234,500	–	369,300	7,600	–	31,400	242,100	–	400,700
10-Jul	262,900	–	387,400	19,800	–	62,300	282,700	–	449,700
15-Jul	282,900	–	395,600	38,500	–	108,500	321,400	–	504,100
20-Jul	292,900	–	398,900	68,400	–	168,500	361,300	–	567,400
25-Jul	297,500	–	399,700	99,900	–	210,100	397,400	–	609,800
30-Jul	299,200	–	399,900	129,800	–	236,700	429,000	–	636,600
4-Aug	299,800	–	400,000	151,600	–	262,800	451,400	–	662,800
9-Aug	300,000	–	400,000	172,100	–	281,400	472,100	–	681,400
14-Aug	300,000	–	400,000	186,500	–	297,300	486,500	–	647,300
19-Aug	300,000	–	400,000	199,700	–	311,400	499,700	–	661,400
24-Aug	300,000	–	400,000	211,600	–	321,100	511,600	–	671,100
29-Aug	300,000	–	400,000	222,100	–	330,000	522,100	–	680,000
31-Aug	300,000	–	400,000	226,000	–	333,900	526,000	–	683,900
September	300,000	–	400,000	240,000	–	360,000	540,000	–	710,000
Optimal escapement goals									
Black Lake	300,000	–	400,000						
Chignik Lake	240,000	–	360,000						

Note: Historically, the estimate of the total escapement for early-run sockeye salmon was based on Chignik River weir counts through July 4, based on scale pattern analysis studies. After July 4, sockeye salmon through the weir were considered late-run escapement. Beginning in 2014, inseason genetic samples were used to determine a historical run timing for the apportionment of the 2 runs during late June and mid-July when the runs overlap instead of the July 4 date. New interim escapement objectives were also established for both runs in 2023.

Table 2.–Estimated Chignik River sockeye salmon escapement, by day and management objective period, 2023.

June			July		
Date	Daily	Total	Date	Daily	Total
6/1	12	12	7/1	3,882	3,882
6/2	6	18	7/2	26,247	30,129
6/3	12	30	7/3	21,875	52,004
6/4	12	42	7/4	7,518	59,522
6/5	24	66	7/5	8,908	68,430
6/6	54	120	7/6	8,586	77,016
6/7	6	126	7/7	11,494	88,510
6/8	72	198	7/8	8,648	97,158
6/9	48	246	7/9	3,490	100,648
6/10	0	246	7/10	4,945	105,593
6/11	666	912	7/11	5,556	111,149
6/12	2,229	3,141	7/12	28,056	139,205
6/13	2,327	5,468	7/13	17,941	157,146
6/14	2,676	8,144	7/14	8,408	165,554
6/15	6,622	14,766	7/15	6,027	171,581
6/16	12,766	27,532	7/16	10,009	181,590
6/17	20,436	47,968	7/17	7,687	189,277
6/18	10,832	58,800	7/18	15,289	204,566
6/19	5,646	64,446	7/19	16,146	220,712
6/20	8,410	72,856	7/20	5,514	226,226
6/21	14,119	86,975	7/21	4,621	230,847
6/22	9,223	96,198	7/22	7,794	238,641
6/23	9,221	105,419	7/23	9,747	248,388
6/24	15,840	121,259	7/24	9,564	257,952
6/25	29,244	150,503	7/25	14,490	272,442
6/26	33,837	184,340	7/26	11,790	284,232
6/27	25,768	210,108	7/27	10,073	294,305
6/28	31,661	241,769	7/28	5,002	299,307
6/29	31,642	273,411	7/29	7,593	306,900
6/30	35,934	309,345	7/30	12,155	319,055
			7/31	6,850	325,905

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Table 2.–Page 2 of 2.

August			September	
Date	Daily	Total	Date	Total
8/1	5,542	5,542	Post weir estimate:	19,294
8/2	5,639	11,181	(9/1–9/30)	
8/4	5,440	22,473		
8/5	4,210	26,683		
8/6	9,113	35,796	Early run total:[a]	431,294
8/7	17,874	53,670	Late run total:[a]	457,060
8/8	7,830	61,500	Season total:	888,354
8/9	7,681	69,181		
8/10	7,678	76,859		
8/11	4,459	81,318		
8/12	11,862	93,180		
8/13	15,483	108,663		
8/14	11,568	120,231		
8/15	8,727	128,958		
8/16	14,079	143,037		
8/17	7,725	150,762		
8/18	7,707	158,469		
8/19	11,751	170,220		
8/20	9,990	180,210		
8/21	8,861	189,071		
8/22	7,699	196,770		
8/23	4,441	201,211		
8/24	5,245	206,456		
8/25	4,397	210,853		
8/26	5,192	216,045		
Post-weir estimate (8/27–8/31)	17,765	233,810		

Note: Historically, estimated total escapement for early-run sockeye salmon was based on Chignik River weir counts through July 4, based on scale pattern analysis studies. After July 4, sockeye salmon through the weir were considered late-run escapement. Beginning in 2014, inseason genetic samples were used to determine the apportionment of the 2 runs during late June and mid-July when the runs overlap instead of the July 4 date.

[a] Starting in 2022, the apportionment of the 2 runs was determined from genetic information from all previous years, with numbers adjusted postseason by modeling probability density functions with an Expectation-Maximization algorithm.

Table 3.–Genetic stock proportions of estimated Chignik River sockeye salmon escapement, by day, 2023.

Date	Daily escapement	Cumulative escapement	Early run	Late run
6/1	12	12	12	0
6/2	6	18	6	0
6/3	12	30	12	0
6/4	12	42	12	0
6/5	24	66	24	0
6/6	54	120	54	0
6/7	6	126	6	0
6/8	72	198	72	0
6/9	48	246	48	0
6/10	0	246	0	0
6/11	666	912	666	0
6/12	2,229	3,141	2,229	0
6/13	2,327	5,468	2,327	0
6/14	2,676	8,144	2,675	1
6/15	6,622	14,766	6,620	2
6/16	12,766	27,532	12,761	5
6/17	20,436	47,968	20,425	11
6/18	10,832	58,800	10,824	8
6/19	5,646	64,446	5,641	5
6/20	8,410	72,856	8,399	11
6/21	14,119	86,975	14,094	25
6/22	9,223	96,198	9,200	23
6/23	9,221	105,419	9,190	31
6/24	15,840	121,259	15,768	72
6/25	29,244	150,503	29,063	181
6/26	33,837	184,340	33,551	286
6/27	25,768	210,108	25,471	297
6/28	31,661	241,769	31,165	496
6/29	31,642	273,411	30,970	672
6/30	35,934	309,345	34,899	1,035
7/1	3,882	313,227	3,731	151
7/2	26,247	339,474	24,872	1,375
7/3	21,875	361,349	20,339	1,536
7/4	7,518	368,867	6,815	703
7/5	8,908	377,775	7,808	1,100

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Table 3.–Page 2 of 3.

Date	Daily escapement	Cumulative escapement	Early run	Late run
7/6	8,586	386,361	7,201	1,385
7/7	11,494	397,855	9,103	2,391
7/8	8,648	406,503	6,365	2,283
7/9	3,490	409,993	2,342	1,148
7/10	4,945	414,938	2,962	1,983
7/11	5,556	420,494	2,902	2,654
7/12	28,056	448,550	12,474	15,582
7/13	17,941	466,491	6,628	11,313
7/14	8,408	474,899	2,523	5,885
7/15	6,027	480,926	1,439	4,588
7/16	10,009	490,935	1,867	8,142
7/17	7,687	498,622	1,103	6,584
7/18	15,289	513,911	1,666	13,623
7/19	16,146	530,057	1,322	14,824
7/20	5,514	535,571	336	5,178
7/21	4,621	540,192	208	4,413
7/22	7,794	547,986	258	7,536
7/23	9,747	557,733	235	9,512
7/24	9,564	567,297	166	9,398
7/25	14,490	581,787	181	14,309
7/26	11,790	593,577	104	11,686
7/27	10,073	603,650	62	10,011
7/28	5,002	608,652	21	4,981
7/29	7,593	616,245	22	7,571
7/30	12,155	628,400	23	12,132
7/31	6,850	635,250	9	6,841
8/1	5,542	640,792	4	5,538
8/2	5,639	646,431	3	5,636
8/3	5,852	652,283	2	5,850
8/4	5,440	657,723	1	5,439
8/5	4,210	661,933	0	4,210
8/6	9,113	671,046	1	9,112
8/7	17,874	688,920	1	17,873
8/8	7,830	696,750	0	7,830
8/9	7,681	704,431	0	7,681
8/10	7,678	712,109	0	7,678

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Table 3.–Page 3 of 3.

Date	Daily escapement	Cumulative escapement	Early run	Late run
8/11	4,459	716,568	0	4,459
8/12	11,862	728,430	0	11,862
8/13	15,483	743,913	0	15,483
8/14	11,568	755,481	0	11,568
8/15	8,727	764,208	0	8,727
8/16	14,079	778,287	0	14,079
8/17	7,725	786,012	0	7,725
8/18	7,707	793,719	0	7,707
8/19	11,751	805,470	0	11,751
8/20	9,990	815,460	0	9,990
8/21	8,861	824,321	0	8,861
8/22	7,699	832,020	0	7,699
8/23	4,441	836,461	0	4,441
8/24	5,245	841,706	0	5,245
8/25	4,397	846,103	0	4,397
8/26	5,192	851,295	0	5,192
Post-weir[a]	37,059	888,354	0	37,059

Note: Historically, estimated total escapement for early-run sockeye salmon was based on Chignik River weir counts through July 4, based on scale pattern analysis studies. After July 4, sockeye salmon through the weir were considered late-run escapement. From 2014 through 2017, inseason genetic samples were used to determine the apportionment of the 2 runs instead of the July 4 date. Starting in 2018, the apportionment of the 2 runs was determined inseason using a model developed from genetic information from all previous years, and numbers were adjusted postseason after processing of inseason genetic information occurred.

[a] Daily escapement count is a post-weir estimate from August 27 through the month of September based on postseason analysis.

Table 4.–Estimates of genetic stock composition, with upper and lower 90% credibility intervals, and SD for escapement through the Chignik River weir, by sample date, 2010–2021.

			Black Lake				Chignik Lake			
Year	Date	Sample size	Proportion	Lower	Upper	SD	Proportion	Lower	Upper	SD
	6/14	190	0.959	0.894	1.000	0.036	0.041	0.000	0.106	0.036
	6/21	189	0.995	0.966	1.000	0.014	0.005	0.000	0.034	0.014
	6/27	189	0.924	0.794	1.000	0.075	0.076	0.000	0.206	0.075
	7/1	189	0.823	0.724	0.912	0.057	0.177	0.088	0.276	0.057
	7/5	190	0.788	0.699	0.871	0.052	0.212	0.129	0.301	0.052
2010	7/8–7/9	190	0.784	0.687	0.870	0.056	0.216	0.130	0.313	0.056
	7/11	190	0.519	0.409	0.625	0.066	0.481	0.375	0.591	0.066
	7/14	188	0.227	0.154	0.306	0.046	0.773	0.694	0.846	0.046
	7/18–7/19	188	0.293	0.214	0.377	0.050	0.707	0.623	0.786	0.05
	7/23	186	0.108	0.052	0.173	0.037	0.892	0.827	0.948	0.037
	7/30	190	0.013	0.000	0.062	0.022	0.987	0.938	1.000	0.022
	6/10	188	0.998	0.988	1.000	0.005	0.002	0.000	0.012	0.005
	6/17	188	1.000	1.000	1.000	0.002	0.000	0.000	0.000	0.002
	6/24	188	0.976	0.888	1.000	0.040	0.024	0.000	0.112	0.04
	6/28	190	0.832	0.744	0.918	0.054	0.168	0.082	0.256	0.054
	7/2	190	0.953	0.886	1.000	0.036	0.047	0.000	0.114	0.036
2011	7/5	190	0.785	0.696	0.866	0.052	0.215	0.134	0.304	0.052
	7/9–7/10	187	0.719	0.625	0.807	0.055	0.281	0.193	0.375	0.055
	7/12–7/13	190	0.297	0.214	0.384	0.052	0.703	0.616	0.786	0.052
	7/14	190	0.308	0.217	0.402	0.056	0.692	0.598	0.783	0.056
	7/21	186	0.123	0.062	0.192	0.039	0.877	0.808	0.938	0.039
	7/28	189	0.036	0.000	0.088	0.029	0.964	0.912	1.000	0.029
	6/11	188	0.976	0.904	1.000	0.034	0.024	0.000	0.096	0.034
	6/18	190	0.964	0.882	1.000	0.042	0.036	0.000	0.118	0.042
	6/25	189	0.993	0.955	1.000	0.017	0.007	0.000	0.045	0.017
	7/1	190	0.644	0.544	0.733	0.058	0.356	0.267	0.456	0.058
	7/5	187	0.485	0.396	0.574	0.054	0.515	0.426	0.604	0.054
2012	7/8–7/9	187	0.099	0.005	0.235	0.071	0.901	0.765	0.995	0.071
	7/11	189	0.225	0.147	0.306	0.048	0.775	0.694	0.853	0.048
	7/14	190	0.070	0.011	0.132	0.036	0.930	0.868	0.989	0.036
	7/17	189	0.003	0.000	0.020	0.009	0.997	0.980	1.000	0.009
	7/21	190	0.006	0.000	0.049	0.018	0.994	0.951	1.000	0.018
	7/28	170	0.000	0.000	0.000	0.001	1.000	1.000	1.000	0.001
	6/27	188	0.911	0.838	1.000	0.045	0.089	0.000	0.162	0.024
	7/1	189	0.858	0.761	0.942	0.055	0.142	0.058	0.239	0.055
2013	7/5	169	0.612	0.515	0.705	0.058	0.388	0.295	0.485	0.058
	7/8–7/9	187	0.429	0.338	0.519	0.055	0.571	0.481	0.662	0.055
	7/14	190	0.288	0.196	0.384	0.057	0.712	0.616	0.804	0.057

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Table 4.–Page 2 of 3.

Year	Date	Sample size	Black Lake				Chignik Lake			
			Proportion	Lower	Upper	SD	Proportion	Lower	Upper	SD
2014	6/28	189	0.825	0.745	0.896	0.046	0.175	0.104	0.255	0.046
	7/2	189	0.785	0.690	0.874	0.056	0.215	0.126	0.310	0.056
	7/6	189	0.618	0.519	0.714	0.059	0.382	0.286	0.481	0.059
	7/10	188	0.357	0.258	0.460	0.062	0.643	0.540	0.742	0.062
	7/14	188	0.220	0.139	0.307	0.051	0.780	0.693	0.861	0.051
	7/18	189	0.143	0.064	0.227	0.050	0.857	0.773	0.936	0.05
2015	6/27	190	0.905	0.815	1.000	0.054	0.095	0.000	0.185	0.054
	7/1	188	0.932	0.856	0.996	0.042	0.068	0.004	0.144	0.042
	7/5	187	0.864	0.775	0.944	0.051	0.136	0.056	0.225	0.051
	7/12	190	0.894	0.790	0.995	0.061	0.106	0.005	0.210	0.061
	7/18	182	0.363	0.253	0.476	0.068	0.637	0.524	0.747	0.068
	7/25	187	0.383	0.284	0.485	0.061	0.617	0.515	0.716	0.061
2016	6/27	189	0.988	0.938	1.000	0.022	0.012	0.000	0.062	0.022
	7/2	156	0.799	0.694	0.895	0.061	0.201	0.105	0.306	0.061
	7/7	190	0.626	0.535	0.717	0.055	0.374	0.283	0.465	0.055
	7/12	180	0.422	0.338	0.506	0.051	0.578	0.494	0.662	0.051
	7/17	187	0.199	0.130	0.272	0.043	0.801	0.728	0.870	0.043
	7/26–7/27	190	0.135	0.076	0.202	0.038	0.865	0.798	0.924	0.038
2017	6/25–6/26	189	0.986	0.917	1.000	0.029	0.014	0.000	0.083	0.029
	7/1	190	0.855	0.779	0.922	0.044	0.145	0.078	0.221	0.044
	7/7–7/8	189	0.715	0.622	0.803	0.055	0.285	0.197	0.378	0.055
	7/13	189	0.317	0.229	0.408	0.055	0.683	0.592	0.771	0.055
	7/18	188	0.417	0.330	0.504	0.053	0.583	0.496	0.670	0.053
	7/23	188	0.429	0.332	0.526	0.059	0.571	0.474	0.668	0.059
2018	6/26–6/27	189	0.989	0.931	1.000	0.026	0.011	0.000	0.069	0.026
	7/2	188	0.754	0.629	0.871	0.073	0.246	0.129	0.371	0.073
	7/8–7/12	185	0.884	0.803	0.954	0.046	0.116	0.046	0.197	0.046
	7/17	189	0.636	0.532	0.735	0.062	0.364	0.265	0.468	0.062
	7/22–7/23	189	0.559	0.453	0.659	0.063	0.441	0.341	0.547	0.063
	7/27	186	0.309	0.212	0.410	0.060	0.691	0.590	0.788	0.060
2019	6/25	188	0.998	0.988	1.000	0.008	0.002	0.000	0.012	0.008
	7/1	188	0.984	0.892	1.000	0.037	0.160	0.000	0.108	0.037
	7/8	187	0.640	0.543	0.732	0.058	0.360	0.268	0.457	0.058
	7/13	188	0.591	0.475	0.698	0.067	0.409	0.302	0.525	0.067
	7/19	177	0.188	0.119	0.263	0.044	0.812	0.737	0.881	0.044
	7/26–7/29	95	0.033	0.000	0.085	0.027	0.967	0.915	1.000	0.027

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Table 4.–Page 3 of 3.

			Black Lake				Chignik Lake			
Year	Date	Sample size	Proportion	Lower	Upper	SD	Proportion	Lower	Upper	SD
2020	6/29–7/1	185	0.759	0.666	0.846	0.055	0.241	0.154	0.334	0.055
	7/6	167	0.633	0.523	0.740	0.066	0.367	0.260	0.477	0.066
	7/11–7/12	176	0.637	0.528	0.736	0.063	0.363	0.264	0.472	0.063
	7/17	182	0.327	0.224	0.432	0.063	0.673	0.568	0.776	0.063
	7/23	187	0.263	0.170	0.365	0.059	0.737	0.635	0.830	0.059
	8/1	189	0.162	0.096	0.234	0.042	0.838	0.766	0.904	0.042
2021	6/25	190	0.892	0.824	0.951	0.039	0.108	0.049	0.176	0.039
	7/1	189	0.854	0.764	0.939	0.053	0.146	0.061	0.236	0.053
	7/7	184	0.643	0.541	0.743	0.061	0.357	0.257	0.459	0.061
	7/13–7/14	185	0.342	0.258	0.428	0.052	0.658	0.572	0.742	0.052
	7/19–7/20	190	0.198	0.125	0.276	0.046	0.802	0.724	0.875	0.046
	7/26–7/27	187	0.125	0.068	0.190	0.037	0.875	0.810	0.932	0.037

Table 5.–Estimated Chignik River Chinook, coho, pink, and chum salmon, and Dolly Varden escapement, by day, 2023.

	Chinook		Coho		Pink		Chum		Dolly Varden	
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
6/1	0	0	0	0	0	0	0	0	0	0
6/2	0	0	0	0	0	0	0	0	0	0
6/3	0	0	0	0	0	0	0	0	0	0
6/4	0	0	0	0	0	0	0	0	0	0
6/5	0	0	0	0	0	0	0	0	0	0
6/6	0	0	0	0	0	0	0	0	0	0
6/7	0	0	0	0	0	0	0	0	0	0
6/8	0	0	0	0	0	0	0	0	0	0
6/9	0	0	0	0	0	0	0	0	0	0
6/10	0	0	0	0	0	0	0	0	0	0
6/11	0	0	0	0	0	0	0	0	0	0
6/12	0	0	0	0	0	0	0	0	0	0
6/13	0	0	0	0	0	0	0	0	6	6
6/14	0	0	0	0	0	0	0	0	0	6
6/15	0	0	0	0	0	0	0	0	0	6
6/16	0	0	0	0	0	0	0	0	0	6
6/17	0	0	0	0	0	0	0	0	0	6
6/18	0	0	0	0	0	0	0	0	0	6
6/19	0	0	0	0	0	0	0	0	0	6
6/20	0	0	0	0	0	0	0	0	0	6
6/21	0	0	0	0	0	0	0	0	0	6
6/22	0	0	0	0	0	0	0	0	0	6
6/23	0	0	0	0	0	0	0	0	42	48
6/24	0	0	0	0	0	0	0	0	30	78
6/25	0	0	0	0	0	0	0	0	6	84
6/26	0	0	0	0	0	0	0	0	18	102
6/27	0	0	0	0	0	0	0	0	12	114
6/28	0	0	0	0	0	0	0	0	18	132
6/29	6	6	0	0	0	0	0	0	12	144
6/30	6	12	0	0	0	0	0	0	30	174
7/1	0	12	0	0	0	0	0	0	24	198
7/2	0	12	0	0	0	0	0	0	122	320
7/3	6	18	0	0	0	0	0	0	12	332
7/4	0	18	0	0	0	0	0	0	24	356
7/5	12	30	0	0	0	0	0	0	12	368
7/6	12	42	0	0	0	0	0	0	42	410
7/7	6	48	0	0	0	0	0	0	24	434
7/8	0	48	0	0	18	18	0	0	36	470
7/9	0	48	0	0	0	18	0	0	12	482
7/10	0	48	0	0	0	18	0	0	1	483

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Table 5.–Page 2 of 3.

	Chinook		Coho		Pink		Chum		Dolly Varden	
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
7/11	6	54	0	0	12	30	0	0	0	483
7/12	6	60	0	0	6	36	0	0	0	483
7/13	30	90	0	0	18	54	0	0	18	501
7/14	13	103	0	0	18	72	0	0	30	531
7/15	24	127	0	0	12	84	0	0	25	556
7/16	18	145	0	0	24	108	0	0	18	574
7/17	0	145	0	0	24	132	0	0	0	574
7/18	6	151	0	0	36	168	0	0	0	574
7/19	0	151	0	0	12	180	0	0	0	574
7/20	0	151	0	0	0	180	0	0	0	574
7/21	6	157	0	0	0	180	0	0	0	574
7/22	0	157	0	0	12	192	0	0	0	574
7/23	6	163	0	0	8	200	0	0	0	574
7/24	6	169	0	0	24	224	0	0	0	574
7/25	18	187	0	0	24	248	0	0	0	574
7/26	6	193	0	0	0	248	0	0	0	574
7/27	18	211	0	0	24	272	0	0	0	574
7/28	18	229	0	0	30	302	0	0	0	574
7/29	0	229	0	0	18	320	0	0	0	574
7/30	6	235	0	0	18	338	0	0	0	574
7/31	6	241	0	0	18	356	0	0	0	574
8/1	0	241	0	0	30	386	0	0	0	574
8/2	0	241	0	0	6	392	0	0	6	580
8/3	0	241	0	0	72	464	0	0	0	580
8/4	1	242	0	0	43	507	1	1	1	581
8/5	0	242	0	0	19	526	0	1	6	587
8/6	6	248	0	0	33	559	0	1	0	587
8/7	6	254	0	0	66	625	6	7	6	593
8/8	6	260	0	0	36	661	0	7	12	605
8/9	0	260	0	0	223	884	6	13	0	605
8/10	0	260	0	0	228	1,112	0	13	0	605
8/11	0	260	0	0	282	1,394	0	13	0	605
8/12	1	261	0	0	954	2,348	0	13	0	605
8/13	0	261	0	0	862	3,210	0	13	0	605
8/14	6	267	6	6	1,114	4,324	0	13	0	605
8/15	0	267	6	12	750	5,074	0	13	0	605
8/16	0	267	7	19	1,937	7,011	0	13	0	605
8/17	0	267	6	25	1,980	8,991	6	19	0	605

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Table 5.–Page 3 of 3.

	Chinook		Coho		Pink		Chum		Dolly Varden	
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
8/18	0	267	54	79	5,091	14,082	7	26	0	605
8/19	0	267	30	109	4,135	18,217	0	26	0	605
8/20	0	267	36	145	2,532	20,749	0	26	0	605
8/21	0	267	61	206	3,954	24,703	0	26	0	605
8/22	0	267	120	326	6,767	31,470	0	26	0	605
8/23	0	267	363	689	4,264	35,734	0	26	0	605
8/24	0	267	231	920	14,194	49,928	0	26	0	605
8/25	0	267	270	1,190	9,527	59,455	0	26	0	605
8/26	0	267	176	1,366	19,696	79,151	0	26	0	605

Note: The Chignik River weir was removed after the last full day of counts on 8/26. No post-weir estimates were produced for Chinook, coho, pink, or chum salmon.

Table 6.–Estimated Chignik River Chinook, coho, pink, and chum salmon, and Dolly Varden escapement, by year, 1980–2023.

	Escapement[a]				
Year	Chinook[b]	Coho[c]	Pink[c,d]	Chum[c]	Dolly Varden[c]
1980	876	ND	ND	ND	ND
1981	1,603	ND	ND	ND	ND
1982	2,412	ND	ND	ND	ND
1983	1,943	ND	ND	ND	ND
1984	5,806	ND	ND	ND	ND
1985	3,144	ND	ND	ND	ND
1986	3,612	ND	ND	ND	ND
1987	2,624	ND	ND	ND	ND
1988	4,868	ND	ND	ND	ND
1989	3,316	ND	ND	ND	ND
1990	4,364	ND	ND	ND	ND
1991	4,531	ND	ND	ND	ND
1992	3,806	ND	ND	ND	ND
1993	1,946	ND	ND	ND	ND
1994	2,963	ND	ND	ND	ND
1995	4,288	ND	ND	ND	ND
1996	3,488	16,843	6,030	136	54,726
1997	3,824	10,810	4,880	483	26,657
1998	3,075	14,124	11,490	156	15,235
1999	3,728	2,414	2,524	48	15,025
2000	4,285	7,062	4,284	48	ND
2001	3,028	103	1,464	66	6,416
2002	3,541	9,262	3,417	67	8,179
2003	6,412	7,635	1,897	68	36,397
2004	7,840	18,810	2,243	276	20,086
2005	6,486	18,206	13,637	408	13,940
2006	3,535	37,113	18,401	99	2,031
2007	2,000	10,299	20,464	118	6,993
2008	1,730	13,958	22,341	124	14,776
2009	1,680	7,670	12,873	109	8,618
2010	3,679	5,152	3,670	95	17,578
2011	2,728	5,293	16,298	145	14,133
2012	1,449	2,663	2,849	73	18,032
2013	1,253	16,783	7,231	72	17,230
2014	2,895	108,955	3,171	58	44,899
2015	2,054	60,209	4,269	54	16,346

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Table 6.–Page 2 of 2.

Year	Escapement[a] Chinook[b]	Coho[c]	Pink[c,d]	Chum[c]	Dolly Varden[c]
2016	1,843	30,291	486	114	24,625
2017	1,137	33,270	123,531	615	7,664
2018	825	64,214	3,222	54	4,550
2019	1,517	282	18,073	67	6,242
2020	1,278	6,964	10,614	118	4,919
2021	1,172	0	6,057	25	4,363
2022	761	10,903	12,558	90	1,238
2023	267	1,366	79,151	26	605
Averages					
2003–2022	2,614	22,934	22,433	139	14,233
2013–2022	1,474	33,187	31,832	127	13,208
2018–2022	1,111	16,473	12,065	71	4,262

[a] A video monitoring system was installed at the Chignik weir in 1994.

[b] No escapement adjustments are made for Chinook salmon that spawn below the weir or those removed by the sport fishery. Only Chinook salmon larger than approximately 650 mm were enumerated for escapement estimates from 1980 to 1993.

[c] No reliable escapement (ND) estimates were generated for pink, chum, or coho salmon or Dolly Varden from 1980 to 1996. No post-weir estimates are reported in this table for pink, coho, and chum salmon or Dolly Varden.

[d] Pink salmon averages in this table represent odd years only.

Table 7.–Total Chignik River sockeye salmon escapement and escapement goals, based on postseason analysis, by run and year, 1980–2023.

Year	Early run	Late run	Total
1980	311,332	352,729	664,061
1981	438,540	392,909	831,449
1982	616,117	221,601	837,718
1983	426,177	409,458	835,635
1984	597,712	267,862	865,574
1985	376,576	369,262	745,838
1986	566,088	207,231	773,319
1987	589,291	214,452	803,743
1988	420,577	255,180	675,757
1989	384,004	557,171	941,175
1990	434,543	335,867	770,410
1991	672,871	367,227	1,040,098
1992	360,681	405,922	766,603
1993	364,261	333,116	697,377
1994	769,462	197,447	966,909
1995	366,163	373,757	739,920
1996	464,461	284,676	749,137
1997	396,667	378,951	775,618
1998	410,659	290,469	701,128
1999	457,429	258,537	715,966
2000	536,141	269,084	805,225
2001	744,013	392,905	1,136,918
2002	380,701	343,616	724,317
2003	350,004	334,119	684,123
2004	363,800	214,459	578,259
2005	355,091	225,366	580,457
2006	366,497	368,996	735,493
2007	361,091	293,883	654,974
2008	377,579	328,479	706,058
2009	391,476	328,586	720,062
2010	432,535	311,291	743,826
2011	488,930	264,887	753,817
2012	353,441	358,948	712,389
2013	386,782	369,319	756,101
2014	360,381	291,228	651,609
2015[a]	534,088	589,810	1,123,898
2016	418,290	348,023	766,313
2017	453,257	339,303	792,560

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Table 7.–Page 2 of 2.

Year	Early run	Late run	Total
2018[a]	263,979	275,718	539,697
2019[b]	345,918	336,077	681,995
2020	137,213	193,765	330,978
2021	244,384	396,558	640,942
2022	412,228	395,858	808,086
2023	431,283	457,071	888,354
Year	Early run	Late run	Total
Optimal escapement goal	300,000	240,000–360,000	540,000–660,000
Biological escapement goal			450,000–800,000
Averages			
2003–2022	369,848	328,234	698,082
2013–2022	355,652	353,566	709,218
2018–2022	280,744	319,595	600,340

[a] Due to early removal of the weir in 2015 (August 20) and 2018 (August 18), post-weir escapement estimates for sockeye salmon included DIDSON counts. These were the only years that included a DIDSON estimate.

[b] Beginning in 2019, the late-run escapement objective includes the late-run sockeye salmon sustainable escapement goal (SEG; 200,000–400,000) plus an additional 20,000 sockeye salmon inriver run goal (10,000 in August and 10,000 in September) to meet late-season subsistence needs. From 2016–2018, the inriver run goal (IRRG) was 75,000 fish (25,000 in August and 50,000 in September). Prior to 2016, the IRRG was 50,000 fish. The IRRG was removed in 2023.

Table 8.–Estimated peak sockeye salmon escapement estimates for Black Lake tributaries, 1980–2023.

Year	Fan Creek	Milk Creek	Boulevard Creek	Alec River	Conglomerate Creek	Broad Creek	Total
1980	127,000	16,000	75,000	70,500	1,500	68,000	358,000
1981	93,000	4,700	59,000	76,500	20,000	27,000	280,200
1982	50,000	5,500	60,000	43,000	20,000	32,000	210,500
1983	ND	ND	ND	ND	ND	ND	ND
1984	50,000	22,200	70,000	30,500	31,000	36,000	239,700
1985	28,000	5,500	36,000	65,000	5,500	17,000	157,000
1986	60,000	15,300	47,000	76,000	39,000	27,000	264,300
1987	52,000	12,200	133,000	88,400	45,900	32,500	364,000
1988	54,000	71,000	83,700	106,500	2,300	26,500	344,000
1989	19,300	21,000	64,000	133,000	1,000	7,500	245,800
1990	32,600	7,400	35,900	49,800	2,200	18,000	145,900
1991	14,600	19,500	48,000	ND	2,000	13,000	97,100
1992	ND	ND	ND	392,000	ND	ND	392,000
1993	40,900	12,600	97,600	8,000	77,000	18,200	254,300
1994	70,000	25,000	125,000	350,000	20,000	51,000	641,000
1995	23,000	10,000	60,000	200,000	40,000	60,000	393,000
1996	40,000	24,000	51,000	100,000	50,000	45,000	310,000
1997	60,000	5,000	48,000	166,000	8,000	20,000	307,000
1998	90,000	14,000	100,000	50,000	9,000	62,000	325,000
1999	70,000	8,100	50,000	226,000	1,000	22,000	377,100
2000	41,000	29,000	126,000	210,000	26,000	93,000	525,000
2001	77,000	19,000	265,000	207,000	4,000	89,000	661,000
2002	43,000	ND	20,000	21,000	11,000	7,000	102,000
2003	17,600	400	2,500	188,000	ND	1,000	209,500
2004	4,290	1,490	15,560	137,700	200	ND	159,240
2005	4,300	ND	ND	ND	7,700	ND	12,000
2006	16,000	500	15,500	46,700	2,500	19,800	101,000
2007	40,200	8,800	23,600	199,000	4,000	1,000	276,600
2008	44,000	7,600	34,800	208,000	6,600	3,200	304,200
2009	34,500	11,500	40,500	182,500	5,000	2,100	276,100
2010	10,000	1,700	24,000	100,000	2,100	7,000	144,800
2011	45,000	5,000	65,000	215,000	12,000	ND	342,000
2012	47,000	4,000	55,000	80,000	5,000	5,000	196,000
2013	25,000	ND	3,000	250,000	0	0	278,000
2014	28,400	ND	41,000	210,000	6,600	41,000	327,000
2015	23,100	ND	39,400	185,700	4,600	5,000	257,800
2016	34,000	ND	9,300	ND	5,000	5,000	53,300

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Table 8.–Page 2 of 2.

Year	Fan Creek	Milk Creek	Boulevard Creek	Alec River	Conglomerate Creek	Broad Creek	Total
2017	109,000	ND	6,900	104,600	9,800	35,000	265,300
2018	4,500	ND	85,000	118,000	35,000	16,000	258,500
2019	9,200	ND	24,500	107,900	14,200	2,100	157,900
2020	800	ND	6,100	54,700	3,900	10,500	76,000
2021	4,000	ND	8,000	42,000	3,200	3,000	60,200
2022	ND	ND	ND	ND	ND	ND	ND
2023	900	ND	13,000	237,000	6,000	4,000	260,900
Averages							
2003–2022	26,363	4,554	27,759	142,929	7,078	9,794	197,655
2013–2022	26,444	ND	24,800	134,113	9,144	13,067	192,667
2018–2022	4,625	ND	30,900	80,650	14,075	7,900	138,150

Note: No reliable escapement estimates (ND) were available for some years or streams within a year. All estimates were done via aerial surveys. Not all escapement estimates were observed during peak timing.

Table 9.–Estimated peak sockeye salmon escapement estimates for Chignik Lake and Black River tributaries, 1980–2023.

	Black River				Chignik Lake			
Year	Bearskin Creek	West Fork	Chiaktuak Creek	Total	Clark River	Home Creek	Hatchery Beach	Total
1980	3,600	33,000	40,400	77,000	ND	ND	ND	ND
1981	950	1,500	18,700	21,150	ND	ND	ND	ND
1982	1,066	10,791	5,000	16,857	ND	ND	ND	ND
1983	ND	ND	6,000	6,000	ND	ND	ND	ND
1984	ND	ND	8,200	8,200	ND	ND	ND	ND
1985	350	450	1,200	2,000	ND	ND	ND	ND
1986	ND	ND	8,300	8,300	ND	ND	ND	ND
1987	ND	ND	1,000	1,000	ND	ND	ND	ND
1988	ND	ND	4,600	4,600	ND	ND	ND	ND
1989	ND	ND	2,100	2,100	ND	ND	ND	ND
1990	300	0	50	350	ND	ND	ND	ND
1991	ND	ND	ND	ND	ND	ND	ND	ND
1992	ND	ND	ND	ND	ND	ND	ND	ND
1993	ND	ND	16,000	16,000	ND	ND	ND	ND
1994	5,000	ND	31,000	36,000	18,000	9,200	ND	27,200
1995	7,100	18,000	31,000	56,100	13,000	6,000	150,000	169,000
1996	1,800	22,000	22,000	45,800	13,000	5,500	70,000	88,500
1997	9,000	9,000	23,500	41,500	25,000	8,000	35,000	68,000
1998	4,700	71,000	27,500	103,200	21,000	6,000	62,000	89,000
1999	8,300	17,500	13,000	38,800	8,500	1,620	15,000	25,120
2000	2,600	3,700	10,600	16,900	18,000	19,700	2,000	39,700
2001	ND	ND	9,500	9,500	23,000	11,000	25,000	59,000
2002	ND	15,000	2,300	17,300	ND	ND	ND	ND
2003	ND	ND	2,000	2,000	ND	ND	ND	ND
2004	100	600	750	1,450	2,500	2,000	ND	4,500
2005	900	900	5,100	6,900	ND	ND	ND	ND
2006	1,400	3,500	6,200	11,100	13,500	3,000	3,000	19,500
2007	400	14,500	30,300	45,200	59,000	9,800	65,000	133,800
2008	13,500	18,000	39,600	71,100	39,500	12,300	106,000	157,800
2009	600	11,100	21,800	33,500	13,000	3,500	ND	16,500
2010	1,700	3,500	5,800	11,000	7,600	0	31,000	38,600
2011	1,000	11,000	11,000	23,000	35,000	2,000	28,000	65,000
2012	150	750	7,500	8,400	57,000	2,500	170,000	229,500
2013	100	1,100	15,000	18,213	55,800	2,300	30,000	88,100
2014	3,100	12,400	41,200	56,700	24,900	3,800	102,000	130,700
2015	2,600	24,800	16,150	43,550	14,120	1,260	47,000	62,380

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Table 9.–Page 2 of 2

	Black River				Chignik Lake			
Year	Bearskin Creek	West Fork	Chiaktuak Creek	Total	Clark River	Home Creek	Hatchery Beach	Total
2016	900	7,290	10,640	18,830	16,760	500	57,300	74,560
2017	3,575	5,700	6,500	15,775	12,200	3,790	104,000	119,990
2018	1,500	12,100	1,650	15,250	9,300	4,500	13,700	27,500
2019	0	9,600	21,600	31,200	13,100	ND	124,000	137,100
2020	1,000	4,400	8,500	13,900	2,800	700	35,600	39,100
2021	ND	1,900	20,000	21,900	19,000	7,000	34,000	60,000
2022	ND	ND	ND	ND	ND	ND	ND	ND
2023	200	2,800	42,000	45,000	7,000	1,700	ND	8,700
Averages								
2003–2022	1,913	7,952	14,278	23,630	23,240	3,684	63,373	82,625
2013–2022	1,597	8,810	15,693	26,146	18,664	2,981	60,844	82,159
2018–2022	833	7,000	12,938	20,563	11,050	4,067	51,825	65,925

Note: No reliable escapement estimates (ND) were available for some years or streams within a year. All estimates were done via aerial surveys.

Table 10.–Estimated Chignik Management Area peak pink salmon combined escapement of index streams and escapement objectives, 2006–2023.

Year	Total estimated peak escapement[a]
2006	163,800
2007	384,500
2008	260,800
2009	344,050
2010	98,400
2011	272,000
2012	111,000
2013	231,800
2014	87,240
2015	404,000
2016	68,100
2017	586,000
2018	41,900
2019	415,300
2020	118,495
2021	495,000
2022	380,600
2023	621,000
Odd-year SEG	260,000–450,000
Odd-year average 2013–2021	426,420

Note: SEG = sustainable escapement goal.

[a] Calculated using peak aerial surveys from the 8 index streams established in Schaberg et al. (2015).

Table 11.–Estimated Chignik Management Area peak chum salmon combined escapement of index streams and escapement objectives, 2006–2023.

Year	Total estimated peak escapement[a]
2006	41,420
2007	132,200
2008	116,240
2009	108,300
2010	102,625
2011	119,000
2012	93,800
2013	109,900
2014	46,720
2015	123,400
2016	69,900
2017	96,900
2018	33,400
2019	98,000
2020	39,675
2021	122,000
2022	73,200
2023	183,000
SEG	45,000–110,000
Average 2013–2022	81,310

Note: SEG = sustainable escapement goal.

[a] Calculated using peak aerial surveys from the 6 index streams established in Schaberg et al. (2015).

Table 12.–Total annual Chignik Management Area commercial salmon harvests (including home pack and the department's test fishery harvests), by species and year, 1980–2023.

Year	Number of permits	Landings	Harvest					
			Chinook	Sockeye	Coho	Pink	Chum	Total
1980	104	3,134	2,344	859,966	119,573	1,093,184	252,521	2,327,588
1981	105	4,222	2,694	1,839,469	78,805	1,162,613	580,332	3,663,913
1982	103	3,606	5,236	1,521,686	300,273	873,384	390,096	3,090,675
1983	102	4,357	5,488	1,824,175	61,927	321,178	159,412	2,372,180
1984	100	3,927	4,318	2,660,619	110,128	444,804	63,303	3,283,172
1985	107	3,392	1,887	921,502	191,162	160,128	22,805	1,297,484
1986	102	4,178	3,037	1,645,834	116,633	647,125	176,640	2,589,269
1987	104	3,856	2,651	1,898,838	150,414	246,775	127,261	2,425,939
1988	102	3,895	7,296	795,841	370,420	2,997,159	267,775	4,438,491
1989	101	3,183	3,542	1,159,287	68,233	27,712	1,624	1,260,398
1990	102	5,405	9,901	2,093,650	130,131	550,008	270,004	3,053,694
1991	103	3,856	3,157	1,895,665	165,625	1,169,248	261,096	3,494,791
1992	102	4,172	10,832	1,277,449	310,943	1,554,073	222,134	3,375,431
1993	103	4,241	19,515	1,697,351	229,459	1,648,377	122,360	3,717,062
1994	100	3,707	3,919	1,618,973	237,204	431,063	227,276	2,518,435
1995	101	5,113	5,493	1,724,045	281,518	2,057,998	380,954	4,450,008
1996	101	4,565	3,145	1,958,393	193,246	189,068	120,891	2,464,743
1997	100	3,394	3,120	770,347	90,908	844,431	155,905	1,864,711
1998	86	3,348	4,503	1,054,439	129,539	776,988	128,996	2,094,465
1999	91	4,382	3,507	3,116,527	89,610	1,698,651	140,597	5,048,892
2000	100	3,268	2,612	1,775,225	123,222	428,064	120,957	2,450,080
2001	93	2,906	2,939	1,511,587	131,448	1,281,767	199,003	3,126,744
2002	42	2,432	1,521	1,050,553	49,372	66,050	54,559	1,222,055
2003	44	2,073	3,068	1,100,297	103,896	502,638	64,044	1,773,943
2004	33	1,346	2,520	704,652	37	2,380	505	710,094
2005	98	1,681	3,408	1,152,133	6,956	194,045	8,821	1,365,363
2006	49	2,066	2,256	902,709	39,221	383,574	61,630	1,389,390
2007	56	2,101	1,773	834,547	73,277	2,019,748	78,553	3,007,898
2008	55	2,217	970	687,270	161,536	2,389,958	209,325	3,449,059
2009	56	2,172	3,319	1,198,105	110,373	1,408,339	256,425	2,976,561
2010	66	2,532	10,380	1,379,785	159,198	489,781	581,329	2,620,473
2011	65	2,617	6,586	2,497,004	76,792	905,166	269,503	3,755,051
2012	70	2,915	3,687	1,800,121	33,316	137,706	171,112	2,145,942
2013	77	3,153	2,962	2,405,151	32,312	871,871	154,965	3,467,261
2014	71	1,525	8,846	620,339	132,459	352,115	55,152	1,168,911
2015	72	2,276	9,204	1,552,495	82,054	1,978,211	101,017	3,722,981

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Table 12.–Page 2 of 2

Year	Number of permits	Landings	Harvest					
			Chinook	Sockeye	Coho	Pink	Chum	Total
2016	70	2,554	20,719	1,394,091	94,397	140,913	118,435	1,768,555
2017	68	2,408	3,946	897,489	226,829	7,077,924	609,236	8,815,424
2018	6	6	0	128	1	6	924	1,059
2019	51	1,503	4,312	638,784	248,282	2,452,838	157,517	3,501,733
2020	0	0	0	0	0	0	0	0
2021	31	439	1,422	118,839	84,453	1,321,454	43,187	1,569,355
2022	35	582	3,630	334,704	40,099	1,043,282	70,886	1,492,601
2023	35	951	2,302	1,069,712	52,644	2,143,701	109,695	3,378,054
Averages[a]								
2003–2022	54	1,808	4,650	1,010,932	85,274	1,183,597	150,628	2,435,083
2013–2022	48	1,445	5,504	796,202	94,089	1,523,861	131,132	2,550,788
2018–2022	25	506	1,873	218,491	74,567	963,516	54,503	1,312,950

[a] Pink salmon averages represent odd years only.

Table 13.–Annual Chignik Management Area Chinook salmon harvest, 1980–2023.

	Test fish		Commercial catch		Home pack		Total	
Year	Number	Pounds	Number	Pounds	Number	Pounds[a]	Number	Pounds
1980	ND	ND	2,344	32,255	ND	ND	2,344	32,255
1981	ND	ND	2,694	50,832	ND	ND	2,694	50,832
1982	ND	ND	5,236	59,753	ND	ND	5,236	59,753
1983	ND	ND	5,488	96,159	ND	ND	5,488	96,159
1984	ND	ND	4,318	99,567	ND	ND	4,318	99,567
1985	10	249	1,877	44,625	ND	ND	1,887	44,874
1986	ND	ND	3,037	66,772	ND	ND	3,037	66,772
1987	0	0	2,651	49,482	ND	ND	2,651	49,482
1988	0	0	7,296	128,880	ND	ND	7,296	128,880
1989	0	0	3,542	76,698	ND	ND	3,542	76,698
1990	0	0	9,901	134,265	ND	ND	9,901	134,265
1991	3	37	3,154	66,666	ND	ND	3,157	66,703
1992	2	8	10,830	138,082	ND	ND	10,832	138,090
1993	14	65	19,501	234,188	ND	ND	19,515	234,253
1994	16	245	3,903	71,620	ND	ND	3,919	71,865
1995	0	0	5,261	111,187	232	4,903	5,493	116,090
1996	0	0	3,105	62,603	40	806	3,145	63,409
1997	7	149	3,025	47,075	88	1,369	3,120	48,593
1998	21	450	4,374	66,080	108	1,632	4,503	68,162
1999	0	0	3,296	56,706	211	3,630	3,507	60,336
2000	0	0	2,592	34,757	20	268	2,612	35,025
2001	4	120	2,845	39,252	90	1,242	2,939	40,614
2002	3	25	1,441	13,725	77	733	1,521	14,483
2003	2	13	2,757	39,716	309	4,451	3,068	44,180
2004	4	57	2,337	43,652	179	3,343	2,520	47,052
2005	1	23	3,136	55,638	271	6,157	3,408	61,818
2006	1	21	2,187	38,015	68	1,536	2,256	39,572
2007	11	228	1,746	29,745	16	308	1,773	30,281
2008	0	0	955	14,463	15	227	970	14,690
2009	0	0	3,244	30,791	75	1,166	3,319	31,957
2010	0	0	10,262	102,684	118	1,708	10,380	104,392
2011	4	45	6,440	72,305	142	2,486	6,586	74,836
2012	0	0	3,636	48,850	51	1,053	3,687	49,903
2013	2	25	2,872	35,587	85	1,644	2,959	37,256
2014	2	6	8,809	75,747	35	417	8,846	76,170
2015	15	160	9,105	71,722	84	1,045	9,204	72,927
2016	0	0	20,684	155,088	35	474	20,719	155,562
2017	0	0	3,908	36,604	38	651	3,946	37,255

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Table 13.–Page 2 of 2

	Test fish		Commercial catch		Home pack		Total	
Year	Number	Pounds	Number	Pounds	Number	Pounds[a]	Number	Pounds
2018	0	0	0	0	0	0	0	0
2019	0	0	4,286	39,024	26	348	4,312	39,372
2020	0	0	0	0	0	0	0	0
2021	0	0	1,420	1,029	2	14	1,422	1,043
2022	0	0	3,623	19,957	7	44	3,630	20,001
2023	0	0	2,300	18,869	2	48	2,302	18,917
Averages								
2003–2022	2	29	4,570	45,531	78	1,354	4,650	46,913
2013–2022	2	19	5,471	43,476	31	464	5,504	43,959
2018–2022	0	0	1,866	12,002	7	81	1,873	12,083

Note: No reliable estimates (ND) were available for some years.

[a] Weights of home pack are not reported on fish tickets; therefore, the weights were calculated from the average weight of the commercial harvest for that year.

Table 14.–Chignik Management Area Chinook salmon harvest (including home pack and the department's test fishery catches), by district and year, 1980–2023.

	District					
Year	Chignik Bay	Central	Eastern	Western	Perryville	Total
1980	929	148	169	739	359	2,344
1981	2,006	302	188	99	99	2,694
1982	3,269	41	38	1,354	534	5,236
1983	3,560	161	260	1,390	117	5,488
1984	3,696	63	72	487	0	4,318
1985	1,809	50	7	21	0	1,887
1986	2,592	58	14	350	23	3,037
1987	1,931	60	6	512	142	2,651
1988	4,331	1,094	190	1,216	465	7,296
1989	3,532	9	1	0	0	3,542
1990	3,719	2,175	175	3,190	642	9,901
1991	1,996	775	165	197	24	3,157
1992	3,181	2,010	181	4,300	1,160	10,832
1993	5,240	6,865	2,568	3,113	1,729	19,515
1994	1,808	1,303	43	452	313	3,919
1995	3,219	845	108	897	424	5,493
1996	1,590	1,022	263	162	108	3,145
1997	1,384	1,609	60	60	7	3,120
1998	1,805	1,798	79	567	254	4,503
1999	2,270	852	147	216	22	3,507
2000	598	530	53	1,421	10	2,612
2001	1,235	770	302	627	5	2,939
2002	920	17	0	584	0	1,521
2003	2,834	189	0	45	0	3,068
2004	2,520	0	0	0	0	2,520
2005	2,714	391	0	297	6	3,408
2006	2,009	165	3	79	0	2,256
2007	667	421	152	532	1	1,773
2008	219	195	16	503	37	970
2009	552	552	199	1,987	29	3,319
2010	1,564	2,420	834	5,476	86	10,380
2011	1,462	2,154	639	2,118	213	6,586
2012	330	1,878	185	1,284	10	3,687
2013	592	1,249	398	668	52	2,959
2014	363	4,302	75	4,054	52	8,846
2015	1,648	3,172	115	4,249	20	9,204
2016	693	15,865	413	2,446	1,302	20,719
2017	447	1,125	534	1,594	246	3,946

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Table 14.–Page 2 of 2.

Year	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
2018	0	0	0	0	0	0
2019	1,140	349	862	1,281	680	4,312
2020	0	0	0	0	0	0
2021	40	623	44	679	36	1,422
2022	27	1,843	2	1,559	199	3,630
2023	132	228	8	1,874	60	2,302
Averages						
2003–2022	991	1,845	224	1,443	148	4,650
2013–2022	495	2,853	244	1,653	259	5,504
2018–2022	241	563	182	704	183	1,873

Table 15.–Chignik Management Area Chinook salmon harvest (including home pack and the department's test fishery catches), by district and statistical week, 2023.

		District				
Date	Deliveries	Chignik Bay	Central	Eastern	Western	Perryville
6/28-7/4	5	4	4	0	0	0
7/5–7/11	18	42	0	0	0	0
712–7/18	25	48	0	0	181	30
7/19–7/25	11	11	5	0	13	16
7/26–8/1	26	7	73	0	557	14
8/2–8/8	21	0	19	8	479	0
8/9–8/15	36	1	55	0	509	0
8/16–8/22	33	19	72	0	134	0
8/23–8/29	[a]	0	0	0	[a]	0
8/30–9/5	0	0	0	0	0	0
9/6–9/12	0	0	0	0	0	0
9/13–9/19	0	0	0	0	0	0
Total	175	132	228	8	1,873	60

[a] Confidentiality requirements prevent the release of this information.

Table 16.–Total harvest of sockeye salmon considered by regulation to be Chignik-bound in the Chignik, Cape Igvak, and Southeastern District Mainland (SEDM) commercial salmon fisheries, 1970–2023.

	Test fish		Commercial catch		Home pack		Total CMA harvest		Cape Igvak[a]		SEDM[b]		Total Chignik-bound	
Year	Number	Pounds	Number	Pounds	Number	Pounds[c]	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1970	ND	ND	1,325,734	9,210,127	ND	ND	1,325,734	9,210,127	ND	ND	ND	ND	1,325,734	9,210,127
1971	ND	ND	1,016,136	7,534,367	ND	ND	1,016,136	7,534,367	ND	ND	ND	ND	1,016,136	7,534,367
1972	ND	ND	378,218	2,863,742	ND	ND	378,218	2,863,742	ND	ND	ND	ND	378,218	2,863,742
1973	ND	ND	870,354	7,023,294	ND	ND	870,354	7,023,294	ND	ND	ND	ND	870,354	7,023,294
1974	ND	ND	662,905	4,756,653	ND	ND	662,905	4,756,653	ND	ND	ND	ND	662,905	4,756,653
1975	ND	ND	399,593	2,773,725	ND	ND	399,593	2,773,725	ND	ND	ND	ND	399,593	2,773,725
1976	ND	ND	1,163,728	8,562,989	ND	ND	1,163,728	8,562,989	ND	ND	ND	ND	1,163,728	8,562,989
1977	ND	ND	1,972,207	17,247,659	ND	ND	1,972,207	17,247,659	ND	ND	ND	ND	1,972,207	17,247,659
1978	ND	ND	1,576,283	12,451,982	ND	ND	1,576,283	12,451,982	225,078	1,583,809	ND	ND	1,801,361	14,035,791
1979	ND	ND	1,049,691	7,862,600	ND	ND	1,049,691	7,862,600	13,950	96,507	ND	ND	1,063,641	7,959,107
1980	ND	ND	859,966	5,795,098	ND	ND	859,966	5,795,098	32	147	63,724	442,601	923,722	6,237,846
1981	ND	ND	1,839,469	13,486,031	ND	ND	1,839,469	13,486,031	282,727	1,876,246	122,198	888,410	2,244,394	16,250,687
1982	ND	ND	1,521,686	11,340,439	ND	ND	1,521,686	11,340,439	166,756	1,162,053	62,789	463,729	1,751,231	12,966,221
1983	ND	ND	1,824,175	11,926,829	ND	ND	1,824,175	11,926,829	318,048	1,926,770	227,392	1,631,668	2,369,615	15,485,267
1984	ND	ND	2,660,619	18,536,287	ND	ND	2,660,619	18,536,287	449,372	2,820,646	423,292	3,053,430	3,533,283	24,410,363
1985	4,875	30,480	916,627	5,415,817	ND	ND	921,502	5,446,297	123,627	637,207	51,421	337,919	1,096,550	6,421,423
1986	ND	ND	1,645,834	11,254,860	ND	ND	1,645,834	11,254,860	188,017	1,153,092	118,006	841,446	1,951,857	13,249,398
1987	679	4,637	1,898,159	13,997,077	ND	ND	1,898,838	14,001,714	321,506	2,146,841	146,886	1,121,094	2,367,230	17,269,649
1988	3,425	24,287	792,416	5,690,165	ND	ND	795,841	5,714,452	10,520	63,641	19,320	140,708	825,681	5,918,801
1989	6,433	46,532	1,152,854	7,922,748	ND	ND	1,159,287	7,969,280	0	0	4,485	32,262	1,163,772	8,001,542
1990	5,522	33,915	2,088,128	13,775,854	ND	ND	2,093,650	13,809,769	107,706	665,309	117,065	783,670	2,318,421	15,258,748
1991	8,106	54,892	1,887,559	12,889,560	ND	ND	1,895,665	12,944,452	324,195	1,886,494	152,714	1,037,726	2,372,574	15,868,672
1992	12,423	80,326	1,265,026	8,292,576	ND	ND	1,277,449	8,372,902	150,434	896,108	93,845	608,765	1,521,728	9,877,775
1993	5,444	34,231	1,691,907	10,228,401	ND	ND	1,697,351	10,262,632	300,055	1,639,082	128,608	847,879	2,126,014	12,749,593
1994	9,139	54,433	1,609,834	10,091,402	ND	ND	1,618,973	10,145,835	250,230	1,423,150	142,350	934,493	2,011,553	12,503,478
1995	9,023	57,674	1,715,022	11,464,647	0	0	1,724,045	11,522,321	169,530	899,572	89,086	547,563	1,982,661	12,969,456
1996	4,317	36,511	1,954,036	14,866,234	40	304	1,958,393	14,903,049	308,327	1,954,430	127,201	884,305	2,393,921	17,741,784
1997	11,299	77,874	758,384	4,782,715	664	4,187	770,347	4,864,776	0	0	0	0	770,347	4,864,776
1998	12,374	66,040	1,041,798	6,372,010	267	1,633	1,054,439	6,439,683	8,813	39,133	66,893	408,902	1,130,145	6,887,718
1999	5,994	42,216	3,110,507	20,527,837	26	172	3,116,527	20,570,225	456,039	2,469,213	173,621	1,086,186	3,746,187	24,125,624
2000	11,604	88,790	1,763,621	13,577,434	0	0	1,775,225	13,666,224	271,344	1,703,875	103,419	737,462	2,149,988	16,107,561

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Table 16.–Page 2 of 2.

	Testfish		Commercial catch		Home pack		Total CMA harvest		Cape Igvak[a]		SEDM[b]		Total Chignik-Bound	
Year	Number	Pounds	Number	Pounds	Number	Pounds[c]	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
2001[d]	14,011	98,197	1,497,359	10,972,234	217	1,590	1,511,587	11,072,021	215,214	1,287,154	51,141	368,970	1,777,942	12,728,145
2002	9,101	61,656	1,040,081	7,176,261	1,371	9,460	1,050,553	7,247,377	136,488	727,894	63,026	502,353	1,250,067	8,477,624
2003	5,582	36,334	1,092,304	7,137,591	2,411	15,755	1,100,297	7,189,680	121,887	599,342	70,044	466,153	1,292,228	8,255,175
2004	5,919	38,317	697,043	4,460,437	1,690	10,998	704,652	4,509,752	160,665	781,265	55,123	355,703	920,440	5,291,017
2005	7,076	43,988	1,143,693	7,468,609	1,364	8,702	1,152,133	7,521,299	274,328	1,681,630	170,662	1,088,207	1,597,123	10,291,136
2006	6,641	42,420	895,801	5,804,939	267	1,625	902,709	5,848,984	41,834	266,483	62,010	398,724	1,006,553	6,514,191
2007	5,152	38,112	829,110	5,769,736	285	1,346	834,547	5,809,194	52,527	325,619	0	0	887,074	6,134,813
2008	5,166	35,271	682,104	4,734,436	0	0	687,270	4,769,707	0	0	0	0	687,270	4,769,707
2009	1,687	12,833	1,196,325	8,248,669	93	631	1,198,105	8,262,133	126,968	811,617	48,322	314,210	1,373,395	9,387,960
2010	6,545	34,237	1,372,267	8,940,207	973	6,490	1,379,785	8,980,934	185,193	1,035,324	85,267	559,226	1,650,245	10,575,484
2011	6,556	48,184	2,490,125	17,841,056	323	1,977	2,497,004	17,891,217	494,538	3,224,966	156,637	1,123,768	3,148,179	22,239,951
2012	2,089	15,102	1,797,519	12,247,564	513	3,564	1,800,121	12,266,230	324,895	1,884,391	126,083	838,838	2,251,099	14,989,459
2013	4,970	35,474	2,399,594	17,055,904	587	3,928	2,405,151	17,055,904	354,179	2,326,956	169,029	1,109,867	2,928,359	20,532,129
2014	3,454	20,637	616,879	4,120,133	6	40	620,339	4,140,810	0	0	0	0	620,339	4,140,810
2015	12,107	59,336	1,540,310	8,469,717	78	459	1,552,495	8,529,512	5,936	31,568	98,473	559,063	1,656,904	9,120,143
2016	8,073	45,419	1,385,673	8,208,491	345	1,939	1,394,091	8,255,849	298,470	1,674,233	94,790	559,190	1,787,351	10,489,272
2017	2,448	15,639	894,933	5,483,094	108	599	897,489	5,499,332	118,101	678,384	43,730	253,186	1,059,320	6,430,902
2018	0	0	128	593	0	0	128	593	0	0	0	0	128	593
2019	0	0	638,772	3,615,965	12	70	638,784	3,616,035	0	0	0	0	638,784	3,616,035
2020	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021	0	0	118,785	616,053	54	294	118,839	616,347	0	0	0	0	118,839	616,347
2022	0	0	334,644	1,657,060	60	303	334,704	1,657,363	0	0	0	0	334,704	1,657,363
2023	0	0	1,069,702	6,422,240	10	50	1,069,712	6,422,240	0	0	0	0	1,069,712	6,422,290
Averages[e]														
2003–2022	4,173	26,065	1,006,300	6,594,013	458	2,936	1,010,932	6,621,044	127,976	766,089	59,009	381,307	1,197,917	7,752,624
2013–2022	3,105	17,651	792,972	4,922,701	125	763	796,202	4,937,175	77,669	471,114	40,602	248,131	914,473	5,660,359
2018–2022	0	0	218,466	1,177,934	25	133	218,491	1,178,068	0	0	0	0	218,491	1,178,068

Note: No reliable estimates (ND) were available for some years. CMA = Chignik Management Area.

[a] The Cape Igvak allocation began in 1978. From 1978 to 2002, 80% of the Cape Igvak sockeye salmon harvest was considered Chignik River-bound. Beginning in 2002, that percentage was changed to 90%.

[b] Beginning in 1980, 80% of the SEDM harvest in specific areas during specific times was considered Chignik River-bound.

[c] Weights of home pack are not reported on fish tickets; therefore, the weights were calculated from the average weight of the commercial harvest for that year.

[d] Due to a strike by Alaska Peninsula fishers, foregone harvest of 27,896 sockeye salmon harvested in 2001 was added to the SEDM catch for management purposes; this foregone harvest is not included in this table.

[e] Averages do not include years in which Cape Igvak, SEDM, or both did not fish.

Table 17.–Total annual Chignik Management Area sockeye salmon harvest (including home pack and the department's test fishery catches), by district, 1980–2023.

	District					
Year	Chignik Bay	Central	Eastern	Western	Perryville	Total
1980	708,828	74,628	60,947	9,227	6,336	859,966
1981	1,355,524	426,159	36,618	14,751	6,417	1,839,469
1982	1,413,806	66,278	10,209	30,279	1,114	1,521,686
1983	1,597,059	123,590	73,824	25,246	4,456	1,824,175
1984	1,942,822	517,653	184,495	15,470	179	2,660,619
1985	811,956	77,314	18,720	13,175	337	921,502
1986	1,389,172	182,884	6,424	44,362	22,992	1,645,834
1987	1,559,757	255,118	14,498	56,524	12,941	1,898,838
1988	529,540	124,103	25,699	93,070	23,429	795,841
1989	1,156,782	2,473	32	0	0	1,159,287
1990	1,400,069	566,601	51,443	53,192	22,345	2,093,650
1991	1,487,421	315,570	59,751	19,766	13,157	1,895,665
1992	792,889	332,860	12,327	30,004	109,369	1,277,449
1993	762,730	557,020	186,364	54,051	137,186	1,697,351
1994	908,042	573,484	20,041	64,325	53,081	1,618,973
1995	1,083,707	415,436	48,842	79,874	96,186	1,724,045
1996	1,003,683	743,658	145,668	47,529	17,855	1,958,393
1997	407,427	295,084	20,650	44,768	2,418	770,347
1998	622,005	286,643	30,555	87,940	27,296	1,054,439
1999	2,356,146	612,589	79,717	57,859	10,216	3,116,527
2000	1,327,249	358,985	71,572	15,034	2,385	1,775,225
2001	1,082,291	382,172	28,377	17,673	1,074	1,511,587
2002	993,756	44,368	2,835	9,425	169	1,050,553
2003	1,000,247	64,440	1,701	29,069	4,840	1,100,297
2004	704,471	181	0	0	0	704,652
2005	1,039,076	84,879	2	27,927	249	1,152,133
2006	726,749	103,272	3,118	69,570	0	902,709
2007	545,438	138,922	29,882	119,489	816	834,547
2008	527,026	83,111	2,279	68,257	6,597	687,270
2009	869,906	191,611	29,900	102,803	3,885	1,198,105
2010	846,823	371,090	102,587	56,736	2,549	1,379,785
2011	1,649,846	670,348	113,760	40,252	22,798	2,497,004
2012	1,122,595	522,184	61,922	93,270	150	1,800,121
2013	1,607,269	584,848	150,560	56,248	6,226	2,405,151
2014	208,056	100,375	86	302,614	9,208	620,339
2015	702,707	364,934	5,542	433,221	46,091	1,552,495
2016	741,932	328,749	38,629	204,058	80,723	1,394,091
2017	351,049	180,039	122,798	151,644	91,959	897,489

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Table 17.–Page 2 of 2.

Year	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
2018	[a]	[a]	[a]	[a]	[a]	128
2019	275,304	83,040	43,803	196,391	40,246	638,784
2020	0	0	0	0	0	0
2021	63,772	3,460	171	49,708	1,728	118,839
2022	220,099	14,549	297	80,370	19,389	334,704
2023	869,727	146,985	7,328	39,825	5,847	1,069,712
Averages						
2003–2022	694,861	204,739	37,212	109,559	17,761	1,010,932
2013–2022	463,354	184,444	40,210	163,806	32,841	796,202
2018–2022	139,794	25,262	11,068	81,617	15,341	218,491

[a] Confidentiality requirements prevent the release of this information.

Table 18.–Chignik Management Area sockeye salmon harvest (including home pack and the department's test fishery catches), by district and statistical week, 2023.

		District				
Date	Deliveries	Chignik Bay	Central	Eastern	Western	Perryville
6/28–7/4	83	67,785	50,232	0	3,377	0
7/5–7/11	106	159,486	12,993	0	0	0
712–7/18	114	165,994	0	0	8,534	482
7/19–7/25	126	176,684	18,443	0	4,025	1,505
7/26–8/1	146	130,467	39,912	0	11,502	2,403
8/2–8/8	120	50,670	17,699	2,077	6,006	1,395
8/9–8/15	117	70,271	6,856	2,054	2,438	62
8/16–8/22	113	44,257	850	2,754	3,566	0
8/23–8/29	25	4,113	0	443	377	0
8/30–9/5	0	0	0	0	0	0
Total	950	869,727	146,985	7,328	39,825	5,847

Note: No harvest occurred after 8/26 due to lack of an available processor.

Table 19.–Harvest of sockeye salmon considered by regulation to be Chignik-bound: Chignik and Southeastern District Mainland commercial salmon fisheries through July 25, 1978–2023; and Cape Igvak through July 25, 1978–2019, and through July 5, 2020–2023.

	Chignik[a]		Cape Igvak[a]		SEDM[a]		
Year	Catch	Percent	Catch[b]	Percent	Catch[c]	Percent	Total
1978	1,454,389	86.6	225,078	13.4	ND	ND	1,679,467
1979	794,504	98.3	13,950	1.7	ND	ND	808,454
1980	670,001	91.3	32	0.0	63,724	8.7	733,757
1981	1,606,300	79.9	282,727	14.1	122,198	6.1	2,011,225
1982	1,250,768	84.5	166,756	11.3	62,789	4.2	1,480,313
1983	1,450,832	72.7	318,048	15.9	227,392	11.4	1,996,272
1984	2,474,405	73.9	449,372	13.4	423,292	12.6	3,347,069
1985	690,698	79.8	123,627	14.3	51,421	5.9	865,746
1986	1,456,729	82.6	188,017	10.7	118,006	6.7	1,762,752
1987	1,659,236	78.0	321,506	15.1	146,886	6.9	2,127,628
1988	675,487	95.8	10,520	1.5	19,320	2.7	705,327
1989	496,044	99.1	[d]	0.0	4,485	0.9	500,529
1990	1,205,575	84.3	107,706	7.5	117,065	8.2	1,430,346
1991[e]	1,962,583	80.5	324,195	13.3	152,714	6.3	2,439,492
1992	1,054,309	81.2	150,434	11.6	93,845	7.2	1,298,588
1993	1,495,098	77.7	300,055	15.6	128,608	6.7	1,923,761
1994[f]	1,632,435	80.6	250,230	12.4	142,350	7.0	2,025,015
1995	1,024,785	79.8	169,530	13.2	89,086	6.9	1,283,401
1996	1,710,249	79.7	308,327	14.4	127,201	5.9	2,145,777
1997	443,892	100.0	[d]	0.0	[d]	0.0	443,892
1998[g]	786,466	91.2	8,813	1.0	66,893	7.8	862,172
1999	2,326,811	78.7	456,039	15.4	173,621	5.9	2,956,471
2000	1,509,652	80.1	271,344	14.4	103,419	5.5	1,884,415
2001[h]	1,134,991	79.4	215,214	15.1	79,037	5.5	1,429,242
2002	849,980	81.0	136,488	13.0	63,026	6.0	1,049,494
2003	855,179	81.7	121,887	11.6	70,044	6.7	1,047,110
2004	681,120	75.9	160,665	17.9	55,123	6.1	896,908
2005	1,098,718	70.8	274,328	17.7	177,906	11.5	1,550,952
2006	741,887	87.7	41,834	4.9	62,010	7.3	845,731
2007	601,213	92.0	52,527	8.0	[d]	0.0	653,740
2008	445,199	100.0	[d]	0.0	[d]	0.0	445,199
2009	871,890	83.3	126,968	12.1	48,322	5.5	1,047,180
2010	1,125,135	80.6	185,193	13.3	85,267	7.6	1,395,595
2011	2,277,681	77.8	494,538	16.9	156,637	6.9	2,928,856
2012	1,640,517	78.4	324,895	15.5	126,083	7.7	2,091,495
2013	2,246,339	81.1	354,179	12.8	169,029	7.5	2,769,547
2014	330,302	100.0	[d]	0.0	[d]	0.0	330,302

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Table 19.–Page 2 of 2.

Year	Chignik[a] Catch	Chignik[a] Percent	Cape Igvak[a] Catch[b]	Cape Igvak[a] Percent	SEDM[a] Catch[c]	SEDM[a] Percent	Total
2015	1,014,550	90.7	5,936	0.5	98,473	9.7	1,118,959
2016	1,167,326	74.8	298,470	19.1	94,790	8.1	1,560,586
2017	679,435	80.8	118,101	14.0	43,730	6.4	841,266
2018	128	100.0	0	0.0	0	0.0	128
2019	638,784	100.0	0	0.0	0	0.0	638,784
2020[i]	0	0.0	0	0.0	0	0.0	0
2021	151	100.0	0	0.0	0	0.0	151
2022	197,068	100.0	0	0.0	0	0.0	197,068
2023	1,069,702	100.0	0	0.0	0	0.0	1,069,702
Averages[j]							
2003–2022	857,237	83.0	127,976	8.0	59,371	5.0	1,044,583
2013–2022	656,412	83.0	77,669	5.0	40,602	3.0	774,683
2018–2022	167,226	80.0	0	0.0	0	0.0	167,226

[a] Through 2001, the Cape Igvak and Southeastern District Mainland figures represent 80% of the total sockeye salmon catch for those areas through July 25, based on the regulations in effect during those years. In 2002, the Alaska Board of Fisheries increased the percentage of sockeye salmon harvest considered Chignik-bound from 80% to 90% in the Cape Igvak fishery. The figures reported in this table are the portion of the catches considered Chignik-bound. These figures do not include Chignik test fishery harvests or fish retained for home pack because they are not included in the allocation scheme.

[b] Beginning in 1978, the *Cape Igvak Salmon Management Plan* allocated up to 15% of the total catch of Chignik-bound sockeye salmon to the Cape Igvak fishery.

[c] Beginning in 1985 the Southeastern District Mainland (SEDM) was allowed an allocation of 6.2% of the total harvest of Chignik-bound sockeye salmon through July 25. Certain areas (which changed frequently) were excluded from the allocation and managed for local (Orzinski Lake) stocks (see regulations from the individual years). After July 25, the entire Southeast District Mainland was managed based on local stock abundance. The allocation level changed to 6.0% beginning in 1988. Beginning in 1992, the allocation of Chignik-bound sockeye to the Southeastern District Mainland fishery was increased to 7.0%. Prior to the 1996 season, the Alaska Board of Fisheries (BOF) decreased the allocation from 7.0% to 6.0%. The allocation was increased from 6.0% to 7.6% prior to the 2007 season.

[d] No fishery.

[e] Includes a foregone harvest of 278,305 sockeye salmon during a Chignik area strike (June 23–July 4).

[f] Includes a foregone harvest of 208,921 sockeye salmon during a Chignik area strike (June 2–June 25).

[g] Includes a foregone harvest of 52,131 sockeye salmon during a Chignik area strike (June 16–June 29).

[h] Includes a foregone harvest of 389,887 sockeye salmon in Chignik during a Chignik area strike (June 16–29), and foregone harvest of 27,896 sockeye salmon in the SEDM during a strike on the South Peninsula (June 14–July 2).

[i] During the 2020 Kodiak BOF, the allocation time frame for Chignik-bound sockeye salmon in the Cape Igvak section was changed to June 1–July 5.

[j] Recent averages (excluding Chignik catch) do not include years in which the Cape Igvak and SEDM remained closed.

Table 20.–Chignik sockeye salmon escapement, total harvest considered Chignik-bound, and total run, by year, 1970–2023.

	Early run			Late run			Total run[a,b,c]		
Year	Escapement	Harvest	Total	Escapement	Harvest	Total	Escapement	Harvest	Total
1970	536,257	1,566,065	2,102,322	119,952	262,244	382,196	656,209	1,828,309	2,484,518
1971	671,668	555,832	1,227,500	232,501	709,190	941,691	904,169	1,265,022	2,169,191
1972	326,320	43,220	369,540	231,270	386,615	617,885	557,590	429,835	987,425
1973	533,047	610,488	1,143,535	249,144	355,195	604,339	782,191	965,683	1,747,874
1974	351,701	204,722	556,423	326,245	648,283	974,528	677,946	853,005	1,530,951
1975	308,914	7,873	316,787	268,734	417,560	686,294	577,648	425,433	1,003,081
1976	551,254	599,341	1,150,595	279,509	727,043	1,006,552	830,763	1,326,384	2,157,147
1977	482,247	534,198	1,016,445	251,753	1,602,363	1,854,116	734,000	2,136,561	2,870,561
1978	458,660	940,188	1,398,848	223,887	885,173	1,109,060	682,547	1,825,361	2,507,908
1979	385,694	186,537	572,231	352,122	933,788	1,285,910	737,816	1,120,325	1,858,141
1980	311,332	73,742	385,074	352,729	849,980	1,202,709	664,061	923,722	1,587,783
1981	438,540	800,364	1,238,904	392,909	1,444,030	1,836,939	831,449	2,244,394	3,075,843
1982	616,117	1,324,396	1,940,513	221,601	426,835	648,436	837,718	1,751,231	2,588,949
1983	426,177	1,128,246	1,554,423	409,458	1,241,369	1,650,827	835,635	2,369,615	3,205,250
1984	597,712	2,919,984	3,517,696	267,862	613,299	881,161	865,574	3,533,283	4,398,857
1985	376,576	654,431	1,031,007	369,262	442,119	811,381	745,838	1,096,550	1,842,388
1986	566,088	1,364,295	1,930,383	207,231	587,562	794,793	773,319	1,951,857	2,725,176
1987	589,291	1,947,088	2,536,379	214,452	420,142	634,594	803,743	2,367,230	3,170,973
1988	420,577	271,377	691,954	255,180	554,304	809,484	675,757	825,681	1,501,438
1989	384,004	234,237	618,241	557,171	929,535	1,486,706	941,175	1,163,772	2,104,947
1990	434,543	582,520	1,017,063	335,867	1,735,901	2,071,768	770,410	2,318,421	3,088,831
1991	657,511	1,711,549	2,384,420	382,587	661,025	1,028,252	1,040,098	2,372,574	3,412,672
1992	360,681	744,417	1,105,098	405,922	777,311	1,183,233	766,603	1,521,728	2,288,331
1993	364,261	926,892	1,291,153	333,116	1,199,122	1,532,238	697,377	2,126,014	2,823,391
1994	769,462	1,595,176	2,364,638	197,447	416,377	613,824	966,909	2,011,553	2,978,462
1995	366,163	666,799	1,032,962	373,757	1,315,862	1,689,619	739,920	1,982,661	2,722,581
1996	464,461	1,688,264	2,152,725	284,676	705,657	990,333	749,137	2,393,921	3,143,058
1997	396,667	234,824	631,491	378,951	535,523	914,474	775,618	770,347	1,545,965
1998	410,659	313,158	723,817	290,469	816,987	1,107,456	701,128	1,130,145	1,831,273
1999	457,429	2,022,272	2,479,701	258,537	1,723,915	1,982,452	715,966	3,746,187	4,462,153
2000	536,141	1,574,391	2,110,532	269,084	575,597	844,681	805,225	2,149,988	2,955,213
2001	744,013	563,539	1,307,552	392,905	1,214,403	1,607,308	1,136,918	1,777,942	2,914,860
2002	380,701	684,728	1,065,428	343,616	565,339	908,955	724,317	1,250,067	1,974,383
2003	350,004	640,084	990,088	334,119	652,144	986,263	684,123	1,292,228	1,976,351
2004	363,800	727,975	1,091,775	214,459	192,465	406,924	578,259	920,440	1,498,700
2005	355,091	1,109,881	1,464,972	225,366	487,242	712,608	580,457	1,597,123	2,177,580
2006	366,497	436,028	802,525	368,996	570,525	939,521	735,493	1,006,553	1,742,046
2007	361,091	267,805	628,896	293,883	619,269	913,152	654,974	887,074	1,542,048
2008	377,579	253,490	631,069	328,479	433,780	762,259	706,058	687,270	1,393,328
2009	391,476	520,630	912,106	328,586	852,765	1,181,351	720,062	1,373,395	2,093,457
2010	432,535	833,713	1,266,248	311,291	816,532	1,127,823	743,826	1,650,245	2,394,071

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Table 20.–Page 2 of 2.

	Early run			Late run			Total run[a,b,c]		
Year	Escapement	Harvest	Run	Esc.	Harvest	Run	Esc.	Harvest	Run
2011	488,930	2,594,291	3,083,221	264,887	553,888	818,775	753,817	3,148,179	3,901,996
2012	353,441	1,283,858	1,637,299	358,948	967,241	1,326,189	712,389	2,251,099	2,963,488
2013	386,782	2,030,579	2,417,361	369,319	890,695	1,260,014	756,101	2,921,274	3,677,375
2014[d]	360,381	49,753	410,134	291,228	570,586	861,814	651,609	620,339	1,271,948
2015	534,088	627,827	1,161,915	589,810	1,029,077	1,618,887	1,123,898	1,656,904	2,780,802
2016	418,290	968,018	1,386,308	348,023	819,333	1,167,356	766,313	1,787,351	2,553,664
2017	453,257	695,497	1,148,754	339,303	363,823	703,126	792,560	1,059,320	1,851,880
2018[e]	263,979	128	264,107	275,718	0	275,718	539,697	128	539,825
2019	345,918	14,996	360,914	336,077	623,788	959,865	681,995	638,784	1,320,779
2020	137,213	0	137,213	193,765	0	193,765	330,978	0	330,978
2021	244,384	41	244,425	396,558	118,798	515,356	640,942	118,839	759,781
2022[f,g]	412,228	14,492	426,720	395,858	277,446	673,304	808,086	291,938	1,100,024
2023	431,283	259,678	690,961	457,071	816,472	1,273,543	888,354	1,076,150	1,964,504
Averages									
2003–2022	371,552	653,454	1,025,007	328,584	541,970	870,554	700,137	1,195,424	1,895,561
2013–2022	355,652	440,133	795,785	353,566	469,355	822,921	709,218	909,488	1,618,706
2018–2022	280,744	5,931	286,676	319,595	204,006	523,602	600,340	209,938	810,277

[a] Includes Cape Igvak and Southeastern District Mainland (SEDM) harvests considered Chignik-bound as defined in regulation. However, portions of the harvests from Cape Igvak and SEDM from 1970 to 1979 were not considered Chignik-bound by regulation but were included in this table for comparison purposes.

[b] Does not include subsistence caught fish.

[c] Includes harvests from the Chignik Lagoon test fishery and fish retained for home pack.

[d] Historically, estimated total escapement for early-run sockeye salmon was based on Chignik River weir counts through July 4, based on scale pattern analysis studies. After July 4, sockeye salmon through the weir were considered late-run escapement. From 2014 through 2017, inseason genetic samples were used to determine the apportionment of the 2 runs instead of the July 4 date.

[e] Starting in 2018, the apportionment of the 2 runs was determined inseason using a model developed from genetic information from all previous years. Numbers were adjusted post season after processing of inseason genetic information occurred.

[f] Starting in 2022, the apportionment of the 2 runs was determined from genetic information from all previous years. Numbers were adjusted postseason by modeling probability density functions with an Expectation-Maximization algorithm.

[g] Starting in 2022, Western Alaska Salmon Stock Identification Program data were used to apportion Chignik Management Area sockeye salmon harvest that was Chignik River system bound for the run reconstruction.

Table 21.–Chignik sockeye salmon forecasts and actual runs, by run and year, 1994–2023, in millions of fish.

	Early run			Late run			Total run		
Year	Forecast	Actual	Difference	Forecast	Actual	Difference	Forecast	Actual	Difference
1994	1.80	2.36	0.56	1.30	0.61	-0.69	3.10	2.98	-0.12
1995	1.90	1.03	-0.87	0.90	1.69	0.79	2.80	2.72	-0.08
1996	1.40	2.15	0.75	1.60	0.99	-0.61	3.00	3.14	0.14
1997	1.00	0.63	-0.37	1.60	0.91	-0.69	2.60	1.55	-1.05
1998	0.90	0.72	-0.18	1.10	1.11	0.01	2.00	1.83	-0.17
1999	1.05	2.48	1.43	1.29	1.98	0.69	2.34	4.46	2.12
2000	3.90	2.11	-1.79	1.09	0.84	-0.25	4.99	2.96	-2.03
2001	1.00	1.31	0.31	0.91	1.61	0.70	1.91	2.91	1.00
2002	1.03	1.06	0.03	1.09	0.91	-0.18	2.12	1.97	-0.15
2003	1.64	0.99	-0.65	1.19	1.00	-0.19	2.83	1.99	-0.84
2004	1.26	1.09	-0.17	1.08	0.41	-0.67	2.34	1.50	-0.84
2005	1.84	1.46	-0.38	0.55	0.71	0.16	2.39	2.17	-0.22
2006	1.21	0.78	-0.43	0.28	0.96	0.68	1.49	1.74	0.25
2007	1.02	0.60	-0.42	0.90	0.95	0.05	1.92	1.55	-0.37
2008	1.07	0.60	-0.47	0.65	0.79	0.14	1.72	1.39	-0.33
2009	0.85	0.87	0.02	0.54	1.23	0.69	1.39	2.10	0.71
2010	1.08	1.20	0.12	1.11	1.19	0.08	2.19	2.39	0.20
2011	1.30	3.08	1.78	1.02	0.82	-0.20	2.32	3.90	1.58
2012	1.08	1.64	0.56	1.20	1.33	0.13	2.28	2.96	0.68
2013	2.77	2.42	-0.35	1.05	1.26	0.21	3.82	3.68	-0.14
2014	0.79	0.41	-0.38	0.91	0.86	-0.05	1.70	1.27	-0.43
2015	1.32	1.16	-0.16	1.22	1.62	0.40	2.54	2.78	0.24
2016	1.80	1.39	-0.41	1.11	1.17	0.06	2.91	2.56	-0.35
2017	1.26	1.15	-0.11	0.94	0.70	-0.24	2.20	1.85	-0.35
2018	0.85	0.26	-0.59	0.90	0.28	-0.63	1.75	0.54	-1.22
2019	0.83	0.36	-0.47	0.90	0.96	0.06	1.73	1.32	-0.41
2020	0.50	0.14	-0.36	0.80	0.19	-0.61	1.30	0.33	-0.97
2021	0.44	0.24	-0.20	0.47	0.52	0.05	0.91	0.76	-0.15
2022	0.64	0.43	-0.21	0.63	0.67	0.04	1.27	1.10	-0.17
2023	0.92	0.69	-0.23	0.60	1.27	0.67	1.52	1.96	0.44
Averages									
2013–2022	1.12	0.80	-0.32	0.89	0.82	-0.07	2.01	1.62	-0.39
2018–2022	0.65	0.29	-0.37	0.74	0.52	-0.22	1.39	0.81	-0.58

Table 22.–Chignik Management Area coho salmon harvest, by year, 1980–2023.

	Test fish		Commercial catch		Home pack		Total	
Year	Number	Pounds	Number	Pounds	Number	Pounds[a]	Number	Pounds
1980	ND	ND	119,573	771,392	ND	ND	119,573	771,392
1981	ND	ND	78,805	602,603	ND	ND	78,805	602,603
1982	ND	ND	300,273	2,373,268	ND	ND	300,273	2,373,268
1983	ND	ND	61,927	488,203	ND	ND	61,927	488,203
1984	ND	ND	110,128	949,965	ND	ND	110,128	949,965
1985	0	0	191,162	1,709,637	ND	ND	191,162	1,709,637
1986	ND	ND	116,633	867,195	ND	ND	116,633	867,195
1987	0	0	150,414	1,189,803	ND	ND	150,414	1,189,803
1988	0	0	370,420	2,889,427	ND	ND	370,420	2,889,427
1989	0	0	68,233	559,140	ND	ND	68,233	559,140
1990	0	0	130,131	933,745	ND	ND	130,131	933,745
1991	42	253	165,583	1,182,704	ND	ND	165,625	1,182,957
1992	1	8	310,942	2,362,683	ND	ND	310,943	2,362,691
1993	356	2,024	229,103	1,459,220	ND	ND	229,459	1,461,244
1994	103	506	237,101	1,996,320	ND	ND	237,204	1,996,826
1995	0	0	280,605	2,062,086	913	6,709	281,518	2,068,795
1996	0	0	193,226	1,485,947	20	154	193,246	1,486,101
1997	0	0	90,908	756,509	0	0	90,908	756,509
1998	0	0	129,512	1,045,823	27	218	129,539	1,046,041
1999	0	0	89,410	617,320	200	1,381	89,610	618,701
2000	0	0	123,222	943,536	0	0	123,222	943,536
2001	0	0	131,441	1,012,153	7	54	131,448	1,012,207
2002	0	0	49,208	360,781	164	1,202	49,372	361,983
2003	44	287	103,778	857,097	74	611	103,896	857,995
2004	0	0	37	283	0	0	37	283
2005	0	0	6,951	46,970	5	30	6,956	47,000
2006	0	0	39,046	290,720	175	1,312	39,221	292,032
2007	0	0	73,221	543,761	56	416	73,277	544,177
2008	0	0	161,536	1,290,277	0	0	161,536	1,290,277
2009	0	0	110,373	732,346	0	0	110,373	732,346
2010	0	0	159,198	1,137,878	0	0	159,198	1,137,878
2011	0	0	76,776	519,422	16	147	76,792	519,569
2012	0	0	33,316	225,799	0	0	33,316	225,799
2013	0	0	32,284	226,235	28	277	32,312	226,512
2014	0	0	132,459	1,091,310	0	0	132,459	1,091,310
2015	0	0	82,049	523,519	5	31	82,054	523,550
2016	0	0	94,397	658,376	0	0	94,397	658,376
2017	0	0	226,730	1,561,675	99	766	226,829	1,562,441
2018	0	0	1	4	0	0	1	4
2019	0	0	248,281	1,581,396	1	6	248,282	1,581,402

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Table 22.–Page 2 of 2.

	Test fish		Commercial catch		Home pack		Total	
Year	Number	Pounds	Number	Pounds	Number	Pounds[a]	Number	Pounds
2020	0	0	0	0	0	0	0	0
2021	0	0	84,452	531,432	1	4	84,453	531,436
2022	0	0	40,099	234,658	0	0	40,099	234,658
2023	0	0	52,644	270,734	0	0	52,644	270,734
Averages								
2003–2022	2	14	85,249	602,658	23	180	85,274	602,852
2013–2022	0	0	94,075	640,861	13	108	94,089	640,969
2018–2022	0	0	74,567	469,498	0	2	74,567	469,500

Note: No reliable estimates (ND) were available for some years.

[a] Weights of home pack fish are not reported on fish tickets; therefore, the weights were calculated from the average weight of the commercial harvest for that year.

Table 23.–Chignik Management Area coho salmon harvest (including home pack and the department's test fishery catches), by district and year, 1980–2023.

	District					
Year	Chignik Bay	Central	Eastern	Western	Perryville	Total
1980	49,784	7,167	13,872	34,631	14,119	119,573
1981	35,578	8,693	6,222	22,047	6,265	78,805
1982	132,262	6,564	31,476	122,707	7,264	300,273
1983	29,519	330	441	27,173	4,464	61,927
1984	72,722	1,705	403	33,263	2,035	110,128
1985	156,553	7,111	3,203	23,357	938	191,162
1986	60,197	3,027	1,033	33,726	18,650	116,633
1987	77,333	3,806	7	58,688	10,580	150,414
1988	94,292	21,628	6,167	207,086	41,247	370,420
1989	68,231	2	0	0	0	68,233
1990	61,260	27,659	32	23,422	17,758	130,131
1991	56,574	9,294	1,187	57,373	41,197	165,625
1992	80,946	19,612	4,260	140,560	65,565	310,943
1993	48,808	36,421	4,240	84,056	55,934	229,459
1994	70,541	19,794	176	110,476	36,217	237,204
1995	54,646	46,975	458	88,116	91,323	281,518
1996	45,361	35,440	33	91,587	20,825	193,246
1997	32,847	45,878	1,801	9,139	1,243	90,908
1998	23,070	32,743	1,227	55,359	17,140	129,539
1999	23,144	24,308	3,095	36,405	2,658	89,610
2000	11,620	37,943	2,555	69,599	1,505	123,222
2001	10,007	31,062	2,303	86,580	1,496	131,448
2002	8,461	4,442	0	36,283	186	49,372
2003	37,800	7,632	0	55,225	3,239	103,896
2004	37	0	0	0	0	37
2005	510	730	12	5,045	659	6,956
2006	7,057	2,170	1	29,993	0	39,221
2007	11,790	12,830	420	47,525	712	73,277
2008	46,400	7,647	1,052	97,153	9,284	161,536
2009	9,570	13,276	2,888	80,395	4,244	110,373
2010	17,469	27,982	3,109	104,886	5,752	159,198
2011	1,801	12,915	354	50,504	11,218	76,792
2012	6,545	4,667	36	22,037	31	33,316
2013	4,146	8,238	521	16,770	2,637	32,312
2014	6,550	17,584	653	98,345	9,327	132,459
2015	712	27,257	454	48,950	4,681	82,054
2016	4,604	41,515	55	26,940	21,283	94,397
2017	5,488	11,677	1,626	164,510	43,528	226,829
2018	[a]	[a]	[a]	[a]	[a]	[a]
2019	32,365	47,639	32,142	116,720	19,416	248,282

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Table 23.–Page 2 of 2.

Year	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
2020	0	0	0	0	0	0
2021	4,227	4,248	166	73,245	2,567	84,453
2022	378	4,877	33	24,313	10,498	40,099
2023	1,299	2,879	2,139	42,970	3,357	52,644
Averages						
2003–2022	10,817	13,287	2,289	56,554	7,303	85,738
2013–2022	7,182	18,092	3,961	63,057	11,497	93,410
2018–2022	10,520	15,891	8,484	88,619	16,378	111,913

[a] Confidentiality requirements prevent the release of this information.

Table 24.–Chignik Management Area coho salmon harvest (including home pack and the department's test fishery catches), by district and statistical week, 2023.

		District				
Date	Deliveries	Chignik Bay	Central	Eastern	Western	Perryville
6/28–7/4	[a]	[a]	[a]	[a]	[a]	[a]
7/5–7/10	3	5	0	0	0	0
7/12–7/18	14	1	0	0	6,471	558
7/19–7/25	12	18	38	0	2,400	459
7/26–8/1	41	1	1,080	0	16,614	1,803
8/2–8/8	46	144	744	44	5,121	496
8/9–8/15	56	121	574	276	7,828	41
8/16–8/22	72	822	443	1,433	4,039	0
8/23–8/29	17	187	0	386	489	0
8/30–9/5	0	0	0	0	0	0
Total	261	1,299	2,879	2,139	42,962	3,357

[a] Confidentiality requirements prevent the release of this information.

Table 25.–Chignik Management Area pink salmon harvest, by year, 1980–2023.

	Test fish		Commercial catch		Home pack		Total	
Year	Number	Pounds	Number	Pounds	Number	Pounds[a]	Number	Pounds
1980	ND	ND	1,093,184	3,635,145	ND	ND	1,093,184	3,635,145
1981	ND	ND	1,162,613	4,479,368	ND	ND	1,162,613	4,479,368
1982	ND	ND	873,384	2,916,671	ND	ND	873,384	2,916,671
1983	ND	ND	321,178	1,200,888	ND	ND	321,178	1,200,888
1984	ND	ND	444,804	1,651,249	ND	ND	444,804	1,651,249
1985	0	0	160,128	643,731	ND	ND	160,128	643,731
1986	ND	ND	647,125	2,374,311	ND	ND	647,125	2,374,311
1987	0	0	246,775	899,560	ND	ND	246,775	899,560
1988	0	0	2,997,159	10,723,505	ND	ND	2,997,159	10,723,505
1989	0	0	27,712	94,269	ND	ND	27,712	94,269
1990	0	0	550,008	1,675,644	ND	ND	550,008	1,675,644
1991	2,660	9,237	1,166,588	3,348,394	ND	ND	1,169,248	3,357,631
1992	114	536	1,553,959	5,798,623	ND	ND	1,554,073	5,799,159
1993	1,826	5,539	1,646,551	5,308,258	ND	ND	1,648,377	5,313,797
1994	14	55	431,049	1,494,604	ND	ND	431,063	1,494,659
1995	0	0	2,057,998	7,350,386	0	0	2,057,998	7,350,386
1996	0	0	183,806	536,218	5,262	15,351	189,068	551,569
1997	0	0	844,431	2,784,333	0	0	844,431	2,784,333
1998	0	0	776,988	2,586,026	0	0	776,988	2,586,026
1999	0	0	1,698,651	4,845,435	0	0	1,698,651	4,845,435
2000	0	0	428,064	1,183,004	0	0	428,064	1,183,004
2001	0	0	1,281,760	4,077,814	7	22	1,281,767	4,077,836
2002	66	276	65,984	206,385	0	0	66,050	206,661
2003	570	2,167	501,661	1,951,928	407	1,584	502,638	1,955,679
2004	0	0	2,380	7,589	0	0	2,380	7,589
2005	8	48	193,803	611,023	234	813	194,045	611,884
2006	0	0	383,574	1,403,428	0	0	383,574	1,403,428
2007	0	0	2,019,748	7,388,012	0	0	2,019,748	7,388,012
2008	0	0	2,389,958	8,192,350	0	0	2,389,958	8,192,350
2009	0	0	1,408,339	4,502,661	0	0	1,408,339	4,502,661
2010	0	0	489,774	1,663,961	7	24	489,781	1,663,985
2011	58	154	905,108	2,882,546	0	0	905,166	2,882,700
2012	0	0	137,684	452,160	22	65	137,706	452,225
2013	3	6	871,868	2,610,880	0	0	871,871	2,610,886
2014	16	60	352,099	1,138,241	0	0	352,115	1,138,301
2015	77	195	1,978,134	5,843,570	0	0	1,978,211	5,843,765
2016	18	69	140,895	563,390	0	0	140,913	563,459
2017	184	551	7,077,740	25,305,344	0	0	7,077,924	25,305,895
2018	0	0	6	15	0	0	6	15
2019	0	0	2,452,838	7,583,891	0	0	2,452,838	7,583,891

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Table 25.–Page 2 of 2.

	Test fish		Commercial catch		Home pack		Total	
Year	Number	Pounds	Number	Pounds	Number	Pounds[a]	Number	Pounds
2020	0	0	0	0	0	0	0	0
2021	0	0	1,321,454	4,165,914	0	0	1,321,454	4,165,914
2022	0	0	1,043,282	3,734,549	0	0	1,043,282	3,734,549
2023	0	0	2,143,701	6,243,599	0	0	2,143,701	6,243,599
Odd-year averages								
2003–2022	90	312	1,873,069	6,284,577	64	240	1,873,223	6,285,129
2013–2022	53	150	2,740,407	9,101,920	0	0	2,740,460	9,102,070
2018–2022	0	0	1,887,146	5,874,903	0	0	1,887,146	5,874,903

Note: No reliable estimates (ND) were available for some years.

[a] Weights of home pack fish are not reported on fish tickets; therefore, they were calculated from the average weight of the commercial harvest.

Table 26.–Chignik Management Area pink salmon harvest (including home pack and the department's test fishery catches), by district and year, 1980–2023.

	District					
Year	Chignik Bay	Central	Eastern	Western	Perryville	Total
1980	180,912	108,682	472,510	216,460	114,620	1,093,184
1981	121,380	210,023	173,293	433,605	224,312	1,162,613
1982	82,973	80,606	89,074	602,408	18,323	873,384
1983	27,284	7,861	7,817	164,338	113,878	321,178
1984	165,178	47,250	57,715	173,820	841	444,804
1985	14,429	16,087	6,570	80,577	42,465	160,128
1986	191,264	44,127	49,635	200,793	161,306	647,125
1987	13,887	7,769	2,079	187,701	35,339	246,775
1988	119,794	318,370	1,006,366	1,141,382	411,247	2,997,159
1989	27,691	21	0	0	0	27,712
1990	94,528	233,677	40,574	135,810	45,419	550,008
1991	76,163	173,967	27,979	419,264	471,875	1,169,248
1992	178,105	205,750	183,119	628,900	358,199	1,554,073
1993	55,909	205,037	52,755	685,605	649,071	1,648,377
1994	59,425	99,149	12,952	174,641	84,896	431,063
1995	106,939	469,745	8,572	791,718	681,024	2,057,998
1996	1,804	20,717	7,201	100,871	58,475	189,068
1997	39,461	603,575	72,347	118,003	11,045	844,431
1998	26,054	233,732	66,725	343,187	107,290	776,988
1999	59,001	664,208	40,571	771,411	163,460	1,698,651
2000	28,067	271,417	10,500	106,147	11,933	428,064
2001	75,142	641,438	97,438	424,537	43,212	1,281,767
2002	10,253	17,580	0	36,918	1,299	66,050
2003	56,042	88,736	267	326,239	31,354	502,638
2004	2,378	2	0	0	0	2,380
2005	71,438	99,491	21	20,952	2,143	194,045
2006	62,419	79,726	79,465	161,964	0	383,574
2007	187,670	612,921	43,379	1,152,331	23,447	2,019,748
2008	232,444	369,298	416,520	1,062,482	309,214	2,389,958
2009	77,569	317,085	275,791	711,890	26,004	1,408,339
2010	30,683	183,008	43,264	225,716	7,110	489,781
2011	30,707	225,307	54,288	368,351	226,513	905,166
2012	10,096	55,030	4,946	67,523	111	137,706
2013	76,473	218,685	197,293	192,861	186,559	871,871
2014	11,663	98,984	2,964	226,008	12,496	352,115
2015	81,541	686,374	13,783	993,349	203,164	1,978,211
2016	3,110	85,346	10,142	25,000	17,315	140,913
2017	432,898	728,427	574,879	2,930,711	2,411,009	7,077,924
2018	[a]	[a]	[a]	[a]	[a]	[a]
2019	153,279	380,257	735,710	925,305	258,287	2,452,838

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Table 26.–Page 2 of 2.

Year	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
2020	0	0	0	0	0	0
2021	89,975	71,841	8,447	1,079,397	71,794	1,321,454
2022	20,431	179,961	2,073	452,194	388,623	1,043,282
2023	179,512	180,526	470,393	1,267,273	45,997	2,143,701
Odd-year averages						
2003–2022	114,327	311,739	173,078	791,035	312,752	1,702,931
2013–2022	139,028	347,598	255,019	1,020,271	521,803	2,283,717
2018–2022	121,627	226,049	372,079	1,002,351	165,041	1,887,146

[a] Confidentiality requirements prevent the release of this information.

Table 27.–Chignik Management Area pink salmon harvest (including home pack and the department's test fishery catches), by district and statistical week, 2023.

		District				
Date	Deliveries	Chignik Bay	Central	Eastern	Western	Perryville
6/28–7/4	20	40	404	0	622	0
7/5–7/11	47	745	0	0	0	0
712–7/18	89	1,087	0	0	77,954	4,401
7/19–7/25	99	2,505	5,420	0	14,755	5,503
7/26–8/1	141	5,384	35,761	0	137,632	17,076
8/2–8/8	113	11,581	55,939	30,059	129,616	17,740
8/9–8/15	115	33,137	53,544	131,157	533,624	1,277
8/16–8/22	113	106,620	29,458	217,136	337,010	0
8/23–8/29	25	18,413	0	92,041	36,060	0
8/30–9/5	0	0	0	0	0	0
Total	762	179,512	180,526	470,393	1,267,273	45,997

Note: No harvest occurred after 8/26 due to lack of an available processor.

Table 28.–Chignik Management Area chum salmon harvest, by year, 1980–2023.

	Test fish		Commercial catch		Home pack		Total	
Year	Number	Pounds	Number	Pounds	Number	Pounds[a]	Number	Pounds
1980	ND	ND	252,521	1,765,287	ND	ND	252,521	1,765,287
1981	ND	ND	580,332	4,502,632	ND	ND	580,332	4,502,632
1982	ND	ND	390,096	3,231,403	ND	ND	390,096	3,231,403
1983	ND	ND	159,412	1,205,266	ND	ND	159,412	1,205,266
1984	ND	ND	63,303	485,967	ND	ND	63,303	485,967
1985	0	0	22,805	145,276	ND	ND	22,805	145,276
1986	ND	ND	176,640	1,304,418	ND	ND	176,640	1,304,418
1987	0	0	127,261	943,941	ND	ND	127,261	943,941
1988	0	0	267,775	2,196,377	ND	ND	267,775	2,196,377
1989	0	0	1,624	11,888	ND	ND	1,624	11,888
1990	0	0	270,004	1,757,019	ND	ND	270,004	1,757,019
1991	607	4,260	260,489	1,671,939	ND	ND	261,096	1,676,199
1992	16	140	222,118	1,592,186	ND	ND	222,134	1,592,326
1993	57	300	122,303	735,747	ND	ND	122,360	736,047
1994	521	3,437	226,755	1,627,574	ND	ND	227,276	1,631,011
1995	0	0	380,949	2,814,987	5	37	380,954	2,815,024
1996	0	0	99,791	779,840	21,100	164,891	120,891	944,731
1997	0	0	155,905	1,196,999	0	0	155,905	1,196,999
1998	0	0	128,841	917,648	155	1,104	128,996	918,752
1999	0	0	140,594	1,064,433	3	0	140,597	1,064,433
2000	0	0	120,957	1,033,665	0	0	120,957	1,033,665
2001	0	0	198,874	1,609,533	129	1,044	199,003	1,610,577
2002	46	334	54,513	406,382	0	0	54,559	406,716
2003	137	1,394	63,907	447,921	0	0	64,044	449,315
2004	0	0	505	3,803	0	0	505	3,803
2005	2	15	8,704	63,379	115	825	8,821	64,219
2006	0	0	61,630	450,686	0	0	61,630	450,686
2007	0	0	78,552	648,355	1	8	78,553	648,363
2008	0	0	209,325	1,726,108	0	0	209,325	1,726,108
2009	0	0	256,424	1,922,522	1	9	256,425	1,922,531
2010	0	0	581,329	4,437,042	0	0	581,329	4,437,042
2011	11	91	269,492	1,857,512	0	0	269,503	1,857,603
2012	0	0	170,872	1,533,079	240	1,780	171,112	1,534,859
2013	0	0	154,965	1,196,565	0	0	154,965	1,196,565
2014	3	24	55,149	458,475	0	0	55,152	458,499
2015	16	113	101,001	656,047	0	0	101,017	656,160
2016	17	139	118,418	805,140	0	0	118,435	805,279
2017	66	495	609,105	4,643,283	65	514	609,236	4,644,292
2018	0	0	924	7,121	0	0	924	7,121
2019	0	0	157,517	1,037,197	0	0	157,517	1,037,197

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Table 28.–Page 2 of 2.

	Test fish		Commercial catch		Home pack		Total	
Year	Number	Pounds	Number	Pounds	Number	Pounds[a]	Number	Pounds
2020	0	0	0	0	0	0	0	0
2021	0	0	43,187	279,236	0	0	43,187	279,236
2022	0	0	70,886	423,585	0	0	70,886	423,585
2023	0	0	109,695	724,568	0	0	109,695	724,568
Averages								
2003–2022	13	114	150,595	1,129,853	21	157	150,628	1,130,123
2013–2022	10	77	131,115	950,665	7	51	131,132	950,793
2018–2022	0	0	54,503	349,428	0	0	54,503	349,428

Note: No reliable estimates (ND) were available for some years.

[a] Weights of home pack fish are not reported on all fish tickets; therefore, they were calculated from the average weight of the commercial harvest.

Table 29.–Chignik Management Area chum salmon harvest (including home pack and the department's test fishery catches), by district and year, 1980–2023.

	District					
Year	Chignik Bay	Central	Eastern	Western	Perryville	Total
1980	19,944	38,902	56,805	91,868	45,002	252,521
1981	38,061	160,730	108,668	221,579	51,294	580,332
1982	16,034	33,669	64,513	253,299	22,581	390,096
1983	16,747	9,815	8,250	101,959	22,641	159,412
1984	8,173	8,150	21,134	25,364	482	63,303
1985	4,905	5,242	864	10,704	1,090	22,805
1986	18,167	29,502	17,880	74,070	37,021	176,640
1987	5,163	9,437	8,890	86,898	16,873	127,261
1988	7,013	39,316	77,511	102,730	41,205	267,775
1989	1,587	34	3	0	0	1,624
1990	11,460	113,741	27,463	91,603	25,737	270,004
1991	17,545	51,429	4,925	98,603	88,594	261,096
1992	12,711	45,569	61,209	65,466	37,179	222,134
1993	8,116	43,306	21,157	25,045	24,736	122,360
1994	25,250	69,552	4,333	94,116	34,025	227,276
1995	14,588	107,066	8,074	158,273	92,953	380,954
1996	782	46,993	19,837	36,303	16,976	120,891
1997	20,978	104,259	11,397	16,280	2,991	155,905
1998	7,352	43,191	5,180	41,425	31,848	128,996
1999	12,150	75,495	11,332	37,089	4,531	140,597
2000	8,389	66,904	8,045	34,823	2,796	120,957
2001	11,534	84,132	50,911	37,466	14,960	199,003
2002	3,949	9,643	513	40,337	117	54,559
2003	10,891	11,304	50	39,883	1,916	64,044
2004	499	6	0	0	0	505
2005	2,370	5,329	2	1,054	66	8,821
2006	2,303	9,455	776	49,096	0	61,630
2007	3,829	19,595	7,851	46,943	335	78,553
2008	13,453	40,130	58,925	88,078	8,739	209,325
2009	14,553	62,149	59,800	116,231	3,692	256,425
2010	27,388	226,501	116,336	204,911	6,193	581,329
2011	9,077	116,580	51,989	75,363	16,494	269,503
2012	5,523	88,120	21,227	56,125	117	171,112
2013	9,202	57,356	45,268	38,237	4,902	154,965
2014	4,329	20,750	610	26,578	2,885	55,152
2015	5,683	39,373	2,768	48,080	5,113	101,017
2016	5,141	57,563	21,654	26,992	7,085	118,435
2017	16,879	102,373	141,406	265,306	83,272	609,236
2018	[a]	[a]	[a]	[a]	[a]	924
2019	12,205	52,173	15,249	50,675	27,215	157,517

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Table 29.–Page 2 of 2.

Year	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
2020	0	0	0	0	0	0
2021	3,820	8,844	5,186	23,176	2,161	43,187
2022	7,863	6,656	107	40,988	15,272	70,886
2023	10,258	22,713	9,111	63,815	3,798	109,695
Averages						
2003–2022	7,750	46,223	27,460	59,918	9,276	143,500
2013–2022	6,512	34,530	23,225	52,068	14,797	131,132
2018–2022	4,778	13,577	4,108	23,098	8,942	54,503

[a] Confidentiality requirements prevent the release of this information.

Table 30.–Chignik Management Area chum salmon harvest (including home pack and the department's test fishery catches), by district and statistical week, 2023.

		District				
Date	Deliveries	Chignik Bay	Central	Eastern	Western	Perryville
6/28–7/4	9	14	1,253	0	1,645	0
7/5–7/11	19	340	0	0	0	0
712–7/18	20	508	0	0	6,250	422
7/19–7/25	21	853	731	0	4,522	516
7/26–8/1	29	1,020	8,980	0	19,536	1,417
8/2–8/8	29	1,976	8,283	254	14,034	1,395
8/9–8/15	26	1,728	2,658	3,368	7,392	48
8/16–8/22	25	3,502	808	4,410	9,822	0
8/23–8/29	12	317	0	1,079	614	0
8/30–9/5	0	0	0	0	0	0
Total	190	10,258	22,713	9,111	63,815	3,798

Note: No harvest occurred after 8/26 due to lack of an available processor.

Table 31.–Value of the commercial salmon harvest, by species, and average value per active permit, in dollars, in the Chignik Management Area, 1970–2023.

	Chinook		Sockeye		Coho		Pink		Chum			Number of	Value per
Year	Total[a]	Average[b]	Total[a]	Average[b]	Total[a]	Average[b]	Total[a]	Average[b]	Total[a]	Average[b]	Total value	permits[c]	permit
1970	6,129	77	2,190,272	27,378	18,397	230	635,673	7,946	376,025	4,700	3,226,496	80	40,331
1971	6,472	84	2,034,279	26,419	23,240	302	366,693	4,762	326,760	4,244	2,757,444	77	35,811
1972	2,028	25	825,498	10,319	35,699	446	48,401	605	87,759	1,097	999,385	80	12,492
1973	5,255	67	3,030,057	38,355	73,663	932	20,610	261	10,180	129	3,139,765	79	39,744
1974	2,941	31	3,618,781	38,498	31,933	340	64,069	682	51,125	544	3,768,849	94	40,094
1975	6,561	76	1,384,271	16,096	213,539	2,483	104,115	1,211	61,704	717	1,770,190	86	20,584
1976	13,800	179	4,751,000	61,701	138,000	1,792	568,300	7,381	183,600	2,384	5,654,700	77	73,438
1977	18,828	214	14,553,720	165,383	104,819	1,191	920,881	10,465	368,066	4,183	15,966,314	88	181,435
1978	56,700	597	15,653,500	164,774	116,400	1,225	1,131,500	11,911	404,500	4,258	17,362,600	95	182,764
1979	32,050	311	11,345,503	110,151	710,192	6,895	2,622,269	25,459	126,866	1,232	14,836,880	103	144,047
1980	67,657	651	5,532,290	53,195	520,655	5,006	1,477,060	14,203	1,061,963	10,211	8,659,625	104	83,266
1981	75,231	716	17,262,119	164,401	439,900	4,190	1,881,334	17,917	2,431,421	23,156	22,090,005	105	210,381
1982	75,276	731	13,038,510	126,587	1,782,027	17,301	578,184	5,613	1,356,597	13,171	16,830,594	103	163,404
1983	96,159	943	10,728,088	105,177	219,650	2,153	240,171	2,355	421,713	4,134	11,705,781	102	114,763
1984	114,502	1,145	20,402,076	204,021	759,972	7,600	330,916	3,309	146,024	1,460	21,753,490	100	217,535
1985	67,088	633	7,997,834	75,451	1,471,418	13,881	140,076	1,321	59,475	561	8,735,891	106	82,414
1986	84,800	831	16,882,290	165,513	667,740	6,546	356,147	3,492	456,546	4,476	18,447,523	102	180,858
1987	72,739	706	24,783,033	240,612	1,035,129	10,050	269,868	2,620	339,819	3,299	26,500,588	103	257,287
1988	286,740	2,839	14,350,354	142,083	4,153,424	41,123	6,771,266	67,042	2,189,293	21,676	27,751,077	101	274,763
1989	78,999	790	13,047,378	130,474	436,892	4,369	32,994	330	4,745	47	13,601,008	100	136,010
1990	185,256	1,834	22,509,923	222,871	700,309	6,934	502,693	4,977	878,510	8,698	24,776,691	101	245,314
1991	50,027	490	11,002,784	107,870	650,626	6,379	402,916	3,950	502,860	4,930	12,609,213	102	123,620
1992	193,326	1,914	12,552,025	124,277	1,323,107	13,100	811,882	8,038	414,005	4,099	15,294,345	101	151,429
1993	175,690	1,722	8,210,106	80,491	730,622	7,163	637,666	6,252	184,012	1,804	9,938,096	102	97,432
1994	38,096	385	10,046,245	101,477	1,094,415	11,055	226,504	2,288	430,888	4,352	11,836,148	99	119,557
1995	60,174	602	11,969,210	119,692	834,337	8,343	977,811	9,778	634,780	6,348	14,476,312	100	144,763
1996	25,041	250	12,640,560	126,406	447,228	4,472	24,827	248	32,279	323	13,169,935	100	131,699
1997	20,642	211	4,860,589	49,598	453,905	4,632	348,042	3,551	239,400	2,443	5,922,577	98	60,434
1998	31,934	376	6,631,192	78,014	397,413	4,675	310,323	3,651	137,647	1,619	7,508,509	85	88,335

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Table 31.–Page 2 of 3.

Year	Chinook		Sockeye		Coho		Pink		Chum		Total value	Number of permits[c]	Value per permit
	Total[a]	Average[b]	Total[a]	Average[b]	Total[a]	Average[b]	Total[a]	Average[b]	Total[a]	Average[b]			
1999	27,212	302	21,132,550	234,806	170,931	1,899	578,861	6,432	118,547	1,317	22,028,101	90	244,757
2000	16,336	165	11,812,368	119,317	283,061	2,859	106,470	1,075	93,030	940	12,311,264	99	124,356
2001	12,205	133	7,419,339	80,645	263,160	2,860	366,714	3,986	209,239	2,274	8,270,657	92	89,898
2002	3,516	36	4,564,214	46,103	36,078	364	10,333	104	40,671	411	4,654,812	99	47,018
2003	20,212	202	5,283,962	52,840	173,625	1,736	182,100	1,821	71,140	711	5,731,039	100	57,310
2004	26,191	262	3,568,350	35,684	59	1	835	8	647	6	3,596,082	100	35,961
2005	36,060	377	6,314,036	64,429	11,280	115	55,070	562	10,917	111	6,427,363	98	65,585
2006	26,895	560	4,703,317	97,986	105,132	2,190	126,309	2,631	81,123	1,690	5,042,776	48	105,058
2007	26,176	476	4,154,210	75,531	195,754	3,559	1,034,322	18,806	162,089	2,947	5,572,550	55	101,319
2008	15,249	282	4,121,611	76,326	778,282	14,413	1,810,965	33,536	533,358	9,877	7,259,465	54	134,435
2009	30,714	558	7,058,058	128,328	220,824	4,015	800,530	14,555	520,791	9,469	8,630,917	55	156,926
2010	160,076	2,463	9,549,462	146,915	566,191	8,711	565,941	8,707	1,774,763	27,304	12,616,433	65	194,099
2011	57,524	899	21,469,153	335,456	278,391	4,350	1,040,264	16,254	919,586	14,369	23,764,918	64	371,327
2012	47,612	690	12,803,505	185,558	97,430	1,412	146,011	2,116	634,705	9,199	13,729,262	69	198,975
2013	37,620	495	21,960,018	288,948	86,953	1,144	868,071	11,422	385,172	5,068	23,337,834	76	307,077
2014	66,875	955	6,040,512	86,293	434,394	6,206	286,942	4,099	185,016	2,643	7,013,739	70	100,196
2015	74,403	1,033	6,600,110	91,668	101,967	1,416	940,236	13,059	164,225	2,281	7,880,941	72	109,458
2016	176,800	2,562	8,044,321	116,584	158,010	2,290	95,776	1,388	161,028	2,334	8,635,935	69	125,158
2017	51,611	770	7,182,853	107,207	546,586	8,158	6,579,390	98,200	1,439,418	21,484	15,799,858	67	235,819
2018	0	0	860	143	1	1	3	1	1,235	206	3,041	6	507

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Table 31.–Page 3 of 3.

Year	Chinook		Sockeye		Coho		Pink		Chum		Total value	Number of permits[c]	Value per permit
	Total[a]	Average[b]	Total[a]	Average[b]	Total[a]	Average[b]	Total[a]	Average[b]	Total[a]	Average[b]			
2019	31,219	612	5,062,351	99,262	506,047	9,922	2,047,651	40,150	363,019	7,118	8,010,287	51	157,064
2020	0	0	0	0	0	0	0	0	0	0	0	0	0
2021	2,812	91	869,049	28,034	143,488	4,629	1,333,092	43,003	120,071	3,873	2,468,512	31	79,629
2022	4,193	120	2,259,129	64,547	51,567	1,473	1,193,624	34,104	176,974	5,056	3,685,488	35	105,300
2023[d]	3,816	109	3,853,339	110,095	26,719	763	1,083,373	30,954	163,062	4,659	5,130,309	35	146,580
Averages													
2003–2022	44,612	670	6,852,243	104,087	222,799	3,787	955,357	17,221	385,264	6,287	8,460,322	59	132,060
2013–2022	44,553	664	5,801,920	88,269	202,901	3,524	1,334,479	24,542	299,616	5,006	7,683,563	48	122,021
2018–2022	7,645	165	1,638,278	38,397	140,221	3,205	914,874	23,451	132,260	3,251	2,833,466	25	68,500

[a] Total value of commercial catch in dollars, by species. Total value does not include home pack or department test fishery.

[b] Average value of commercial catch in dollars, by species. Average value does not include home pack or department test fishery.

[c] Includes the number of commercial permits that received income from the harvest. These figures do not include department test fishery harvests.

[d] Values represent the initial price paid, and do not include any postseason adjustments by any processor. The average 2023 exvessel prices per pound for Chinook salmon was $0.20, sockeye salmon was $0.60, coho salmon was $0.10, pink salmon was $0.17, and chum salmon was $0.23.

Table 32.–Historical number of subsistence permits issued and returned and estimated subsistence salmon harvest, by species and year, 1980–2022.

	Permits		Estimated salmon harvest					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1980	82	37	6	12,475	32	169	478	13,160
1981	29	7	0	2,049	0	0	0	2,049
1982	59	15	3	8,532	12	0	2	8,549
1983	32	21	0	3,078	1,319	850	1,250	6,497
1984	77	64	23	8,747	464	204	330	9,768
1985	59	48	1	7,177	50	25	26	7,279
1986	74	38	4	10,347	205	77	98	10,731
1987	2	1	10	7,021	278	204	261	7,774
1988	80	34	9	9,073	1,455	142	54	10,733
1989	68	23	24	7,551	384	147	81	8,187
1990	72	23	103	8,099	210	115	470	8,997
1991	95	58	42	11,483	13	81	275	11,894
1992	98	19	55	8,648	709	145	305	9,862
1993	201	141	122	14,710	3,765	642	1,265	20,504
1994	219	122	165	13,978	4,055	382	1,720	20,300
1995	111	95	98	9,563	1,191	150	723	11,725
1996	119	104	48	7,357	2,126	355	2,204	12,090
1997	126	103	28	13,442	2,678	840	2,035	19,023
1998	104	72	91	7,750	1,390	186	1,007	10,424
1999	106	88	243	9,040	1,679	136	1,191	12,289
2000	130	112	163	9,561	1,802	517	1,185	13,228
2001	135	122	171	8,633	1,859	213	2,787	13,663
2002	120	86	74	10,092	1,401	23	390	11,980
2003	146	127	267	10,989	2,256	286	1,597	15,395
2004	104	57	88	7,029	1,981	202	1,047	10,347
2005	119	100	224	8,171	2,112	353	730	11,590
2006	113	79	258	8,079	1,539	275	1,035	11,186
2007	128	83	84	10,191	1,936	165	996	13,372
2008	89	69	41	7,189	877	57	619	8,783
2009[a]	95	82	104	6,785	1,174	137	707	8,907
2010[a]	124	90	188	8,148	1,820	222	656	11,034
2011	95	76	52	10,578	1,458	355	1,289	13,732
2012[a]	106	87	116	5,607	1,488	220	810	8,241
2013[a]	112	96	79	6,588	916	164	686	8,433

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Table 32.–Page 2 of 2.

Year	Permits		Estimated salmon harvest					
	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
2014	113	101	148	7,855	1,401	207	339	9,950
2015	123	119	160	9,854	1,393	233	481	12,121
2016	118	93	97	8,150	552	118	251	9,168
2017[a]	97	73	73	6,346	1,470	106	510	8,504
2018[a]	84	69	68	4,538	966	157	399	6,128
2019[a]	84	73	60	4,514	1,094	158	586	6,412
2020[a]	67	63	64	4,188	1,000	123	436	5,811
2021[a]	71	66	48	3,973	863	130	432	5,446
2022[a,b]	59	55	54	3,700	819	119	434	5,126
Averages								
2002–2021	105	84	115	7,443	1,385	185	700	9,827
2012–2021	98	84	91	6,161	1,114	162	493	8,021
2017–2021	81	69	63	4,712	1,079	135	472	6,460

Source: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database.

[a] From 1993 to 2008, 2011, 2014, 2015, and 2016, postseason household surveys were conducted to supplement harvest data collected through returned permits. Limited budgets prevented administering the surveys during 2009–2010, 2012–2013, and 2017–2020, probably resulting in an underestimate of subsistence harvests because not all subsistence fishing households obtained a permit. To compensate for this underestimate, the average annual harvest for postseason surveys was added to harvests to estimate the total subsistence harvest for 2009–2010, 2012–2013, and 2017–2022.

[b] Harvest estimates for 2022 are preliminary.

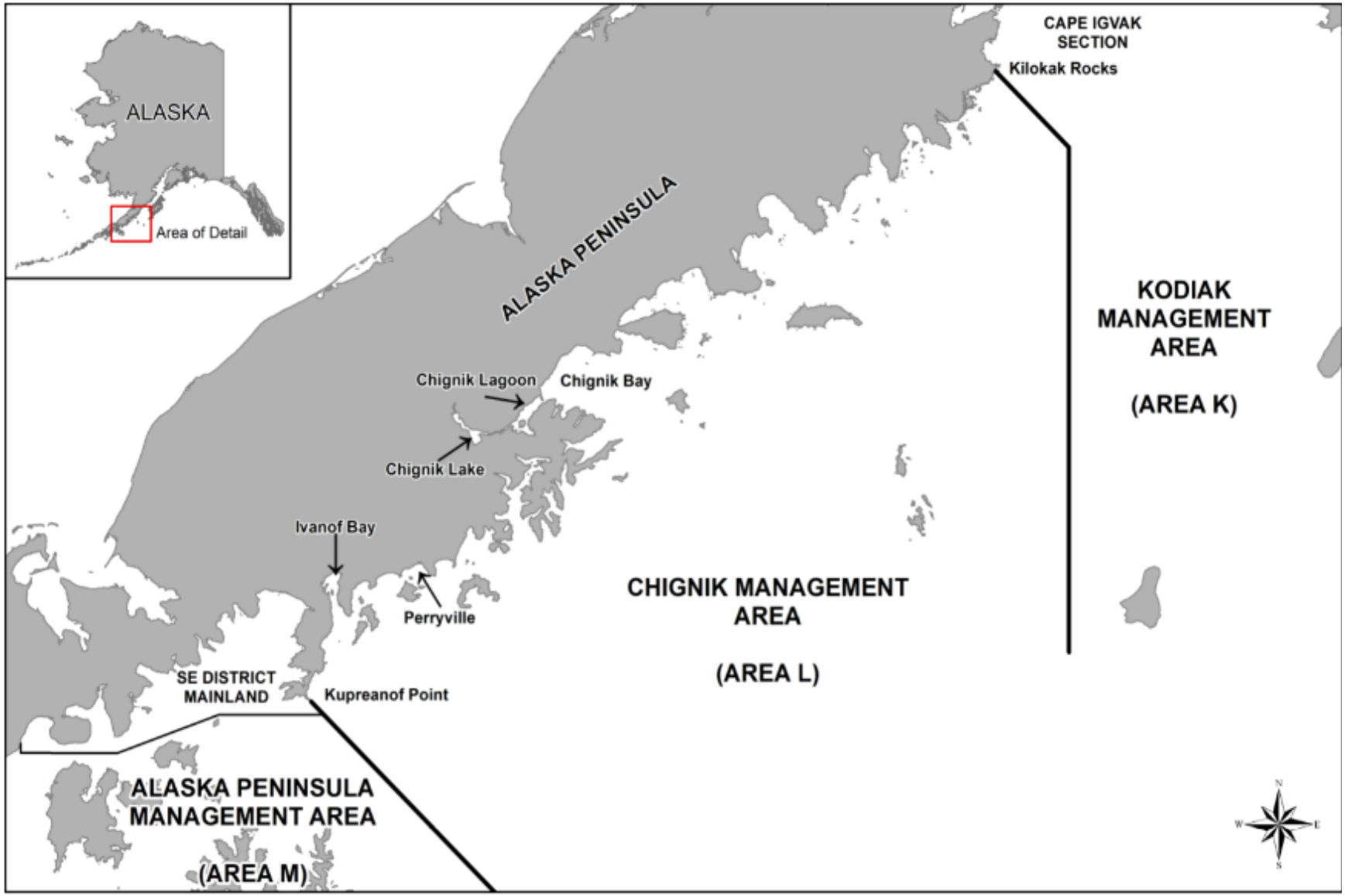

Figure 1.–Map of the Alaska Peninsula illustrating the relative locations of the Chignik, Kodiak, and Alaska Peninsula Management Areas.

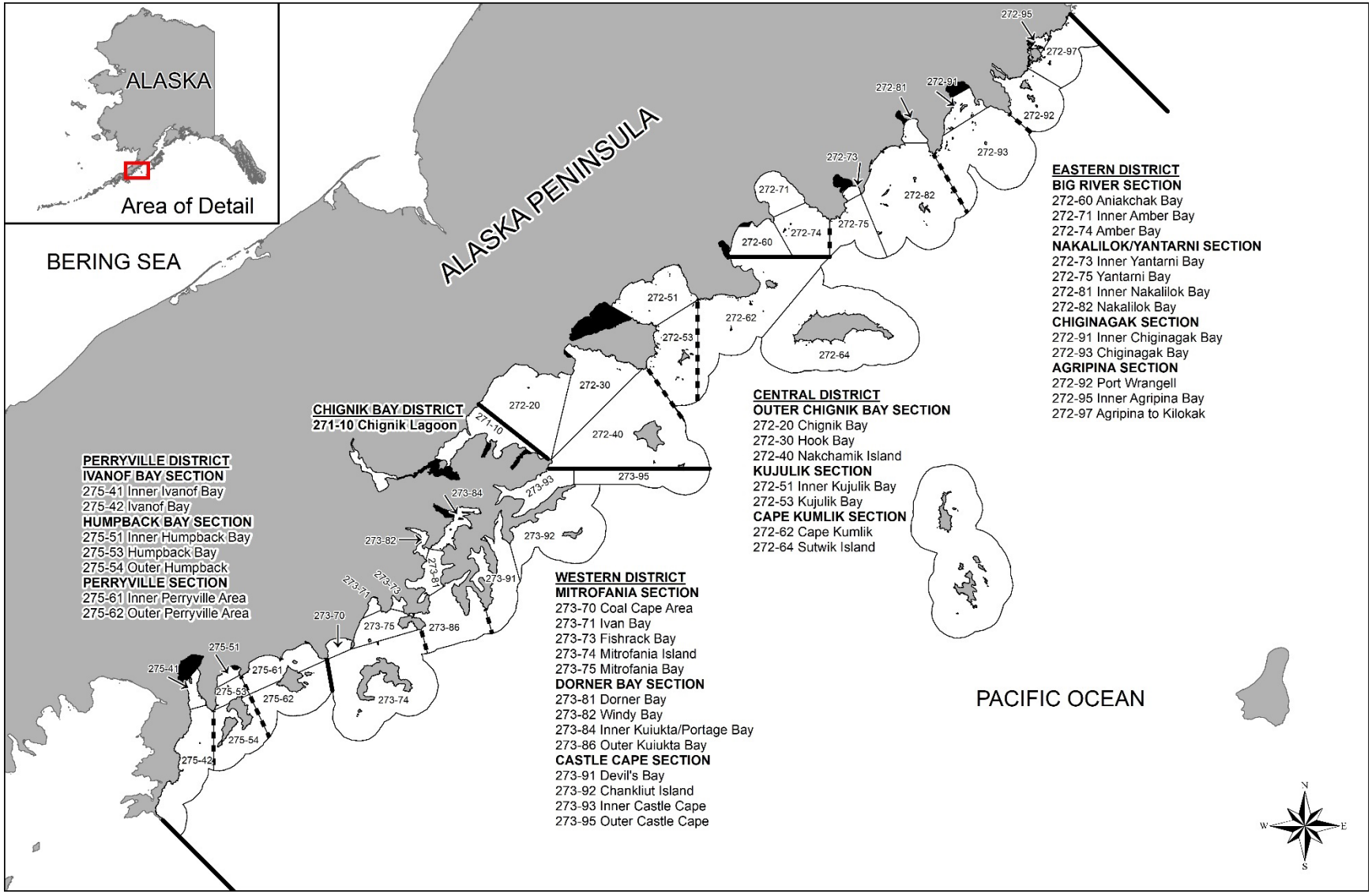

Figure 2.–Map of the Chignik Management Area illustrating district, section, and statistical area boundaries.

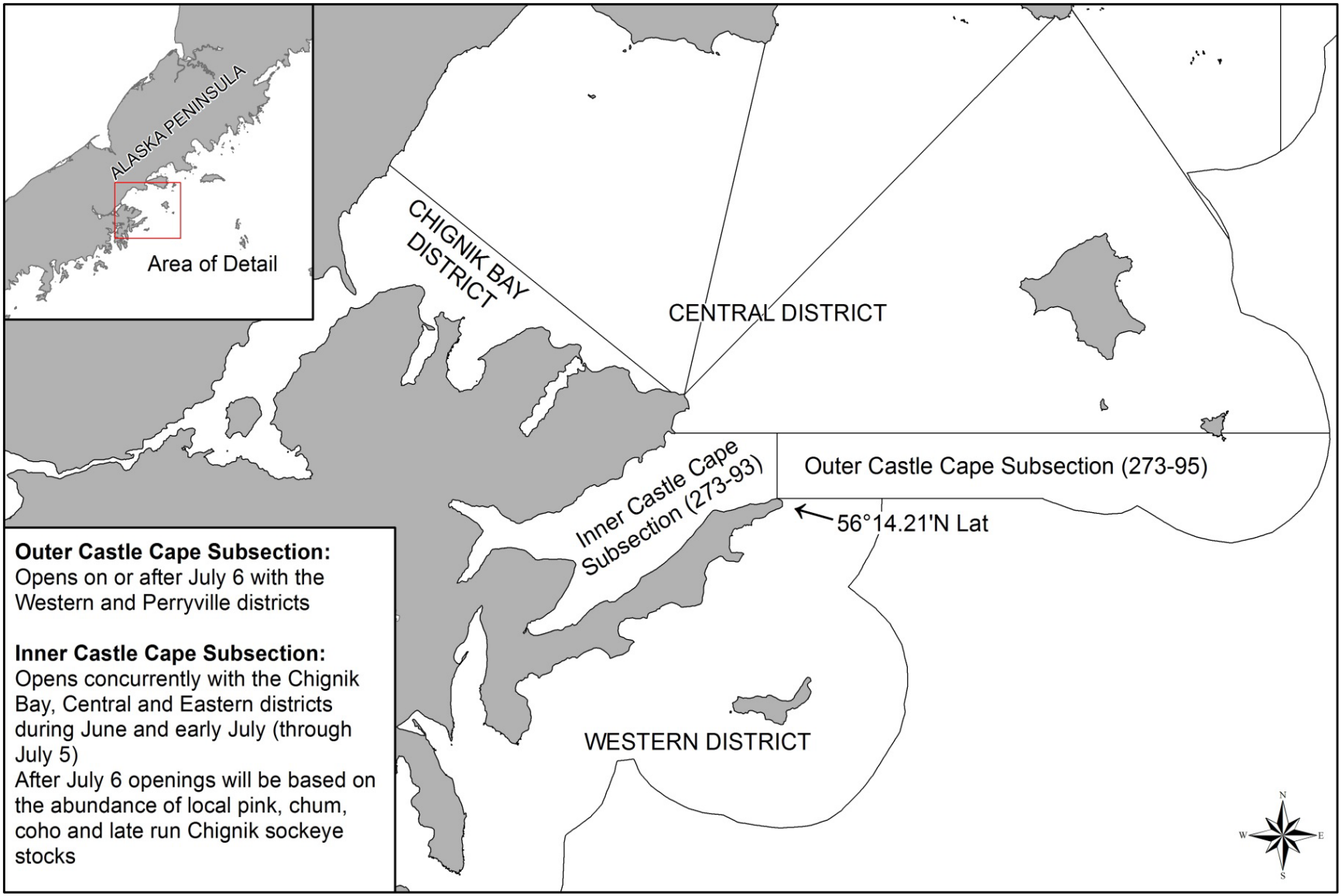

Figure 3.–Map depicting the Inner (273-93) and Outer (273-95) Castle Cape Subsections of the Western District.

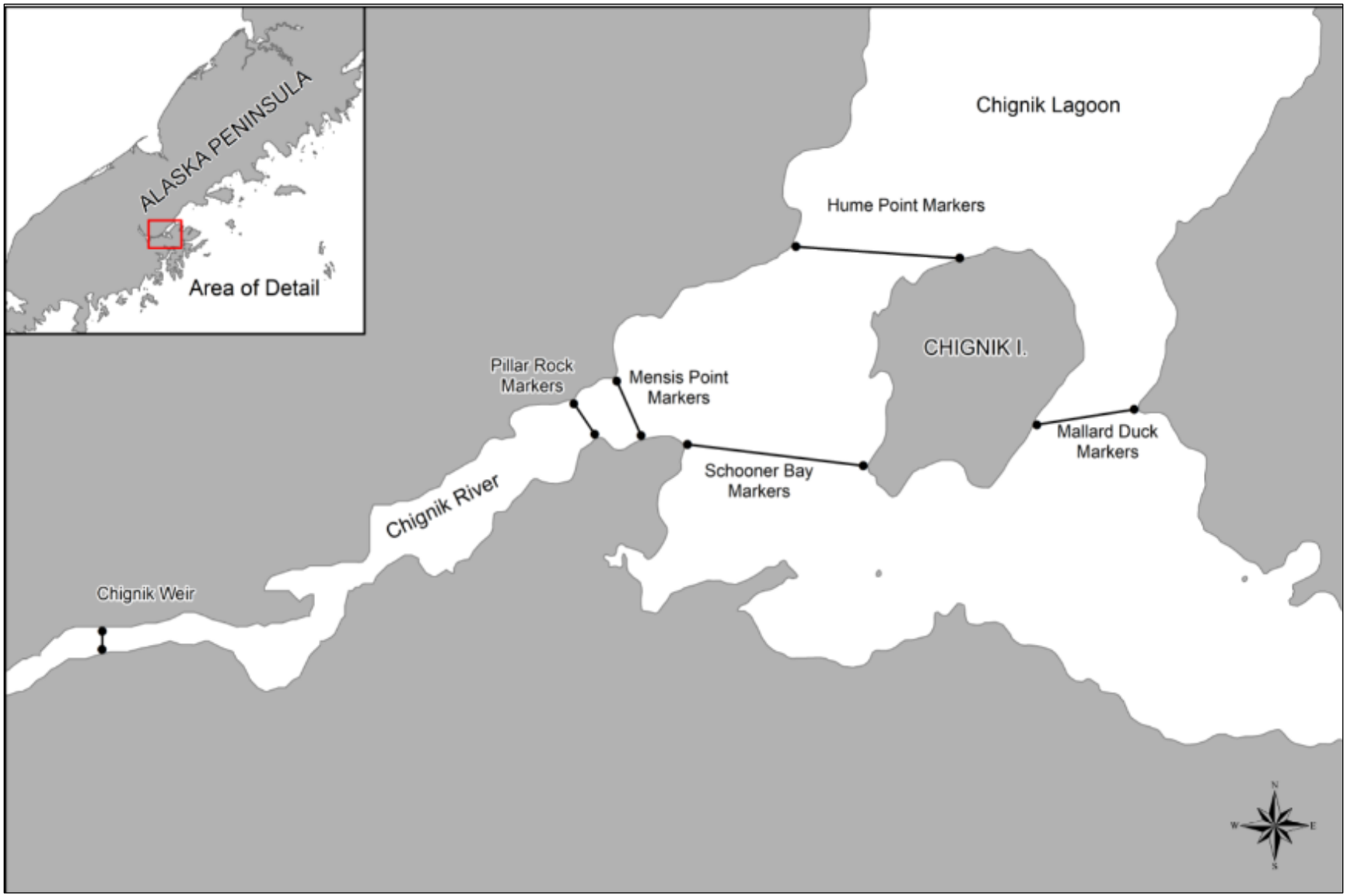

Figure 4.–Map of upper Chignik Lagoon showing the location of the Pillar Rock, Mensis Point, Humes Point, Mallard Duck, and Schooner Bay marker locations.

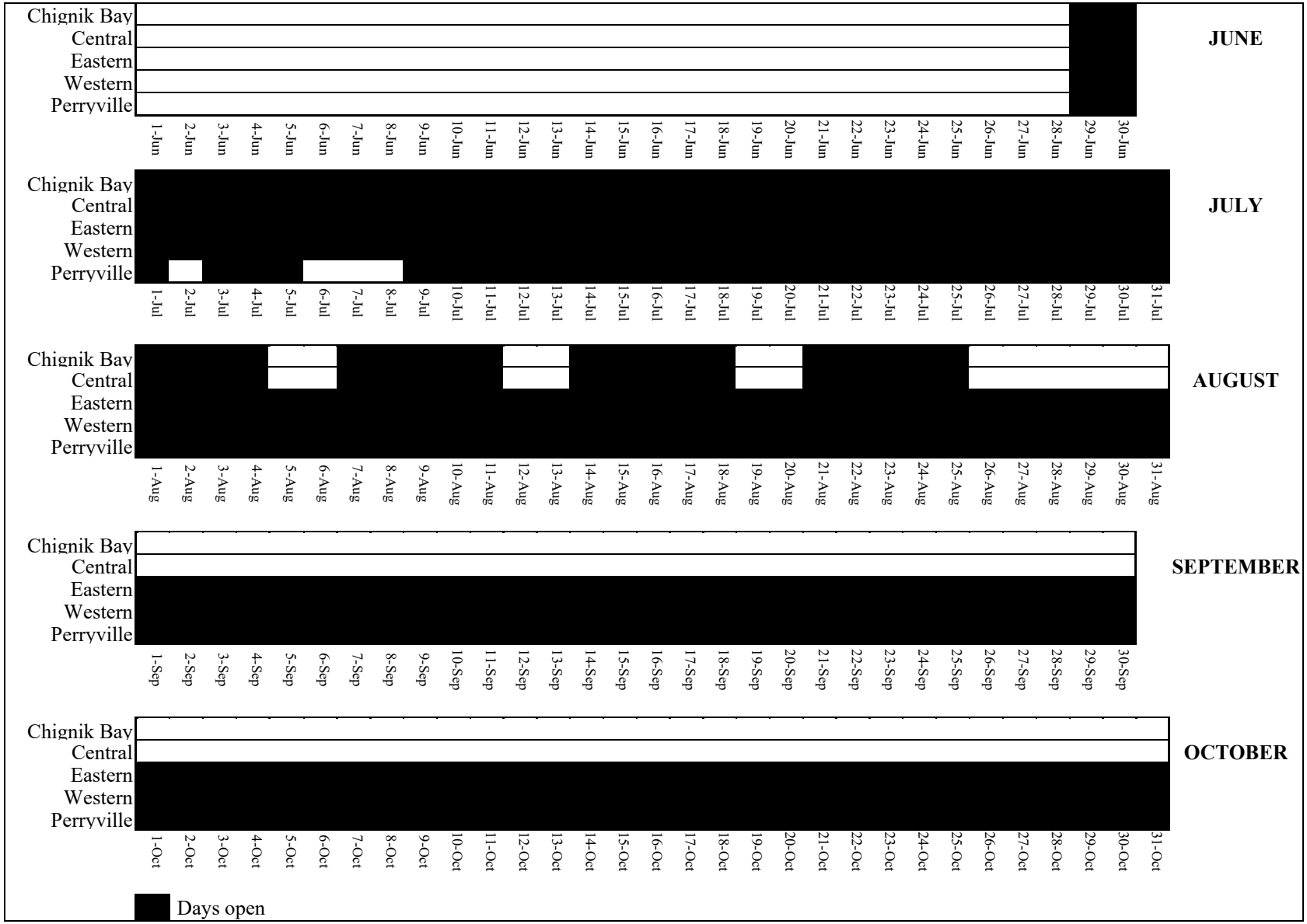

Figure 5.–Representation of days open to commercial salmon fishing, by district for June through October 2023.

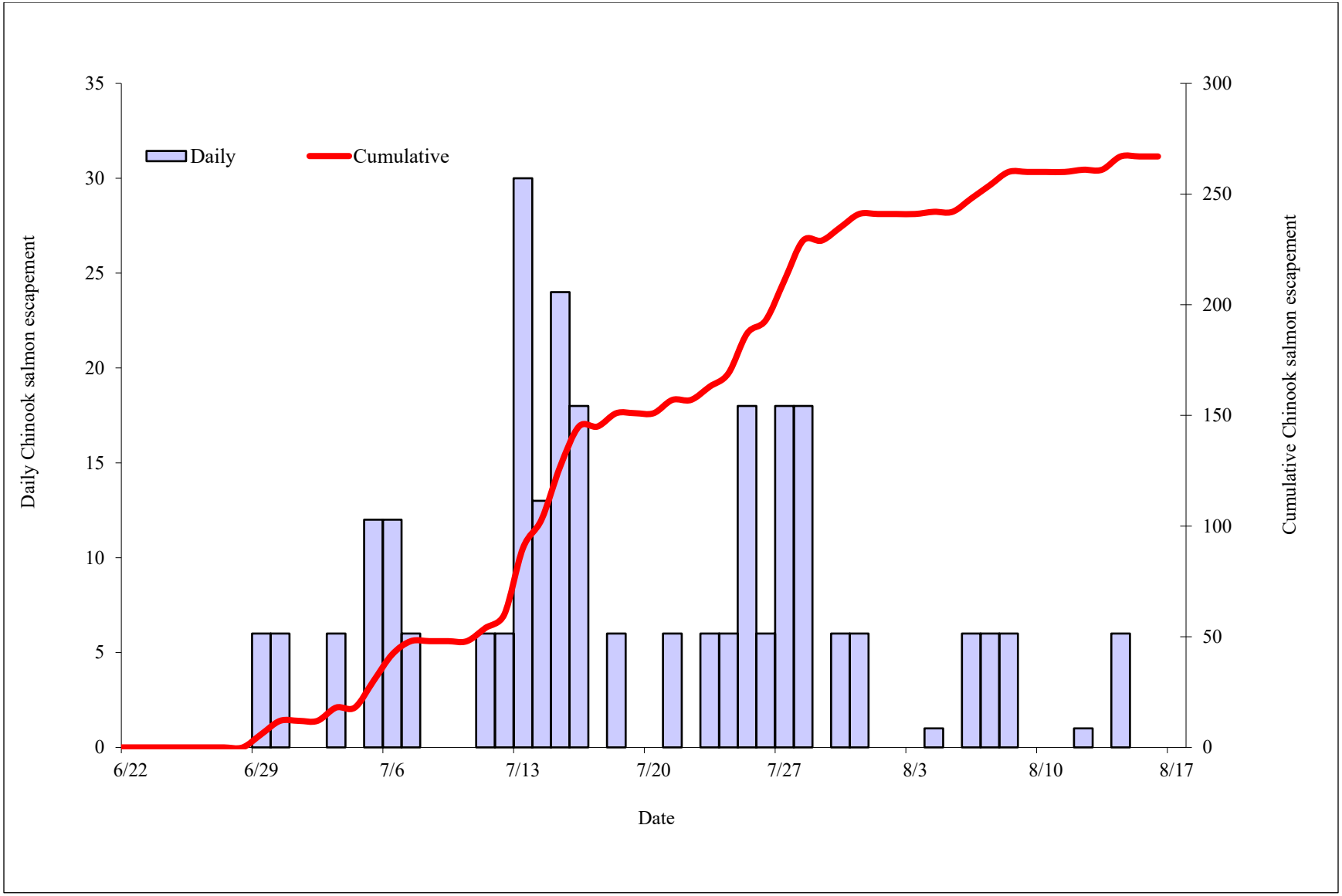

Figure 6.–Chignik River estimated daily and cumulative Chinook salmon escapement, 2023.

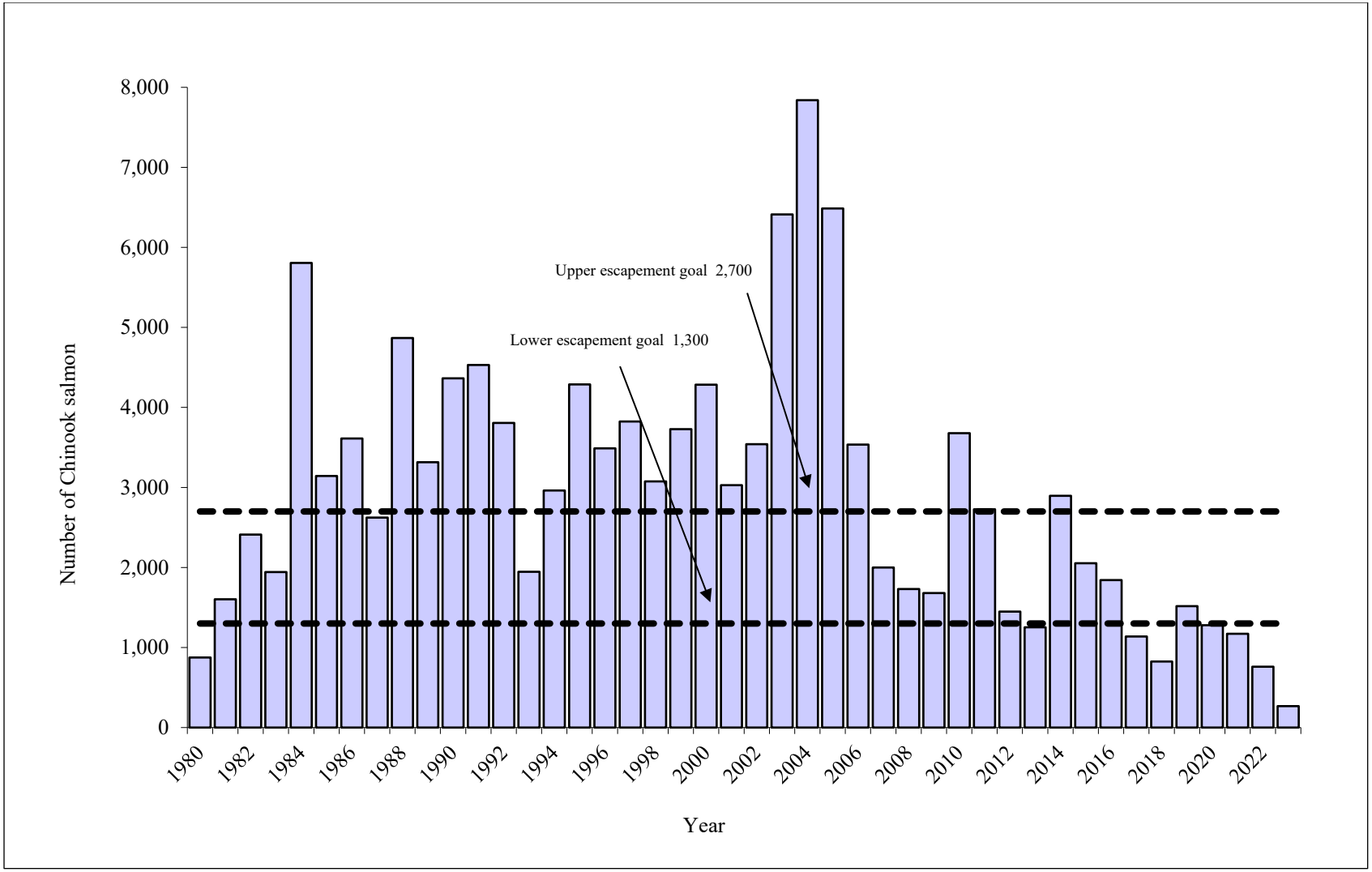

Figure 7.–Chignik River Chinook salmon escapement compared to the current escapement goal range, by year, 1980–2023.

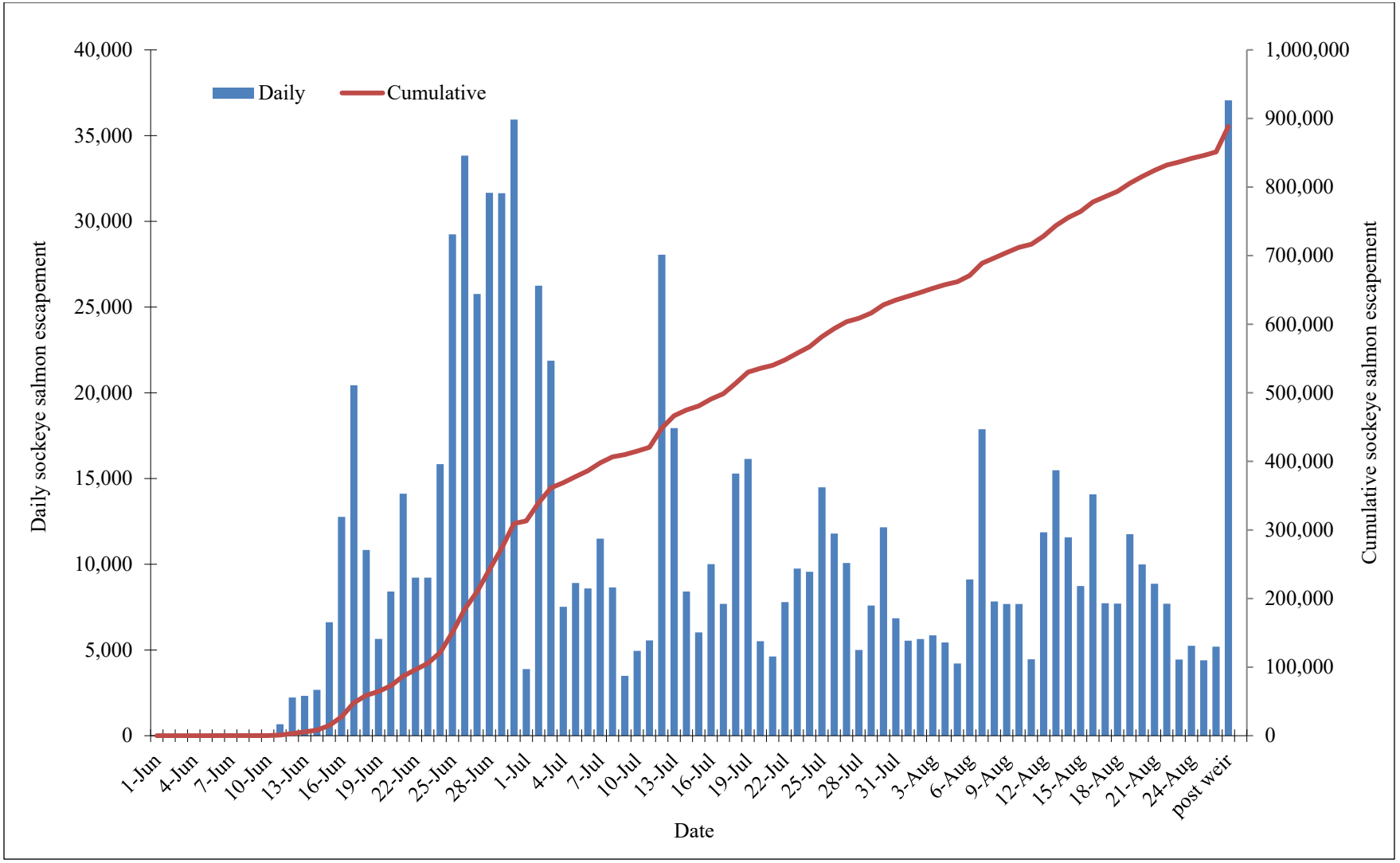

Figure 8.–Chignik River sockeye salmon daily and cumulative escapement (6/1–8/26), including post-weir estimate, 2023.

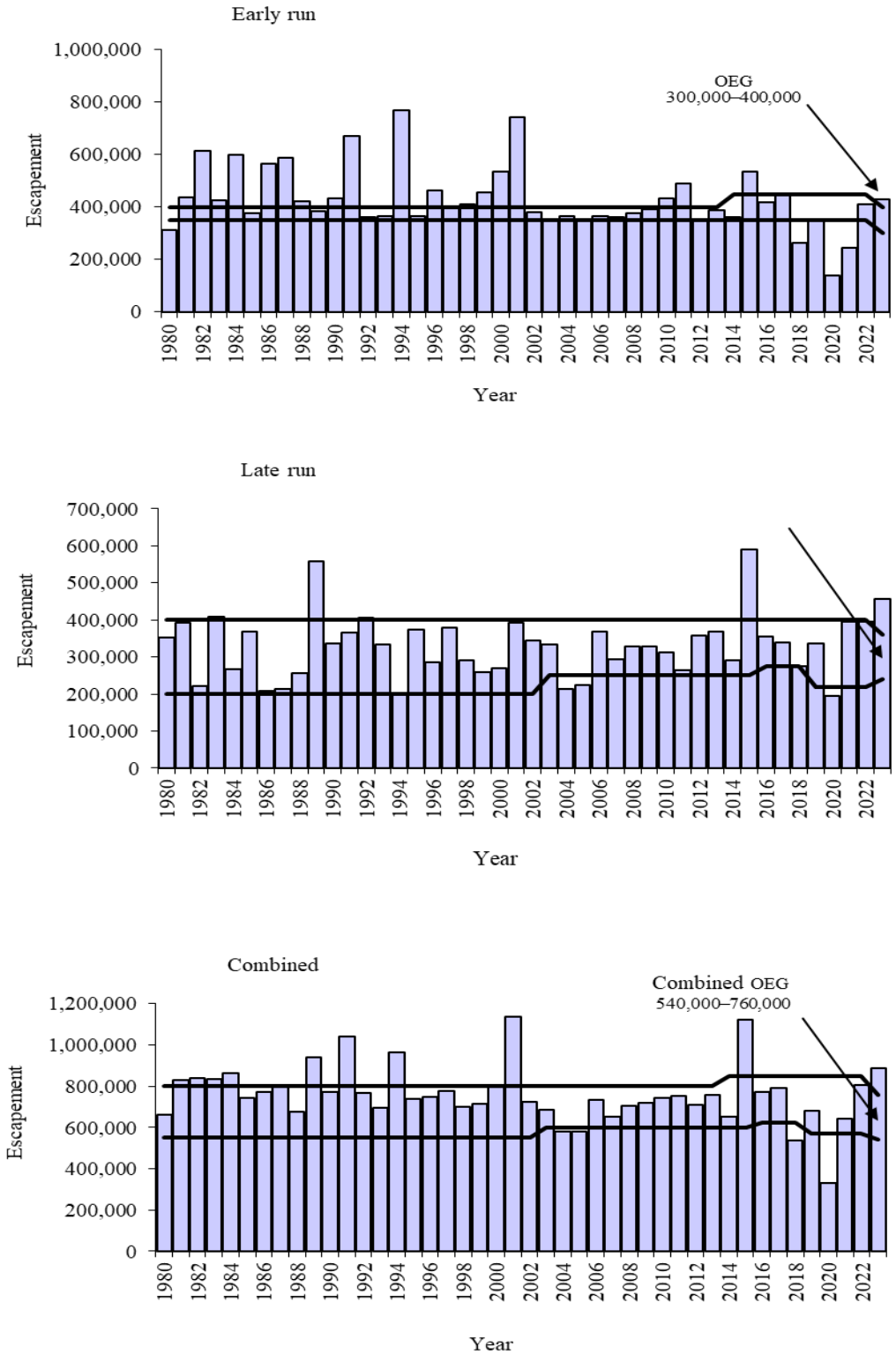

Figure 9.–Chignik River sockeye salmon early, late, and combined-run escapements 1980–2023 compared to established escapement goals.

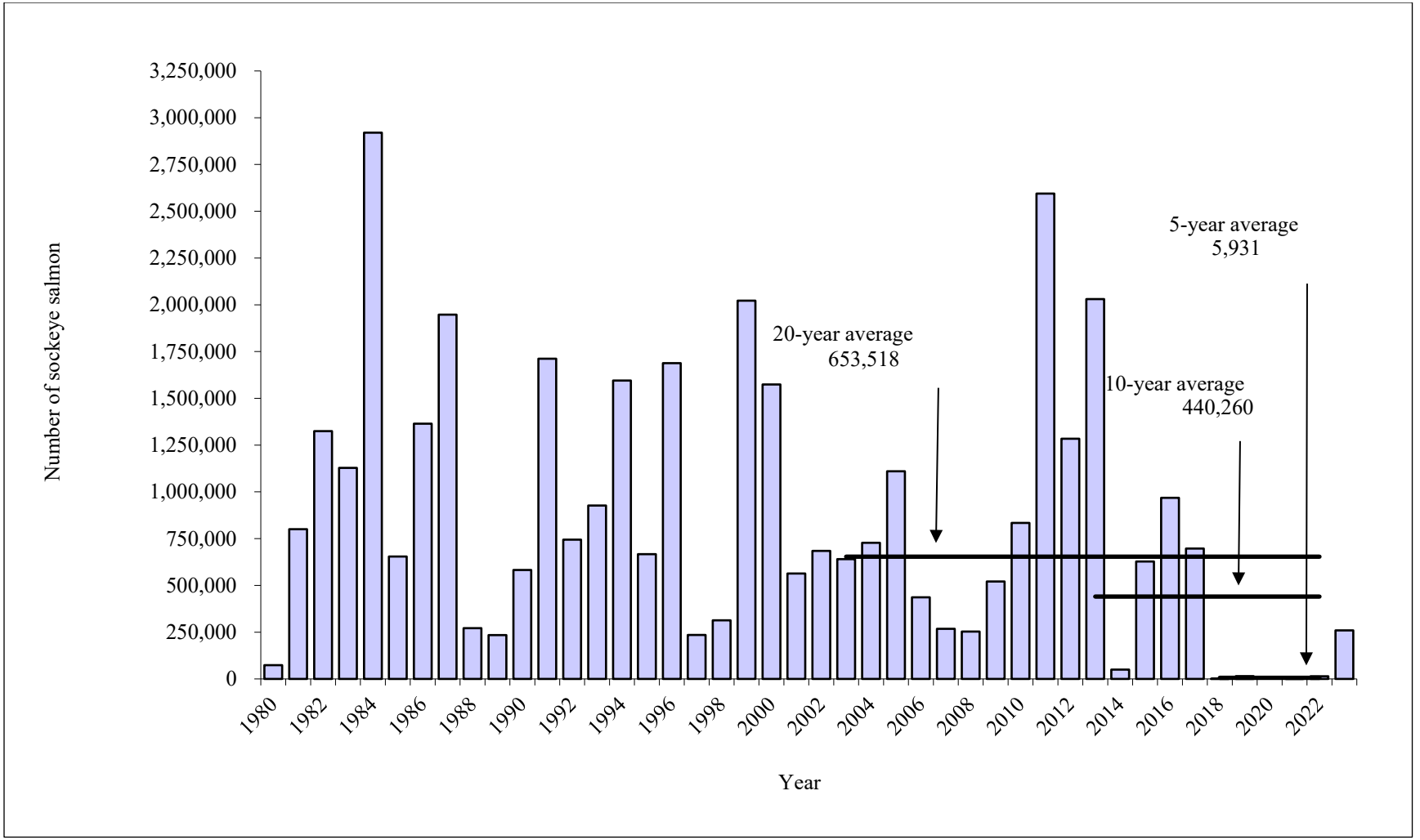

Figure 10.–Chignik-bound sockeye salmon early-run harvest, 1980–2023.

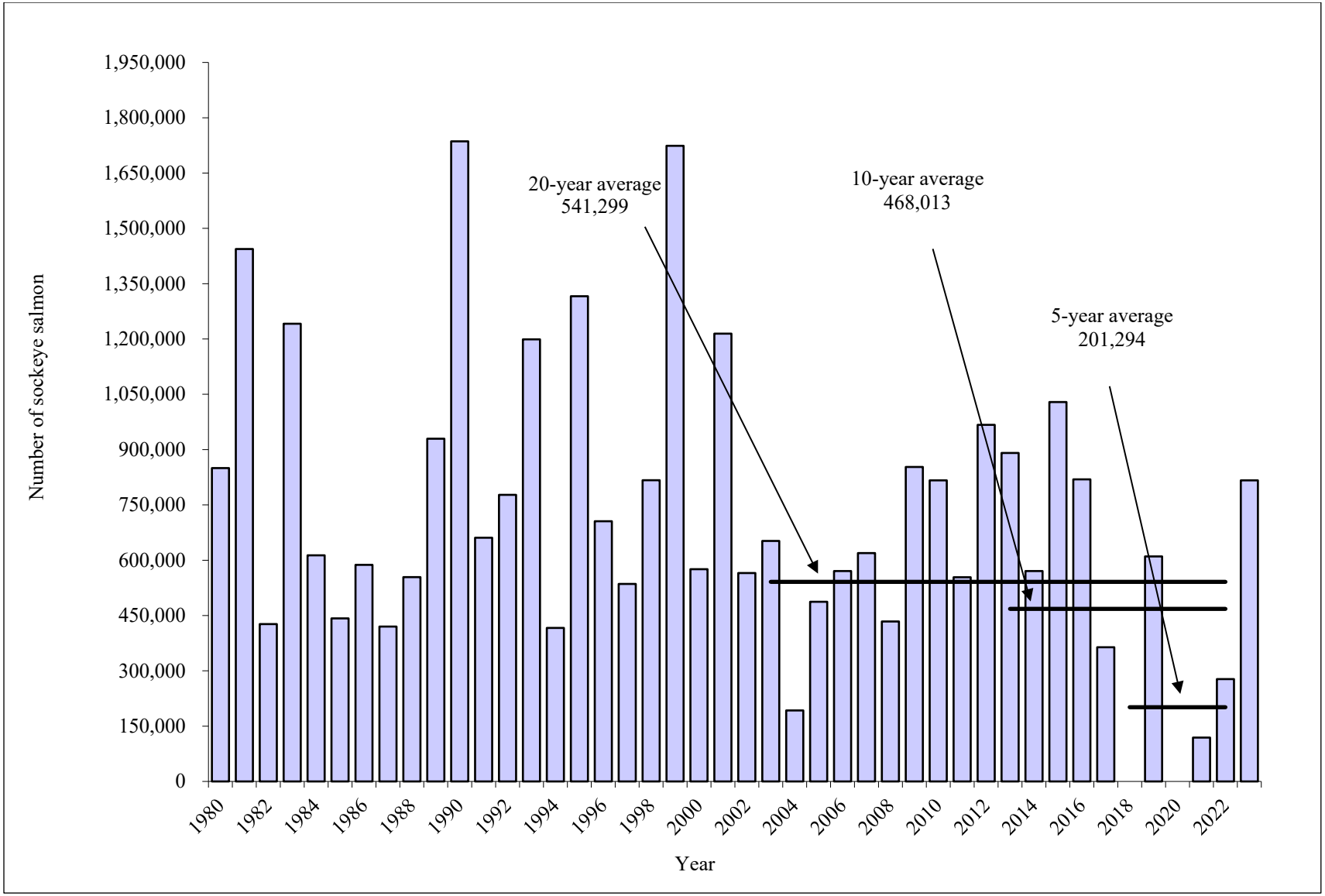

Figure 11.–Chignik-bound sockeye salmon late-run harvest, 1980–2023.

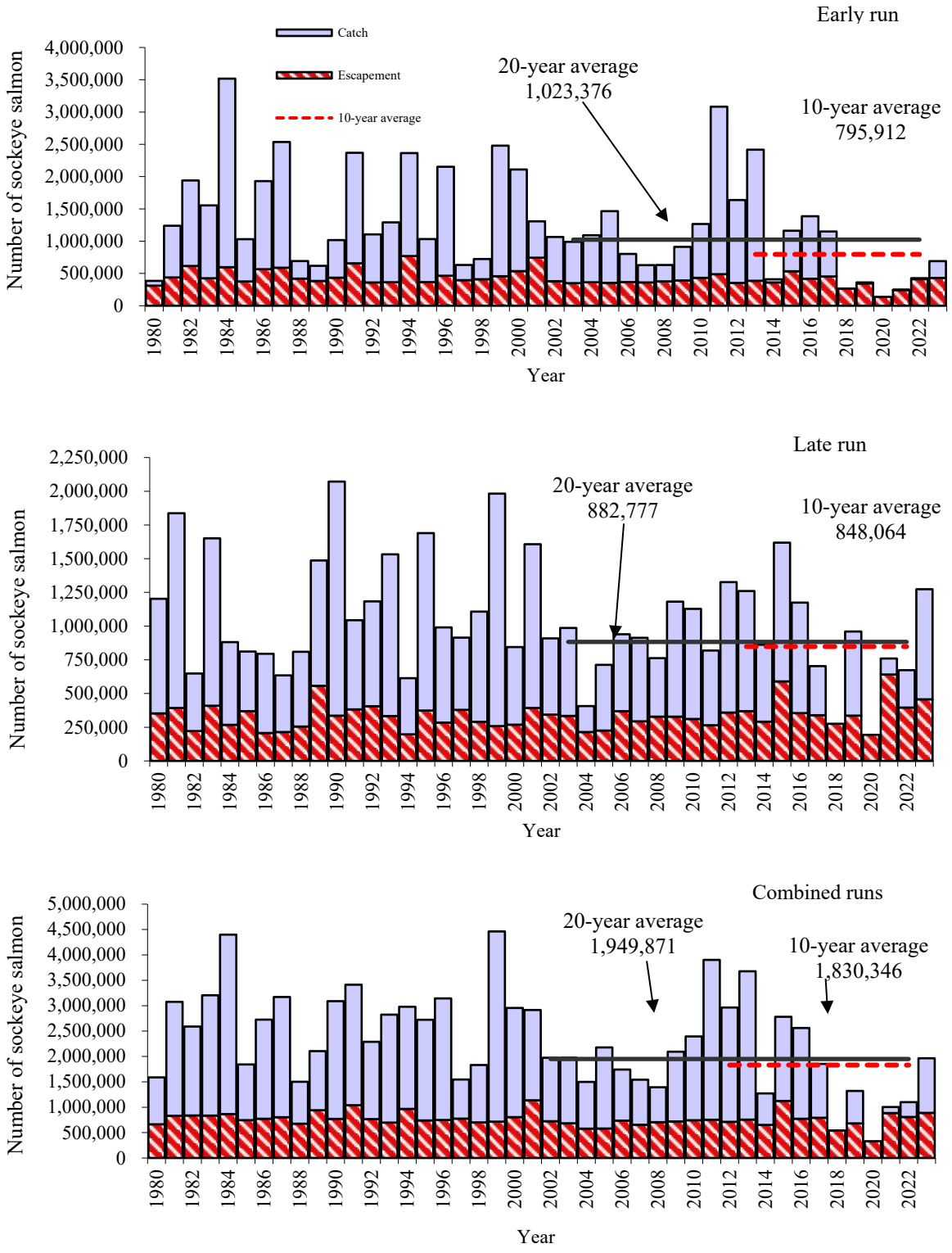

Figure 12.–Total sockeye salmon escapement and catch considered Chignik-bound including home pack, the department's test fishery harvest, and Cape Igvak and Southeastern District Mainland (SEDM) allocations, by year and run, 1980–2023.

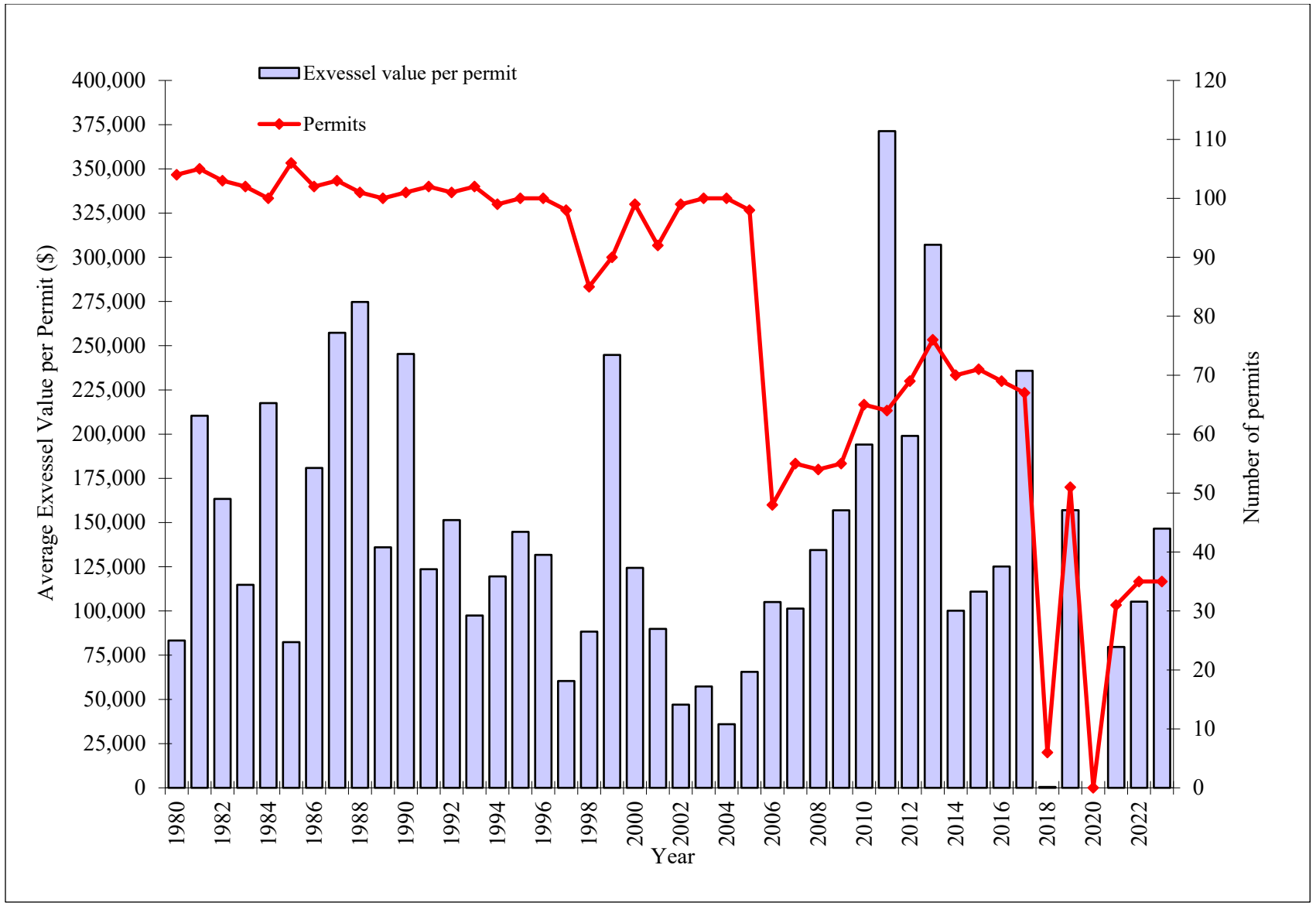

Figure 13.–Average exvessel value per permit and total permits fished by year, 1980–2023.

APPENDIX A.
SUMMARY OF 2023 EMERGENCY ORDERS

Appendix A1.–Summary of the 2023 Chignik Management Area (CMA) emergency orders (EO).

EO Number	Issued	Effective	Action taken
4-FS-L-1-23	12:15 PM 6/27/2023	2:00 PM 6/29/2023	Opens the Eastern, Western, Perryville, Chignik Bay and Central Districts to commercial salmon fishing for 48 hours from 2:00 PM Thursday, June 29, until 2:00 PM Saturday, July 1.
4-FS-L-2-23	4:00 PM 6/29/2023	6:15 AM 6/30/2023	Moves the Chignik Lagoon markers from Humes to Mensis Point starting 6:15 AM Friday, June 30.
4-FS-L-3-23	11:00 AM 6/30/2023	2:00 PM 7/1/2023	Extends the current commercial salmon fishing period in the Eastern, Western, Central, and Chignik Bay Districts for 48 hours, from 2:00 PM Saturday, July 1 until 2:00 PM Monday, July 3.
4-FS-L-4-23	2:00 PM 7/2/2023	2:00 PM 7/3/2023	Extends the current commercial salmon fishing period in the Eastern, Western, Central, and Chignik Bay Districts for 72 hours, from 2:00 PM Monday, July 3 until 2:00 PM Thursday, July 6. Opens the Perryville District to commercial salmon fishing for 48 hours from 2:00 PM Monday, July 3 until 2:00 PM Wednesday, July 5.
4-FS-L-SUB-01-23	9:15 AM 7/3/2023	12:01 AM 7/5/2023	Closes the Chignik River drainage to the retention of Chinook salmon in the subsistence fishery from 12:01 AM July 5, until 11:59 PM August 31.
4-FS-L-5-23	2:00 PM 7/5/2023	2:00 PM 7/6/2023	Extends the current commercial salmon fishing period in the Eastern, Western, Central, and Chignik Bay Districts for 72 hours, from 2:00 PM Thursday, July 6 until 2:00 PM Sunday, July 9.
4-FS-L-6-23	1:00 PM 7/8/2023	2:00 PM 7/9/2023	Extends the current commercial salmon fishing period in the Chignik Bay, Central, Eastern, Western, and Perryville Districts for 96 hours, from 2:00 PM Sunday, July 9 until 2:00 PM Wednesday, July 12. Opens the Perryville District to commercial salmon fishing for 72 hours from 2:00 PM Sunday, July 9 until 2:00 PM Wednesday, July 12.
4-FS-L-7-23	1:00 PM 7/11/2023	2:00 PM 7/12/2023	Extends the current commercial salmon fishing period in the Chignik Bay, Central, Eastern, Western, and Perryville Districts for 96 hours, from 2:00 PM Wednesday, July 12, until 2:00 PM Sunday, July 16.

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Appendix A1.–Page 2 of 2.

EO Number	Issued	Effective	Action taken
4-FS-L-8-23	12:00 PM 7/15/2023	12:00 PM 7/16/2023	Extends the current commercial salmon fishing period in the Chignik Bay, Central, Eastern, Western, and Perryville Districts for 96 hours, from 2:00 PM Sunday, July 16 until 2:00 PM Thursday, July 20.
4-FS-L-9-23	11:00 AM 7/19/2023	2:00 PM 7/20/2023	Extends the current commercial salmon fishing period in the Chignik Bay and Central Districts as well as the Inner Castle Cape Subsection of the Western District from 2:00 PM Thursday, July 20 until 10:00 PM Friday, August 4. Extends the current commercial salmon fishing period in the Eastern, Western, and Perryville Districts, excluding the Inner Castle Cape Subsection of the Western District until further notice.
4-FS-L-10-23	2:00 PM 7/25/2023	8:00 AM 7/26/2023	Moves the Chignik Lagoon markers from Mensis Point to 100 yards downstream the Chignik River weir.
4-FS-L-11-23	2:00 PM 8/5/2023	6:00 AM 8/7/2023	Opens the Chignik Bay and Central Districts, as well as the Inner Castle Cape Subsection of the Western District to commercial salmon fishing for 112 hours beginning 6:00 AM Monday, August 7 until 10:00 PM Friday, August 11.
4-FS-L-12-23	9:00 AM 8/13/2023	6:00 AM 8/14/2023	Opens the Chignik Bay and Central Districts, as well as the Inner Castle Cape Subsection of the Western District to commercial salmon fishing for 112 hours beginning 6:00 AM Monday, August 14 until 10:00 PM Friday, August 18.
4-FS-L-13-23	1:00 PM 8/19/2023	6:00 AM 8/21/2023	Opens the Chignik Bay and Central Districts, as well as the Inner Castle Cape Subsection of the Western District to commercial salmon fishing for 112 hours beginning 6:00 AM Monday, August 21 until 10:00 PM Friday, August 25.

APPENDIX B.
2023 CHIGNIK RIVER SOCKEYE SALMON POST-WEIR ESCAPEMENT ESTIMATE MEMORANDUM

THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Fish and Game

Division of Commercial Fisheries
Westward Region Office

351 Research Court
Kodiak, Alaska 99615
Main: 907.486.1848
Fax: 907.486.1841

MEMORANDUM

TO: Kevin Schaberg
Regional Finfish Research Coordinator
Commercial Fisheries Division
Region IV- Kodiak

DATE: October 23, 2023

PHONE NO: 907-486-1848

FROM: Heather Finkle
Research Biologist
Commercial Fisheries Division
Region IV- Kodiak

SUBJECT: 2023 Chignik post-weir estimate thru September 30

The overwhelming majority of Chignik River sockeye salmon escapement is estimated when passing through the Chignik weir, which generally operates from the end of May to the beginning of September. Thus, a post-weir estimate of escapement is needed to account for fish that escape the Chignik River between when fish counts at the weir cease and the end date of the late-run goal of September 30.

Historically, a time series analysis generalizing the decay of the run (Chatfield 1985, Hyndman and Athanasopoulos 2014) has been employed to estimate the post-weir sockeye salmon escapement to the Chignik River through September 30. In 2023, the Chignik weir stopped enumerating escapement on August 26. Subsequently, the post-weir estimate encompasses the projected sockeye salmon escapement between August 27 and September 30.

An exponential time series model, which accounted for autocorrelation and exponential trends in the data, modeled the run decay (Hyndman and Athanasopoulos 2014). The model employed late-run data from August 18 to August 26 to represent the decay of the run. Because fishing occurred after the removal of the Chignik weir, catch was subtracted from the daily time series run estimate to calculate escapement during the post-weir estimate time period.

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After removal of the Chignik weir, a total of 37,059 late-run fish was estimated to have escaped upriver (Figure 1) between August 27 and September 30. The post-weir estimate increased the late-run escapement total to 457,060 fish and the total Chignik watershed escapement to 888,354 fish.

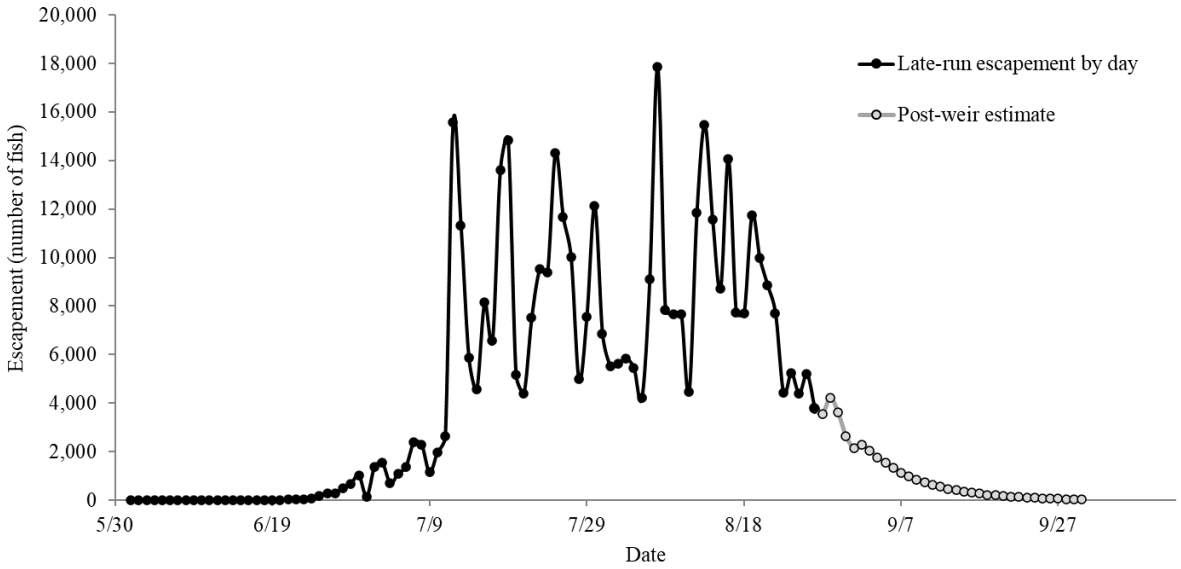

Figure 1. Estimated Chignik sockeye salmon late-run escapement by day with post-weir estimate for 2023.

Chatfield, C. 1985. The Analysis of Time Series: An Introduction, 3rd ed. Chatman and Hall, London.

Hyndman, R. J., and G. Athanasopoulos. 2014. *Forecasting: principles and practice.* OTexts, Melbourne, Australia. https://otexts.com/fpp2/.

cc: Burnside, Scholze, Wadle, Sagalkin

APPENDIX C.
CHIGNIK AREA ESTIMATED PEAK ESCAPEMENT COUNTS FOR SOCKEYE, PINK, AND CHUM SALMON, 2023

Appendix C1.–Chignik Area estimated peak escapement counts for pink and chum salmon, 2023.

Central District

Stream #	Stream name	Number of salmon Pink	Chum
Outer Chignik Bay Section			
272-302	Hook Creek	37,500	3,000
272-202B	Neketa Creek	100	0
272-204	Thompson Creek	40,000	2,000
Total Outer Chignik Bay Section		77,600	5,000
Kujulik Bay Section			
272-505	Bear Creek	1,800	5,000
272-501	Kumliun Creek[a]	94,000	0
272-516	New Creek	16,500	500
272-514	North Fork River[a,b]	40,000	22,000
272-509	Rudy's Creek	15,400	12,000
Total Kujulik Bay Section		167,700	39,500
Total Central District		245,300	44,500

Chignik Bay District

Stream #	Stream name	Number of salmon Pink	Chum
Inner Chignik Bay Section			
	Chignik River Weir	75,191	0
271-101	Lake Bay Creek	ND	ND
271-103	Metrofania Creek	0	800
271-104	Alfred Creek	1,400	300
271-106	Through Creek	2,000	150
Total Inner Chignik Bay Section		78,591	1,250
Total Chignik Bay District		78,591	1,250

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Perryville District			
		Number of salmon	
Stream #	Stream name	Pink	Chum
Ivanof Bay Section			
275-401	Kupreanof Creek	19,000	3,000
275-402	Smokey Hollow	2,000	10,000
275-404	Wasco's Creek	ND	ND
275-406	Ivanof River[a,b]	90,000	90,000
275-408	Wolverine Creek	2,000	0
Total Ivanof Bay Section		113,000	103,000
Humpback Bay Section			
275-502	Humpback Creek[a]	35,000	24,000
275-505	Alexander Point	12,000	7,000
Total Humpback Bay Section		47,000	31,000
Peryville Section			
275-601	Kametolook (North)	ND	ND
Total Perryville Section		0	0
Total Perryville District		160,000	134,000

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Eastern District			
		Number of salmon	
Stream #	Stream name	Pink	Chum
Big River Section			
272-602	Wolverine Creek	3,500	200
272-604	Black Creek	6,000	400
272-605	Aaniakchak River[a,b]	80,000	14,000
272-606	Fred Gungus	12,000	1,000
272-701	West Creek	9,000	3,000
272-702	Main Creek	107,000	22,000
272-703	Northeast Creek	35,000	38,000
Total Big River Section		252,500	78,600
Nakalilok/Yantarni Bay Section			
272-721	Yantarni Creek	55,000	21,000
272-801	Ocean Beach	23,000	25,000
272-802	Ocean Beach North	10,000	7,000
272-804	Nakalilok River	69,000	29,000
272-805	Nakalilok Bay North	1,000	4,000
Total Nakalilok/Yantarni Bay Section		158,000	86,000
Chiginagak Section			
272-900	Cape Kuyuyukak	500	0
272-902	Cape Kuyuyukak	7,000	2,000
272-903a	Chiginagak River[a,b]	63,000	13,000
272-904	Chiginagak Bay(W)	13,000	3,000
272-905	Chiginagak Bay (E)	15,000	10,000
Total Chiginagak Section		98,500	28,000
Agripina Section			
272-961a	Agripina Lake	0	2,500
272-961b	Agripina Slough	25,000	9,000
272-963	Kilokak Creek	50,000	13,000
Total Agripina Section		75,000	24,500
Eastern District Total		584,000	217,100

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Western District			
		Number of salmon	
Stream #	Stream name	Pink	Chum
Mitrofania Section			
273-702	Red Bluff Creek	29,000	8,000
273-722	Ivan River[a]	170,000	50,000
273-723	Fishrack Bay	6,000	6,000
Total Mitrofania Section		205,000	64,000
Dorner Bay Section			
273-802	Foot Creek	22,000	8,000
273-842	Portage Creek[b]	1,000	15,000
Total Dorner Bay Section		23,000	23,000
Inner Castle Cape Section			
273-841	Castle Creek	ND	ND
Total Castle Cape Section		0	0
Total Western District		228,000	87,000

[a] Pink salmon index river.

[b] Chum salmon index river.

Appendix C2.–Chignik watershed sockeye salmon spawning ground surveys, 2023.

Chignik watershed		
		Number of salmon
Stream #	Stream name	Sockeye
Black Lake tributaries		
271-091	Fan Creek	900
271-090	Milk Creek	ND
271-083	Boulevard Creek	13000
271-085	Alec River	237000
271-088	Conglomerate Creek	6000
271-087	Broad Creek	4000
Total Black Lake tributaries		260900
Chignik Lake tributaries		
271-095	Bearskin Creek	200
271-094	West Fork	2800
271-092	Chiaktuak Creek	42000
271-097	Clark River	7000
271-099	Home Creek	1700
271-096	Hatchery Creek	1500
Total Chignik Lake tributaries		55200
Chignik watershed total		316100

Note: Full aerial surveys of the Chignik Watershed in 2023 were not able to be taken during peak timings due to weather constraints.

Appendix C3.–Estimated age composition of Chignik early-run sockeye salmon escapement, 2023.

Week	Sample size		Age 0.2	0.3	0.4	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	Total
23: 5/31–6/6	0	Percent	0.4	19.1	0.4	0.9	31.7	44.8	0.0	0.0	1.7	0.9	0.0	100.0
		Number	1	23	1	1	38	54	0	0	2	1	0	120
24: 6/7–6/13	0	Percent	0.4	19.1	0.4	0.9	31.7	44.8	0.0	0.0	1.7	0.9	0.0	100.0
		Number	23	1,023	23	47	1,697	2,395	0	0	93	47	0	5,347
25: 6/14–6/20	230	Percent	0.3	23.0	0.3	0.8	28.3	45.1	0.0	0.0	1.3	0.8	0.0	100.0
		Number	221	15,506	221	520	19,078	30,400	0	0	882	520	0	67,346
26: 6/21–6/27	212	Percent	0.1	31.0	0.0	0.5	20.1	47.6	0.1	0.0	0.2	0.5	0.0	100.0
		Number	140	42,241	64	622	27,389	64,850	151	0	257	622	0	136,337
27: 6/28–7/4	223	Percent	0.4	19.1	0.0	0.1	22.8	56.1	0.7	0.0	0.2	0.7	0.0	100.0
		Number	602	29,202	0	179	34,826	85,686	1,021	0	274	1,000	0	152,790
28: 7/5–7/11	222	Percent	0.4	14.8	0.0	0.5	22.7	54.0	0.1	0.0	2.3	5.1	0.0	100.0
		Number	156	5,732	0	195	8,791	20,889	29	0	905	1,969	18	38,684
29: 7/12–7/18	222	Percent	0.1	5.2	0.0	1.1	12.9	59.2	0.0	0.0	9.7	11.5	0.3	100.0
		Number	36	1,451	0	297	3,580	16,394	0	0	2,680	3,174	89	27,699
30: 7/19–7/25	235	Percent	0.3	1.4	0.0	0.4	7.9	65.9	0.0	0.0	13.8	10.2	0.1	100.0
		Number	8	37	0	11	214	1,783	0	0	373	276	3	2,705
31: 7/26–8/1	221	Percent	0.1	0.7	0.0	0.7	8.4	67.8	0.0	0.0	13.5	8.8	0.0	100.0
		Number	0	2	0	2	21	167	0	0	33	22	0	246
32: 8/2–8/8	230	Percent	0.0	0.4	0.0	0.9	5.4	67.6	0.0	0.0	14.1	11.3	0.0	99.7
		Number	0	0	0	0	0	5	0	0	1	1	0	7
Totals	1,795	Percent	0.3	22.1	0.1	0.4	22.2	51.6	0.3	0.0	1.3	1.8	0.0	100.0
		Number	1,186	95,217	308	1,873	95,634	222,622	1,202	0	5,500	7,630	110	431,282

Note: Cells with values of 0.0 indicate age classes were not present or represented less than 0.05% of the total run. All numbers may not add up due to rounding.

Appendix C4.–Estimated age composition of Chignik River late-run sockeye salmon escapement, 2023.

Week	Sample size		Age 0.2	0.3	0.4	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.3	Total
24: 6/7–6/13	0	Percent	0.4	19.1	0.4	0.9	31.7	44.8	0.0	0.0	1.7	0.9	0.0	0.0	100.0
		Number	0	0	0	0	0	0	0	0	0	0	0	0	1
25: 6/14–6/20	230	Percent	0.3	23.0	0.3	0.8	28.3	45.1	0.0	0.0	1.3	0.8	0.0	0.0	100.0
		Number	0	10	0	0	12	19	0	0	1	0	0	0	42
26: 6/21–6/27	212	Percent	0.1	30.8	0.0	0.4	19.5	48.5	0.2	0.0	0.1	0.4	0.0	0.0	100.0
		Number	1	282	0	4	179	444	2	0	1	4	0	0	915
27: 6/28–7/4	223	Percent	0.4	17.8	0.0	0.1	23.3	56.2	0.6	0.0	0.3	1.1	0.0	0.0	100.0
		Number	25	1,064	0	8	1,389	3,357	37	0	20	68	0	0	5,968
28: 7/5–7/11	222	Percent	0.4	13.3	0.0	0.6	21.2	54.6	0.0	0.0	3.5	6.3	0.1	0.0	100.0
		Number	46	1,722	0	80	2,750	7,064	5	0	454	810	12	0	12,943
29: 7/12–7/18	222	Percent	0.1	3.8	0.0	1.0	11.3	60.6	0.0	0.0	10.9	11.9	0.3	0.0	100.0
		Number	80	2,493	0	683	7,417	39,809	0	0	7,180	7,840	214	0	65,718
30: 7/19–7/25	235	Percent	0.3	1.2	0.0	0.3	7.8	66.8	0.0	0.0	14.0	9.5	0.1	0.0	100.0
		Number	198	793	0	206	5,088	43,536	0	0	9,097	6,215	38	0	65,171
31: 7/26–8/1	221	Percent	0.1	0.6	0.0	0.8	8.3	67.8	0.0	0.0	13.4	9.1	0.0	0.1	100.0
		Number	37	335	0	452	4,860	39,829	0	0	7,882	5,334	0	31	58,759
32: 8/2–8/8	230	Percent	0.0	0.4	0.0	0.9	4.4	67.9	0.0	0.1	14.9	11.0	0.1	0.3	100.0
		Number	0	248	0	496	2,468	37,976	0	62	8,329	6,137	62	172	55,951
33: 8/9–8/15	215	Percent	0.0	0.5	0.0	0.9	2.6	66.9	0.0	0.5	18.9	9.2	0.5	0.0	100.0
		Number	0	314	0	576	1,764	45,139	0	343	12,725	6,229	343	23	67,458
34: 8/16–8/22	206	Percent	0.0	0.4	0.0	0.4	3.4	56.4	0.0	0.8	26.1	11.8	0.7	0.0	100.0
		Number	0	256	0	284	2,289	38,244	0	555	17,690	8,010	484	0	67,812
35: 8/23–8/29	209	Percent	0.0	0.0	0.0	0.0	5.2	54.6	0.0	0.5	33.3	6.4	0.0	0.0	100.0
		Number	0	4	0	4	1,603	16,804	0	151	10,250	1,974	7	0	30,797
36: 8/30–9/5	0	Percent	0.0	0.0	0.0	0.0	5.3	54.5	0.0	0.5	33.5	6.2	0.0	0.0	100.0
		Number	0	0	0	0	844	8,751	0	77	5,373	998	0	0	16,043
37: 9/6–9/12	0	Percent	0.0	0.0	0.0	0.0	5.3	54.5	0.0	0.5	33.5	6.2	0.0	0.0	100.0
		Number	0	0	0	0	328	3,403	0	30	2,089	388	0	0	6,238

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Appendix C4.–Page 2 of 2.

Week	Sample size		Age 0.2	0.3	0.4	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.3	Total
38: 9/13–9/19	0	Percent	0.0	0.0	0.0	0.0	5.3	54.5	0.0	0.5	33.5	6.2	0.0	0.0	100.0
		Number	0	0	0	0	118	1,225	0	11	752	140	0	0	2,245
39: 9/20–9/26	0	Percent	0.0	0.0	0.0	0.0	5.3	54.5	0.0	0.5	33.5	6.2	0.0	0.0	100.0
		Number	0	0	0	0	43	441	0	4	271	50	0	0	808
40: 9/27–10/3	0	Percent	0.0	0.0	0.0	0.0	5.3	54.5	0.0	0.5	33.5	6.2	0.0	0.0	100.0
		Number	0	0	0	0	11	110	0	1	67	13	0	0	201
Totals	2,425	Percent	0.1	1.6	0.0	0.6	6.8	62.6	0.0	0.3	18.0	9.7	0.3	0.0	100.0
		Number	388	7,522	0	2,793	31,163	286,152	43	1,234	82.181	44,209	1,161	226	457,071

Note: Cells with values of 0.0 indicate age classes were not present or represented less than 0.05% of the total run. Age composition estimates were from samples taken at the weir using the trap. Estimates of escapement and age after the removal of the weir were calculated using a time series analysis. All numbers may not add up due to rounding.

Appendix C5.–Length composition of Chignik River sockeye salmon escapement samples by age and sex, 2023.

	Age												
	0.2	0.3	0.4	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.3	Total
Females													
Mean length (mm)	460	554	–	–	501	551	570	–	503	547	550	–	541
SE	35	2	–	–	3	1		–	3	3	11	–	1
Range	425–494	442–595	–	–	415–590	420–610	570–570	–	385–586	465–620	539–560	–	385–620
Sample size	2	117	0	0	127	908	1	0	142	87	2	0	1,386
Males													
Mean length (mm)	468	573	605	333	478	570	605	363	494	571	550	541	539
SE	53	4	–	7	4	1	–	11	4	3	3	–	2
Range	415–520	420–655	–	299–400	395–600	450–650	–	340–390	398–600	510–695	547–552	–	299–695
Sample size	2	86	1	14	181	511	1	4	147	84	2	1	1,034
All fish													
Mean length (mm)	464	562	605	333	488	558	588	363	498	559	550	541	540
SE	26	2	–	7	3	1	18	11	2	2	4	–	1
Range	415–520	420–655	–	299–400	395–600	420–650	570–605	340–390	385–600	465–695	539–560	–	299–695
Sample size	4	203	1	14	308	1,419	2	4	289	171	4	1	2,420

Note: Data represents only samples taken from trap at the Chignik weir. En dash = no fish sampled of that age or sex.

Appendix C6.–Estimated sex composition of Chignik River sockeye salmon escapement by week, 2023.

			Escapement				
		Sample	Percent		Number		
Week	Dates	size	Females	Males	Females	Males	Total
23	5/31–6/6	0	49.2	50.8	59	61	120
24	6/7–6/13	0	49.2	50.8	2,633	2,715	5,348
25	6/14–6/20	260	52.1	47.9	35,079	32,309	67,388
26	6/21–6/27	239	59.7	40.3	81,960	55,292	137,252
27	6/28–7/4	240	61.5	38.5	97,640	61,119	158,759
28	7/5–7/11	242	55.2	44.8	28,521	23,106	51,627
29	7/12–7/18	239	55.4	44.6	51,777	41,640	93,417
30	7/19–7/25	253	57.6	42.4	39,064	28,812	67,876
31	7/26–8/1	256	57.2	42.8	33,752	25,253	59,005
32	8/2–8/8	252	58.1	41.9	32,508	23,450	55,958
33	8/9–8/15	247	59.7	40.3	40,249	27,209	67,458
34	8/16–8/22	241	54.5	45.5	36,956	30,856	67,812
35	8/23–8/29	237	53.6	46.4	10,331	8,944	19,275
Total		2,706	57.6	42.4	490,531	360,764	851,295

Note: Numbers may not add due to rounding, and fish calculated with post-weir time series are not included in this table.

Appendix C7.–Chignik River early-run sockeye salmon escapement, estimated catch, and estimated total run, by age, 2023.

	Sample size		Age											
			0.2	0.3	0.4	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.3	Total
Escapement	1,795	Percent	0.3	22.1	0.1	0.4	22.2	51.6	0.3	0.0	1.3	1.8	0.0	0.0	100.0
		Number	1,186	95,217	308	1,873	95,634	222,622	1,202	0	5,500	7,630	110	0	431,282
Catch	0	Percent	0.3	12.8	0.0	0.5	20.2	56.4	0.2	0.0	3.8	5.6	0.0	0.0	100.0
		Number	904	33,127	0	1,362	52,567	146,426	588	0	9,906	14,538	258	0	259,677
Total	1,795	Percent	0.3	18.6	0.0	0.5	21.4	53.4	0.3	0.0	2.2	3.2	0.1	0.0	100.0
		Number	2,090	128,344	308	3,235	148,201	369,048	1,790	0	15,406	22,168	368	0	690,959

Appendix C8.–Chignik River late-run sockeye salmon escapement, estimated catch, and estimated total run, by age, 2023.

	Sample size		Age											
			0.2	0.3	0.4	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.3	Total
Escapement[a]	2,425	Percent	0.1	1.6	0.0	0.6	6.8	62.6	0.0	0.3	18.0	9.7	0.3	0.0	100.0
		Numbers	388	7,522	0	2,793	31,163	286,152	43	1,234	82,181	44,209	1,161	226	457,071
Catch	0	Percent	0.1	1.9	0.0	0.7	7.9	64.3	0.0	0.1	14.7	9.9	0.2	0.1	100.0
		Numbers	975	15,515	0	5,584	64,835	525,165	36	1,108	120,238	81,017	1,529	473	816,475
Total	2,425	Percent	0.1	1.8	0.0	0.7	7.5	63.7	0.0	0.2	15.9	9.8	0.2	0.1	100.0
		Numbers	1,363	23,037	0	8,376	95,998	811,316	79	2,342	202,419	125,226	2,690	700	1,273,546

[a] Includes post-weir estimate.