

**Fishery Management Report No. 13-43**

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**Chignik Management Area Salmon Annual  
Management Report, 2013**

by

**Todd J. Anderson**

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and

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November 2013

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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

***FISHERY MANAGEMENT REPORT NO. 13-43***

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by  
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November 2013

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## ABSTRACT

This report is a summary of the 2013 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 five species of North American Pacific salmon were commercially harvested in the CMA during 2013: Chinook *O. tshawytscha*, sockeye *O. nerka*, coho *O. kisutch*, pink *O. gorbuscha*, and chum *O. keta* salmon. In 2013, the Chinook salmon escapement of 1,253 fish to the Chignik River was below the escapement goal range of 1,300 to 2,700 fish. The 2013 Chignik River early-run sockeye salmon escapement of 386,782 fish was within the early-run escapement goal range of 350,000 to 400,000 fish. The late-run sockeye salmon escapement of 369,319 fish was within the late-run escapement goal range of 250,000 to 400,000 fish. The early run was below the recent averages while the late run escapement was above recent averages. The 2013 total CMA sockeye salmon harvest of 2,396,645 fish was well above the recent 5-, 10-, and 20-year average harvests. The CMA total coho harvest of 32,258 fish was well below recent 5-, 10-, and 20-year average harvests. The 2013 area wide pink salmon escapement of 863,991 fish was above the odd-year sustainable escapement goal range of 500,000 to 800,000 fish and was below the recent 5-, 10-, and 20- odd year escapement averages. The CMA harvest of 871,503 pink salmon was below the recent 5-year average pink salmon harvest but similar to the 10- and 20-year averages. The area wide chum salmon escapement of 335,907 fish exceeded the lower bound sustainable escapement goal of 57,400 fish. In 2013, 154,425 chum salmon were harvested which was similar to the recent 10- and 20-year average harvests but well below the recent 5-year average harvest. A total of 76 CMA permit holders made deliveries in 2013. The majority of the fishing effort in the 2013 season occurred in the Chignik Bay District. The exvessel value for the 2013 salmon harvest in the CMA totaled approximately \$23.3 million.

Key words: Chignik Management Area (CMA), Chignik River, *Oncorhynchus*, salmon, Alaska Board of Fisheries, 2013 commercial fisheries management, Fisheries Management Plan, harvest statistics, escapement

## INTRODUCTION

The Alaska Department of Fish and Game (ADF&G) manages all commercial 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 (Figure 1). For management purposes, these waters are divided into five fishing districts: Eastern, Central, Chignik Bay, Western, and Perryville districts. Each district is further broken down into sections and statistical reporting areas (Figure 2).

Five species of North American Pacific salmon are commercially harvested in the CMA: Chinook *O. tshawytscha*, sockeye *O. nerka*, coho *O. kisutch*, pink *O. gorbuscha*, and chum *O. keta* salmon. Of these, 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 five villages: Chignik Bay, Chignik Lagoon, Chignik Lake, Perryville, and Ivanof Bay (Figure 1).

This report provides a summary of the commercial salmon management plan, fishing activity, escapements, and harvests in the CMA. This report also provides a chronology of significant regulatory changes that influenced the 2013 commercial salmon season. 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 September 15, 2013. Data published in this report supersede any data previously published.

# COMMERCIAL SALMON

## OVERVIEW OF MANAGEMENT PLANS

Several management plans have been used to manage the CMA commercial salmon fishery in the last decade. The 2013 CMA commercial salmon fishery was managed based on the *Chignik Salmon Management Plan* (5 AAC 15.357; Appendix B). Sockeye salmon bound for the Chignik River watershed were also allocated under two additional management plans: the *Cape Igvak Salmon Management Plan* (5 AAC 18.360) in the Kodiak Management Area (Area K), 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 was to allow traditional salmon fisheries in the CMA while achieving the established escapement goals for both early-run (Black Lake), and late-run (Chignik Lake) sockeye salmon. Purse seines and hand purse seines are the only legal commercial salmon fishing gear within the CMA. Legal seine gear ranged 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

From June 1 through July 25, 90% of the sockeye salmon harvested within the Cape Igvak Section are allocatively considered to be Chignik-bound (5 AAC 18.360(d)). The Cape Igvak Section is the westernmost section of Area K, located directly northeast of the CMA (Figure 1). 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 15% of the total Chignik sockeye salmon harvest (total includes sockeye salmon caught at Cape Igvak and within certain portions of SEDM) is allocated to Area K fishermen. After July 25, there are no allocative ties between the CMA and Area K.

### Southeastern District Mainland Salmon Management Plan

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 (5 AAC 09.360). The SEDM is composed of a group of sections at the eastern end of Area M, located directly southwest of the CMA (Figure 1). If the harvestable surplus of sockeye salmon in the CMA is above or expected to be above certain thresholds (5 AAC 09.360 (a-g)), then 7.6% of the total estimated CMA sockeye salmon harvest is allocated to SEDM fisherman. After July 25, there are no allocative ties between the CMA and Area M.

## 2013 CHIGNIK SALMON MANAGEMENT

ADF&G targeted the lower bounds of the sockeye salmon escapement goals during the 2013 season (Table 1) based on limnology data from 2000 through 2007 that suggested the forage base for juvenile sockeye salmon was depressed in Chignik Lake (Bouwens and Finkle 2003a-b;

Finkle 2005; Finkle 2006a-b; Finkle and Bouwens 2001). ADF&G first adopted this practice in 2002 to improve juvenile sockeye salmon production by relieving grazing pressure on zooplankton in Chignik Lake (Bowens and Finkle 2003b).

The first commercial fishing period began on June 6, and the last commercial fishing period ended on August 27. The commercial salmon fishery was open for a total of 69 days during 2013 (Figure 3). A total of 76 CMA commercial salmon permit holders (excluding the department test fishery permit) participated in the 2013 commercial salmon season.

Salmon were delivered to five locations in 2013: two floating processors operated by Trident Seafoods and Klawock Oceanside, Inc. located in Chignik Bay, Trident Seafoods shore based processor in Sand Point, and International Seafoods of Alaska and Alaska Pacific Seafoods in Kodiak. Processors filleted or headed and gutted the majority of Chignik salmon.

### **Chignik Bay and Central Districts Commercial Salmon Fishery**

The Chignik weir was completed on May 27<sup>th</sup> at approximately 10:00 p.m. The first full day of escapement estimates (543 sockeye salmon) on May 28<sup>th</sup> was above the average escapement for that date indicating that the Black Lake run was arriving early and could be as strong as forecasted. After several additional days of moderately high escapement estimates and two Chignik Lagoon test fisheries (June 2 and 4), the 2013 commercial salmon fishery opened at 4:00 p.m. June 6 in the Chignik Bay and Central districts as well as the Inner Castle Cape Subsection of the Western District (Figure 4). The initial fishing period in the Chignik Bay and Central districts was extended on three occasions due to moderate escapement levels and high harvest rates of sockeye salmon throughout the fishing period. The CMA then closed for 24 hours (June 17) and 90 hours (June 20-23) to increase escapement into the Chignik River (Table 1 and 2; Figure 3). After reopening the commercial salmon fishery on June 23 sockeye salmon escapement into the Chignik River watershed remained relatively consistent allowing the fishery to largely remain open through July 11 when the department began targeting late-run sockeye salmon escapement objectives. Throughout the remainder of the commercial salmon fishing season just two closures were necessary to ensure that the late-run sockeye salmon escapement goal was met. In total, the Chignik Bay and Central districts were open for 69 days during 2013.

The Chignik Lagoon closed waters markers alternated between Humes Point and Mensis Point during the 2013 salmon season (Figure 5). Generally, the Humes Point markers were used for the first 24 to 48 hours of a commercial fishing period to allow salmon above these markers to escape the fishery. The Humes Point markers were also used when sockeye salmon escapement was at or just above the lower bound of the late run escapement objectives. This increased escapement into the Chignik River and also allowed the department to assess the number of salmon entering the lagoon by concentrating the effort in the lower lagoon. A summary of emergency orders outlining the commercial salmon fisheries in the Chignik Bay and Central districts is located in Appendix A.

### **Eastern District Commercial Salmon Fishery**

The Eastern District, by regulation (5 AAC 15.357 (c)(1)), opened concurrently with the Chignik Bay and Central districts during June (Figures 2 and 3; Appendix B). In 2013, the Eastern District was closed for the majority of July while the late run was assessed and for nine days in August to achieve pink salmon escapement into local streams. Despite being open for the majority of August, very little fishing effort occurred during the month.

Inseason aerial surveys indicated that pink salmon escapement in 2013 was moderate to high compared to historical averages and chum salmon escapement was similar to recent averages.

In total, the Eastern District was open to commercial salmon fishing for 43 days during 2013 (Figure 3). A summary of emergency orders outlining the commercial salmon fisheries in the Eastern District is found in Appendix A.

### **Western and Perryville Districts Commercial Salmon Fishery**

The Inner Castle Cape Subsection of the Western District, by regulation (5 AAC 15.357 (b)), opened concurrently with the Chignik Bay and Central districts in June (Figures 2, 3, and 4; Appendix B). Also by regulation (5 AAC 15.357 (e)), the Western District, excluding the Inner Castle Cape Subsection, opened to commercial salmon fishing for two 48-hour periods with a mandatory 48-hour closure between fishing periods through July 5. The first 48-hour fishing period began on June 13 and the second fishing period began on June 25. Both of these fishing periods were opened concurrently with the Chignik Bay and Central districts.

Excluding the Inner Castle Cape Section of the Western District, and the two 48-hour fishing periods, the Western and Perryville districts are closed to commercial salmon fishing through July 5 (5 AAC 15.357 (d)). Beginning July 6, these districts can be opened on a catch-per-unit-effort basis targeting migrating pink and chum salmon. Once fish enter local streams, management shifts to an escapement-based strategy.

Due to low to moderate pink salmon catch rates, the Western and Perryville districts were closed to commercial salmon fishing for the majority of July (Figure 3). In August, catch rates were generally strong but several fishing closures were necessary due to unfavorable weather conditions which prevented aerial surveys to document pink and chum salmon escapements. After the weather conditions improved, aerial surveys on August 7 indicated adequate local pink salmon escapement and the Western and Perryville districts remained open to commercial salmon fishing until the districts closed for the season on August 27.

In total, the Western District was open to commercial salmon fishing for 28 days, and the Perryville District for 24 days during 2013 (Figure 3). A summary of emergency orders outlining the commercial salmon fisheries in the Western and Perryville districts is found in Appendix A.

## **ESCAPEMENT AND HARVEST DATA**

### **Stock Separation Techniques**

Two distinct sockeye salmon runs (an early- and late-run) enter the Chignik River watershed and temporally overlap during late June and early 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 inseason based on the results of this analysis (Witteveen and Botz 2004). The Chignik SPA program was discontinued prior to the 2004 season due to funding limitations. 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. The 2013 fishery was managed based on this date, so that through July 4, fishing periods were based on achieving early-run escapement objectives, and beginning July 5, fishing periods were based on achieving late-run escapement objectives (Table 1). In 2012, for the first time, and again in 2013 genetic stock composition information was collected and analyzed inseason and the information was used to

assist with management decisions during the overlap period. Results from the project can be found in the *Genetic Stock Identification* section of this document.

## **Escapement Goals**

In 2010, a salmon escapement goal review team, including staff from the Division of Commercial Fisheries and the Sport Fish Division, was formed to review salmon escapement goals in the CMA (Nemeth et. al. 2010). The team recommended no change to any of the established CMA salmon escapement goals. CMA escapement goals are as follows; the Chignik River Chinook salmon biological escapement goal range of 1,300–2,700 fish, the sockeye salmon early-run sustainable escapement goal (SEG) range of 350,000–400,000 fish (Table 1), the late-run sockeye salmon escapement goal range of 250,000–400,000 fish which includes an inriver run goal of 50,000 fish for late season subsistence needs that is added to the lower bound of the late-run sockeye salmon SEG range of 200,000–400,000 fish, the pink salmon even-year SEG range of 200,000–600,000 fish, the odd-year pink salmon SEG range of 500,000–800,000 fish, and the areawide aggregate chum salmon lower bound SEG of 57,400 fish.

## **2013 Escapement Information**

In 2013, the majority of salmon escapements to the Chignik River were enumerated through the use of a weir. There were two gates in the weir, which were generally always open to allow for unrestricted fish passage. Underwater video equipment was used to count fish passing through the weir gates. At night, lights 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 six 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 was recorded and archived.

The majority of the Chignik River Chinook, sockeye, pink, and chum salmon escapements were counted through the weir. Since Dolly Varden *Salvelinus malma* were not commercially harvested or actively managed in the CMA, their escapements are noted in the tables of this document for historical comparisons, but not discussed in detail in the escapement section below. The first count of the 2013 season was on May 27, and the last full count of the season was on September 2, after which the weir was removed (Table 3). A post-weir sockeye salmon escapement estimate was produced using time series analysis and the results were grouped into two reporting periods: September 3 to September 15 and September 16 to September 30 (Appendix C). The 2013 coho salmon counts were still increasing when the weir was removed, although sonar escapement estimates were obtained with the use of DIDSON unit for the month of September.

Aerial surveys were flown over the spawning grounds of the Chignik River watershed to assess sockeye salmon spawning escapement levels and distribution. Escapements to other CMA streams were also estimated via aerial surveys.

### ***Chinook Salmon***

The Chignik River is the only stream with substantial Chinook salmon escapement within the CMA. Chinook salmon began entering the Chignik River in late-June. The run peaked by mid-July, and was over by late-August (Table 3; Figure 6). The 2013 Chignik River Chinook salmon escapement of 1,253 fish was well below the 5-, 10-, and 20-year average escapements (Table 4) and just below the biological escapement goal range of 1,300–2,700 fish (Figure 7; Nemeth et al. 2010).

### ***Sockeye Salmon***

Chignik River watershed sockeye salmon are managed based on daily escapement objectives, by run (Table 1; Nemeth et al. 2010). The Chignik River sockeye salmon early run peaked in mid-June and the late run peaked in mid-July (Table 2; Figure 8). The 2013 estimated total Chignik River watershed sockeye salmon escapement of 756,101 fish was above the 5- and 10-year average escapement, and similar to the 20-year average escapement (Table 5). The early-run escapement was estimated at 386,782 sockeye salmon, which was within the early-run SEG range of 350,000–400,000 fish (Table 5; Figure 9). The late-run escapement was estimated at 369,319 sockeye salmon, which was within the late-run escapement goal range of 250,000–400,000 fish (Table 5; Figure 9). Because the weir was removed before the late run was complete, a post-weir sockeye salmon escapement estimate was produced using time series analysis. These results were grouped into two reporting periods; September 3 to September 15 (36,457 fish) and September 16 to September 30 (24,251 fish), and are included in the late-run estimate of total escapement (Table 4; Appendix C).

Peak aerial survey counts of spawning sockeye salmon in Black Lake tributaries were similar to the 5- and 20-year averages and above the 10- year average (Table 6). Total peak aerial survey counts of spawning sockeye salmon in the Chignik Lake and its tributaries were similar to the 5-, 10-, and 20-year averages (Table 7).

Sockeye salmon escapements were documented, via aerial survey, in low numbers (generally fewer than 3,000 fish) in several other CMA streams. Due to small run sizes and limited effort, escapement goals for these streams have not been established (Witteveen et al. 2007).

### ***Coho Salmon***

Coho salmon enter CMA drainages in mid-August and generally continue through November. The 2013 Chignik River coho salmon escapement estimate through September 2 was 16,783 fish (Table 3), which was above the recent 5- and 10-year average escapements (Table 4). A DIDSON unit was installed upstream of the weir site to estimate sockeye and coho salmon escapements after the weir was removed. As of this writing, estimates of coho salmon escapement from September 3 until September 28 have not been finalized. In several other CMA streams coho salmon escapements were observed, via aerial survey, in low numbers (generally fewer than 1,000 fish).

Due to late season run timing and limited directed effort, escapement goals for coho salmon have not been established in the CMA (Witteveen et al. 2007).

### ***Pink Salmon***

In 2013, pink salmon began entering the Chignik River in mid-July and peaked in early-August with a total escapement of 7,231 salmon (Table 3). The 2013 pink salmon escapement into the Chignik River was below the 5- and 10-year average escapements (Table 4).

Escapements into other CMA streams were monitored via aerial surveys. Aerial survey escapement estimates for all streams were summed and compared to the area wide odd-year aggregate SEG for pink salmon. The 2013 overall combined escapement for the CMA was approximately 863,991 pink salmon, which was above the area wide aggregate odd-year SEG range of 500,000–800,000 fish, but well below the 5-, 10-, and 20- odd year average escapement estimates (Table 8).

### ***Chum Salmon***

A limited number of chum salmon return to the Chignik River, mainly in late-July and August (Table 3). The 2013 Chignik River chum salmon escapement was 72 fish, which was below the recent 5-year and 10-year average escapements (Table 4).

Escapements into other CMA streams were monitored via aerial surveys and compared to the areawide aggregate SEG for chum salmon (Nemeth et al. 2010). The total 2013 CMA chum salmon escapement of 335,907 fish was above the lower bound SEG of 57,400 fish, and the 5-, 10-, and 20-year escapement averages (Table 9).

### **Harvest Information**

Commercial salmon harvest information for 2013 was organized into four categories. The first category included salmon that were commercially harvested but retained for private use (home pack). The second category included salmon that were harvested and sold as part of the department's test fishery program. The third category included sockeye salmon commercially harvested within the CMA. The final category included sockeye salmon commercially harvested under the Cape Igvak and SEDM management plans; for allocative purposes, the Board of Fisheries has determined that specific portions of these harvests were considered bound for the Chignik River.

Salmon harvested under subsistence regulations or the department's Chignik Lagoon test fishery were not included in any of the harvest allocations. Similarly, home pack fish were not included in the Cape Igvak and SEDM allocations. All harvest information in this report was calculated from the ADF&G fish ticket database and supersedes any previously published data. A complete summary of 2013 commercial salmon harvest and effort is found in Appendix D.

### ***Chinook Salmon***

A total of 2,959 Chinook salmon were harvested from the CMA in 2013, which was below the 5-, 10-, and 20-year average Chinook salmon harvests (Table 10). Two Chinook salmon were harvested during the department's test fishery program and 85 fish were retained as home pack (Table 11). Most of the CMA Chinook salmon harvest in 2013 came from the Central, Western, and Chignik Bay districts (1,249, 668, and 592 fish respectively; Table 12). In 2013, Chinook salmon were primarily harvested from late June through early August (Table 13).

### ***Sockeye Salmon***

A total of 2,396,645 sockeye salmon were harvested in the CMA during 2013, which was well above the 5-, 10-, and 20-year average sockeye salmon harvests (Tables 10 and 14). The department's test fishery program harvested 4,970 of these salmon and a total of 587 fish were reported as retained for home pack (Table 14). The vast majority of the CMA sockeye salmon harvest in 2013 occurred in the Chignik Bay District, although a substantial portion of the catch came from the Central District (Table 15). Most sockeye salmon were harvested from mid-June through mid-July (Table 16).

An additional 523,208 sockeye salmon allocatively considered Chignik-bound were harvested from June 1 through July 25 as part of the SEDM and Cape Igvak fisheries during 2013 (Table 14). The Chignik-bound component of the SEDM harvest was 169,029 fish and totaled 7.53 percent of the total CMA harvest (allocation 7.6 percent; Tables 14 and 17). The Chignik-

bound portion of the Cape Igvak harvest was 354,179 fish and totaled 12.79 percent of the total Chignik-bound harvest (allocation 15.0 percent; Tables 14 and 17).

The 2013 Chignik River early-run sockeye salmon harvest of 2,029,158 was well above the 5-, 10-, and 20-year average harvests (Table 18; Figure 10). The 2013 late-run harvest of 890,695 sockeye salmon was above the 5-, 10-, and 20-year average harvests (Table 18; Figure 11). The 2013 total Chignik-bound commercial sockeye salmon harvest was 2,919,853 fish for a total run estimate (harvest + escapement) of 3,675,954 sockeye salmon which was above the 5-, 10-, and 20-year average (Table 18; Figure 12).

In 2013, the Chignik early run was 14% below the forecast while the late run was 17% above the forecast (Table 19).

### ***Coho Salmon***

A total of 32,258 coho salmon were harvested in the CMA during 2013, which was well below the 5-, 10-, and 20-year average harvests (Tables 10 and 20). In 2013, 28 coho salmon were retained as home pack and 32,230 coho salmon were harvested and sold to processors by fishermen (Table 20). The majority of the 2013 coho salmon harvest occurred in the Western District during July and August (Tables 21 and 22).

### ***Pink Salmon***

A total of 871,503 pink salmon were harvested during 2013, which was below the 5-year average harvest and similar to the 10- and 20-year average harvests (Tables 10 and 23). All commercially harvested pink salmon were sold to processors by fishermen which includes 3 salmon harvested during the department's Chignik Lagoon test fishery (Table 23). The 2013 pink salmon harvest was well distributed between the Eastern, Western, Central and Perryville districts during the month of August (Table 24 and 25).

### ***Chum Salmon***

A total of 154,425 chum salmon were harvested from the CMA during the 2013 season, which was below the 5-year average harvest, but similar to the 10- and 20-year average harvests (Tables 10 and 26). All of the commercially harvested chum salmon were sold to processors by fishermen (Table 26). The majority of the 2013 chum salmon harvest occurred in the Central, Eastern, and Western districts from mid-June until early-August (Tables 27 and 28).

### **Economic Value**

In recent years, the number of active permits in the CMA has steadily increased. In 2013, 76 CMA permit holders (84% of CMA permits) made deliveries (Table 29). The exvessel value of the 2013 CMA salmon harvest was about \$23.3 million, or approximately \$306,889 per active permit holder, which was well above the 5-, 10-, and 20-year average exvessel values (Table 29; Figure 13). The vast majority (94%) of exvessel revenue was from the sale of sockeye salmon (\$288,771 per active permit holder). The 2013 Chinook, coho, pink, and chum salmon harvest provided \$495, \$1,143, \$11,421, and \$5,059, respectively, per active permit holder (Table 29).

### **CHIGNIK LAGOON TEST FISHERY**

The department conducts test fisheries in Chignik Lagoon for multiple purposes. Early-season test fisheries are used to determine buildup of salmon prior to the first commercial fishery and to

generate revenue to pay for the vessels chartered to conduct the test fisheries. Subsequent test fisheries are conducted to assess salmon abundance in Chignik Lagoon during fishery closures, and offset the costs of operations at the Chignik weir (Anderson 2013).

The department conducted three test fisheries during 2013 with a total harvest of 4,970 sockeye salmon (Table 14). The first test fishery occurred on June 2, when 1,290 sockeye salmon were harvested. Subsequent test fisheries conducted on June 4 and July 13 harvested 1,460 and 2,220 sockeye salmon, respectively.

## **GENETIC STOCK IDENTIFICATION**

As a continuation of an Alaska Sustainable Salmon Fund project, sockeye salmon genetic samples were collected at the Chignik River in 2013. The project was jointly funded by Chignik Regional Aquaculture Association and ADF&G. Sampling intensity was scaled back from that conducted from 2010 to 2012 and focused near the overlap period only. A total of 5 strata samples of approximately 190 fish were collected and used to quantify the contribution of both Black and Chignik lakes sockeye salmon stocks to Chignik River escapement estimates. The genetic tissue (axillary process) was clipped from each salmon and placed in ethanol in an individually labeled cyrotube associated with sex and length. Samples were sent to ADF&G's Gene Conservation Lab where genomic DNA was extracted and assayed for 96 sockeye salmon single nucleotide polymorphisms. Genotypes were entered into the Gene Conservation Lab Oracle database LOKI.

The 2013 samples were analyzed inseason and available within 30–48 hours after the samples were taken. Results for all years are tabulated in Table 30 and depicted in Figure 14. By using the genetics proportions, Black and Chignik lakes run timing was modeled using methods similar to SPA modeling (Witteveen and Botz 2004). The 2013 logistic model estimates show run timing of Chignik Lake sockeye salmon to be later than 2012 but earlier than 2010 and 2011 (Figure 15). The four years of genetic stock proportions highlight the variable nature of the timing of entry for both stocks into Chignik River and suggest that any set cutoff date (i.e., July 4) does not promote biologically sound management.

## **CHIGNIK AREA SUBSISTENCE SALMON FISHERIES**

The 2013 CMA subsistence harvest will not be available until after subsistence permits are returned and tabulated in spring 2014. Historical subsistence harvests can be found in Table 31.

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## **TABLES AND FIGURES**

Table 1.–Chignik River sockeye salmon escapement objectives, 2013.

Date	Escapement		Date	Escapement	
	Lower	Upper		Lower	Upper
June 2	1,200	1,400	August 3	172,500	295,700
June 4	4,000	4,500	August 6	178,700	306,300
June 6	9,800	11,200	August 9	184,600	316,300
June 8	17,900	20,400	August 12	190,600	326,600
June 10	29,500	33,700	August 15	196,200	336,200
June 12	51,200	58,500	August 18	201,900	346,000
June 14	83,000	94,800	August 21	207,400	355,400
June 16	116,000	132,600	August 24	213,300	365,600
June 18	145,300	166,100	August 27	218,800	374,900
June 20	170,900	195,400	August 31	225,000	385,700
June 22	202,100	231,000			
June 25	248,900	284,600	September 3	228,000	391,100
June 28	282,900	323,300	September 5	231,000	393,000
July 1	323,600	369,900	September 7	235,000	395,000
July 4	350,000	400,000 <sup>a</sup>	September 9	239,000	396,800
			September 11	243,000	398,100
July 6	7,000	11,900	September 13	247,000	399,000
July 8	19,900	34,100	September 15	250,000	400,000
July 10	32,600	56,000			
July 12	44,400	76,100			
July 14	58,900	101,000			
July 16	76,400	131,000			
July 19	96,600	165,700			
July 23	122,200	209,500			
July 26	141,800	243,100			
July 29	158,200	271,100			
July 31	165,500	283,700			

**Escapement Objectives**

**Through July 4: 350,000 – 400,000**

**July 5 - September 15: 250,000 – 400,000<sup>b</sup>**

<sup>a</sup> July 4 is historically the date on which the cumulative inseason escapement most closely approximated the early-run escapement as estimated by postseason scale pattern analysis.

<sup>b</sup> The late-run escapement objective (July 5–September 15) includes the late-run sockeye salmon sustainable escapement goal (SEG; 200,000–400,000), plus an additional 50,000 sockeye salmon inriver run goal (25,000 in August and 25,000 in September) to meet late season subsistence needs.



Table 3.--Estimated Chignik River Chinook, coho, pink, and chum salmon, and Dolly Varden escapement, by day, 2013.

Date	Chinook		Coho		Pink		Chum		Dolly Varden	
	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
5/28	0	0	0	0	0	0	0	0	6	6
5/29	0	0	0	0	0	0	0	0	0	6
5/30	0	0	0	0	0	0	0	0	12	18
5/31	0	0	0	0	0	0	0	0	0	18
6/1	0	0	0	0	0	0	0	0	6	24
6/2	0	0	0	0	0	0	0	0	0	24
6/3	0	0	0	0	0	0	0	0	0	24
6/4	0	0	0	0	0	0	0	0	0	24
6/5	0	0	0	0	0	0	0	0	0	24
6/6	0	0	0	0	0	0	0	0	18	42
6/7	0	0	0	0	0	0	0	0	6	48
6/8	0	0	0	0	0	0	0	0	6	54
6/9	0	0	0	0	0	0	0	0	0	54
6/10	0	0	0	0	0	0	0	0	1	55
6/11	0	0	0	0	0	0	0	0	6	61
6/12	0	0	0	0	0	0	0	0	6	67
6/13	0	0	0	0	0	0	0	0	12	79
6/14	0	0	0	0	0	0	0	0	18	97
6/15	6	6	0	0	0	0	0	0	24	121
6/16	6	12	0	0	0	0	0	0	30	151
6/17	0	12	0	0	0	0	0	0	0	151
6/18	0	12	0	0	0	0	0	0	54	205
6/19	0	12	0	0	0	0	0	0	26	231
6/20	6	18	0	0	0	0	0	0	132	363
6/21	6	24	0	0	0	0	0	0	222	585
6/22	6	30	0	0	0	0	0	0	364	949
6/23	6	36	0	0	0	0	0	0	329	1,278
6/24	0	36	0	0	0	0	0	0	504	1,782
6/25	0	36	0	0	0	0	0	0	658	2,440
6/26	24	60	0	0	0	0	0	0	166	2,606
6/27	0	60	0	0	0	0	0	0	156	2,762
6/28	24	84	0	0	0	0	0	0	150	2,912
6/29	6	90	0	0	0	0	0	0	168	3,080
6/30	0	90	0	0	0	0	0	0	246	3,326
7/1	0	90	0	0	0	0	0	0	424	3,750
7/2	30	120	0	0	0	0	0	0	486	4,236
7/3	0	120	0	0	0	0	0	0	438	4,674
7/4	13	133	0	0	0	0	0	0	168	4,842
7/5	38	171	0	0	0	0	0	0	140	4,982
7/6	24	195	0	0	6	6	0	0	209	5,191
7/7	24	219	0	0	12	18	0	0	210	5,401
7/8	24	243	0	0	0	18	0	0	319	5,720
7/9	20	263	0	0	6	24	0	0	294	6,014
7/10	36	299	0	0	0	24	0	0	678	6,692
7/11	48	347	0	0	0	24	0	0	120	6,812
7/12	66	413	0	0	0	24	0	0	239	7,051
7/13	90	503	0	0	6	30	0	0	264	7,315
7/14	43	546	0	0	7	37	0	0	1,187	8,502
7/15	66	612	0	0	42	79	0	0	1,686	10,188

-continued-

Table 3.–Page 2 of 2.

Date	Chinook		Coho		Pink		Chum		Dolly Varden	
	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
7/16	37	649	0	0	6	85	0	0	679	10,867
7/17	60	709	0	0	0	85	0	0	738	11,605
7/18	18	727	0	0	24	109	6	6	589	12,194
7/19	54	781	0	0	96	205	6	12	1,596	13,790
7/20	54	835	0	0	54	259	0	12	654	14,444
7/21	19	854	0	0	44	303	0	12	448	14,892
7/22	36	890	0	0	36	339	0	12	246	15,138
7/23	37	927	0	0	12	351	0	12	223	15,361
7/24	30	957	0	0	0	351	0	12	132	15,493
7/25	30	987	0	0	0	351	0	12	19	15,512
7/26	18	1,005	0	0	20	371	0	12	88	15,600
7/27	30	1,035	0	0	54	425	0	12	156	15,756
7/28	18	1,053	0	0	42	467	0	12	120	15,876
7/29	12	1,065	0	0	24	491	6	18	48	15,924
7/30	36	1,101	0	0	192	683	12	30	169	16,093
7/31	18	1,119	0	0	373	1,056	6	36	174	16,267
8/1	36	1,155	6	6	426	1,482	0	36	228	16,495
8/2	7	1,162	12	18	112	1,594	0	36	36	16,531
8/3	0	1,162	6	24	247	1,841	0	36	42	16,573
8/4	12	1,174	0	24	173	2,014	6	42	85	16,658
8/5	0	1,174	0	24	172	2,186	6	48	30	16,688
8/6	6	1,180	0	24	831	3,017	0	48	128	16,816
8/7	0	1,180	0	24	433	3,450	6	54	80	16,896
8/8	6	1,186	0	24	168	3,618	0	54	48	16,944
8/9	6	1,192	0	24	162	3,780	0	54	1	16,945
8/10	24	1,216	0	24	111	3,891	0	54	24	16,969
8/11	7	1,223	0	24	162	4,053	0	54	24	16,993
8/12	0	1,223	0	24	162	4,215	0	54	18	17,011
8/13	6	1,229	0	24	204	4,419	0	54	42	17,053
8/14	0	1,229	6	30	228	4,647	0	54	38	17,091
8/15	6	1,235	6	36	192	4,839	6	60	0	17,091
8/16	0	1,235	7	43	176	5,015	0	60	1	17,092
8/17	0	1,235	0	43	133	5,148	0	60	42	17,134
8/18	0	1,235	2	45	211	5,359	0	60	0	17,134
8/19	6	1,241	103	148	289	5,648	0	60	12	17,146
8/20	6	1,247	85	233	122	5,770	0	60	6	17,152
8/21	0	1,247	97	330	123	5,893	0	60	0	17,152
8/22	0	1,247	57	387	57	5,950	0	60	12	17,164
8/23	0	1,247	153	540	61	6,011	0	60	0	17,164
8/24	0	1,247	306	846	48	6,059	0	60	6	17,170
8/25	0	1,247	474	1,320	50	6,109	0	60	18	17,188
8/26	0	1,247	560	1,880	90	6,199	0	60	6	17,194
8/27	0	1,247	867	2,747	45	6,244	0	60	0	17,194
8/28	0	1,247	1,698	4,445	126	6,370	0	60	12	17,206
8/29	0	1,247	1,343	5,788	100	6,470	0	60	0	17,206
8/30	0	1,247	3,094	8,882	150	6,620	0	60	0	17,206
8/31	0	1,247	1,881	10,763	144	6,764	0	60	12	17,218
9/1	0	1,247	1,960	12,723	156	6,920	12	72	6	17,224
9/2	6	1,253	4,060	16,783	311	7,231	0	60	6	17,230
<b>Total</b>		<b>1,253</b>		<b>16,783</b>		<b>7,231</b>		<b>72</b>		<b>17,230</b>

Table 4.—Estimated Chignik River Chinook, coho, pink, and chum salmon, and Dolly Varden escapement, 1980 through 2013.

Year	Escapement <sup>a</sup>				
	Chinook <sup>b</sup>	Coho <sup>c</sup>	Pink <sup>c</sup>	Chum <sup>c</sup>	Dolly Varden <sup>c</sup>
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
Averages					
1993–2012	3,585	-	-	-	-
2003–2012	3,754	12,680	11,467	152	15,258
2008–2012	2,253	6,947	11,606	109	14,627

<sup>a</sup> A video monitoring system was installed at the Chignik weir in 1994.

<sup>b</sup> 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.

<sup>c</sup> No reliable escapement estimates were generated for pink, chum, or coho salmon or Dolly Varden from 1980 to 1996. No post-weir estimates are reported here for these species.

Table 5.—Total Chignik River sockeye salmon escapement and escapement goals, based on post-season analysis, by run, 1980 through 2013.

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
Year	Early Run	Late Run	Total
SEG	350,000–400,000	250,000–400,000	600,000–800,000
Averages			
1993–2012	436,520	307,579	744,099
2003–2012	384,044	302,901	686,946
2008–2012	408,792	318,438	727,230

Table 6.–Peak sockeye salmon aerial survey escapement estimates for Black Lake tributaries, 1980 through 2013.

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	-
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
Averages							
1993–2012	40,133	10,427	61,103	152,363	14,555	28,128	295,842
2003–2012	26,289	4,554	30,718	150,767	5,011	5,586	202,144
2008–2012	36,100	5,960	43,860	157,100	6,140	4,325	252,620

Table 7.—Peak sockeye salmon aerial survey escapement estimates for Chignik Lake and Black River tributaries, 1980 through 2013.

Year	Black River				Chignik Lake			
	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	-
1981	950	1,500	18,700	21,150	ND	ND	ND	-
1982	1,066	10,791	5,000	16,857	ND	ND	ND	-
1983	ND	ND	6,000	6,000	ND	ND	ND	-
1984	ND	ND	8,200	8,200	ND	ND	ND	-
1985	350	450	1,200	2,000	ND	ND	ND	-
1986	ND	ND	8,300	8,300	ND	ND	ND	-
1987	ND	ND	1,000	1,000	ND	ND	ND	-
1988	ND	ND	4,600	4,600	ND	ND	ND	-
1989	ND	ND	2,100	2,100	ND	ND	ND	-
1990	300	0	50	350	ND	ND	ND	-
1991	ND	ND	ND	-	ND	ND	ND	-
1992	ND	ND	ND	-	ND	ND	ND	-
1993	ND	ND	16,000	16,000	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	-
2003	ND	ND	2,000	2,000	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	-
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	16,200	55,800	2,300	30,000	88,100
Averages								
1993–2012	3,641	13,753	15,823	29,738	22,913	6,383	58,615	76,920
2003–2012	2,194	7,094	13,005	21,365	28,388	4,388	67,167	83,150
2008–2012	3,390	8,870	17,140	29,400	30,420	4,060	83,750	101,480

Table 8.–Estimated pink salmon escapement and objectives in the Chignik Management Area, by district and year, 1980 through 2013.

Year <sup>a</sup>	District <sup>b</sup>					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
1980	3,000	99,400	425,500	139,500	74,800	742,200
1981	1,400	76,500	154,700	249,300	116,000	597,900
1982	2,400	26,100	301,500	45,900	13,400	389,300
1983	1,000	11,000	46,300	36,000	64,500	158,800
1984	123,200	94,000	486,500	188,000	109,800	1,001,500
1985	ND	7,400	212,100	67,500	235,200	522,200
1986	ND	121,900	580,700	43,800	180,500	926,900
1987	ND	65,700	215,600	38,300	65,700	385,300
1988	22,400	216,400	1,005,400	232,400	181,300	1,657,900
1989	13,500	215,000	881,000	57,900	267,400	1,434,800
1990	6,000	131,900	811,400	44,300	88,400	1,082,000
1991	12,200	201,100	125,000	96,800	343,500	778,600
1992	55,800	223,800	1,318,100	38,800	190,400	1,826,900
1993	2,000	160,900	524,700	45,800	448,400	1,181,800
1994	75,800	178,900	863,300	111,600	153,900	1,383,500
1995	180,500	715,500	1,399,300	554,700	582,100	3,432,100
1996	43,100	237,100	1,059,600	220,800	395,700	1,956,300
1997	59,400	594,600	1,287,700	306,300	221,500	2,469,500
1998	24,400	210,900	1,273,200	150,400	222,800	1,881,700
1999	37,300	374,300	615,100	137,900	179,700	1,344,300
2000	27,400	146,100	810,700	130,100	98,700	1,213,000
2001	19,700	460,400	1,470,200	263,000	150,200	2,363,500
2002	16,917	85,755	777,710	85,501	62,170	1,028,053
2003	143,897	576,510	1,408,060	117,650	99,500	2,345,617
2004	27,300	257,000	601,900	94,340	134,320	1,114,860
2005	160,000	473,400	512,350	257,500	188,600	1,591,850
2006	27,401	36,175	195,950	31,800	83,500	374,826
2007	62,464	291,800	565,800	113,000	184,000	1,217,064
2008	69,841	117,650	402,880	99,460	173,200	863,031
2009	28,973	130,700	462,840	130,100	116,450	869,063
2010	8,020	52,650	228,500	22,000	19,400	330,570
2011	32,348	223,500	504,000	86,650	139,750	986,248
2012	11,849	63,950	155,500	35,700	35,700	302,699
2013	24,131	223,900	411,060	63,200	141,700	863,991
Odd Year SEG						500,000– 800,000
Averages						
1993–2012	52,931	269,390	755,965	149,715	184,480	1,412,479
2003–2012	57,209	222,334	503,778	98,820	117,442	999,583
2008–2012	30,206	117,690	350,744	74,782	96,900	670,322
Odd Year Averages						
1993–2011	72,658	400,161	875,005	201,260	231,020	1,780,104
2003–2011	85,536	339,182	690,610	140,980	145,660	1,401,968
2007–2011	41,262	215,333	510,880	109,917	146,733	1,024,125

<sup>a</sup> From 1984 to 2003 aerial survey escapement estimates were computed by area-under-the-curve methods using a 15.0-day average stream life (Johnson and Barrett 1988). Starting in 2004, estimates were computed using peak counts (Witteveen et al. 2005).

<sup>b</sup> All estimates were via aerial survey, with the exception of Chignik River, which was included in the Chignik Bay District estimate.

Table 9.–Estimated chum salmon escapement and objectives in the Chignik Management Area, by district and year, 1980 through 2013.

Year <sup>b</sup>	District <sup>a</sup>					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
1980	300	34,200	107,000	56,500	29,100	227,100
1981	500	26,100	126,000	70,300	19,300	242,200
1982	1,400	49,400	145,400	35,400	23,600	255,200
1983	100	17,000	50,200	20,100	8,200	95,600
1984	300	35,400	214,700	73,800	46,000	370,200
1985	0	9,600	4,900	34,600	12,900	62,000
1986	0	31,000	8,500	5,300	7,700	52,500
1987	100	17,500	38,300	19,700	9,800	85,400
1988	15,300	55,800	221,900	27,400	41,400	361,800
1989	4,200	34,700	74,300	7,400	15,900	136,500
1990	1,500	28,000	139,700	28,800	55,800	253,800
1991	0	18,000	70,400	38,100	343,200	469,700
1992	100	173,100	306,900	53,300	40,300	573,700
1993	300	39,400	135,200	14,000	66,800	255,700
1994	1,500	102,600	129,200	23,000	126,000	382,300
1995	10,300	44,500	112,800	45,700	134,600	347,900
1996	16,400	45,100	130,500	44,500	132,000	368,500
1997	18,500	65,700	290,000	60,500	152,800	587,500
1998	4,500	32,000	97,700	30,600	214,500	379,300
1999	2,300	32,400	167,100	16,300	117,300	335,400
2000	100	22,700	216,000	12,700	51,900	303,400
2001	4,100	36,500	406,900	35,500	67,800	550,800
2002	67	11,615	174,850	17,082	32,020	235,634
2003	899	43,191	152,854	39,050	64,331	300,325
2004	376	30,310	277,240	3,100	38,492	349,518
2005	30,000	159,100	36,350	22,000	61,250	308,700
2006	1,099	3,450	53,940	6,000	29,000	93,489
2007	6,118	25,200	58,000	26,500	122,280	238,098
2008	17,624	17,850	57,120	21,240	83,425	197,259
2009	10,809	20,550	138,900	9,200	35,500	214,959
2010	1,095	17,000	60,525	19,400	79,200	177,220
2011	4,145	32,500	177,000	9,000	55,500	278,145
2012	1,173	35,000	103,000	25,500	46,300	210,973
2013	672	53,600	63,935	20,200	197,500	335,907
<b>Area Management Goal</b>						<b>57,400</b>
<b>Averages</b>						
1993–2012	6,570	40,833	148,759	24,044	85,550	305,756
2003–2012	7,334	38,415	111,493	18,099	61,528	236,869
2008–2012	6,969	24,580	107,309	16,868	59,985	215,711

<sup>a</sup> From 1984 to 2003 aerial survey escapement estimates were computed by area-under-the-curve methods using a 15.0-day average stream life (Johnson and Barrett 1988). Starting in 2004, estimates were computed using peak counts (Witteveen et al. 2005).

<sup>b</sup> All estimates were via aerial survey, with the exception of Chignik River, which was included in the Chignik Bay District estimate.

Table 10.–Total commercial salmon harvests (including home pack and the department's test fishery harvests) from the Chignik Management Area by species and year, 1980 through 2013.

Year	Permits Making		Chignik Management Area Harvest						Total
	Deliveries	Landings	Chinook	Sockeye	Coho	Pink	Chum		
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	97	1,669	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	3,142	2,959	2,396,645	32,258	871,503	154,425	3,457,790	
Averages									
1993–2012	75	2,953	4,412	1,426,703	116,006	892,790	167,637	2,607,548	
2003–2012	59	2,171	3,797	1,225,662	76,460	843,334	170,125	2,319,377	
2008–2012	62	2,491	4,988	1,512,457	108,243	1,066,190	297,539	2,989,417	

Table 11.—Annual Chignik Management Area Chinook salmon harvest, 1980 through 2013.

Year	Test Fish		Commercial Catch		Home Pack		Total	
	Number	Pounds	Number	Pounds	Number	Pounds <sup>a</sup>	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	3,137	55,638	271	6,157	3,409	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
Averages								
1993–2012	4	72	4,302	60,653	117	2,057	4,412	62,576
2003–2012	2	39	3,670	47,586	124	2,244	3,797	49,868
2008–2012	1	9	4,907	53,819	80	1,328	4,988	55,156

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

Table 12.—Chignik Management Area Chinook salmon harvest (including home pack and the department’s test fishery catches), by district and year, 1980 through 2013.

Year	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
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
Averages						
1993–2012	1,747	1,199	283	1,021	163	4,412
2003–2012	1,487	837	203	1,232	38	3,797
2008–2012	825	1,440	375	2,274	75	4,988

Table 13.—Chignik Management Area Chinook salmon harvest (including home pack and the department’s test fishery catches), by district and day, 2013.

Date	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
6/2	2	Closed	Closed	Closed	Closed	2
6/3	Closed	Closed	Closed	Closed	Closed	Closed
6/4	0	Closed	Closed	Closed	Closed	Closed
6/5	Closed	Closed	Closed	Closed	Closed	Closed
6/6	0	19	0	Closed	Closed	19
6/7	1	18	5	Closed	Closed	24
6/8	2	36	6	13	Closed	57
6/9	5	24	13	Closed	Closed	42
6/10	3	11	8	Closed	Closed	22
6/11	9	7	13	Closed	Closed	29
6/12	1	20	0	Closed	Closed	21
6/13	0	11	39	37	Closed	87
6/14	0	43	31	87	Closed	161
6/15	0	16	16	Closed	Closed	32
6/16	8	18	13	Closed	Closed	39
6/17	Closed	Closed	Closed	Closed	Closed	Closed
6/18	5	17	8	Closed	Closed	30
6/19	2	33	25	Closed	Closed	60
6/20	Closed	Closed	Closed	Closed	Closed	Closed
6/21	Closed	Closed	Closed	Closed	Closed	Closed
6/22	Closed	Closed	Closed	Closed	Closed	Closed
6/23	4	4	0	Closed	Closed	8
6/24	1	61	14	Closed	Closed	76
6/25	7	2	25	33	Closed	67
6/26	12	0	5	2	Closed	19
6/27	14	1	5	0	Closed	20
6/28	12	31	13	Closed	Closed	56
6/29	12	5	0	20	Closed	37
6/30	55	8	Closed	Closed	Closed	63
7/1	16	4	Closed	Closed	Closed	20
7/2	25	68	Closed	Closed	Closed	93
7/3	15	16	Closed	Closed	Closed	31
7/4	10	26	Closed	Closed	Closed	36
7/5	19	12	Closed	Closed	Closed	31
7/6	36	32	Closed	Closed	Closed	68
7/7	26	15	Closed	Closed	Closed	41
7/8	21	10	Closed	Closed	Closed	31
7/9	44	43	Closed	Closed	Closed	87
7/10	20	32	Closed	Closed	Closed	52
7/11	18	46	Closed	12	Closed	76
7/12	Closed	Closed	Closed	Closed	Closed	Closed
7/13	2	Closed	Closed	Closed	Closed	2
7/14	Closed	Closed	Closed	Closed	Closed	Closed
7/15	14	9	0	13	0	36
7/16	29	28	22	227	0	306

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Table 13.–Page 2 of 2.

Date	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
7/17	21	63	0	4	0	88
7/18	20	86	104	21	0	231
7/19	45	119	0	4	0	168
7/20	33	30	21	3	Closed	87
7/21	1	114	2	Closed	Closed	117
7/22	1	4	0	Closed	Closed	5
7/23	1	48	5	Closed	Closed	54
7/24	1	59	0	Closed	Closed	60
7/25	Closed	Closed	Closed	Closed	Closed	Closed
7/26	Closed	Closed	Closed	Closed	Closed	Closed
7/27	Closed	Closed	Closed	Closed	Closed	Closed
7/28	Closed	Closed	Closed	Closed	Closed	Closed
7/29	Closed	Closed	Closed	Closed	Closed	Closed
7/30	Closed	Closed	Closed	Closed	Closed	Closed
7/31	Closed	Closed	Closed	Closed	Closed	Closed
8/1	3	0	0	44	21	68
8/2	0	0	5	144	2	151
8/3	0	0	0	4	0	4
8/4	7	0	0	0	10	17
8/5	1	0	Closed	0	1	2
8/6	0	0	Closed	Closed	Closed	0
8/7	2	0	Closed	0	Closed	2
8/8	1	0	Closed	0	Closed	1
8/9	0	0	Closed	0	Closed	0
8/10	0	0	Closed	0	15	15
8/11	0	0	0	0	0	0
8/12	0	0	0	0	3	3
8/13	0	0	Closed	Closed	Closed	0
8/14	0	0	Closed	Closed	Closed	0
8/15	0	0	Closed	Closed	Closed	0
8/16	0	0	0	0	0	0
8/17	0	0	0	0	0	0
8/18	0	0	0	0	0	0
8/19	0	0	0	0	0	0
8/20	0	0	0	0	0	0
8/21	5	0	0	0	0	5
8/22	0	0	0	0	0	0
8/23	0	0	0	0	0	0
8/24	0	0	0	0	0	0
8/25	0	0	0	0	0	0
8/26	0	0	0	0	0	0
8/27	0	0	0	0	0	0
8/28	- Processors Closed for Season -					
<b>Total</b>	592	1,249	398	668	52	2,959

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Table 14.—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 through 2013.

Year	Testfish		Commercial Catch		Home Pack		Total CMA Harvest		Cape Igvak <sup>a</sup>		SEDM <sup>b</sup>		Total Chignik-Bound	
	Number	Pounds	Number	Pounds	Number	Pounds <sup>c</sup>	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 14.–Page 2 of 2.

Year	Testfish		Commercial Catch		Home Pack		Total CMA Harvest		Cape Igvak <sup>a</sup>		SEDM <sup>b</sup>		Total Chignik-Bound	
	Number	Pounds	Number	Pounds	Number	Pounds <sup>c</sup>	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
2001 <sup>d</sup>	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	2,391,088	17,006,553	587	3,928	2,396,645	17,045,955	354,179	2,326,956	169,029	1,109,867	2,919,853	20,482,778
Averages														
1993–2012	7,236	48,121	1,418,942	9,635,621	-	-	1,426,703	9,687,164	194,944	1,137,707	85,975	573,147	1,671,153	11,124,648
2003–2012	5,241	34,480	1,219,629	8,265,324	792	5,109	1,225,662	8,304,913	178,283	1,061,064	77,415	514,483	1,481,361	9,193,706
2008–2012	4,409	29,125	1,507,668	10,402,386	380	2,532	1,512,457	10,434,044	226,319	1,391,260	83,262	567,208	1,822,038	10,621,583

<sup>a</sup> 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%.

<sup>b</sup> Beginning in 1980, 80% of the SEDM harvest in specific areas during specific times was considered Chignik River-bound.

<sup>c</sup> 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.

<sup>d</sup> Due to a strike by Alaska Peninsula fishermen, foregone harvest of 27,896 sockeye salmon was added to the SEDM catch for management purposes; this foregone harvest is not included in this table.

Table 15.—Total annual Chignik Management Area sockeye salmon harvest (including home pack and the department’s test fishery catches), by district, 1980 through 2013.

Year	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
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	1,602,826	581,908	149,437	56,248	6,226	2,396,645
Averages						
1993–2012	978,961	324,974	48,989	54,293	19,488	1,426,703
2003–2012	903,218	223,004	34,515	60,737	4,188	1,225,662
2008–2012	1,003,239	367,669	62,090	72,264	7,196	1,512,457

Table 16.—Chignik Management Area sockeye salmon harvest (including home pack and the department’s test fishery catches), by district and day, 2013.

Date	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
6/2	1,290	Closed	Closed	Closed	Closed	1,290
6/3	Closed	Closed	Closed	Closed	Closed	Closed
6/4	1,460	Closed	Closed	Closed	Closed	1,460
6/5	Closed	Closed	Closed	Closed	Closed	Closed
6/6	32,843	3,523	0	Closed	Closed	36,366
6/7	38,355	8,162	2,987	Closed	Closed	49,504
6/8	29,950	11,641	3,695	1,372	Closed	46,658
6/9	34,989	8,603	3,071	Closed	Closed	46,663
6/10	25,311	11,834	6,919	Closed	Closed	44,064
6/11	28,837	8,318	5,852	Closed	Closed	43,007
6/12	30,824	27,087	1,511	Closed	Closed	59,422
6/13	33,293	16,296	16,675	16,176	Closed	82,440
6/14	43,356	62,642	19,322	5,767	Closed	131,087
6/15	30,923	25,848	19,588	Closed	Closed	76,359
6/16	39,411	59,737	11,881	Closed	Closed	111,029
6/17	Closed	Closed	Closed	Closed	Closed	Closed
6/18	66,739	28,073	2,068	Closed	Closed	96,880
6/19	39,251	29,837	3,147	Closed	Closed	72,235
6/20	Closed	Closed	Closed	Closed	Closed	Closed
6/21	Closed	Closed	Closed	Closed	Closed	Closed
6/22	Closed	Closed	Closed	Closed	Closed	Closed
6/23	70,851	17,653	0	Closed	Closed	88,504
6/24	92,269	38,476	5,287	Closed	Closed	136,032
6/25	78,305	7,641	12,470	9,934	Closed	108,350
6/26	52,605	6,002	11,269	8,042	Closed	77,918
6/27	64,129	2,962	6,800	557	Closed	74,448
6/28	44,750	9,686	7,063	Closed	Closed	61,499
6/29	29,612	4,271	4,039	1,213	Closed	39,135
6/30	38,499	7,281	Closed	Closed	Closed	45,780
7/1	28,685	8,427	Closed	Closed	Closed	37,112
7/2	30,772	8,608	Closed	Closed	Closed	39,380
7/3	23,518	6,067	Closed	Closed	Closed	29,585
7/4	32,231	11,370	Closed	Closed	Closed	43,601
7/5	25,334	9,984	Closed	Closed	Closed	35,318
7/6	24,351	8,323	Closed	Closed	Closed	32,674
7/7	23,564	13,936	Closed	Closed	Closed	37,500
7/8	21,889	14,325	Closed	Closed	Closed	36,214
7/9	41,551	10,271	Closed	Closed	Closed	51,822
7/10	32,030	8,305	Closed	Closed	Closed	40,335
7/11	33,696	8,247	Closed	112	Closed	42,055
7/12	Closed	Closed	Closed	Closed	Closed	Closed
7/13	2,220	Closed	Closed	Closed	Closed	2,220
7/14	Closed	Closed	Closed	Closed	Closed	Closed
7/15	49,898	8,713	0	3,721	0	62,332
7/16	34,430	12,299	1,672	1,633	0	50,034

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Date	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
7/17	25,091	14,054	0	206	0	39,351
7/18	24,307	8,396	3,285	612	0	36,600
7/19	20,245	6,052	0	500	0	26,797
7/20	13,176	5,043	302	256	Closed	18,777
7/21	9,758	5,642	108	Closed	Closed	15,508
7/22	10,832	3,218	0	Closed	Closed	14,050
7/23	8,539	4,293	412	Closed	Closed	13,244
7/24	10,121	5,476	0	Closed	Closed	15,597
7/25	Closed	Closed	Closed	Closed	Closed	Closed
7/26	Closed	Closed	Closed	Closed	Closed	Closed
7/27	Closed	Closed	Closed	Closed	Closed	Closed
7/28	Closed	Closed	Closed	Closed	Closed	Closed
7/29	Closed	Closed	Closed	Closed	Closed	Closed
7/30	Closed	Closed	Closed	Closed	Closed	Closed
7/31	Closed	Closed	Closed	Closed	Closed	Closed
8/1	10,578	1,201	0	932	363	13,074
8/2	8,170	257	0	449	393	9,269
8/3	5,571	150	0	680	2,721	9,122
8/4	9,294	1,063	0	518	812	11,687
8/5	4,314	859	1	220	174	5,568
8/6	4,642	0	Closed	Closed	Closed	4,642
8/7	6,203	334	Closed	207	Closed	6,744
8/8	6,860	454	Closed	503	Closed	7,817
8/9	7,341	594	Closed	117	Closed	8,052
8/10	4,898	96	Closed	0	485	5,479
8/11	6,126	1	1	544	465	7,137
8/12	5,916	0	11	239	347	6,513
8/13	7,319	48	Closed	3	Closed	7,370
8/14	7,569	73	Closed	73	Closed	7,715
8/15	4,790	0	Closed	510	Closed	5,300
8/16	4,024	0	1	422	0	4,447
8/17	4,115	0	0	225	163	4,503
8/18	2,870	0	0	271	0	3,141
8/19	3,976	0	0	119	0	4,095
8/20	2,807	18	0	18	0	2,843
8/21	2,238	138	0	0	303	2,679
8/22	2,303	0	0	0	0	2,303
8/23	1,749	0	0	97	0	1,846
8/24	1,479	0	0	0	0	1,479
8/25	1,876	0	0	0	0	1,876
8/26	1,708	0	0	0	0	1,708
8/27	0	0	0	0	0	0
8/28	- Processors Closed for Season -					
<b>Total</b>	<b>1,602,826</b>	<b>581,908</b>	<b>149,437</b>	<b>56,248</b>	<b>6,226</b>	<b>2,396,645</b>

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Table 17.—Harvest of sockeye salmon considered by regulation to be Chignik-bound in the Chignik, Cape Igvak, and Southeastern District Mainland commercial salmon fisheries from June 1 through July 25, 1978–2013.

Year	Chignik <sup>a</sup>		Cape Igvak <sup>a</sup>		Southeastern District Mainland <sup>a</sup>		Total
	Catch <sup>b</sup>	Percent	Catch <sup>b</sup>	Percent	Catch <sup>c</sup>	Percent	
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	0	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 <sup>d</sup>	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 <sup>e</sup>	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	0	0.0	0	0.0	443,892
1998 <sup>f</sup>	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 <sup>g</sup>	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	0	0.0	653,740
2008	445,199	100.0	0	0.0	0	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

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Year	Chignik <sup>a</sup>		Cape Igvak <sup>a</sup>		Southeastern District Mainland <sup>a</sup>		Total
	Catch <sup>b</sup>	Percent	Catch <sup>b</sup>	Percent	Catch <sup>c</sup>	Percent	
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	2,244,918	81.1	354,138	12.8	169,029	7.5	2,768,085
Averages							
1993–2012	1,162,645	83	194,944	11.6	87,732	5.8	1,445,320
2003–2012	1,033,854	83	178,284	11.8	78,139	5.9	1,290,277
2008–2012	1,272,084	84	226,319	11.6	83,262	5.5	1,581,665

<sup>a</sup> 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 as they are not included in the allocation scheme.

<sup>b</sup> 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.

<sup>c</sup> Beginning in 1985 the Southeastern District Mainland 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 decreased the allocation from 7.0% to 6.0%. The allocation was increased from 6.0% to 7.6% prior to the 2007 season.

<sup>d</sup> Includes a foregone harvest of 278,305 sockeye salmon during a Chignik area strike (June 23–July 4).

<sup>e</sup> Includes a foregone harvest of 208,921 sockeye salmon during a Chignik area strike (June 2–June 25).

<sup>f</sup> Includes a foregone harvest of 52,131 sockeye salmon during a Chignik area strike (June 16–June 29).

<sup>g</sup> 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).

Table 18.—Chignik sockeye salmon escapement, total harvest considered Chignik-bound, and total run, 1970 through 2013.

Year	Early Run			Late Run			Total Run <sup>a,b,c</sup>		
	Esc.	Harvest	Run	Esc.	Harvest	Run	Esc.	Harvest	Run
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
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	2,029,158	2,415,940	369,319	890,695	1,260,014	756,101	2,919,853	3,675,954
Averages									
1993–2012	436,520	946,890	1,383,410	307,579	760,732	1,068,310	744,099	1,707,622	2,451,720
2003–2012	384,044	866,776	1,250,820	302,901	614,585	917,487	686,946	1,481,361	2,168,306
2008–2012	408,792	1,097,196	1,505,989	318,438	724,841	1,043,279	727,230	1,822,038	2,549,268

<sup>a</sup> Includes Cape Igvak and 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.

<sup>b</sup> Does not include subsistence-caught fish.

<sup>c</sup> Includes harvests from the Chignik Lagoon test fishery and fish retained for home pack.

Table 19.—Chignik sockeye salmon forecasts and actual runs, by run and year, 1994 through 2013, in millions of fish.

Year	Early Run			Late Run			Total Run		
	Forecast	Actual	% Error	Forecast	Actual	% Error	Forecast	Actual	% Error
1994	1.80	2.36	-23.88	1.30	0.61	111.79	3.10	2.98	4.08
1995	1.90	1.03	83.88	0.90	1.69	-46.72	2.80	2.72	2.84
1996	1.40	2.15	-34.97	1.60	0.99	61.61	3.00	3.14	-4.55
1997	1.00	0.63	58.44	1.60	0.91	75.03	2.60	1.55	68.25
1998	0.90	0.72	24.36	1.10	1.11	-0.66	2.00	1.83	9.23
1999	1.05	2.48	-57.66	1.29	1.98	-34.93	2.34	4.46	-47.56
2000	3.90	2.11	84.66	1.09	0.84	29.04	4.99	2.96	68.77
2001	1.00	1.31	-23.49	0.91	1.61	-43.38	1.91	2.91	-34.46
2002	1.03	1.06	-3.24	1.09	0.91	19.85	2.12	1.97	7.40
2003	1.64	0.99	65.62	1.19	1.00	19.00	2.83	1.99	42.20
2004	1.26	1.09	15.60	1.08	0.41	163.41	2.34	1.50	56.00
2005	1.84	1.46	26.03	0.55	0.71	-22.54	2.39	2.17	10.14
2006	1.21	0.78	55.13	0.28	0.96	-70.83	1.49	1.74	-14.37
2007	1.02	0.60	71.14	0.90	0.95	-5.24	1.92	1.55	24.21
2008	1.07	0.60	78.33	0.65	0.79	-17.97	1.72	1.39	23.60
2009	0.85	0.87	-2.30	0.54	1.23	-56.10	1.39	2.10	-33.81
2010	1.08	1.20	-10.00	1.11	1.19	-6.72	2.19	2.39	-8.37
2011	1.30	3.08	-57.82	1.02	0.82	24.39	2.32	3.90	-40.54
2012	1.08	1.64	-34.15	1.20	1.33	-9.77	2.28	2.96	-22.97
2013	2.77	2.42	14.46	1.05	1.26	-16.67	3.82	3.68	3.80
Averages									
2003–2012	1.23	1.23	20.76	0.85	0.94	1.76	2.09	2.17	3.61
2008–2012	1.08	1.48	-5.19	0.90	1.07	-13.24	1.98	2.55	-16.42

Table 20.–Chignik Management Area coho salmon harvest, by year, 1980 through 2013.

Year	Testfish		Commercial Catch		Home Pack		Total	
	Number	Pounds	Number	Pounds	Number	Pounds <sup>a</sup>	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	32,230	225,826	28	277	32,258	226,103
Averages								
1993–2012	25	141	115,898	869,212	92	680	116,006	869,965
2003–2012	4	29	76,423	564,455	33	252	76,460	564,736
2008–2012	0	0	108,240	781,144	3	29	108,243	781,174

<sup>a</sup> 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 21.—Chignik Management Area coho salmon harvest (including home pack and the department’s test fishery catches), by district and year, 1980 through 2013.

Year	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
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	8,184	521	16,770	2,637	32,258
Averages						
1993–2012	23,374	20,243	1,188	58,018	13,183	116,006
2003–2012	13,898	8,985	787	49,276	3,514	76,460
2008–2012	16,357	13,297	1,488	70,995	6,106	108,243

Table 22.—Chignik Management Area coho salmon harvest (including home pack and the department’s test fishery catches), by district and day, 2013.

Date	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
6/2	0	Closed	Closed	Closed	Closed	Closed
6/3	Closed	Closed	Closed	Closed	Closed	Closed
6/4	0	Closed	Closed	Closed	Closed	Closed
6/5	Closed	Closed	Closed	Closed	Closed	Closed
6/6	0	0	0	Closed	Closed	0
6/7	0	0	0	Closed	Closed	0
6/8	0	0	0	0	Closed	0
6/9	0	4	0	Closed	Closed	4
6/10	0	0	0	Closed	Closed	0
6/11	0	0	0	Closed	Closed	0
6/12	0	0	0	Closed	Closed	0
6/13	0	0	0	0	Closed	0
6/14	0	0	0	0	Closed	0
6/15	0	0	0	Closed	Closed	0
6/16	0	0	0	Closed	Closed	0
6/17	Closed	Closed	Closed	Closed	Closed	Closed
6/18	0	0	0	Closed	Closed	0
6/19	0	0	0	Closed	Closed	0
6/20	Closed	Closed	Closed	Closed	Closed	Closed
6/21	Closed	Closed	Closed	Closed	Closed	Closed
6/22	Closed	Closed	Closed	Closed	Closed	Closed
6/23	0	2	0	Closed	Closed	2
6/24	0	10	0	Closed	Closed	10
6/25	0	0	0	0	Closed	0
6/26	0	0	0	45	Closed	45
6/27	0	0	0	0	Closed	0
6/28	0	8	4	Closed	Closed	12
6/29	22	1	0	Closed	Closed	23
6/30	3	7	Closed	Closed	Closed	10
7/1	0	0	Closed	Closed	Closed	0
7/2	1	123	Closed	Closed	Closed	124
7/3	0	0	Closed	Closed	Closed	0
7/4	1	233	Closed	Closed	Closed	234
7/5	1	0	Closed	Closed	Closed	1
7/6	21	111	Closed	Closed	Closed	132
7/7	0	6	Closed	Closed	Closed	6
7/8	10	200	Closed	Closed	Closed	210
7/9	10	393	Closed	Closed	Closed	403
7/10	4	140	Closed	Closed	Closed	144
7/11	19	300	Closed	148	Closed	467
7/12	Closed	Closed	Closed	Closed	Closed	Closed
7/13	0	Closed	Closed	Closed	Closed	Closed
7/14	Closed	Closed	Closed	Closed	Closed	Closed
7/15	4	215	0	1,015	0	1,234
7/16	12	574	172	5,203	0	5,961

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Table 23.—Chignik Management Area pink salmon harvest, by year, 1980 through 2013.

Year	Testfish		Commercial Catch		Home Pack		Total	
	Number	Pounds	Number	Pounds	Number	Pounds <sup>a</sup>	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	871,500	2,609,795	0	0	871,503	2,609,801
Averages								
1993–2012	127	412	892,366	2,971,406	330	992	892,790	2,972,711
2003–2012	64	237	843,203	2,905,566	67	249	843,334	2,906,051
2008–2012	12	31	1,066,173	3,538,736	6	18	1,066,190	3,538,784

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

Table 24.—Chignik Management Area pink salmon harvest (including home pack and the department's test fishery catches), by district and year, 1980 through 2013.

Year	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
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	218,317	197,293	192,861	186,559	871,503
Averages						
1993–2012	61,175	262,860	64,350	382,524	121,880	892,790
2003–2012	76,145	203,060	91,794	409,745	62,590	843,334
2008–2012	76,300	229,946	158,962	487,192	113,790	1,066,190

Table 25.—Chignik Management Area pink salmon harvest (including home pack and the department’s test fishery catches), by district and day, 2013.

Date	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
6/2	0	Closed	Closed	Closed	Closed	Closed
6/3	Closed	Closed	Closed	Closed	Closed	Closed
6/4	0	Closed	Closed	Closed	Closed	Closed
6/5	Closed	Closed	Closed	Closed	Closed	Closed
6/6	0	19	0	Closed	Closed	19
6/7	0	23	6	Closed	Closed	29
6/8	0	330	20	114	Closed	464
6/9	0	37	30	Closed	Closed	67
6/10	0	314	92	Closed	Closed	406
6/11	0	139	96	Closed	Closed	235
6/12	0	195	35	Closed	Closed	230
6/13	0	346	272	1,892	Closed	2,510
6/14	17	771	189	851	Closed	1,828
6/15	1	184	0	Closed	Closed	185
6/16	5	413	414	Closed	Closed	832
6/17	Closed	Closed	Closed	Closed	Closed	Closed
6/18	10	365	200	Closed	Closed	575
6/19	7	640	424	Closed	Closed	1,071
6/20	Closed	Closed	Closed	Closed	Closed	Closed
6/21	Closed	Closed	Closed	Closed	Closed	Closed
6/22	Closed	Closed	Closed	Closed	Closed	Closed
6/23	17	500	0	Closed	Closed	517
6/24	31	2,083	507	Closed	Closed	2,621
6/25	3	157	1,168	8,324	Closed	9,652
6/26	26	215	1,964	11,063	Closed	13,268
6/27	85	1,212	1,048	1,071	Closed	3,416
6/28	68	2,448	803	Closed	Closed	3,319
6/29	204	603	25	676	Closed	1,508
6/30	1,864	1,472	Closed	Closed	Closed	3,336
7/1	60	99	Closed	Closed	Closed	159
7/2	64	2,302	Closed	Closed	Closed	2,366
7/3	51	626	Closed	Closed	Closed	677
7/4	56	1,462	Closed	Closed	Closed	1,518
7/5	94	989	Closed	Closed	Closed	1,083
7/6	134	3,130	Closed	Closed	Closed	3,264
7/7	97	1,216	Closed	Closed	Closed	1,313
7/8	315	4,711	Closed	Closed	Closed	5,026
7/9	488	3,905	Closed	Closed	Closed	4,393
7/10	291	1,993	Closed	Closed	Closed	2,284
7/11	524	2,524	Closed	222	Closed	3,270
7/12	Closed	Closed	Closed	Closed	Closed	Closed
7/13	3	Closed	Closed	Closed	Closed	Closed
7/14	Closed	Closed	Closed	Closed	Closed	Closed
7/15	369	6,851	0	2,684	0	9,904
7/16	343	9,754	3,044	15,761	0	28,902

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Table 25.–Page 2 of 2.

Date	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
7/17	425	8,315	0	2,548	0	11,288
7/18	903	11,504	2,968	9,734	0	25,109
7/19	915	14,743	0	3,607	0	19,265
7/20	846	12,855	2,330	2,078	Closed	18,109
7/21	316	11,064	275	Closed	Closed	11,655
7/22	391	6,669	0	Closed	Closed	7,060
7/23	354	11,104	2,025	Closed	Closed	13,483
7/24	2,457	12,779	0	Closed	Closed	15,236
7/25	Closed	Closed	Closed	Closed	Closed	Closed
7/26	Closed	Closed	Closed	Closed	Closed	Closed
7/27	Closed	Closed	Closed	Closed	Closed	Closed
7/28	Closed	Closed	Closed	Closed	Closed	Closed
7/29	Closed	Closed	Closed	Closed	Closed	Closed
7/30	Closed	Closed	Closed	Closed	Closed	Closed
7/31	Closed	Closed	Closed	Closed	Closed	Closed
8/1	5,373	9,573	32,263	25,439	12,335	84,983
8/2	4,173	1,999	34,130	16,598	22,622	79,522
8/3	1,989	2,136	0	14,425	46,824	65,374
8/4	9,992	5,163	10,594	6,076	35,348	67,173
8/5	5,737	7,931	17,686	2,010	4,484	37,848
8/6	1,090	0	Closed	Closed	Closed	1,090
8/7	6,484	10,301	Closed	2,828	Closed	19,613
8/8	5,570	19,095	Closed	7,717	Closed	32,382
8/9	5,536	13,331	Closed	2,730	Closed	21,597
8/10	1,622	5,294	23,605	561	27,769	58,851
8/11	2,411	433	53,151	17,558	18,398	91,951
8/12	1,931	0	5,112	8,557	12,872	28,472
8/13	2,331	386	Closed	188	Closed	2,905
8/14	2,399	758	Closed	758	Closed	3,915
8/15	1,675	0	Closed	6,335	Closed	8,010
8/16	1,536	0	2,817	10,645	0	14,998
8/17	1,158	0	0	5,129	3,559	9,846
8/18	858	0	0	3,004	0	3,862
8/19	863	0	0	1,210	0	2,073
8/20	374	167	0	167	0	708
8/21	238	0	0	0	2,348	2,586
8/22	323	0	0	0	0	323
8/23	267	0	0	301	0	568
8/24	134	0	0	0	0	134
8/25	291	689	0	0	0	980
8/26	284	0	0	0	0	284
8/27	0	0	0	0	0	0
8/28	- Processors Closed for Season -					
Total	76,473	218,317	197,293	192,861	186,559	871,503

Table 26.—Chignik Management Area chum salmon harvest, by year, 1980 through 2013.

Year	Testfish		Commercial Catch		Home Pack		Total	
	Number	Pounds	Number	Pounds	Number	Pounds <sup>a</sup>	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	154,425	1,192,041	0	0	154,425	1,192,041
Averages								
1993–2012	39	279	166,511	1,263,861	1,208	9,428	167,637	1,272,624
2003–2012	15	150	170,074	1,309,041	36	262	170,125	1,309,453
2008–2012	2	18	297,488	2,295,253	48	358	297,539	2,295,629

<sup>a</sup> 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 27.—Chignik Management Area chum salmon harvest (including home pack and the department’s test fishery catches), by district and year, 1980 through 2013.

Year	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
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	56,831	45,253	38,237	4,902	154,425
Averages						
1993–2012	10,149	61,486	22,887	59,942	13,174	167,637
2003–2012	8,989	57,917	31,696	67,768	3,755	170,125
2008–2012	13,999	106,696	61,655	108,142	7,047	297,539

Table 28.—Chignik Management Area chum salmon harvest (including home pack and the department’s test fishery catches), by district and day, 2013.

Date	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
6/2	0	Closed	Closed	Closed	Closed	Closed
6/3	Closed	Closed	Closed	Closed	Closed	Closed
6/4	0	Closed	Closed	Closed	Closed	Closed
6/5	Closed	Closed	Closed	Closed	Closed	Closed
6/6	0	97	0	Closed	Closed	97
6/7	0	418	484	Closed	Closed	902
6/8	0	477	734	23	Closed	1,234
6/9	0	234	1,078	Closed	Closed	1,312
6/10	0	169	1,227	Closed	Closed	1,396
6/11	0	229	816	Closed	Closed	1,045
6/12	0	599	263	Closed	Closed	862
6/13	0	648	4,927	8,489	Closed	14,064
6/14	0	1,183	4,127	2,524	Closed	7,834
6/15	2	731	2,103	Closed	Closed	2,836
6/16	0	1,298	2,334	Closed	Closed	3,632
6/17	Closed	Closed	Closed	Closed	Closed	Closed
6/18	0	675	1,179	Closed	Closed	1,854
6/19	0	1,576	2,598	Closed	Closed	4,174
6/20	Closed	Closed	Closed	Closed	Closed	Closed
6/21	Closed	Closed	Closed	Closed	Closed	Closed
6/22	Closed	Closed	Closed	Closed	Closed	Closed
6/23	2	1,042	0	Closed	Closed	1,044
6/24	3	4,244	1,567	Closed	Closed	5,814
6/25	0	1,532	1,684	3,957	Closed	7,173
6/26	6	418	1,840	11,591	Closed	13,855
6/27	12	519	755	591	Closed	1,877
6/28	7	1,709	1,301	Closed	Closed	3,017
6/29	154	998	161	252	Closed	1,565
6/30	575	1,308	Closed	Closed	Closed	1,883
7/1	6	980	Closed	Closed	Closed	986
7/2	7	3,403	Closed	Closed	Closed	3,410
7/3	3	1,629	Closed	Closed	Closed	1,632
7/4	9	2,678	Closed	Closed	Closed	2,687
7/5	7	996	Closed	Closed	Closed	1,003
7/6	59	1,602	Closed	Closed	Closed	1,661
7/7	37	1,547	Closed	Closed	Closed	1,584
7/8	37	3,315	Closed	Closed	Closed	3,352
7/9	33	1,681	Closed	Closed	Closed	1,714
7/10	19	905	Closed	Closed	Closed	924
7/11	204	1,542	Closed	37	Closed	1,783
7/12	Closed	Closed	Closed	Closed	Closed	Closed
7/13	0	Closed	Closed	Closed	Closed	Closed
7/14	Closed	Closed	Closed	Closed	Closed	Closed
7/15	115	1,096	0	284	0	1,495
7/16	64	2,480	2,532	2,222	0	7,298

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Table 28.–Page 2 of 2.

Date	District					Total
	Chignik Bay	Central	Eastern	Western	Perryville	
7/17	46	1,497	0	420	0	1,963
7/18	123	1,285	830	887	0	3,125
7/19	56	1,297	0	518	0	1,871
7/20	122	2,749	326	301	Closed	3,498
7/21	44	1,045	24	Closed	Closed	1,113
7/22	84	435	0	Closed	Closed	519
7/23	59	1,293	42	Closed	Closed	1,394
7/24	313	947	0	Closed	Closed	1,260
7/25	Closed	Closed	Closed	Closed	Closed	Closed
7/26	Closed	Closed	Closed	Closed	Closed	Closed
7/27	Closed	Closed	Closed	Closed	Closed	Closed
7/28	Closed	Closed	Closed	Closed	Closed	Closed
7/29	Closed	Closed	Closed	Closed	Closed	Closed
7/30	Closed	Closed	Closed	Closed	Closed	Closed
7/31	Closed	Closed	Closed	Closed	Closed	Closed
8/1	853	230	1,851	1,640	1,200	5,774
8/2	518	136	8,501	724	643	10,522
8/3	326	167	0	499	414	1,406
8/4	666	457	52	742	587	2,504
8/5	287	234	168	82	83	854
8/6	98	0	Closed	Closed	Closed	98
8/7	445	188	Closed	261	Closed	894
8/8	570	301	Closed	332	Closed	1,203
8/9	383	424	Closed	180	Closed	987
8/10	100	104	0	10	675	889
8/11	138	1	1,661	482	418	2,700
8/12	82	0	72	125	717	996
8/13	241	23	Closed	10	Closed	274
8/14	248	17	Closed	17	Closed	282
8/15	104	0	Closed	445	Closed	549
8/16	363	0	16	128	0	507
8/17	285	0	0	141	69	495
8/18	345	0	0	147	0	492
8/19	367	0	0	135	0	502
8/20	154	14	0	14	0	182
8/21	89	0	0	0	96	185
8/22	133	0	0	0	0	133
8/23	50	0	0	27	0	77
8/24	31	0	0	0	0	31
8/25	83	29	0	0	0	112
8/26	35	0	0	0	0	35
8/27	0	0	0	0	0	0
8/28	- Processors Closed for Season -					
<b>Total</b>	<b>9,202</b>	<b>56,831</b>	<b>45,253</b>	<b>38,237</b>	<b>4,902</b>	<b>154,425</b>

Table 29.—Value of the commercial salmon harvest, by species, and average value per active permit, in dollars, in the Chignik Management Area, 1970 through 2013.

Year	Chinook		Sockeye		Coho		Pink		Chum		Total Value	Number of Permits <sup>c</sup>	Value Per Permit
	Total <sup>a</sup>	Average <sup>b</sup>											
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
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

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Table 29.–Page 2 of 2.

Year	Chinook		Sockeye		Coho		Pink		Chum		Total Value	Number of Permits <sup>c</sup>	Value Per Permit
	Total <sup>a</sup>	Average <sup>b</sup>											
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 <sup>d</sup>	37,620	495	21,946,587	288,771	86,892	1,143	867,978	11,421	384,458	5,059	23,323,535	76	306,889
Averages													
1993-2012	42,878	548	8,915,602	111,780	356,906	4,441	467,495	6,818	341,481	4,876	10,124,361	84	128,462
2003-2012	44,671	677	7,902,566	119,905	242,697	4,050	576,235	9,900	470,912	7,568	9,237,081	71	142,099
2008-2012	62,235	978	11,000,358	174,517	388,224	6,580	872,742	15,034	876,641	14,043	13,200,199	61	211,152

<sup>a</sup> Total value of commercial catch in dollars, by species. Total value does not include home pack or department test fishery.

<sup>b</sup> Average value of commercial catch in dollars, by species. Average value does not include home pack or department test fishery.

<sup>c</sup> Includes the number of commercial permits that received income from the harvest. These figures do not include department test fishery harvests.

<sup>d</sup> Values represent the initial price paid, and do not include any postseason adjustments by any processor. The average 2013 exvessel prices per pound were: Chinook – \$1.06, sockeye – \$1.29, coho – \$0.38, pink – \$0.33, chum – \$0.32.

Table 30.—Sampling dates, final sample sizes, estimates of stock composition, upper and lower 90% credibility intervals, and standard deviations for samples of the escapement through the Chignik River weir in 2010, 2011, 2012, and 2013 using the program BAYES with a sequential prior.

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

<sup>a</sup> Note these estimates were associated with a Gelman-Rubin shrink factor of 1.4.

Table 31.—Historical number of subsistence permits issued and returned and estimated subsistence salmon harvest, by species and year, 1980 through 2012.

Year	Permits		Estimated Salmon Harvest					Total
	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	
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 <sup>a</sup>	95	82	104	6,785	1,174	137	707	8,907
2010 <sup>a</sup>	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 <sup>a</sup>	106	87	116	5,607	1,488	220	810	8,241
Averages								
1992–2011	124	91	128	9,497	1,890	282	1,174	12,972
2002–2011	113	85	138	8,725	1,655	208	907	11,633
2007–2011	106	80	94	8,578	1,453	187	853	11,166

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

<sup>a</sup> From 1993–2008 and in 2011, postseason household surveys were conducted to supplement harvest data collected through returned permits. Limited budgets prevented administering the surveys for 2009, 2010, and 2012 likely resulting in an underestimate of subsistence harvests since not all subsistence fishing households obtained a permit. To compensate for this underestimate, the average annual harvest for the period 1999–2008 reported during postseason surveys was added to harvests from returned permits to estimate the total subsistence harvest for 2009 and 2010.

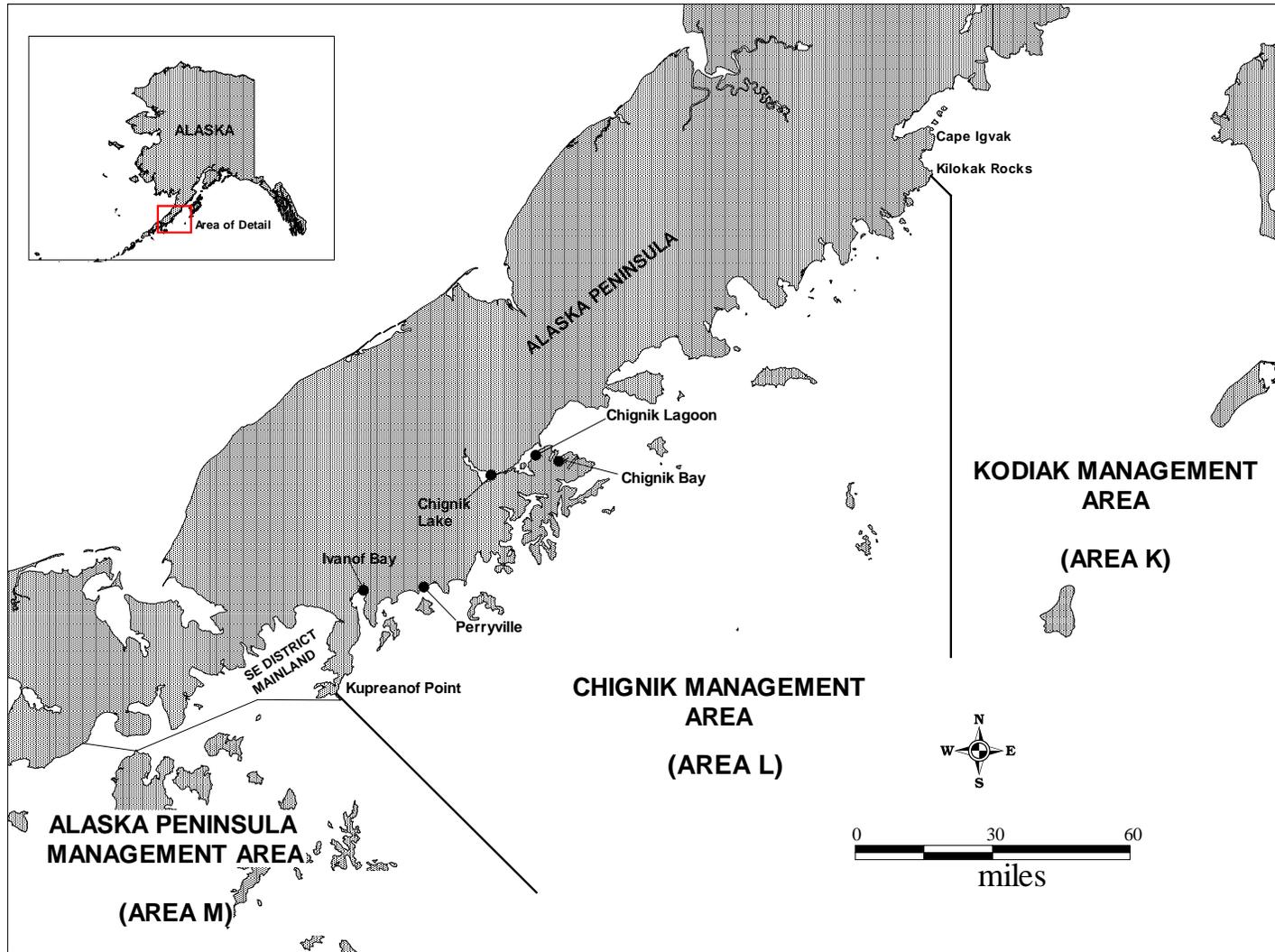


Figure 1.—Map of the Alaska Peninsula illustrating the relative locations of the Chignik, Kodiak, and Alaska Peninsula management areas.

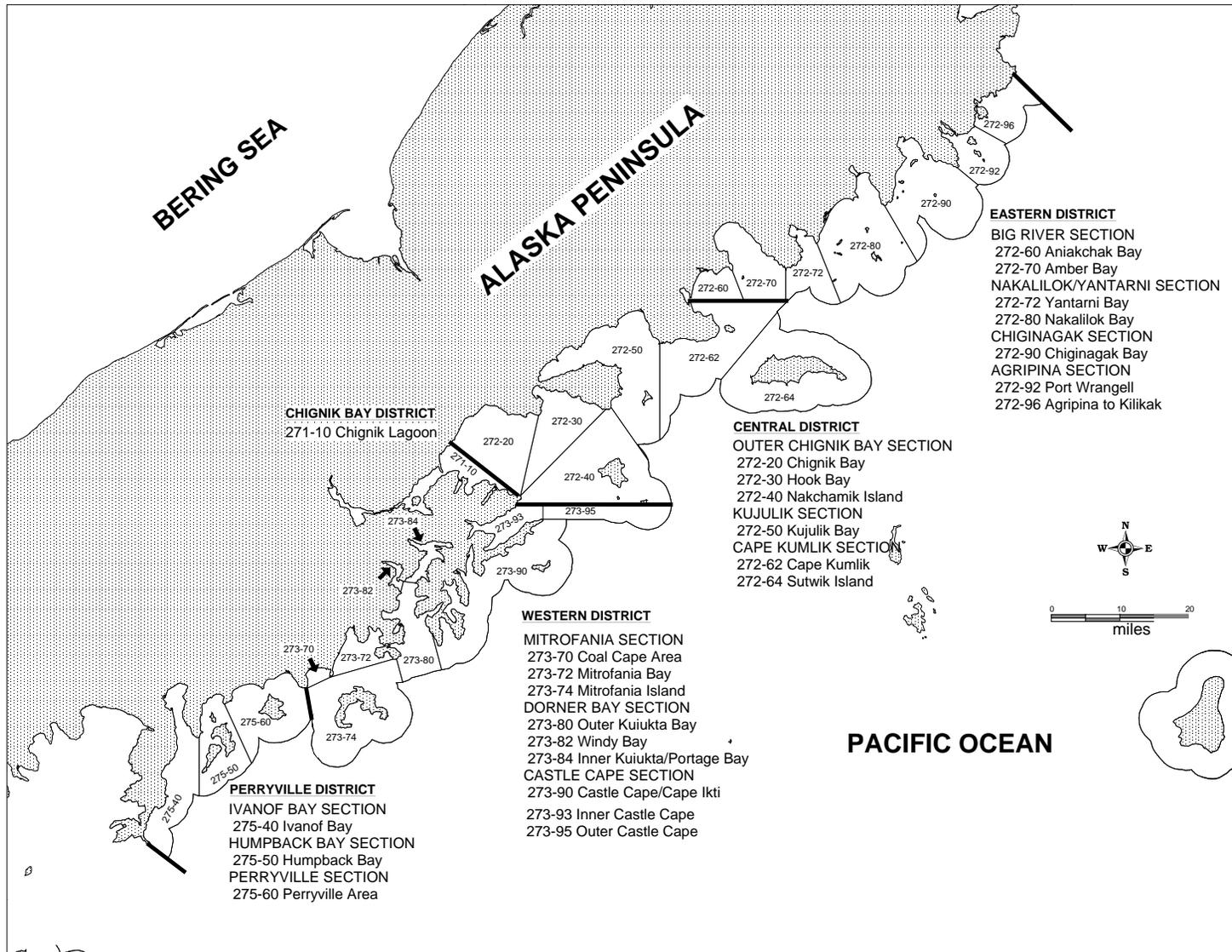


Figure 2.—Map of the Chignik Management Area illustrating district and section boundaries and statistical areas.

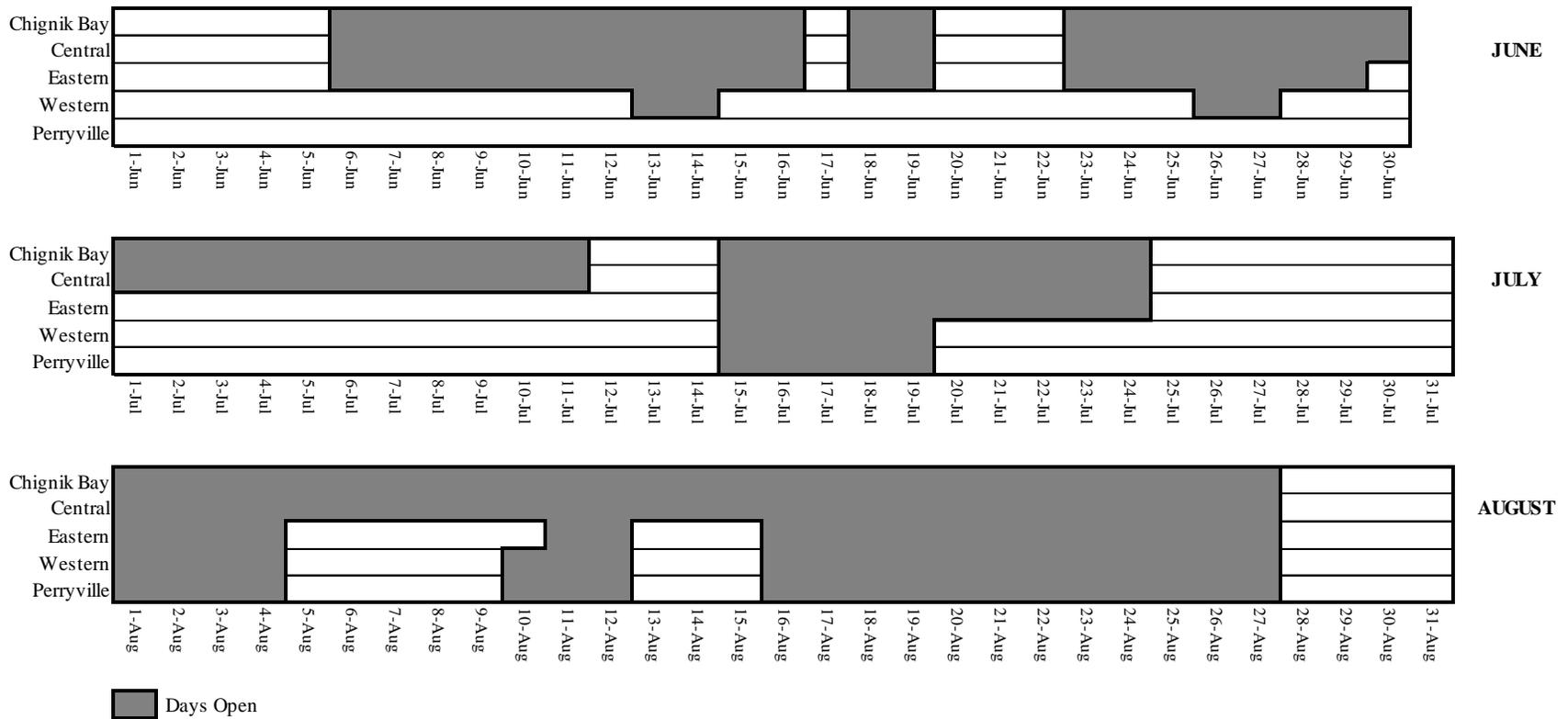


Figure 3.—Representation of days open to commercial salmon fishing, by district and month, 2013.

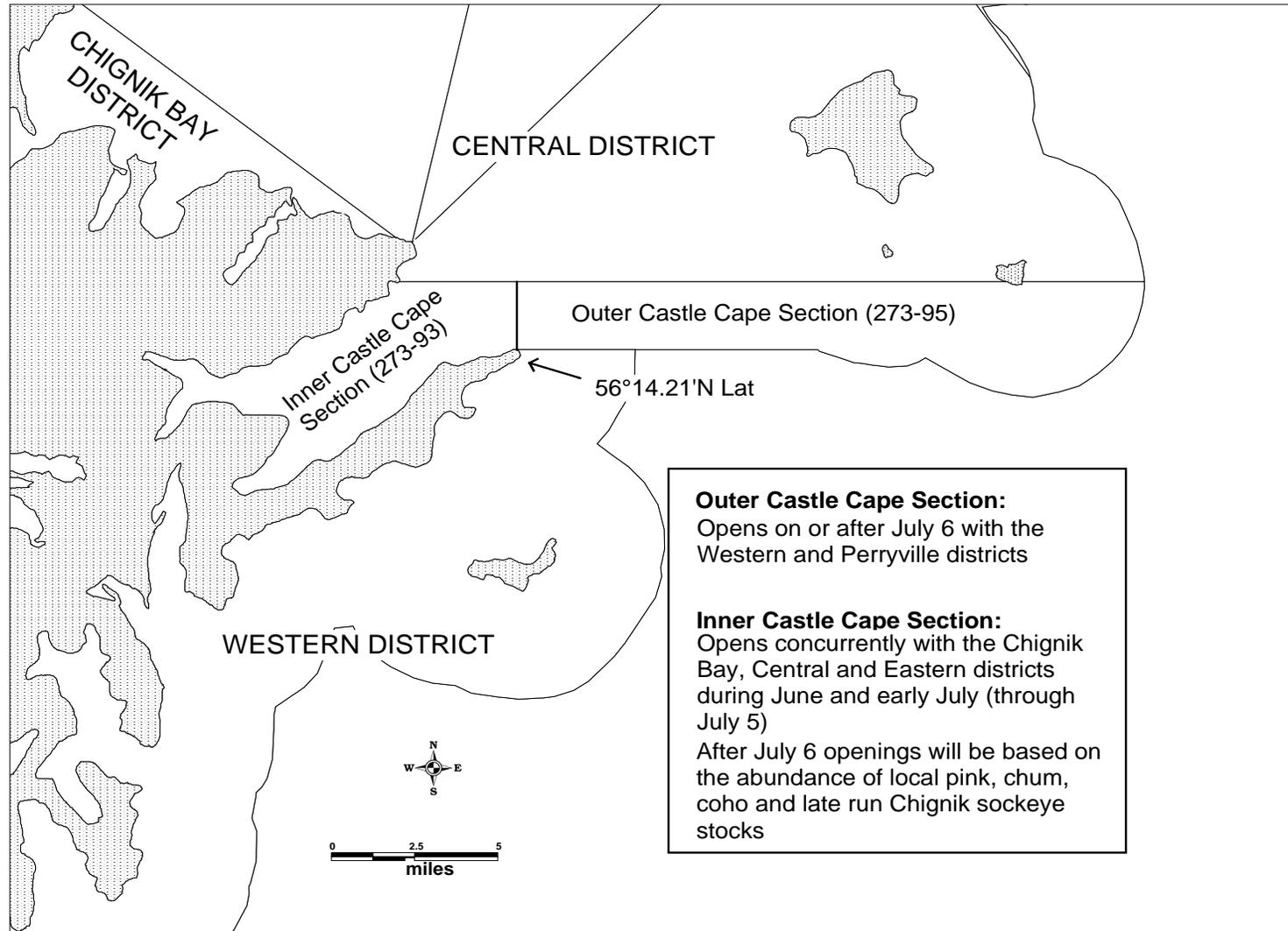


Figure 4.—Map depicting the Inner (273-93), and Outer (273-95) Castle Cape Sections of the Western District.

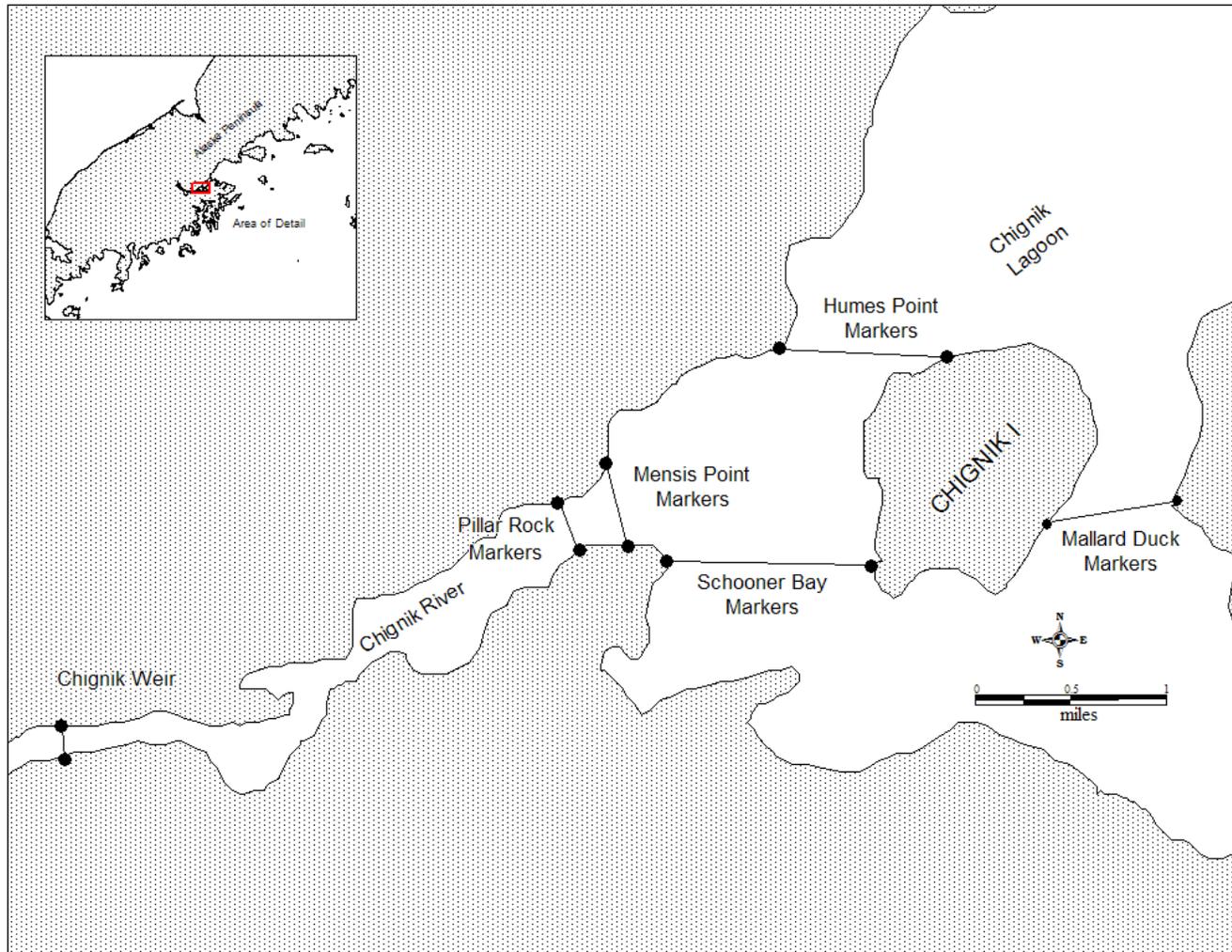


Figure 5.—Map of upper Chignik Lagoon showing the location of the Pillar Rock, Mensis Point, Humes Point, Mallard Duck, and Schooner Bay marker locations.

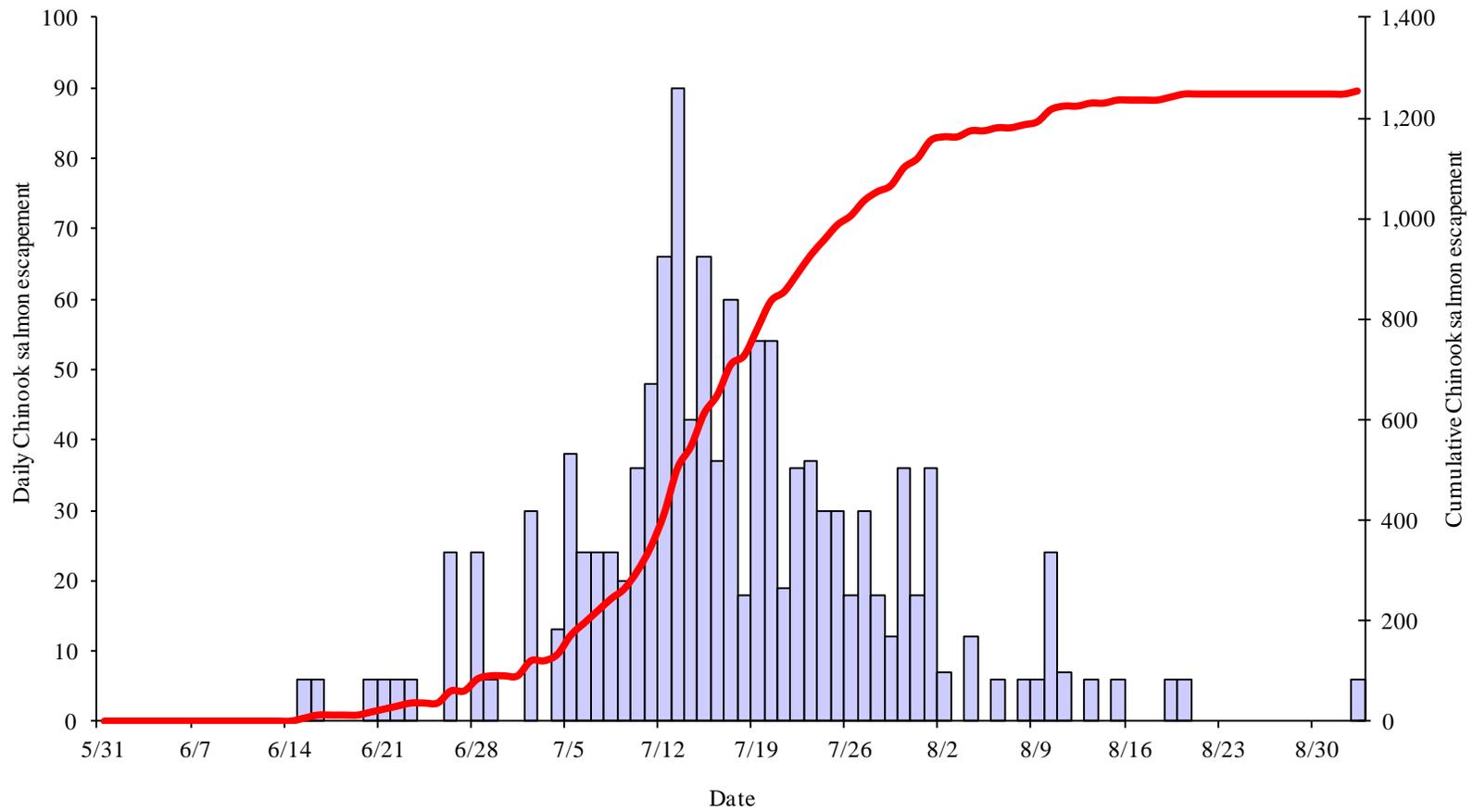


Figure 6.—Chignik River estimated daily and cumulative Chinook salmon escapement, 2013.

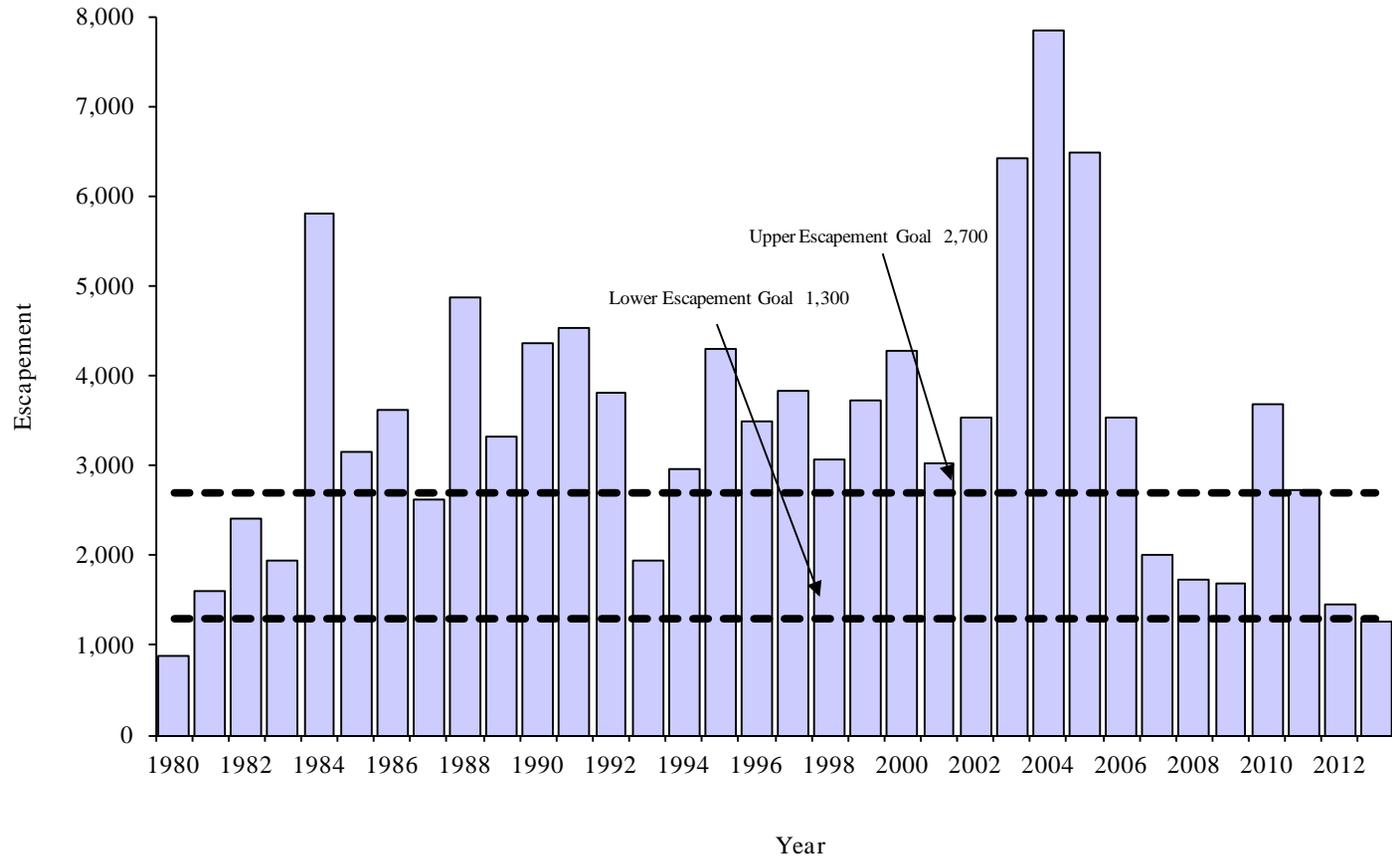


Figure 7.—Chignik River Chinook salmon escapement as compared to the current escapement goal range, by year, 1980 through 2013.

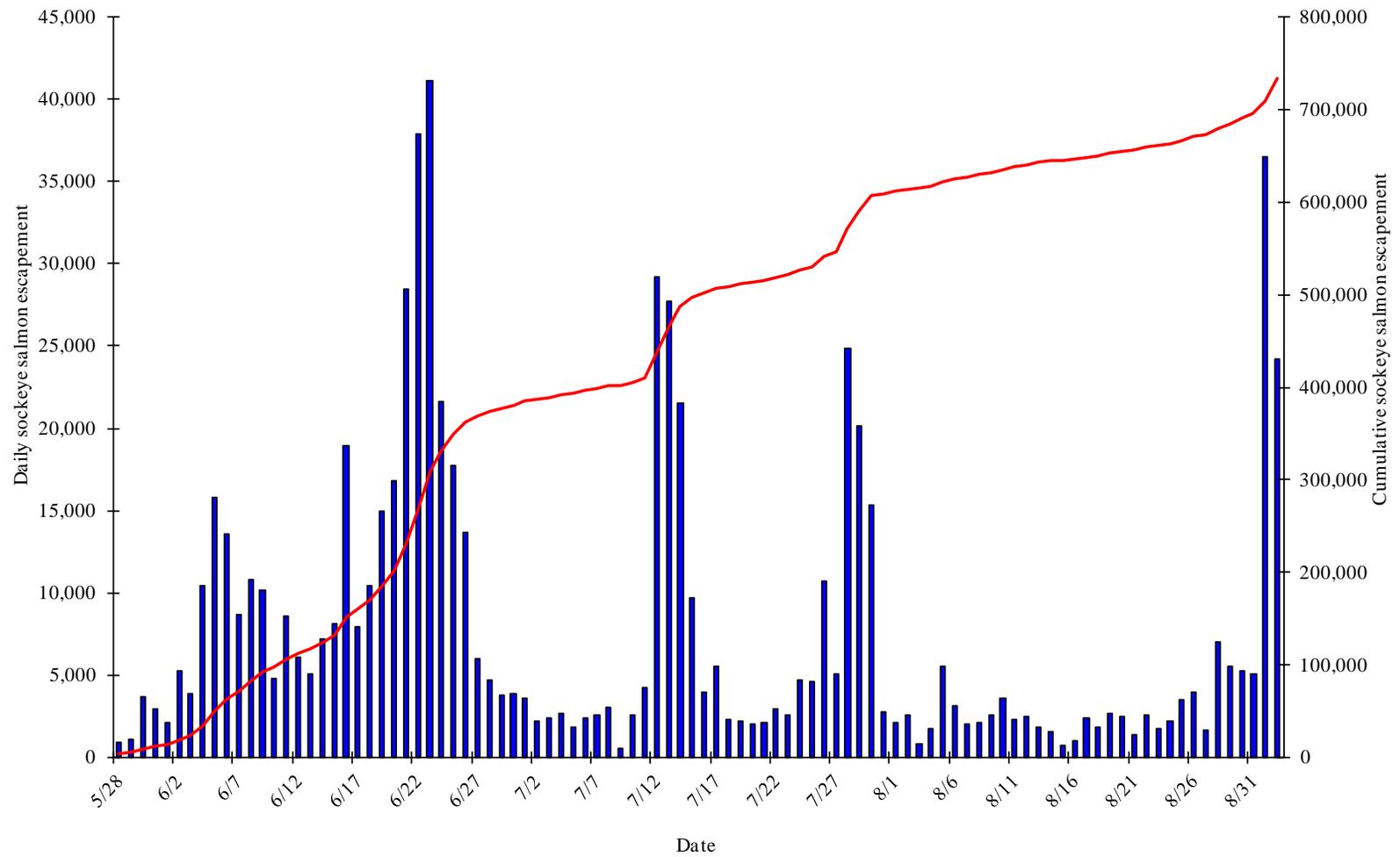


Figure 8.—Chignik River sockeye salmon daily and cumulative escapement, 2013.

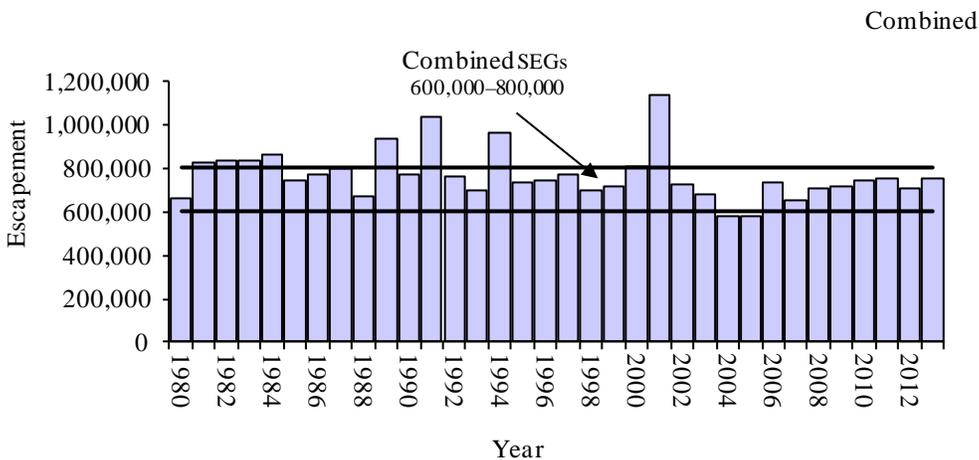
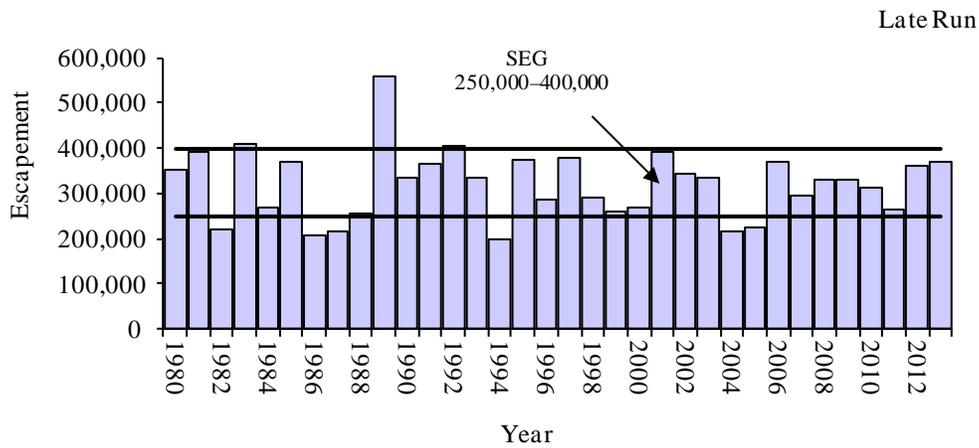
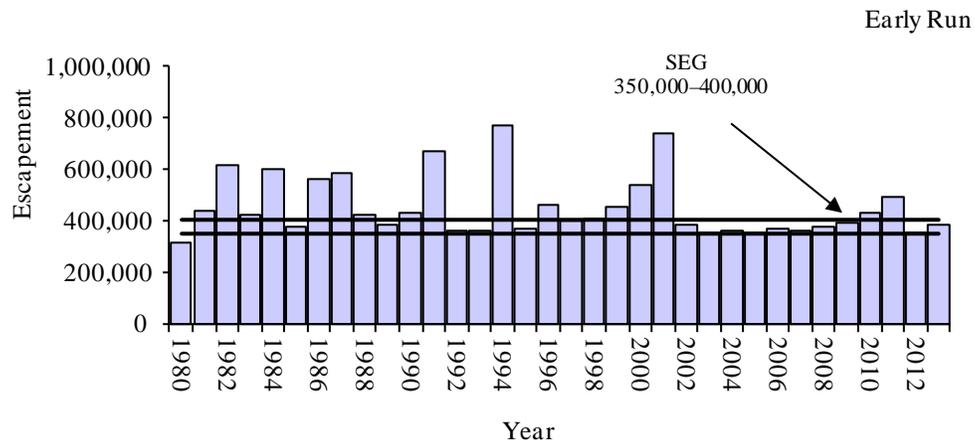


Figure 9.—Chignik River sockeye salmon early, late, and combined run escapements 1980 through 2013, compared to the 2013 sustainable escapement goals (including a late run inriver run goal of 50,000).

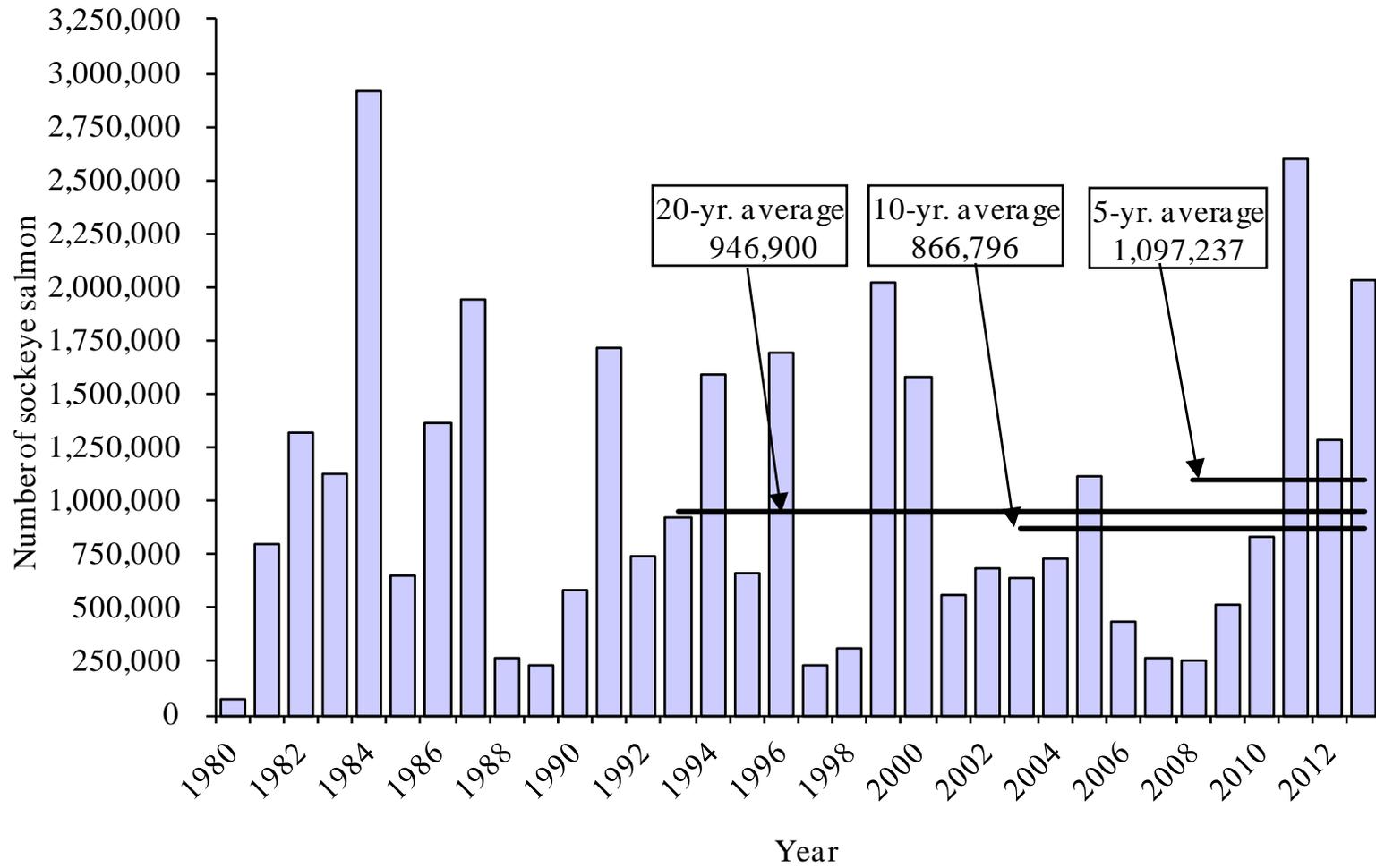


Figure 10.—Chignik-bound sockeye salmon early-run harvest, 1980 through 2013.

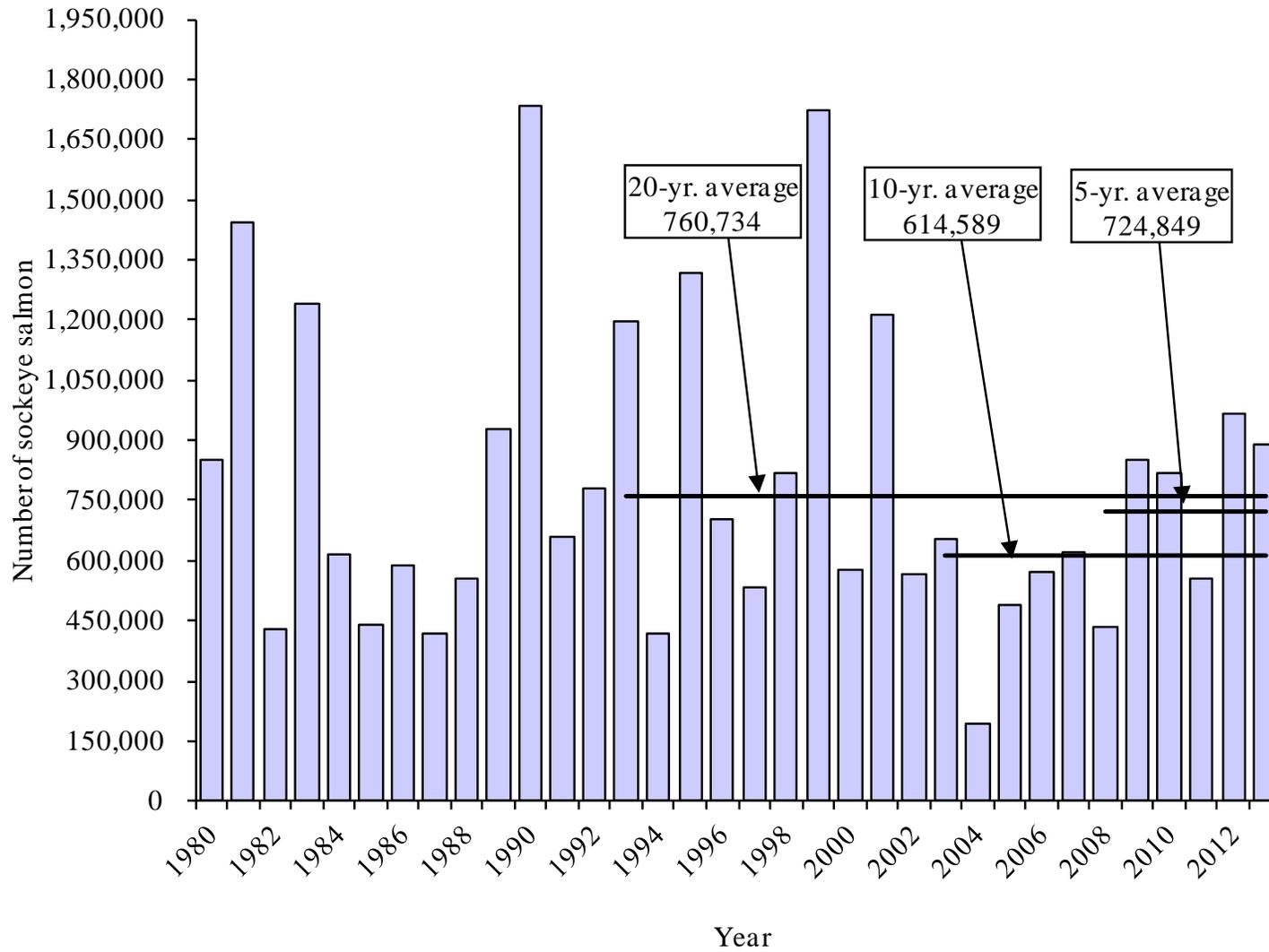


Figure 11.—Chignik-bound sockeye salmon late-run harvest, 1980 through 2013.

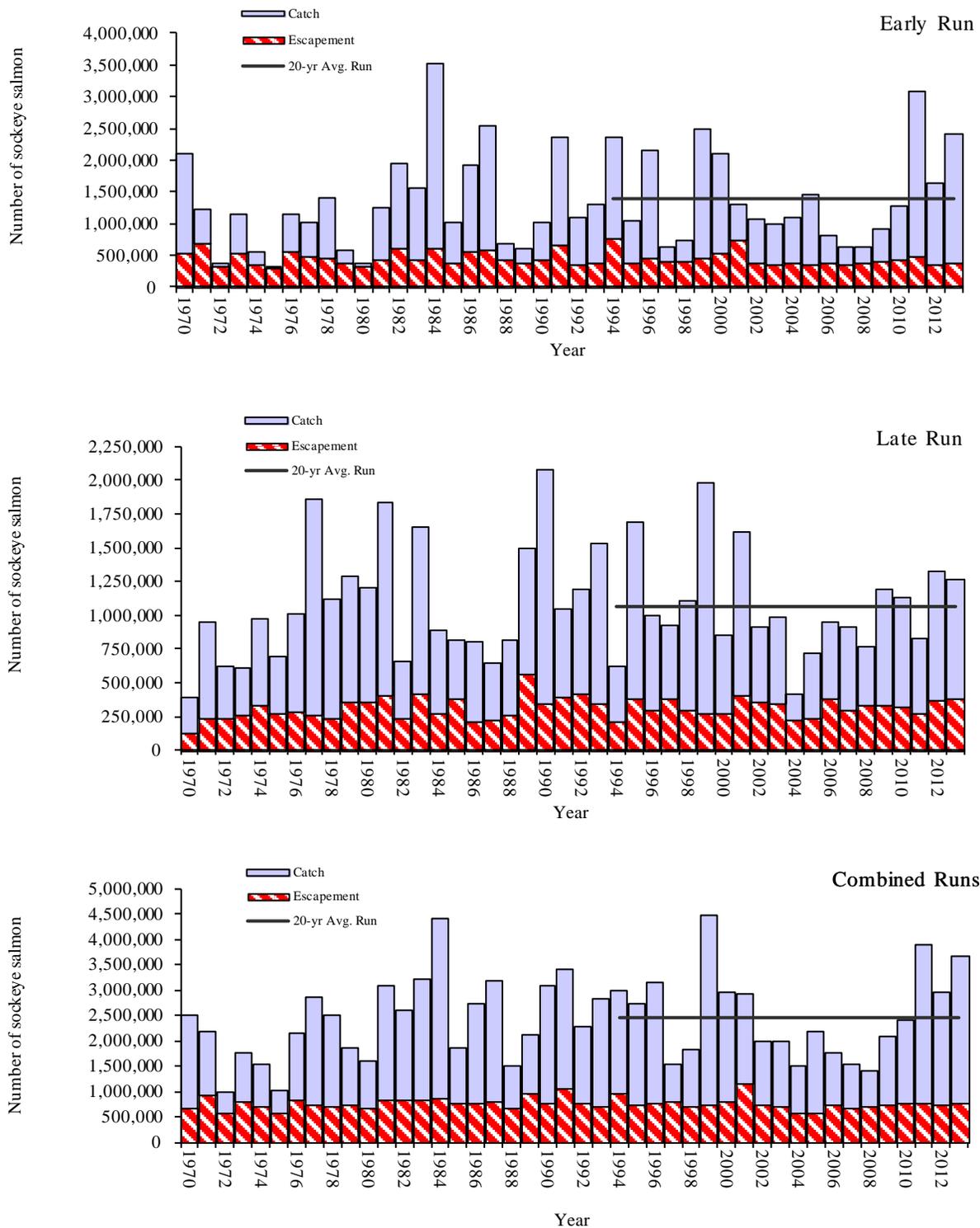


Figure 12.—Total sockeye salmon escapement and catch considered Chignik-bound including home pack, the department's test fishery harvest, and Cape Igvak and SEDM allocations, by year and run, 1970 through 2013.

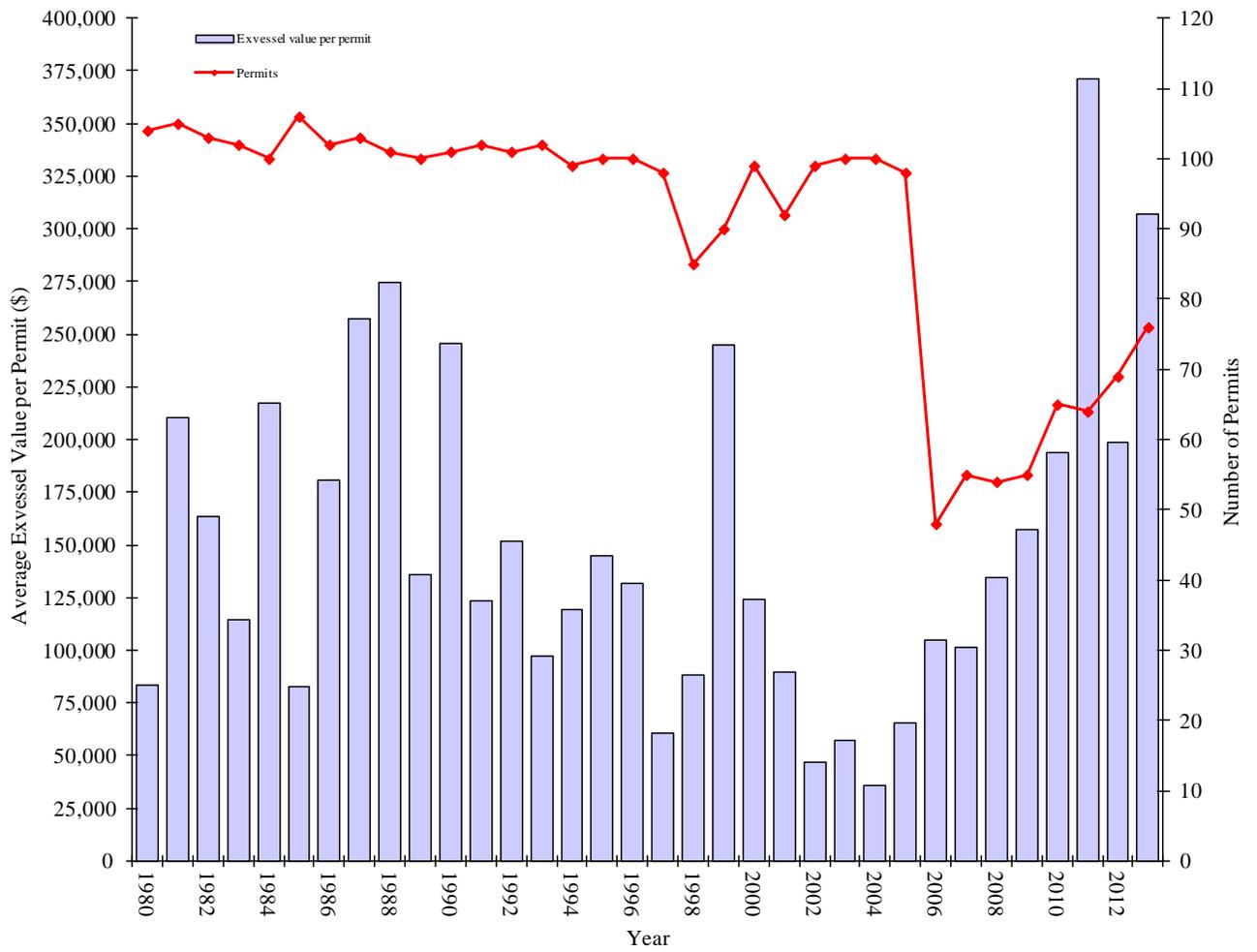


Figure 13.—Average exvessel value, in dollars, per permit and total permits fished by year 1980 through 2013.

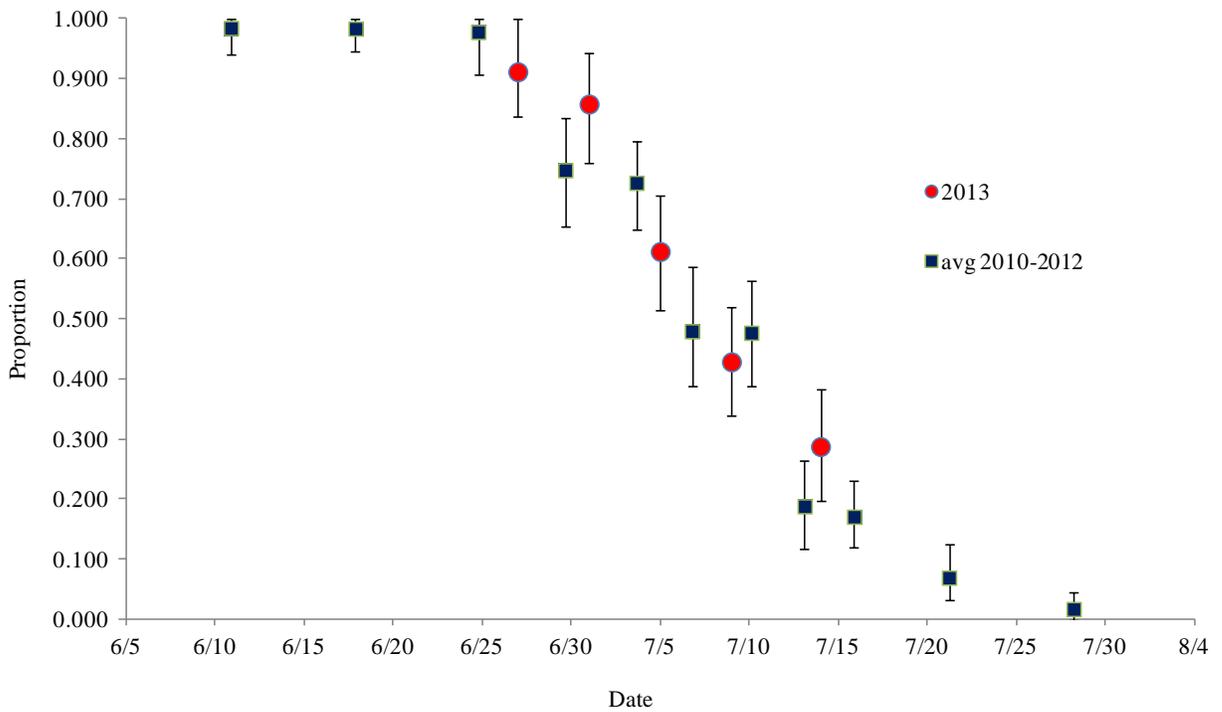


Figure 14.—Proportional genetic estimates of Black Lake stock composition with upper and lower 90% credibility intervals for samples of the escapement through Chignik weir 2010-2012 average and 2013 using the program BAYES with a sequential prior.

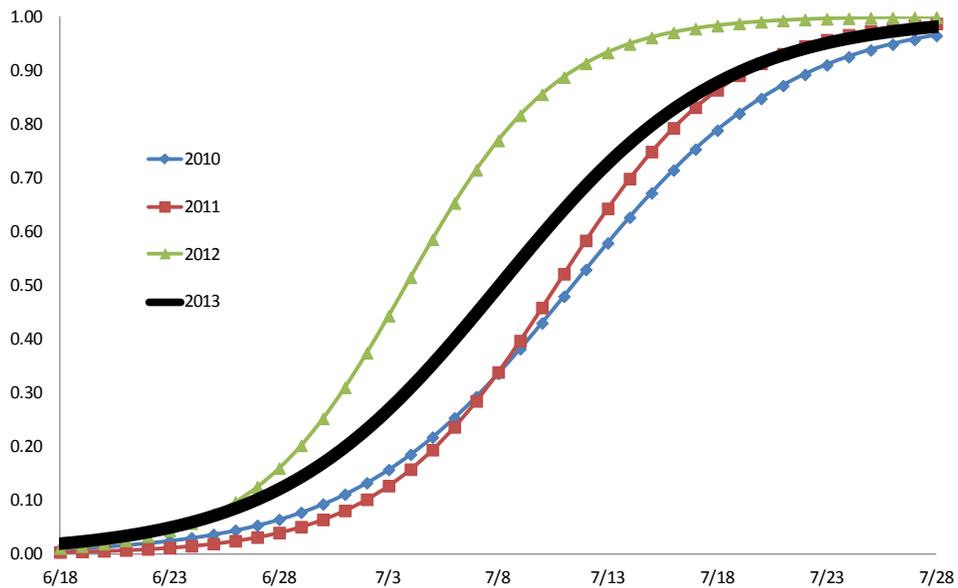


Figure 15.—Logistic model estimates of Chignik Lake stock composition in escapement through Chignik weir 2010-2013 by day



**APPENDIX A. SUMMARY OF 2013 EMERGENCY ORDERS**

Appendix A1.–Summary of the 2013 Chignik Management Area Emergency Orders.

E.O. Number	Issued	Effective	Action taken
4-FS-L-01-13	9:15 PM 6/4/2013	4:00 PM 6/6/2013	<b>Opens</b> the Chignik Bay, Central, and Eastern districts as well as the Inner Castle Cape Subsection of the Western District for 48 hours from 4:00 PM Thursday, June 6 until 4:00 PM Saturday, June 8.  <b>Closed Waters</b> Effective 4:00 PM Thursday, June 6 salmon may only be taken northeast of Humes Point.
4-FS-L-02-13	12:00 PM 6/7/2013	5:00 PM 6/7/2013	<b>Extends</b> the current commercial salmon fishing period in the Chignik Bay, Central, and Eastern districts as well as the Inner Castle Cape Subsection of the Western District for 32 hours from 4:00 PM Saturday, June 8 to 11:59 PM Sunday, June 9.  <b>Closed Waters</b> Effective 5:00 PM Friday, June 7 salmon may only be taken northeast of Mensis Point.
4-FS-L-03-13	9:15 AM 6/9/2013	11:59 PM 6/9/2013	<b>Extends</b> the current commercial salmon fishing period in the Chignik Bay, Central, and Eastern districts as well as the Inner Castle Cape Subsection of the Western District for 72 hours from 11:59 PM Sunday, June 9 to 11:59 PM Wednesday, June 12.
4-FS-L-04-13	6:15 PM 6/11/2013	11:59 PM 6/12/2013	<b>Extends</b> the current commercial salmon fishing period in the Chignik Bay, Central, and Eastern districts as well as the Inner Castle Cape Subsection of the Western District for 96 hours from 11:59 PM Wednesday, June 12 to 11:59 PM Sunday, June 16.  <b>Opens</b> the Western District, excluding the Inner Castle Cape Subsection, for 48 hours from 7:00 AM Thursday, June 13 to 7:00 AM Saturday, June 15.
4-FS-L-05-13	12:00 PM 6/16/2013	11:30 PM 6/17/2013	<b>Opens</b> the Chignik Bay, Central, and Eastern districts as well as the Inner Castle Cape Subsection of the Western District for 48 hours from 11:30 PM Monday, June 17 to 11:30 PM Wednesday, June 19.  <b>Closed Waters</b> Effective 11:30 PM Monday, June 17 salmon may only be taken northeast of Humes Point.
4-FS-L-06-13	4:30 PM 6/22/2013	5:00 PM 6/23/2013	<b>Opens</b> the Chignik Bay, Central, and Eastern districts as well as the Inner Castle Cape Subsection of the Western District for 31 hours from 5:00 PM Sunday, June 23 to 11:59 PM Monday, June 24.  <b>Closed Waters</b> Effective 5:00 PM Sunday, June 23 salmon may only be taken northeast of Humes Point.
4-FS-L-07-13	2:30 PM 6/23/2013	6:30 PM 6/23/2013	<b>Closed Waters</b> Effective 6:30 PM Sunday, June 23 salmon may only be taken northeast of Mensis Point.
4-FS-L-08-13	12:30 PM 6/24/2013	11:59 PM 6/24/2013	<b>Extends</b> the current commercial salmon fishing period in the Chignik Bay, Central, and Eastern districts as well as the Inner Castle Cape Subsection of the Western District for 63 hours from 11:59 PM Monday, June 24 to 3:00 PM Thursday, June 27.  <b>Opens</b> the Western District for 48 hours from 3:00 PM Tuesday, June 25 to 3:00 PM Thursday, June 27.
4-FS-L-09-13	12:30 PM 6/26/2013	12:30 PM 6/26/2013	<b>Extends</b> the current commercial salmon fishing period until further notice in the Chignik Bay and Central districts as well as the Inner Castle Cape Subsection of the Western District.  <b>Extends</b> the current commercial salmon fishing period in the Eastern District for 57 hours from 3:00 PM Thursday, June 27 to 11:59 PM Saturday, June 29.

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E.O. Number	Issued	Effective	Action taken
4-FS-L-10-13	9:00 PM 7/10/2013	6:00 PM 7/11/2013	<b>Closes</b> 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 at 6:00 PM Thursday, July 11.
4-FS-L-11-13	6:15 PM 7/14/2013	9:00 AM 7/15/2013	<b>Opens</b> the Chignik Bay, Central, Eastern, Western, and Perryville districts, for 48 hours from 9:00 AM Monday, July 15 to 9:00 AM Wednesday, July 17. <b>Closed Waters</b> Effective 9:00 AM Monday, July 15 salmon may only be taken northeast of Humes Point.
4-FS-L-12-13	6:15 PM 7/16/2013	9:00 AM 7/17/2012	<b>Extends</b> the current commercial salmon fishing period in the Chignik Bay, Central, Eastern, Western, and Perryville districts, for 63 hours from 9:00 AM Monday, July 17 to 11:59 PM Friday, July 19.
4-FS-L-13-13	9:15 AM 7/19/2013	11:59 PM 7/19/2013	<b>Extends</b> the current commercial salmon fishing period in the Chignik Bay, Central, and Eastern districts as well as the Inner Castle Cape Subsection of the Western District for 120 hours from 11:59 PM Friday, July 19, until 11:59 PM Wednesday, July 24.
4-FS-L-14-13	9:15 AM 7/20/2013	12:01 AM 7/21/2013	<b>Restricts</b> the Chignik Bay District to non-retention of Chinook (king) salmon 28 inches or greater in length from 12:01 AM Sunday, July 21 until further
4-FS-L-15-13	12:15 PM 7/21/2013	12:01 AM 7/22/2013	<b>Restricts</b> the Central District to non-retention of Chinook (king) salmon 28 inches or greater in length from 12:01 AM Monday, July 22 until further notice.
4-FS-L-16-13	5:00 PM 7/30/2013	11:00 PM 7/31/2013	<b>Opens</b> the Chignik Bay, Central, Eastern, Western, and Perryville districts for 96 hours from 11:00 PM Wednesday, July 31 to 11:00 PM Sunday, August 4. <b>Closed Waters</b> Effective 11:00 PM Wednesday, July 31 salmon may only be taken northeast of Humes Point.
4-FS-L-17-13	6:15 PM 8/1/2013	3:00 PM 8/2/2013	<b>Closed Waters</b> Effective 3:00 PM Friday, August 2 salmon may only be taken northeast of Mensis Point.
4-FS-L-18-13	2:15 PM 8/3/2013	2:15 PM 8/3/2013	<b>Closed Waters</b> Effective 2:15 PM Saturday, August 3 the Mitrofanina Island statistical area (273-74) in the Mitrofanina Section of the Western District will close to commercial salmon fishing until further notice.
4-FS-L-19-13	9:15 AM 8/4/2013	11:00 PM 8/4/2013	<b>Extends</b> 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 for 96 hours from 11:00 p.m. Sunday, August 4, until 11:00 p.m. Thursday, August 8.
4-FS-L-20-13	6:15 PM 8/8/2013	6:15 PM 8/8/2013	<b>Extends</b> 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 for 121 hours from 11:00 PM Thursday, August 8 until 11:59 PM Tuesday, August 13. <b>Opens</b> the Western and Perryville districts for 60 hours from 8:00 AM Saturday, August 10 until 8:00 PM Monday, August 12.

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E.O. Number	Issued	Effective	Action taken
4-FS-L-21-13	5:00 PM 8/9/2013	2:00 PM 8/10/2013	<b>Opens</b> the Eastern district for 54 hours from 2:00 PM Saturday, August 10 until 8:00 PM Monday, August 12.
4-FS-L-22-13	10:30 AM 8/10/2013	10:30 AM 8/10/2013	<b>Closed Waters</b> Effective 10:30 AM Saturday, August 10 the Mitrofanía Island statistical area (273-74) in the Mitrofanía Section of the Western District will close to commercial salmon fishing until further notice.
4-FS-L-23-13	3:15 PM 8/13/2013	3:15 PM 8/13/2013	<b>Extends</b> the Chignik Bay and Central Districts as well as the Inner Castle Cape Subsection of the Western District until further notice.
4-FS-L-24-13	5:00 PM 8/15/2013	9:00 AM 8/16/2013	<b>Extends</b> the Eastern, Western, and Perryville Districts until further notice.
4-FS-L-25-13	9:15 AM 8/27/2013	10:00 PM 8/27/2013	<b>Closes</b> the Chignik Bay, Central, Eastern, Western, and Perryville Districts.

**APPENDIX B. CHIGNIK SALMON REGULATIONS, 2013.**

## CHIGNIK AREA

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### CHAPTER 15. CHIGNIK AREA.

**PLEASE NOTE THAT AS OF 1999 ALL LONGITUDE AND LATITUDE COORDINATES IN THE CHIGNIK AREA HAVE BEEN CONVERTED TO DECIMAL MINUTES AND ARE BASED ON THE WGS 1984.**

#### ARTICLE 1. DESCRIPTION OF AREA.

**5 AAC 15.001. APPLICATION OF THIS CHAPTER.** Requirements set out in this chapter apply to commercial fishing only, unless otherwise specified. Subsistence, personal use, and sport fishing regulations affecting commercial fishing vessels or affecting any other commercial fishing activity are set out in the subsistence fishing regulations in 5 AAC 01 and 5 AAC 02, personal use fishing regulations in 5 AAC 77, and sport fishing regulations in 5 AAC 65 and 5 AAC 75.

#### 5 AAC 15.100. DESCRIPTION OF AREA.

The Chignik Area includes all waters of Alaska on the south side of the Alaska Peninsula bounded by a line extending 135° southeast for three miles from a point near Kilokak Rocks at 57° 10.34' N. lat., 156° 20.22' W. long., (the longitude of the southern entrance to Imuya Bay) then due south, and a line extending 135° southeast from Kupreanof Point at 55° 33.98' N. lat., 159° 35.88' W. long.

#### ARTICLE 2. FISHING DISTRICTS, SECTIONS, AND SUBSECTIONS.

**5 AAC 15.200. FISHING DISTRICTS, SECTIONS, AND SUBSECTIONS.** (a) The Eastern District includes all waters from the latitude of the southernmost ADF&G regulatory marker 500 yards from the mouth of Aniakchak Lagoon to the eastern boundary of the Chignik Area.

(1) Agripina Section: all waters bounded by the eastern boundary of the Chignik Area described in 5 AAC 15.100 and a line extending 130° from Cape Providence at 56° 58.67' N. lat., 156° 33.47' W. long.;

(2) Chiginagak Section: all waters bounded by a line extending 130° from Cape Providence at 56° 58.67' N. lat., 156° 33.47' W. long., and a line extending 150° from Cape Kuyuyukak at 56° 53.85' N. lat., 156° 49.72' W. long.;

(3) Nakalilok-Yantarni Section: all waters bounded by a line extending 150° from Cape Kuyuyukak at 56° 53.85' N. lat., 156° 49.72' W. long., the longitude of Cape Kunmik at 56° 45.88' N. lat., 157° 12.05' W. long. and the southern boundary of the Eastern District;

(4) Big River Section: all waters of Amber and Aniakchak Bays bounded by 157° 12.05' W. long., and the latitude of the southernmost ADF&G regulatory marker 500 yards from the mouth of Aniakchak Lagoon.

(b) The Chignik Bay District includes all waters of Chignik Bay and Lagoon west of a line from a point near Jack Bay at 56° 17.60' N. lat., 158° 12.80' W. long., to the creek at 56° 24.12' N. lat., 158° 27.73' W. long.

(c) The Western District includes all waters south of the latitude of a point southwest of Jack Point at 56° 16.40' N. lat., 158° 12.50' W. long., excluding the waters of Chignik Lagoon, and north and east of a line extending 170° from Coal Cape at 55° 53.42' N. lat., 159° 00.45' W. long.

(1) Castle Cape Section: all waters bounded by the latitude of a point southwest of

## CHIGNIK AREA

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Jack Point at 56° 16.40' N. lat., 158° 12.50' W. long., and a line extending 165° from a point northwest of Cape Ikti at 56° 00.32' N. lat., 158° 32.02' W. long.;

(A) Inner Castle Cape Subsection: all waters of the Castle Cape Section within and adjacent to Castle Bay enclosed by the northern boundary line of the Castle Cape Section and 56° 14.61' N. lat.;

(B) Outer Castle Cape Subsection: all waters of the Castle Cape Section, excluding the waters of the Inner Castle Cape Subsection;

(2) Dorner Bay Section: all waters bounded by a line extending 165° from a point northwest of Cape Ikti at 56° 00.32' N. lat., 158° 32.02' W. long., and a line extending 165° from a point on the west side of Dorner (Kuiukta) Bay's entrance at 55° 57.00' N. lat., 158° 40.00' W. long.;

(3) Mitrofanina Section: all waters, including Mitrofanina Island, bounded by a line extending 165° from a point on the west side of Dorner (Kuiukta) Bay's entrance at 55° 57.00' N. lat., 158° 40.00' W. long., and a line extending 170° from Coal Cape at 55° 53.42' N. lat., 159° 00.45' W. long.;

(4) Repealed 5/29/99.

(d) The Perryville District includes all waters bounded by a line extending 170° from Coal Cape at 55° 53.42' N. lat., 159° 00.45' W. long., and a line extending 135° southeast from Kupreanof Point at 55° 33.98' N. lat., 159° 35.88' W. long.

(1) Perryville Section: all waters, including the Chiachi Islands, bounded by a line extending 170° from Coal Cape at 55° 53.42' N. lat., 159° 00.45' W. long., and a line extending 155° from Coal Point at 55° 51.47' N. lat., 159° 18.95' W. long.;

(2) Humpback Bay Section: all waters, including Paul and Jacob Islands, bounded by a line extending 155° from Coal Point at 55° 51.47' N. lat., 159° 18.95' W. long., and the longitude of Alexander Point at 55° 47.32' N. lat., 159° 24.68' W. long.;

(3) Ivanof Bay Section: all waters bounded by the longitude of Alexander Point at 55° 47.32' N. lat., 159° 24.68' W. long., and a line extending 135° southeast from Kupreanof Point at 55° 33.98' N. lat., 159° 35.88' W. long.

(e) The Central District includes all waters, excluding the waters of the Chignik Bay District, bounded by the latitude of a point southwest of Jack Point at 56° 16.40' N. lat., 158° 12.50' W. long., and the latitude of the southernmost ADF&G regulatory marker 500 yards from the mouth of Aniakchak Lagoon.

(1) Cape Kumlik Section: all waters, including Sutwik Island, bounded by the latitude of the southernmost ADF&G regulatory marker 500 yards from the mouth of Aniakchak Lagoon and the longitude of a point on the southwest side of Cape Kumlik at 56° 36.48' N. lat., 157° 40.53' W. long.

(2) Kujulik Section: all waters bounded by the longitude of a point on the southwest side of Cape Kumlik at 56° 36.48' N. lat., 157° 40.53' W. long., and a line extending 145° from a point on Cape Kumliun at 56° 28.58' N. lat., 157° 51.55' W. long.;

(3) Outer Chignik Bay Section: all waters, including Nakchamik Island, bounded by a line extending 145° from a point on Cape Kumliun at 56° 28.58' N. lat., 157° 51.55' W. long., and the latitude of a point southwest of Jack Point at 56° 16.40' N. lat., 158° 12.50' W. long., excluding the waters of the Chignik Bay District.

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## CHIGNIK AREA

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**5 AAC 15.026. USE OF GLOBAL POSITIONING SYSTEM (GPS).** In the Chignik Area, boundaries, lines, and coordinates are identified with the global positioning system (GPS). If the global positioning system is not operating, the boundaries, lines, and coordinates are as identified by ADF&G regulatory markers.

### ARTICLE 3. SALMON FISHERY.

**5 AAC 15.310. FISHING SEASONS.** (a) In the Chignik Bay District, salmon may be taken only from June 1 through October 31.

(b) The Perryville, Western, Central and Eastern Districts are opened by emergency order.

**5 AAC 15.320. WEEKLY FISHING PERIODS.** (a) Salmon fishing periods shall be established by emergency order.

(b) Repealed 3/13/75.

**5 AAC 15.330. GEAR.** (a) Salmon may be taken only by purse seine and hand purse seine.

(b) Repealed 4/24/80.

**5 AAC 15.332. SEINE SPECIFICATIONS AND OPERATIONS.** (a) In the Eastern, Central, Western and Perryville Districts no purse seine less than 100 fathoms or more than 225 fathoms in length may be used.

(b) In the Eastern, Central, Western and Perryville Districts no hand purse seine less than 100 fathoms or more than 225 fathoms in length may be used.

(c) In the Chignik Bay District, purse seines and hand purse seines may not be less than 100 fathoms or more than 125 fathoms in length.

(d) No seine may be less than three fathoms nor more than 375 meshes in depth; in addition, up to twenty-five meshes of chafing gear with a maximum mesh size of seven inches may be used.

(e) No lead may be more than 75 fathoms in length. The aggregate length of seine and lead may not be more than 225 fathoms in the Eastern, Central, Western and Perryville Districts.

(f) When a purse seine or hand purse seine is in the water for the purpose of taking fish, the seine shall be attached to the licensed vessel operating the gear.

**5 AAC 15.342. VESSEL IDENTIFICATION.** Repealed 4/18/86.

**5 AAC 15.350. CLOSED WATERS.** Salmon may not be taken in the following waters:

(1) Chignik Lagoon:

(A) Mallard Duck and Schooner Bays: south of line from the tip of Green Point at 56° 16.75' N. lat., 158° 33.90' W. long. to Chignik Island at 56° 16.63' N. lat., 158° 34.90' W. long., and south of a line from 56° 16.53' N. lat., 158° 37.87' W. long. to Chignik Island at 56° 16.35' N. lat., 158° 35.97' W. long.;

(B) Humes Point: south of a line from the tip of Humes Point at 56° 17.67' N. lat., 158° 36.89' W. long. to Chignik Island at 56° 17.42' N. lat., 158° 35.50' W. long.;

(C) Mensis Point: southwest of a line from the tip of Mensis Point at 56° 16.90' N. lat., 158° 38.51' W. long. to a point on the south bank of the Chignik River at 56° 16.56' N. lat., 158° 38.40' W. long.;

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## **CHIGNIK AREA**

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(D) Pillar Rock: southwest of a line from the north bank of the Chignik River at 56° 16.74' N. lat., 158° 39.01' W. long. to a point on the south bank of the Chignik River at 56° 16.57' N. lat., 158° 38.84' W. long.;

(2) Kilokak Rocks Bay: northwest of a line from the southern entrance of the bay at 57° 09.78' N. lat., 156° 20.78' W. long., then to the opposite shore 500 yards northeast of the mouth of Kilokak Rocks Creek at 57° 10.07' N. lat., 156° 20.78' W. long.;

(3) Agripina River: west of a line from 57° 06.72' N. lat., 156° 28.22' W. long., to 57° 06.44' N. lat., 156° 28.67' W. long.;

(4) Chiganagak Bay: north of a line from 57° 00.50' N. lat., 156° 45.75' W. long., to 57° 01.68' N. lat., 156° 41.97' W. long.;

(5) Nakalilok Lagoon: the lagoon and within 500 yards of the entrance;

(6) Yantarni Lagoon: the lagoon and within 500 yards of the entrance;

(7) Aniakchak River: northwest of a line from approximately 500 yards northeast of the mouth at 56° 45.86' N. lat., 157° 28.88' W. long., to an ADF&G regulatory marker on the southern tip of the island directly off the mouth and then to approximately 1,000 yards southwest of the mouth at 56° 45.28' N. lat., 157° 31.53' W. long.;

(8) Aniakchak Lagoon: the lagoon and within 500 yards of the entrance;

(9) Kujuklik Bay: the southwest end of the bay southwest of a line from 56° 35.85' N. lat., 157° 59.12' W. long., to the opposite shore at 56° 34.50' N. lat., 157° 54.63' W. long.;

(10) Portage Bay: west of a line from 56° 11.68' N. lat., 158° 33.07' W. long., to 56° 10.58' N. lat., 158° 33.07' W. long.;

(11) Ivan Bay: north of a line from the ADF&G regulatory marker on the northwest shore, 1,000 yards from the stream mouth, to the ADF&G regulatory marker on the southeast shore 750 yards from the stream mouth;

(12) Humpback Bay: within 1,000 yards of the terminus of Humpback Bay stream at 55° 52.68' N. lat., 159° 20.12' W. long.;

(13) Ivanof Bay: all waters northwest of a line from a point on the northeast shore at 55° 52.42' N. lat., 159° 28.40' W. long., to a point on the north end of the spit at 55° 50.95' N. lat., 159° 31.02' W. long. (all waters northwest of Road Island are closed);

(14) Alfred Creek: before August 1, the 500-yard closure at the terminus described in 5 AAC 39.290 does not apply; the 500-yard closure does apply from August 1 to the end of the salmon fishing season;

(15) Dago Frank Creek: before August 1, the 500-yard closure at the terminus described in 5 AAC 39.290 does not apply; the 500-yard closure does apply from August 1 to the end of the salmon fishing season;

(16) Hook Bay: southwest of a line from the tip of Hook Bay Spit at 56° 30.07' N. lat., 158° 08.18' W. long., to a point northwest of the spit at 56° 30.61' N. lat., 158° 09.27' W. long.;

(17) unnamed stream at 55° 48.98' N. lat.; 159° 24.45' W. long.; the 500-yard closure at the terminus described in 5 AAC 39.290 does not apply;

(18) Lake Bay: all waters southwest of a line drawn at the entrance to Lake Bay at 56° 18.80' N. lat., 158° 17.62' W. long., extending across the entrance to Lake Bay to a

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## CHIGNIK AREA

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point at 56° 18.32' N. lat., 158° 16.20' W. long.;

(19) Mud Bay: all waters southwest of a line from 56° 19.42' N. lat., 158° 25.10' W. long., extending across the entrance to Mud Bay;

(20) from July 6 through August 31, all waters of Alaska in the Ivanof Bay Section, between a line extending 135° from Kupreanof Point at 55° 33.98' N. lat., 159° 35.88' W. long., and a line extending 65° from 55° 34.90' N. lat., 159° 37.10' W. long.

**5 AAC 15.355. REPORTING REQUIREMENTS.** (a) The operator of a floating salmon processing vessel or tender, or a shorebased processing operation, and a company employing aircraft used for transporting salmon, shall report in person, or by radio or telephone, to a local representative of the department located in the management area of intended operation before the start of processing or buying operations. The report must include the location and the date of intended operation, and identify and describe each vessel or other method of transport employed in hauling or processing salmon.

(b) A commercial fisherman shall report, on an ADF&G fish ticket at the time of landing, the number of salmon taken but not sold.

**5 AAC 15.357. CHIGNIK SALMON MANAGEMENT PLAN.** (a) The department shall manage the commercial salmon fishery in the Chignik Area in accordance with the guidelines set out in the management plan under this section. The goal of this management plan is to allow traditional fisheries in the area to be conducted on Chignik Area salmon stocks, and to achieve the department's biological escapement goals for both Black Lake (early-run) and Chignik Lake (late-run) sockeye salmon and local stocks of pink, chum, coho, and king salmon.

(b) In the Chignik Bay and Central Districts, and the Inner Castle Cape Subsection of the Western District, the commercial salmon fishery shall open concurrently based on escapement objectives for the Chignik Lakes' system sockeye salmon runs, except that

(1) the commissioner shall open, by emergency order, the commercial salmon fishery when 20,000 sockeye salmon have escaped into the Chignik River; however if the department determines that a strong buildup of sockeye salmon exists in Chignik Lagoon and that 20,000 sockeye salmon will escape into the Chignik River, the commissioner may open, by emergency order, the commercial salmon fishery before 20,000 sockeye salmon have escaped into the Chignik River;

(2) during the period of transition from the predominance of the early-run sockeye salmon to that of the late-run sockeye salmon, (usually late June through mid-July), the commissioner shall open and close, by emergency order, the fishing periods to harvest surplus early-run sockeye salmon without jeopardizing the late-run sockeye salmon escapement objectives;

(3) from the end of the transition period, described in (2) of this subsection until September 14, the commissioner shall open and close, by emergency order, fishing periods in the Chignik Bay and Central Districts, and the Inner Castle Cape Subsection of the Western District, based on the Chignik Lakes' system sockeye salmon escapement goals; the commissioner may take additional emergency order actions to protect or harvest local pink, chum, king and coho salmon runs; and

(4) beginning September 15, fishing periods in the Chignik Bay and Central Districts, and the Inner Castle Cape Subsection of the Western District, may be no more than 48-hours per week, and shall be based on the department's evaluation of the sockeye salmon run

## CHIGNIK AREA

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strength and the subsistence needs for Chignik Lake late-season sockeye salmon.

(c) In the Eastern District,

(1) during June, the commercial salmon fishery shall open concurrently with the Chignik Bay and Central Districts, and the Inner Castle Cape Subsection of the Western District, and the openings shall be based on achieving the Black Lake sockeye salmon escapement goals;

(2) from approximately June 26 through July 8,

(A) the department shall evaluate the strength of the sockeye salmon late run; and

(B) in order to continue managing the Black Lake sockeye salmon harvest and escapement, while assessing the Chignik Lake sockeye salmon run strength, commercial salmon fishing in the Eastern District will, in the department's discretion, be disallowed or severely restricted;

(3) from the end of the transition period, described in (b)(2) of this section, until the end of the fishing season, the department shall manage the commercial salmon fishery based on its evaluation of local pink, chum, and coho salmon runs, and the escapement objectives of the Chignik Lakes' system sockeye salmon.

(d) In the Western District, excluding the Inner Castle Cape Subsection, and the Perryville District, the department may open the commercial salmon fishery beginning July 6, except that

(1) from approximately late June to mid-July (transition period),

(A) the department shall evaluate the strength of the sockeye salmon late run; and

(B) in order to allow the department to assess the Chignik Lake run strength, the department may keep closed or severely restrict commercial salmon fishing in the Western District, except the Inner Castle Cape Subsection, and in the Perryville District;

(2) from the end of the transition period, described in (b)(2) of this section, until approximately August 20, fishing periods shall be based on the department's evaluation of local pink and chum salmon runs, and its evaluation of the Chignik Lake sockeye salmon run from July 22 through July 31,

(A) repealed 3/29/2008;

(B) the commissioner may, by emergency order, open fishing in the following terminal harvest areas:

(i) those portions of the Western and Perryville Districts north of a line from Cape Ikti at 56° 00.32' N. lat., 158° 32.02' W. long., to Coal Cape at 55° 53.42' N. lat., 159° 00.45' W. long. to Cape Alexander at 55° 47.22' N. lat., 159° 24.57' W. long., and

(ii) waters in the Ivanof Bay Section of the Perryville District that are north of the latitude from Alexander Point at 55° 47.37' N. lat., 159° 24.37' W. long., to Kupreanof Peninsula; and

(iii) those portions of the Chignik Bay and Central Districts, known locally as Jack's Box, which consists of those waters east of 158° 15.36' W. long., south of 56° 20' N. lat., and west of 158° 10' W. long.;

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## **CHIGNIK AREA**

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(3) from approximately August 20 until the end of the fishing season, fishing periods shall be based on the department's evaluation of local pink, chum, and coho salmon runs, and its evaluation of the Chignik Lake sockeye salmon run.

(e) Notwithstanding the provisions of (d) of this section, in the Western District, excluding the Inner Castle Cape Subsection, the commercial salmon fishery shall open concurrently with the Chignik Bay and Central Districts, and the Inner Castle Cape Subsection of the Western District, from June 1 through July 5 for no more than two fishing periods up to 48 hours each with a closure for a minimum of 48 hours between the fishing periods.

**5 AAC 15.359. CHIGNIK AREA COOPERATIVE PURSE SEINE SALMON FISHERY MANAGEMENT PLAN.** Repealed.

**5 AAC 15.360. EASTERN DISTRICT SALMON MANAGEMENT PLAN.** Repealed 5/29/99.

**5 AAC 15.362. CHIGNIK AREA COOPERATIVE FISHERY MANAGEMENT PLAN.** Repealed 5/26/2006.

**APPENDIX C. 2013 CHIGNIK SOCKEYE SALMON  
POSTWEIR ESCAPEMENT ESTIMATE MEMORANDUM**

# MEMORANDUM

# State of Alaska

Department of Fish and Game  
Westward Region Office

TO: Nick Sagalkin  
Regional Finfish Research Coordinator  
Commercial Fisheries Division  
Region IV - Kodiak

DATE: October 23, 2013

PHONE: (907) 486-1805  
FAX: (907) 486-1841

THRU: M. Birch Foster *MBF*  
Finfish Research Biologist  
Commercial Fisheries Division  
Region IV - Kodiak

SUBJECT: 2013 Chignik post-weir escapement estimate

FROM: Adam St. Saviour *AS*  
Finfish Research Biologist  
Commercial Fisheries Division  
Region IV - Kodiak

The 2013 Chignik sockeye salmon post-weir escapement was estimated using time series analysis of run data collected between August 7 and the final day of weir operation, September 2 (Figure 1). The sockeye salmon run exhibited a declining trend during this period.

Time series analysis estimates the rate of decay in the run and forecasts escapements after weir removal assuming that the forecast escapement follows the same rate of decay as the run. If fishing occurs during a post-weir period, those harvests must be subtracted from the post-weir estimate of escapement. Taking lag time from management districts into consideration, no fishing occurred during the 2013 post-weir period.

The Chignik sockeye salmon time series analysis (Figure 2) followed autoregressive one [AR(1)] type decay (Chatfield 1985), which is typical for Chignik sockeye salmon post-weir estimate analyses. The 2013 analysis resulted in an estimated escapement of 36,457 (AICC= 31.62; 95% prediction interval 15,089 to 88,466) sockeye salmon from September 3 through September 15 and 24,251 (95% prediction interval 7,704 to 61,750) sockeye salmon from September 16 through September 30 (Figure 2). The post-weir total of 60,708 is approximately 24% greater than the 2013 DIDSON sockeye salmon estimate of 46,128 during the same period. Since DIDSON estimates are still under evaluation, the time series estimate was selected as the 2013 official post-weir estimate for use in the Chignik Annual Management Report.

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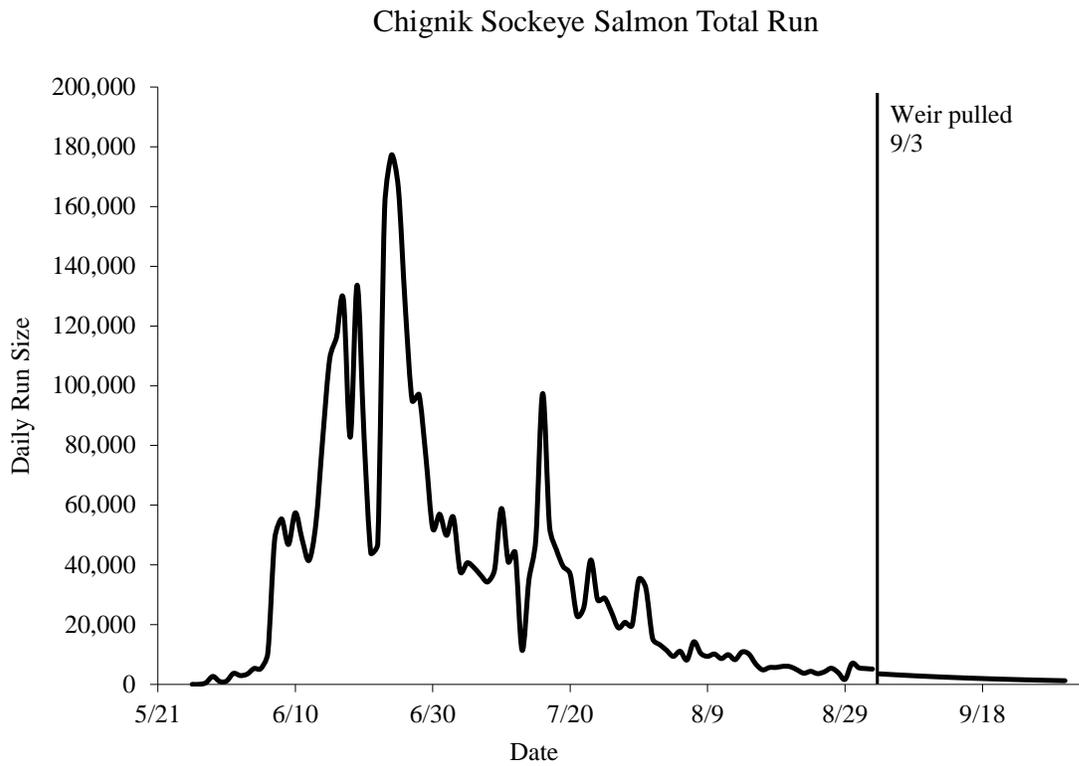


Figure 1.–2013 Estimated Chignik sockeye salmon run by day.

### Chignik Sockeye Salmon Post-Weir Estimate

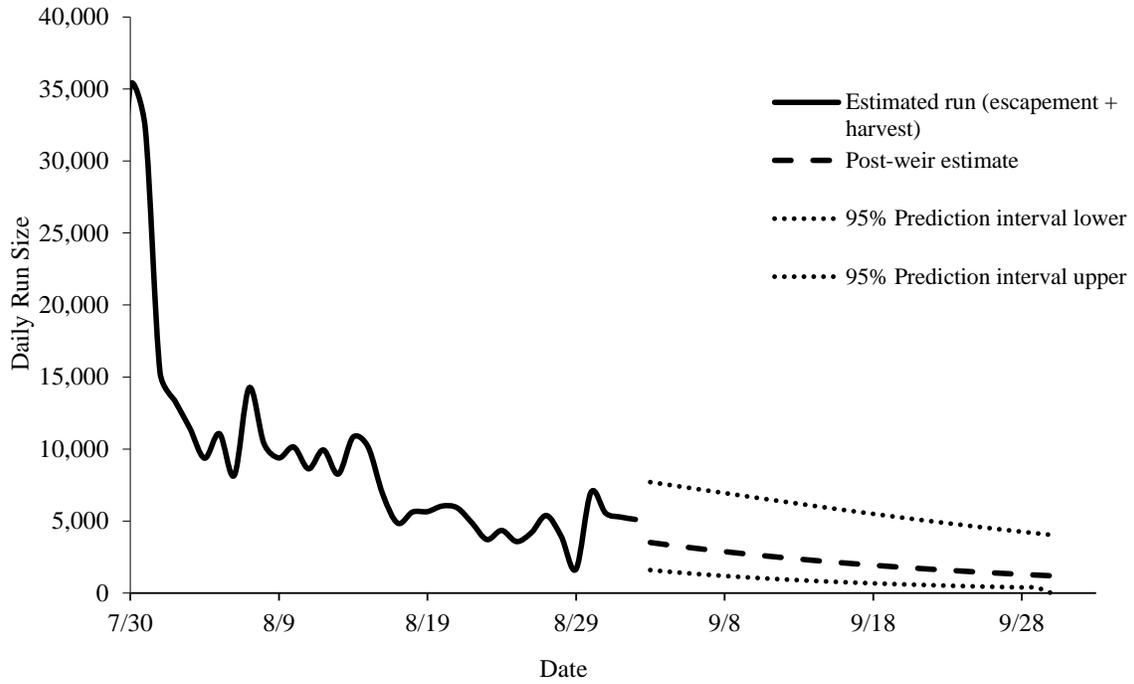


Figure 2.–2013 Chignik sockeye salmon run pre-weir removal and post-weir estimate.

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

CC: Anderson, Russell, Wadle

**APPENDIX D. COMMERCIAL SALMON FISHERY CATCH  
AND EFFORT, BY DAY**

Appendix D1.–Commercial salmon fishing effort and harvest (including home pack but not including the department’s test fishery harvest), by day in the Chignik Management Area, 2013.

Date	Effort		Chinook		Sockeye		Coho		Pink		Chum		Total	
	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
6-Jun	31	32	19	270	36,366	265,466	0	0	19	38	97	810	36,501	266,584
7-Jun	56	68	24	391	49,504	351,888	0	0	29	63	902	6,531	50,459	358,873
8-Jun	51	52	57	1,086	46,658	340,726	0	0	464	1,097	1,234	9,685	48,413	352,594
9-Jun	54	58	42	707	46,663	340,892	4	24	67	133	1,312	9,289	48,088	351,045
10-Jun	51	56	22	431	44,064	311,616	0	0	406	780	1,396	13,088	45,888	325,915
11-Jun	54	58	29	417	43,007	304,087	0	0	235	597	1,045	7,768	44,316	312,869
12-Jun	56	61	21	318	59,422	439,035	0	0	230	587	862	7,322	60,535	447,262
13-Jun	49	55	87	1,454	82,440	566,255	0	0	2,510	7,613	14,064	117,178	99,101	692,500
14-Jun	64	70	161	2,616	131,087	916,755	0	0	1,828	4,874	7,834	57,709	140,910	981,954
15-Jun	61	62	32	460	76,359	542,708	0	0	185	428	2,836	20,371	79,412	563,967
16-Jun	71	79	39	662	111,029	772,822	0	0	832	1,885	3,632	28,052	115,532	803,421
17-Jun							Fishery Closed							
18-Jun	58	67	30	605	96,880	699,045	0	0	575	1,288	1,854	12,974	99,339	713,912
19-Jun	63	73	60	886	72,235	505,032	0	0	1,071	3,032	4,174	27,831	77,540	536,781
20-Jun							Fishery Closed							
21-Jun							Fishery Closed							
22-Jun							Fishery Closed							
23-Jun	47	51	8	174	88,504	607,742	2	14	517	1,326	1,044	8,595	90,075	617,851
24-Jun	62	81	76	1,233	136,032	971,822	10	80	2,621	7,551	5,814	51,073	144,553	1,031,759
25-Jun	61	70	67	772	108,350	730,765	0	0	9,652	28,034	7,173	56,061	125,242	815,632
26-Jun	53	61	19	375	77,918	549,597	45	309	13,268	33,702	13,855	76,910	105,105	660,893
27-Jun	51	57	20	350	74,448	525,823	0	0	3,416	10,584	1,877	16,020	79,761	552,777
28-Jun	59	66	56	705	61,499	430,842	12	102	3,319	9,860	3,017	24,682	67,903	466,191
29-Jun	54	55	37	613	39,135	281,446	23	175	1,508	4,403	1,565	13,400	42,268	300,037
30-Jun	59	65	63	1,038	45,780	325,691	10	81	3,336	9,112	1,883	16,792	51,072	352,714
1-Jul	48	53	20	329	37,112	277,257	0	0	159	460	986	8,356	38,277	286,402
2-Jul	59	62	93	1,086	39,380	289,607	124	1,121	2,366	7,215	3,410	29,506	45,373	328,535
3-Jul	52	53	31	527	29,585	219,694	0	0	677	1,889	1,632	12,845	31,925	234,955
4-Jul	59	65	36	546	43,601	320,390	234	1,927	1,518	4,366	2,687	24,773	48,076	352,002
5-Jul	52	54	31	429	35,318	260,841	1	2	1,083	3,570	1,003	8,829	37,436	273,671
6-Jul	53	59	68	803	32,674	243,130	132	1,041	3,264	9,077	1,661	14,929	37,799	268,980
7-Jul	56	59	41	611	37,500	269,906	6	68	1,313	5,620	1,584	11,383	40,444	287,588
8-Jul	51	51	31	455	36,214	266,764	210	1,739	5,026	15,550	3,352	29,026	44,833	313,534

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Date	Effort		Chinook		Sockeye		Coho		Pink		Chum		Total	
	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
9-Jul	62	71	87	1,155	51,822	386,868	403	2,951	4,393	12,571	1,714	14,714	58,419	418,259
10-Jul	56	58	52	863	40,335	299,272	144	1,060	2,284	6,026	924	7,825	43,739	315,046
11-Jul	64	69	76	1,208	42,055	310,390	467	3,157	3,270	9,163	1,783	15,634	47,651	339,552
12-Jul														
13-Jul														
14-Jul														
15-Jul	60	63	36	685	62,332	448,057	1,234	8,122	9,904	26,511	1,495	12,286	75,001	495,661
16-Jul	58	65	306	3,632	50,034	365,234	5,961	37,340	28,902	76,713	7,298	57,938	92,501	540,857
17-Jul	59	63	88	1,213	39,351	281,870	1,623	9,780	11,288	33,875	1,963	15,489	54,313	342,227
18-Jul	61	63	231	2,073	36,600	266,621	2,069	13,124	25,109	72,656	3,125	25,331	67,134	379,805
19-Jul	58	60	168	1,683	26,797	193,237	1,886	14,455	19,265	44,283	1,871	16,456	49,987	270,114
20-Jul	50	54	87	820	18,777	132,699	1,435	10,839	18,109	52,057	3,498	26,464	41,906	222,879
21-Jul	42	42	117	881	15,508	113,653	558	4,430	11,655	32,943	1,113	9,410	28,951	161,317
22-Jul	37	40	5	68	14,050	98,438	187	1,227	7,060	18,238	519	4,098	21,821	122,069
23-Jul	39	39	54	598	13,244	93,841	651	4,988	13,483	38,649	1,394	12,144	28,826	150,220
24-Jul	49	53	60	402	15,597	108,265	1,143	8,226	15,236	46,449	1,260	10,151	33,296	173,493
25-Jul														
26-Jul														
27-Jul														
28-Jul														
29-Jul														
30-Jul														
31-Jul														
1-Aug	53	55	68	513	13,074	87,693	735	5,309	84,983	256,013	5,774	46,886	104,634	396,414
2-Aug	56	61	151	438	9,269	60,214	717	4,766	79,522	239,646	10,522	69,428	100,181	374,492
3-Aug	43	44	4	41	9,122	57,370	989	6,715	65,374	193,268	1,406	10,259	76,895	267,653
4-Aug	51	52	17	213	11,687	78,842	2,103	14,946	67,173	199,138	2,504	19,782	83,484	312,921
5-Aug	33	35	2	10	5,568	36,201	447	3,293	37,848	101,778	854	8,105	44,719	149,387
6-Aug	11	13	0	0	4,642	32,102	3	19	1,090	3,224	98	708	5,833	36,053
7-Aug	27	29	2	13	6,744	45,311	512	3,688	19,613	60,483	894	7,042	27,765	116,537
8-Aug	33	33	1	10	7,817	52,436	575	4,145	32,382	107,693	1,203	8,982	41,978	173,266
9-Aug	28	30	0	0	8,052	55,044	342	2,297	21,597	76,557	987	6,978	30,978	140,876
10-Aug	33	35	15	245	5,479	36,571	291	1,778	58,851	200,397	889	5,979	65,525	244,970

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Date	Effort		Chinook		Sockeye		Coho		Pink		Chum		Total	
	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
11-Aug	29	33	0	0	7,137	47,861	1,555	10,782	91,951	270,833	2,700	21,013	103,343	350,489
12-Aug	22	23	3	34	6,513	44,729	522	3,654	28,472	97,157	996	6,724	36,506	152,298
13-Aug	19	20	0	0	7,370	50,628	51	344	2,905	10,363	274	1,737	10,600	63,072
14-Aug	23	24	0	0	7,715	53,530	221	1,551	3,915	12,478	282	1,957	12,133	69,516
15-Aug	22	23	0	0	5,300	36,317	1,261	11,268	8,010	24,315	549	5,320	15,120	77,220
16-Aug	22	22	0	0	4,447	29,749	426	3,654	14,998	45,469	507	4,032	20,378	82,904
17-Aug	20	20	0	0	4,503	30,550	388	3,042	9,846	29,868	495	4,047	15,232	67,507
18-Aug	15	15	0	0	3,141	22,012	193	1,675	3,862	12,362	492	3,780	7,688	39,829
19-Aug	13	15	0	0	4,095	27,842	210	1,491	2,073	6,542	502	3,743	6,880	39,618
20-Aug	13	13	0	0	2,843	19,064	89	723	708	2,141	182	1,277	3,822	23,205
21-Aug	10	11	5	64	2,541	17,459	185	1,501	2,586	7,871	185	1,619	5,502	28,514
22-Aug	11	11	0	0	2,303	15,649	132	938	323	1,066	133	985	2,891	18,638
23-Aug	9	11	0	0	1,846	12,579	208	1,778	568	1,864	77	669	2,699	16,890
24-Aug	5	5	0	0	1,479	10,072	302	2,341	134	418	31	237	1,946	13,068
25-Aug	8	8	0	0	2,014	13,272	741	4,439	980	3,013	112	771	3,847	21,495
26-Aug	5	5	0	0	1,708	11,295	486	3,584	284	970	35	253	2,513	16,102
27-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28-Aug	- Processors Closed for Season -													
Total	76	3,139	2,955	37,211	2,391,675	17,010,481	32,258	226,103	871,500	2,609,795	154,425	1,192,041	3,452,813	21,075,631