

South Alaska Peninsula Salmon Management Strategy, 2023

by

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and

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April 2023

Alaska Department of Fish and Game

Division of Commercial Fisheries



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Weights and measures (metric)		General		Mathematics, statistics		
centimeter	cm	Alaska Administrative Code		all standard mathematical signs, symbols and abbreviations		
deciliter	dL		AAC			
gram	g	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	H _A	
hectare	ha			base of natural logarithm	<i>e</i>	
kilogram	kg	all commonly accepted		catch per unit effort	CPUE	
kilometer	km	professional titles	e.g., Dr., Ph.D., R.N., etc.	coefficient of variation	CV	
liter	L			common test statistics	(F, t, χ^2 , etc.)	
meter	m	at	@	confidence interval	CI	
milliliter	mL	compass directions:		correlation coefficient		
millimeter	mm	east	E	(multiple)	R	
Weights and measures (English)		north	N	correlation coefficient (simple)	r	
	cubic feet per second	ft³/s	south	S		
	foot	ft	west	W	covariance	cov
	gallon	gal	copyright	©	degree (angular)	°
	inch	in	corporate suffixes:		degrees of freedom	df
	mile	mi	Company	Co.	expected value	<i>E</i>
	nautical mile	nmi	Corporation	Corp.	greater than	>
	ounce	oz	Incorporated	Inc.	greater than or equal to	≥
	pound	lb	Limited	Ltd.	harvest per unit effort	HPUE
	quart	qt	District of Columbia	D.C.	less than	<
yard	yd	et alii (and others)	et al.	less than or equal to	≤	
Time and temperature		et cetera (and so forth)	etc.	logarithm (natural)	ln	
		exempli gratia		logarithm (base 10)	log	
	day	d	(for example)	e.g.	logarithm (specify base)	log ₂ , etc.
	degrees Celsius	°C	Federal Information Code		minute (angular)	'
	degrees Fahrenheit	°F		FIC	not significant	NS
	degrees kelvin	K	id est (that is)	i.e.	null hypothesis	H ₀
	hour	h	latitude or longitude	lat or long	percent	%
	minute	min	monetary symbols		probability	P
	second	s	(U.S.)	\$, ¢	probability of a type I error	
	Physics and chemistry		months (tables and figures): first three		(rejection of the null hypothesis when true)	α
all atomic symbols			letters	Jan,...,Dec	probability of a type II error	
alternating current		AC	registered trademark	®	(acceptance of the null hypothesis when false)	β
ampere		A	trademark	™		
calorie		cal	United States		second (angular)	"
direct current		DC	(adjective)	U.S.	standard deviation	SD
hertz		Hz	United States of America (noun)	USA	standard error	SE
horsepower		hp			variance	
hydrogen ion activity (negative log of)		pH	U.S.C.	United States Code	population sample	Var var
parts per million		ppm	U.S. state	use two-letter abbreviations (e.g., AK, WA)		
parts per thousand	ppt, ‰					
volts	V					
watts	W					

REGIONAL INFORMATION REPORT NO. 4K23-03

**SOUTH ALASKA PENINSULA SALMON MANAGEMENT STRATEGY,
2023**

by

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and
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Division of Sport Fish, Research and Technical Services
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ABSTRACT

The South Alaska Peninsula Management Area (Area M) commercial salmon fisheries are regulated by three management plans. The South Unimak and Shumagin Islands June fisheries occur from June 6 through June 28 and target sockeye salmon *Oncorhynchus nerka*. The June fisheries commence according to two schedules, one for purse seine gear and one for drift gillnet and set gillnet gear. The post-June fishery may occur from July 6 through October 31 and is guided by the results of an immature salmon test fishery and the strength of local sockeye, chum *O. keta*, pink *O. gorbuscha*, and coho salmon *O. kisutch* returns. The Southeastern District Mainland (SEDM) is managed independently from the remainder of the South Alaska Peninsula fisheries from June 1 through July 25. A sockeye salmon allocation plan exists between the Chignik Management Area (CMA) and the SEDM where 7.6% of the sockeye salmon harvested in the CMA may be harvested in the SEDM. Of the sockeye salmon harvested in the SEDM during the allocation timeframe (June 1 through July 25, excluding the Northwest Stepovak Section from July 1 through July 25), 80% are attributed to the allocation. After July 25, the SEDM is managed strictly on local stocks with the remainder of the South Alaska Peninsula. This document summarizes the management strategy of the South Alaska Peninsula fisheries and outlines the requirements for industry participation in 2023.

Keywords: Alaska Peninsula, Area M, Shumagin Islands, South Unimak, June fishery, post-June, Southeastern District Mainland, SEDM, commercial salmon fisheries, sockeye salmon, *Oncorhynchus nerka*, chum salmon, *O. keta*, pink salmon, *O. gorbuscha*, coho salmon, *O. kisutch*, management plan, Alaska Department of Fish and Game, Fishery Management Report, CMA, Chignik, forecasts

INTRODUCTION

The South Alaska Peninsula salmon management area consists of those waters south of the Alaska Peninsula bounded on the west by Scotch Cap and on the east by Kupreanof Point (Figure 1). Three management plans guide the Alaska Department of Fish and Game's (ADF&G) approach to managing salmon fisheries in this area annually; they are the *South Unimak and Shumagin Islands June Salmon Management Plan* (5 AAC 09.365), the *Post-June Salmon Management Plan for the South Alaska Peninsula* (5 AAC 09.366), and the *Southeastern District Mainland Salmon Management Plan* (5 AAC 09.360). Three gear types are fished in the South Alaska Peninsula fisheries: purse seine, set gillnet, and drift gillnet (Figures 2 and 3).

The South Unimak and Shumagin Islands June commercial salmon fisheries target sockeye salmon *Oncorhynchus nerka* and are in effect from June 6 through June 28. The South Unimak June fishery occurs in the Unimak and Southwestern Districts, a portion of the South Central District, and the Bechevin Bay Section of the Northwestern District (Figures 2 and 3). The Shumagin Islands June fishery includes the Shumagin Islands Section of the Southeastern District (Figure 2).

The *Post-June Salmon Management Plan for the South Alaska Peninsula* covers all waters of the South Alaska Peninsula management area (except the Southeastern District Mainland) from July 6 through October 31 (Figure 4).

The Southeastern District Mainland (SEDM) fishery occurs in the northern portion of the Southeastern District between McGinty Point in the west and Kupreanof Point in the east (Figures 5 and 6). The SEDM is further subdivided into 6 Sections: Beaver Bay, Balboa Bay, Southwest Stepovak, Northwest Stepovak, East Stepovak, and Stepovak Flats Sections (Figure 6). ADF&G will manage the SEDM fishery according to three distinct conditions and timeframes: 1) the strength of Chignik sockeye salmon stocks, 2) the strength of Orzinski Lake sockeye salmon escapement in the Northwest Stepovak Section (NWSS) from July 1 through July 25, and 3) abundance of local coho *O. kisutch*, pink *O. gorbuscha*, and chum salmon *O. keta* stocks after July 25. From June 1 through July 25 (June 1 through June 30 in the NWSS), the SEDM fishery is allocated 7.6% of the total Chignik Management Area (CMA) sockeye salmon

harvest. From July 1 through July 25, the NWSS is managed based on the strength of sockeye salmon returning to Orzinski Lake.

This document provides commercial fishermen and processors with the ADF&G harvest strategy for the South Alaska Peninsula salmon fisheries. It also outlines the requirements of the industry to participate in these fisheries as well as how to provide information to ADF&G.

ANNOUNCEMENTS

Inseason announcements will be broadcast on radio station KSDP AM 830 KHZ in Sand Point and rebroadcast over K201DA FM 88.1 MHz in King Cove, as well as on marine VHF channels 6 and 73 daily at 9:30 AM and 5:00 PM. Recorded information may also be obtained by calling the ADF&G recorder phone in Sand Point at (907) 383-2334 (383-ADFG). During the 2023 season, inseason harvest reports and fishery announcements will be available at the Commercial Fisheries website:

<http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareaakpeninsula.salmon>.

HARVEST REPORTING

As required by 5 AAC 39.130(c), buyers, transporters, and catcher/processors must report their daily salmon harvest/purchases by species (in both numbers of fish and pounds), statistical area, and number of deliveries by gear type to the ADF&G office in Sand Point or Cold Bay by 10:00 AM the day following the delivery. Timely and accurate reporting helps to manage an orderly fishery. Buyers may contact ADF&G offices in Cold Bay or Sand Point with their harvest information by phone, email, fax, and VHF channels 6 and 73.

Sand Point
Matt Keyse
Geoff Spalinger

Phone: 907-383-2066
E-mail: matthew.keyse@alaska.gov
E-mail: geoff.spalinger@alaska.gov

Fax: 907-383-2606

Cold Bay
Tyler Lawson

Phone: 907-532-2419
E-mail: tyler.lawson@alaska.gov

Fish tickets must be received in the ADF&G office in Sand Point or Cold Bay (listed below) within 7 days of the purchase date (5 AAC 39.130(c)). Properly filled out fish tickets are essential to the management of these fisheries. An informational packet containing detailed instructions for filling out and submitting fish tickets is available to all fish transporters, tender operators, and processor/buyers at ADF&G offices in Sand Point and Cold Bay.

Alaska Department of Fish and Game
P.O. Box 129
Sand Point, AK 99661

Alaska Department of Fish and Game
P.O. Box 50
Cold Bay, AK 99571

ALASKA BOARD OF FISHERIES REGULATION CHANGES FROM THE FEBRUARY 2023 MEETING

During the February 2023 Alaska Peninsula, Aleutian Islands, and Chignik meeting, the Alaska Board of Fisheries (board) made changes to the *South Unimak and Shumagin Islands June Salmon Management Plan* (5 AAC 09.365) by amending subsection (2)(a) that establishes the June fishing schedule for seine gear. The first commercial fishing period for seine gear will begin June 10 at 6:00 a.m. and run 68 hours, closing at 2:00 a.m.; the second commercial fishing period will begin 76 hours later at 6:00 a.m. and close after 66 hours at 11:59 p.m.; the third commercial fishing period will begin 32 hours later at 8:00 a.m. and close after 88 hours at 11:59 p.m.; the final commercial fishing period in June will begin 32 hours later at 8:00 a.m. and close after 88 hours at 11:59 p.m.

Additionally, the board added a new subsection (h) to the *South Unimak and Shumagin Islands June Salmon Management Plan* (5 AAC 09.365) such that if chum salmon harvest equals or exceeds 300,000 fish by June 18, based on fish ticket information, the commissioner shall reduce commercial fishing time in the South Unimak and Shumagin Islands by 44 hours during each of the remaining fishing periods in June for purse seine gear. If chum salmon harvest equals or exceeds 450,000 fish by June 23, based on fish ticket information, the commissioner shall close the South Unimak and Shumagin Islands June commercial salmon fishery for the remainder of June for purse seine gear.

The board amended 5 AAC 09.330. *Gear*, subsection (c) to close the Sanak Island Section of the Unimak District to commercial salmon fishing for all gear types from June 1 through June 30 (Figures 1 through 3).

The board also amended 5 AAC 09.331. *Gillnet specifications and operations* for the Unimak, Southwestern, South Central and Southeastern Districts such that 25 fathoms of seine webbing may be used on the shoreward end of a set gillnet. The lead must be retrieved when the set gillnet is hauled out of the water. A lead is no longer required to be attached to the beach above low tide; instead, it may be anchored on the shoreward end of the set gillnet. Adoption of this proposal allows the use of a lead with set gillnet gear anywhere in Registration Area M that allows set gillnet gear, regardless of the ocean depth.

In October 2020, an interdivisional team, including staff from the Division of Commercial Fisheries and the Division of Sport Fish, was formed to review Pacific salmon *Oncorhynchus spp.* escapement goals of Alaska Peninsula and Aleutian Islands Management Areas (Area M; Finkle et al. 2022). This review was based on the Policy for the Management of Sustainable Salmon Fisheries (5 AAC 39.222) and the Policy for Statewide Salmon Escapement Goals (5 AAC 39.223). Of the 22 existing Area M salmon escapement goals evaluated, the team recommended revising 10 goals and leaving the remaining 12 goals unchanged. In 2022, after a comprehensive review of the available data, the team determined no changes were warranted for South Peninsula pink salmon (*O. gorbuscha*), or the current aggregate district SEGs for chum salmon (*O. keta*) in the Southeastern, South Central, and Southwestern Districts. The team determined revisions were warranted and revised goals for three South Peninsula sockeye salmon (*O. nerka*) systems (Orzinski Lake SEG 14,000–28,000, Mortensen Lagoon SEG 1,400–5,700, and Thin Point Lake SEG 9,000–19,000).

At the April 2022 board meeting, the board designated Chignik River early-run sockeye salmon as a stock of management concern. In turn, at the February 2023 board meeting, the board unanimously consented to

management action #1; to maintain the status quo of following the guidelines of Record Copy 104 from the April 2022 board meeting. Record Copy 104 states that:

Based on early run sockeye salmon escapement at the Chignik weir, fishing time for purse seine gear, during the second fishing period, under the *Shumagin Islands June Sockeye Salmon Management Plan* would be reduced by 50%, in the Shumagin Islands Section, in order to achieve the lower bound of the Chignik River early-run sockeye salmon escapement goal. Fishing time for purse seine gear under the *South Unimak and Shumagin Islands June Sockeye Salmon Management Plan* would continue being reduced during subsequent fishing periods to meet the lower bound of the Chignik River early run sockeye salmon escapement goal. If the lower bound of the Chignik River early run sockeye salmon escapement goal is projected to be met, restrictions in the South Alaska Peninsula fishery would be lifted and commercial salmon fishing periods in the Chignik Management Area may be warranted.

If the lower bound of the Chignik River sockeye salmon run escapement goal is not projected to be met by July 1, a mixture of restrictions, including a 50% reduction in fishing time for purse seine gear during the first commercial salmon fishing period in July in the Shumagin Islands Section, would be applied to fishing opportunity in the South Alaska Peninsula Area under the *Post-June Salmon Management Plan for the South Alaska Peninsula* and in the Chignik Management Area.

Additionally, the board instated an optimal escapement goal of 300 – 400 thousand fish for the Chignik River early sockeye salmon run, and 240 – 360 thousand fish for the late sockeye salmon run.

The next scheduled regulatory meeting will be in 2026.

2023 MANAGEMENT PLANS

JUNE SALMON FISHERY

The *South Unimak and Shumagin Islands June Salmon Management Plan* (5 AAC 09.365) is in effect from June 6 through June 28. Complete details can be found in the Alaska Peninsula commercial salmon fishing regulations (5 AAC 09.365) available at ADF&G offices.

The South Unimak June fishery includes the following locations (Figures 1 through 3):

- a. Unimak District as described in 5 AAC 09.200(c),
- b. Bechevin Bay Section as described in 5 AAC 09.200(b)(2),
- c. Southwestern District as described in 5 AAC 09.200(d), and
- d. West Pavlof Bay and East Pavlof Bay Sections of the South Central District as described in 5 AAC 09.200(e)(1) and (2).

The Shumagin Islands fishery includes the Shumagin Islands Section of the Southeastern District (Figures 1 and 2) as described in 5 AAC 09.200(f)(3).

Fishing periods for the 2023 June fishery will be as follows (Figure 7):

<u>Dates and Times</u>	<u>Duration</u>
Set gillnet gear only:	
6:00 AM, June 6 until 10:00 PM, June 8	64 hours
Set gillnet and drift gillnet gear:	
6:00 AM, June 10 until 10:00 PM, June 13	88 hours
6:00 AM, June 15 until 10:00 PM, June 18	88 hours
6:00 AM, June 20 until 10:00 PM, June 23	88 hours
6:00 AM, June 25 until 10:00 PM, June 28	88 hours
Seine gear:	
6:00 AM, June 10 until 2:00 AM, June 13	68 hours
6:00 AM, June 16 until 11:59 PM, June 18	66 hours
8:00 AM, June 20 until 11:59 PM, June 23 ¹	88 hours
8:00 AM, June 25 until 11:59 PM, June 28 ^{1,2}	88 hours

¹If the June 18 trigger of 300,000 chum salmon is reached, this period will be reduced to 44 hours

²If the June 23 trigger of 450,000 chum salmon is reached, this period will be closed

In addition to the scheduled fishing periods during the month of June, the harvest of sockeye salmon in the Western Alaska Salmon Stock Identification Program (WASSIP) described “Dolgoi Island area” will be monitored through fish ticket information. Once the harvest of sockeye salmon reaches 191,000 fish, the waters of the West Pavlof Bay Section south of Black Point and the waters of the Volcano Bay Section will close to commercial salmon fishing for the remainder of the June fisheries (Figures 8 and 9). Commercial fishermen operating in the South Central and Southwestern Districts during June are advised that short-notice closure of the designated “Dolgoi Island area” will occur in the event the harvest of sockeye salmon approaches the 191,000 fish. The department will, to the extent practical, give a minimum of 6 hours’ notice of closure to all gear types.

Fishermen should be aware that waters closed to commercial salmon fishing, as specified under 5 AAC 09.350, are in effect during June.

Latitude and longitude coordinates in the Alaska Peninsula Management Area will be determined and enforced using the Global Positioning System (GPS; North American Datum of 1983).

POST-JUNE SALMON FISHERY

Immature Salmon Test Fishery

In order to assess the abundance of immature salmon and reduce incidental harvest, ADF&G will conduct a purse seine test fishery in the Shumagin Islands Section in early July before the post-June fishery begins. If 100 or more immature salmon, per set, are present, the commercial fishery will be closed to purse seine gear in an area to be determined by ADF&G (5 AAC 09.366(i)). For the purpose of this management plan, “immature salmon, per set, are present” is defined as the number of Chinook *O. tshawytscha*, sockeye, coho, and chum salmon that are observed to be gilled in the seine web (5 AAC 09.366(i)). Test fishing is standardized to purse seine gear conducting two 20-minute sets at Popof Head, Middle Set, and Red Bluff located on Popof Island. The commercial fishery may be constrained based on the abundance of immature salmon

observed during the test fishery. Gillnet gear is permitted to fish in these areas during the presence of immature salmon because the larger mesh size facilitates passage of immature salmon through the nets.

Harvest Strategy for July

Commercial salmon fishing opportunities during the month of July will consist of one 33-hour fishing period, followed by a 63-hour closure, followed by six 36-hour fishing periods, separated by 60-hour closures (5 AAC 09.366(d)). The first post-June fishing period will be on July 6, pending the results from the immature salmon test fishery. July fishing periods begin at 6:00 AM on July 6, and end on July 31 at 6:00 PM (5 AAC 09.366(d); 9).

The July fishing schedule for the post-June fishery will be as follows (Figure 10):

<u>Dates and Times</u>	<u>Duration</u>
All gear types:	
6:00 AM, July 6 until 3:00 PM, July 7	33 hours
6:00 AM, July 10 until 6:00 PM, July 11	36 hours
6:00 AM, July 14 until 6:00 PM, July 15	36 hours
6:00 AM, July 18 until 6:00 PM, July 19	36 hours
6:00 AM, July 22 until 6:00 PM, July 23	36 hours
6:00 AM, July 26 until 6:00 PM, July 27	36 hours
6:00 AM, July 30 until 6:00 PM, July 31	36 hours

Under the current management plan, commercial salmon fishing is permitted to occur concurrently in both terminal and non-terminal areas during the scheduled openings for the month of July in all areas of the South Alaska Peninsula. Terminal harvest areas are depicted in Figures 11 through 15.

Additional fishing time in terminal harvest areas may also be provided during closures in the July fishing schedule based on local salmon stock strength which is evaluated from harvest data, escapement counts, and aerial surveys. From July 6 through July 21, terminal harvest areas are: Zachary Bay, Canoe Bay, Cold Bay, Thin Point, Morzhovoi Bay, and the East and West Pavlof Bay Sections north of the latitude of Black Point (Figures 11 through 14). Terminal harvest areas during the July 22 through July 31 time period include those areas specified for the July 6 through July 21 period, as well as the Deer Island, Belkofski Bay, and Mino Creek-Little Coal Bay Sections (Figure 15).

In addition to the scheduled fishing periods during the month of July, the harvest of sockeye salmon in the “Dolgoi Island area” will be monitored through fish ticket information from the opening of the commercial salmon season through July 25 (Figures 8 and 9). Once the harvest of sockeye salmon reaches 191,000 fish, based on fish tickets, the waters of the West Pavlof Bay Section south of Black Point and the waters of the Volcano Bay Section will close until July 26. However, the portion of the West Pavlof Bay Section south of Black Point will reopen to commercial salmon fishing on July 17 consistent with scheduled fishing periods during the post-June fishery. Commercial fishermen operating in the South Central and Southwestern Districts

prior to July 25 are advised that short-notice closure of the designated “Dolgoi Island area” will occur in the event the harvest of sockeye salmon approaches 191,000 fish (Figures 8 and 9). The department will, to the extent practical, give six hours of notice of closure to all gear types.

Harvest Strategies after July

From August 1 through August 31, fishing periods in the South Alaska Peninsula will be based on the strength of local sockeye, coho, pink, and chum salmon runs.

From September 1 through October 31, fishing periods will be based primarily on coho salmon abundance, although late pink and chum salmon run strength may be considered when determining fishing time. Fishing effort typically declines during the fall fishery.

In an effort to allow enforcement activities during daylight hours, with minimum impact to legal fishing activities, fishing periods in August will open at 8:00 AM and close at 9:00 PM (5 AAC 09.366(c)(2)), and fishing periods in September and October will open at 9:00 AM and close at 8:00 PM (5 AAC 09.366(c)(3)).

Salmon Escapement Goals

Aerial surveys will be conducted by ADF&G staff to estimate the escapement of sockeye, coho, pink, and chum salmon on the South Alaska Peninsula. Information from these surveys will be used for inseason management of the South Alaska Peninsula commercial salmon fishery. Aerial survey methods can be found in Fox et al. (2022).

Pink and chum salmon escapements will be estimated with the indexed total escapement method, and sockeye salmon escapements will be estimated using peak escapement observations beginning in mid-July through mid-September. Due to the late run timing of coho salmon, limited survey data is gathered, and no indexed total escapement can be calculated. There are three sockeye salmon SEGs in the South Alaska Peninsula: 14,000 to 28,000 fish at Orzinski Lake, 1,400 to 5,700 fish at Mortensen’s Lagoon, and 9,000 to 19,000 fish at Thin Point Lake (Finkle et al. 2022). The 2023 pink salmon SEG range for the South Alaska Peninsula is 1,750,000 to 4,000,000 fish. The 2023 chum management objectives using the indexed total escapement method are 106,400 to 212,800 fish in the Southeastern District, 89,800 to 179,600 fish in the South Central District, and 133,400 to 266,800 fish in the Southwestern District.

SEGs for chum salmon are established for each district utilizing specific index streams in a district, rather than all streams in a district, and the single peak aerial survey method, rather than the indexed total escapement method (incorporates 21-day stream life, carcasses, mouth counts; Fox et al. 2022) to estimate escapement (Finkle et al. 2022). Using the Southeastern District’s 26 index streams, the SEG is 62,500 to 151,900 fish. Using the South Central District’s 10 index streams, the SEG is 68,900 to 99,200 fish. Using the Southwestern District’s 19 index streams, the SEG is 86,900 to 159,500 fish.

SOUTHEASTERN DISTRICT MAINLAND SALMON FISHERY

Under the current *SEDM Salmon Management Plan* (5 AAC 09.360):

- 1) The percentage of Chignik-bound sockeye salmon allocated to the SEDM fishery is 7.6% of the total number of sockeye salmon harvested in the CMA through July 25.
- 2) From June 1 through July 25, 80% of the sockeye salmon caught in the SEDM are considered to be Chignik-bound salmon, excluding NWSS after July 1.

- 3) Beginning July 1, sockeye salmon caught in NWSS will not be counted toward the Chignik allocation. Fishing periods in NWSS after June 30 will be based on sockeye salmon escapement into Orzinski Lake, and there may not be more than 96 hours of fishing time during a 7-day period.
 - a) If the department determines that the sockeye salmon escapement goal objectives are being met or exceeded then the waters of Orzinski Bay may be open to commercial salmon fishing continuously to set gillnet gear only through July 10, and both set gillnet gear and purse seine gear from July 11 through July 25.
- 4) If the Orzinski Lake escapement meets or exceeds 28,000 sockeye salmon, NWSS and Orzinski Bay may be opened as follows:
 - a) set gillnet gear may be operated continuously until midnight July 25;
 - b) purse seine and hand purse seine gear may not be operated for more than 96 hours during a 7-day period.
- 5) The board established a closed waters area encompassing Kupreanof Point from July 6 through August 31 (Figure 16, 5 AAC 09.350(37)). ADF&G may extend the Kupreanof Point closed waters area through the end of the season by emergency order when the waters specified in 5 AAC 15.350(20) are closed to conserve coho salmon.
6. From July 26 through October 31, the fishery is managed for local pink, chum, and coho salmon stocks.
7. From July 26 through October 31, the fishery will be closed for at least one 36-hour period within a 7-day period, excluding Orzinski Bay when the department is managing for local sockeye salmon.

Northwest Stepovak Section

The Orzinski Lake sockeye salmon SEG range is 14,000 to 28,000 fish (Finkle et al. 2022; Figure 17). ADF&G has operated a weir on the Orzinski Lake system annually since 1990 and plans to do so again in 2023.

Stepovak Flats Section

The Stepovak Flats Section is open to commercial salmon fishing concurrently with the rest of SEDM (Figure 6). Of the sockeye salmon harvested in the Stepovak Flats Section prior to July 26, 80% are assigned to the 7.6% allocation criteria stated in the current *SEDM Salmon Management Plan*. The Stepovak Flats Section is closed to all commercial fishing from July 29 through October 31 to protect schooling chum salmon.

FORECAST AND ALLOCATION

SOUTH ALASKA PENINSULA PINK SALMON FORECAST

The 2023 South Alaska Peninsula post-June harvest estimate is 9.0 million pink salmon, and the total run estimate is 13.0 million fish (Appendix A1). ADF&G will manage the commercial fishery according to the June and post-June schedules through July 31, after which time the

commercial salmon fishing periods will be based upon strength of local pink and chum salmon stocks.

CHIGNIK RIVER SOCKEYE SALMON FORECAST AND SEDM ALLOCATION

The 2023 forecast for the estimated total harvest of Chignik River sockeye salmon is 899,000 fish (Appendix A2). ADF&G will manage the fisheries so that the number of sockeye salmon harvested in CMA, for both runs combined, will be at least 600,000 fish and the harvest of sockeye salmon considered to be Chignik bound in the SEDM will approach, as near as possible, 7.6% of the total CMA sockeye salmon harvest through July 25.

If the Chignik River early run fails to develop as predicted, the department will curtail fishing in the SEDM, excluding Orzinski Bay, until at least 300,000 sockeye salmon have been harvested in the CMA through July 8. From approximately June 26 through July 8, the strength of the Chignik River sockeye salmon late run cannot be accurately evaluated due to the mixing of early- and late-run stocks. During this transition period, ADF&G may close or restrict commercial salmon fishing in SEDM until the strength of the late run has been determined. After July 8, if at least 300,000 sockeye salmon have been harvested in the CMA and escapement objectives are being met for the Chignik late run, the department will manage the fishery so that the number of sockeye salmon harvested in the CMA is at least 600,000. The number of sockeye salmon harvested in the SEDM before July 25 (before July 1 in the NWSS) will be managed so that 7.6% of the total harvest of Chignik River sockeye salmon is taken in the SEDM. However, the harvest in SEDM at any time before July 25 may be permitted to fluctuate above or below 7.6% of the Chignik Area harvest (5 AAC 09.360(g)).

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- Finkle, H., K. L. Schaberg, M. B. Foster, M. L. Wattum, and T. Polum. 2022. Review of salmon escapement goals in the Alaska Peninsula and Aleutian Islands Management Areas, 2020. Alaska Department of Fish and Game, Fishery Manuscript No. 22-06, Anchorage.
- Fox, E. K. C., T. D. Lawson, and M. D. Keyse. 2022. 2022 South Alaska Peninsula salmon annual management report and 2021 subsistence fisheries in the Alaska Peninsula, Aleutian Islands, and Atka-Amlia Islands management Areas. Alaska Department of Fish and Game, Division of Commercial Fisheries, Fishery Management Report No. 22-32, Anchorage.

FIGURES

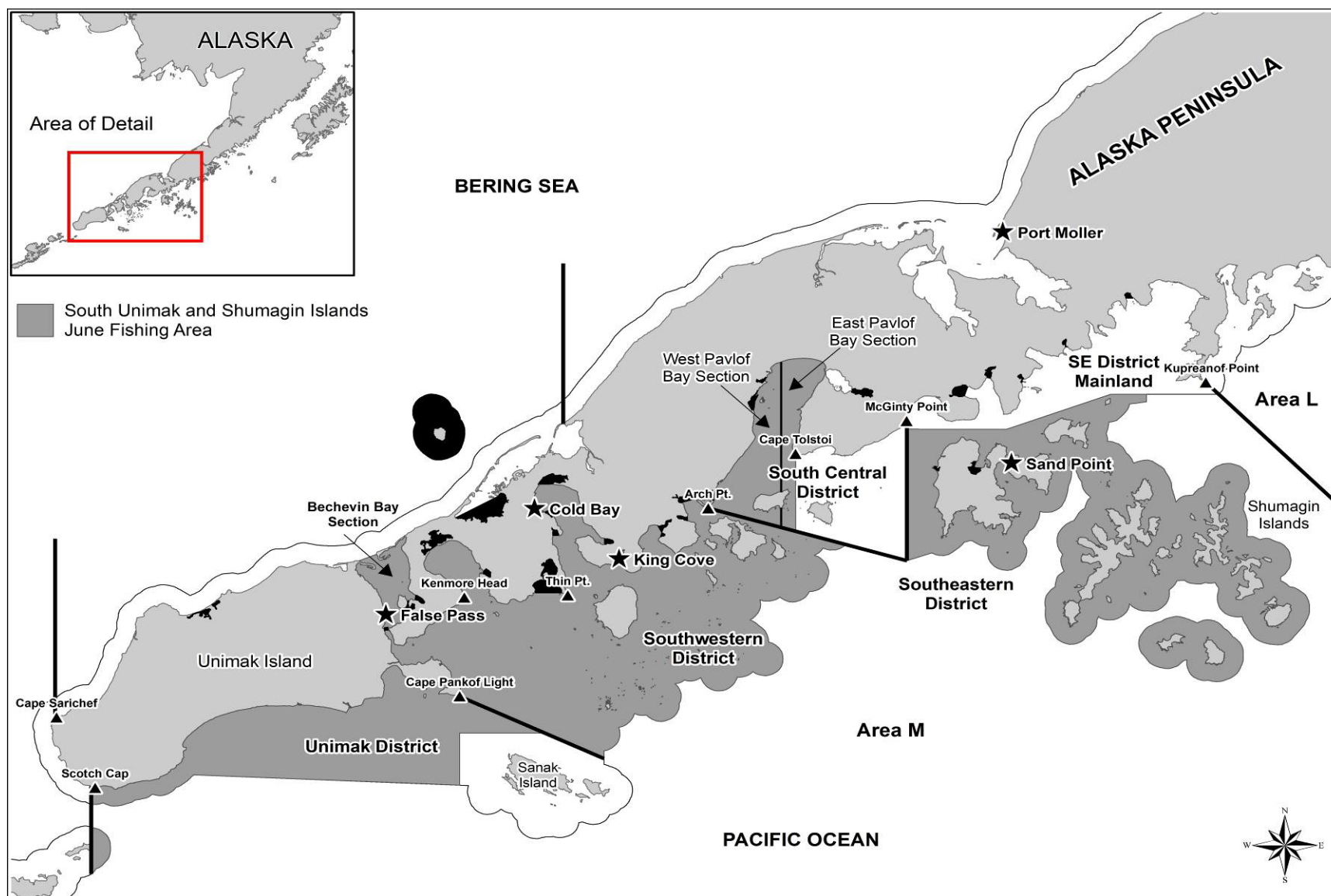


Figure 1.—Map of the South Alaska Peninsula Management Area and the locations of the South Unimak and Shumagin Islands June fisheries.

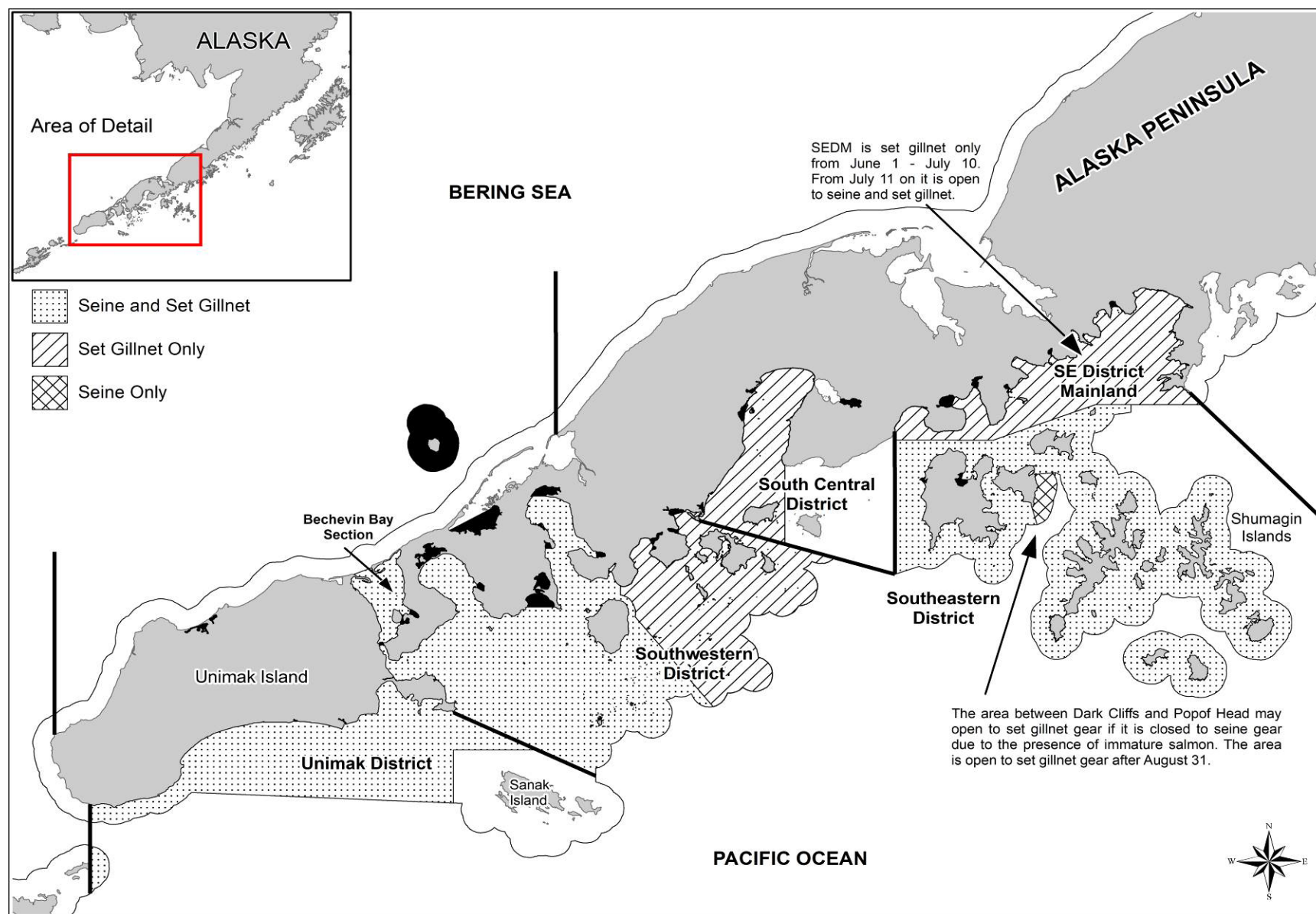


Figure 2.—Map depicting the locations of June South Alaska Peninsula fisheries for purse seine and set gillnet gear.

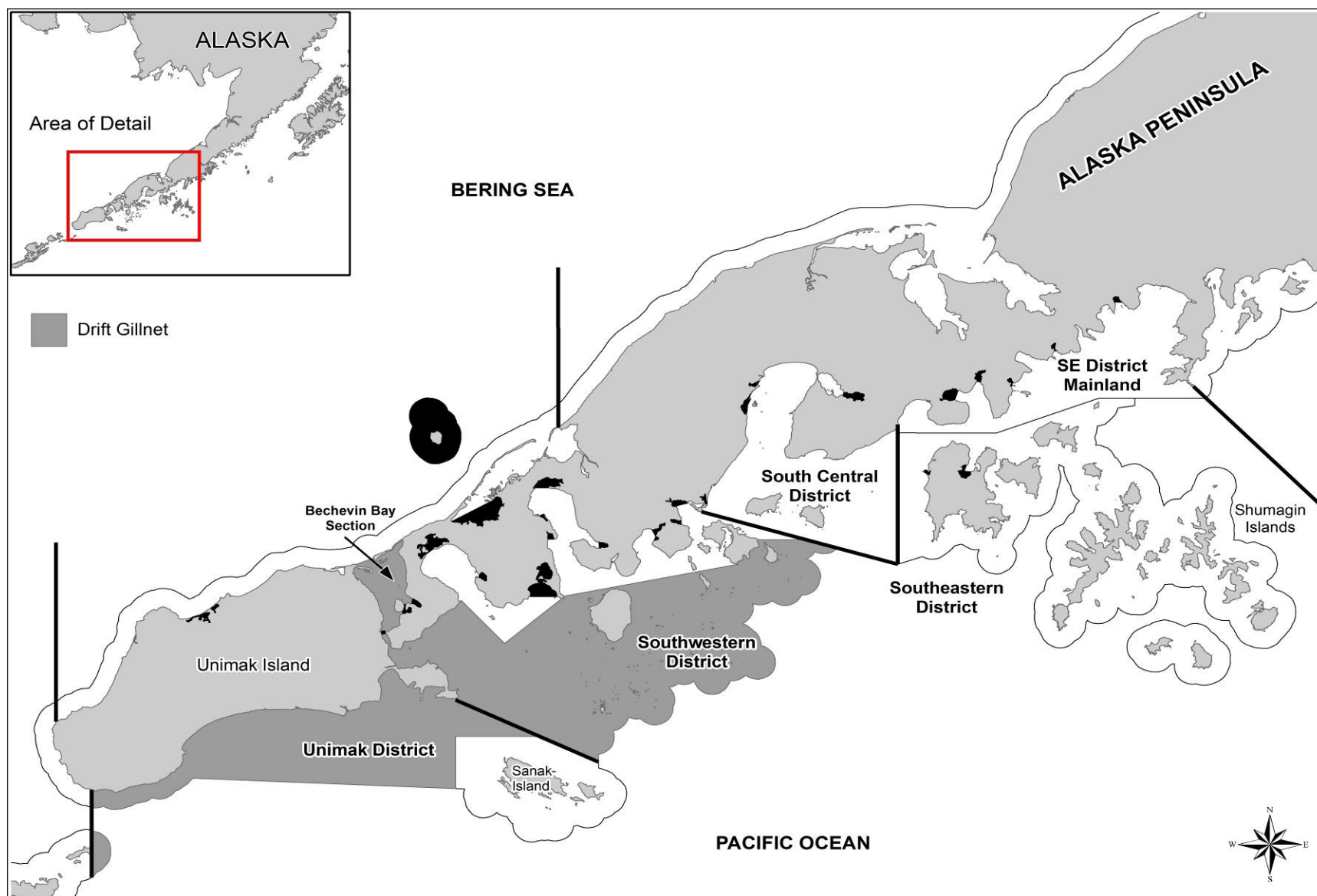


Figure 3.—Map depicting the locations of June South Alaska Peninsula fishery for drift gillnet gear.

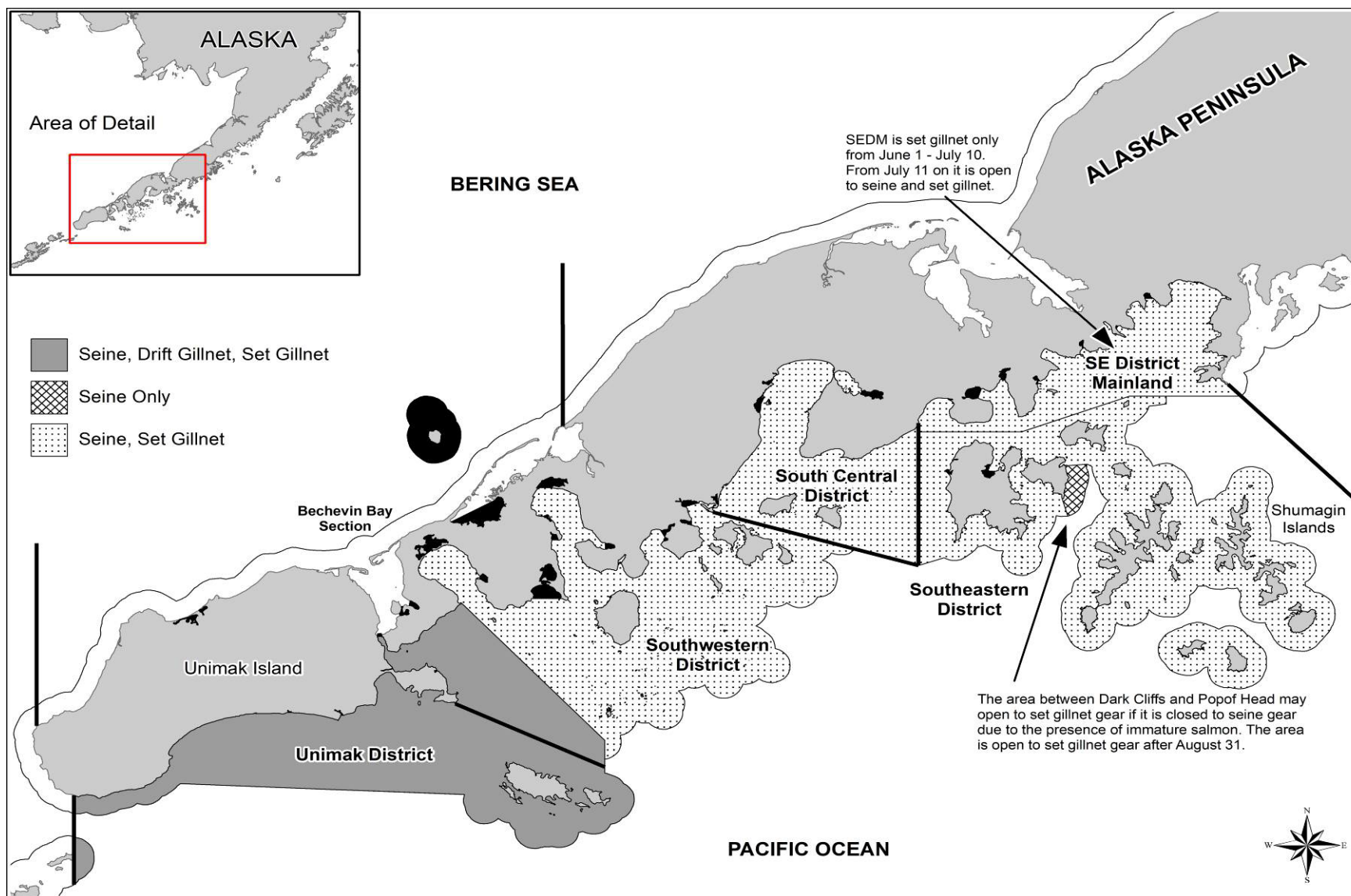


Figure 4.—Map depicting the locations of post-June South Alaska Peninsula fisheries and permitted gear types.

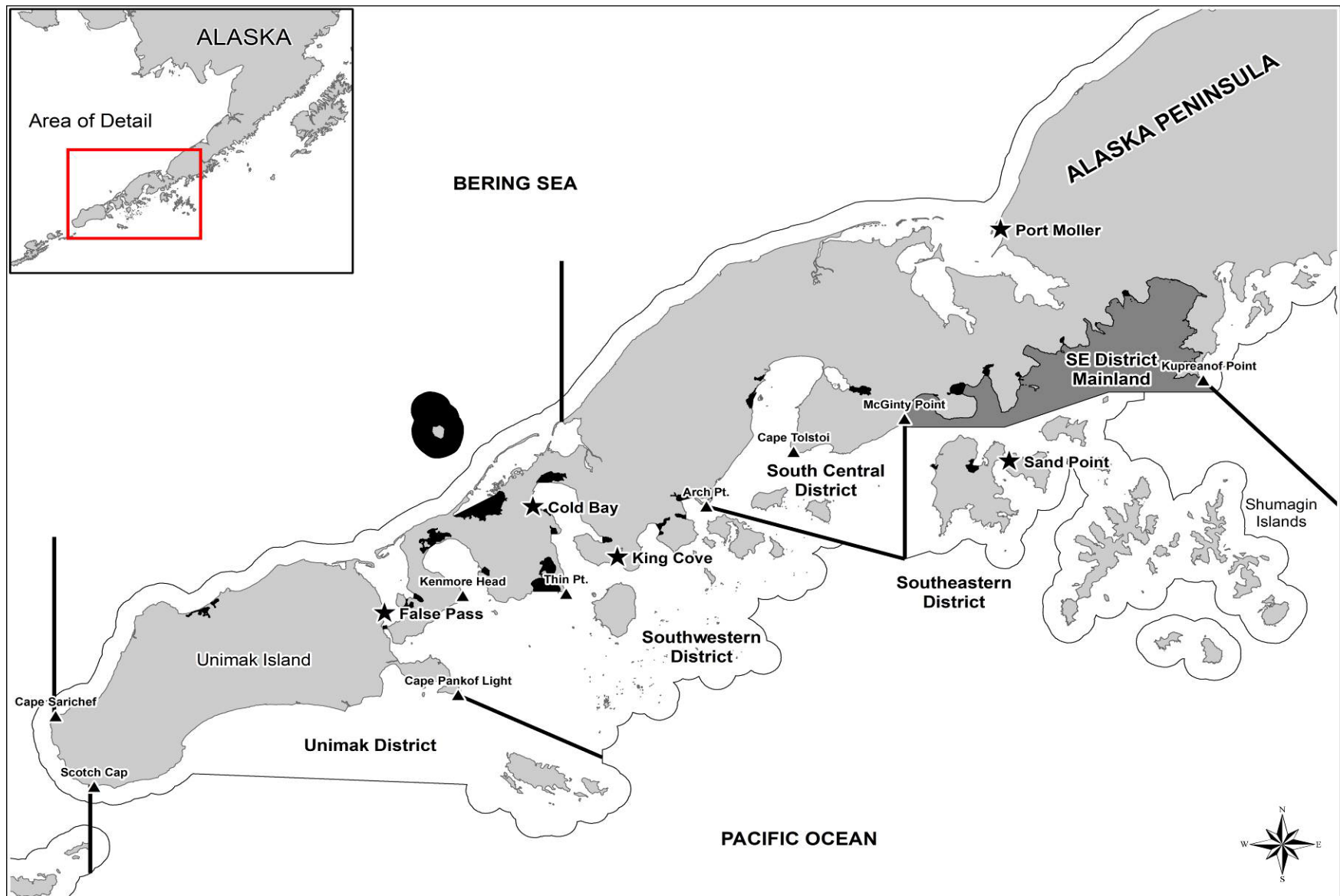


Figure 5.—Map of the South Alaska Peninsula Management Area with the Southeastern District Mainland defined.

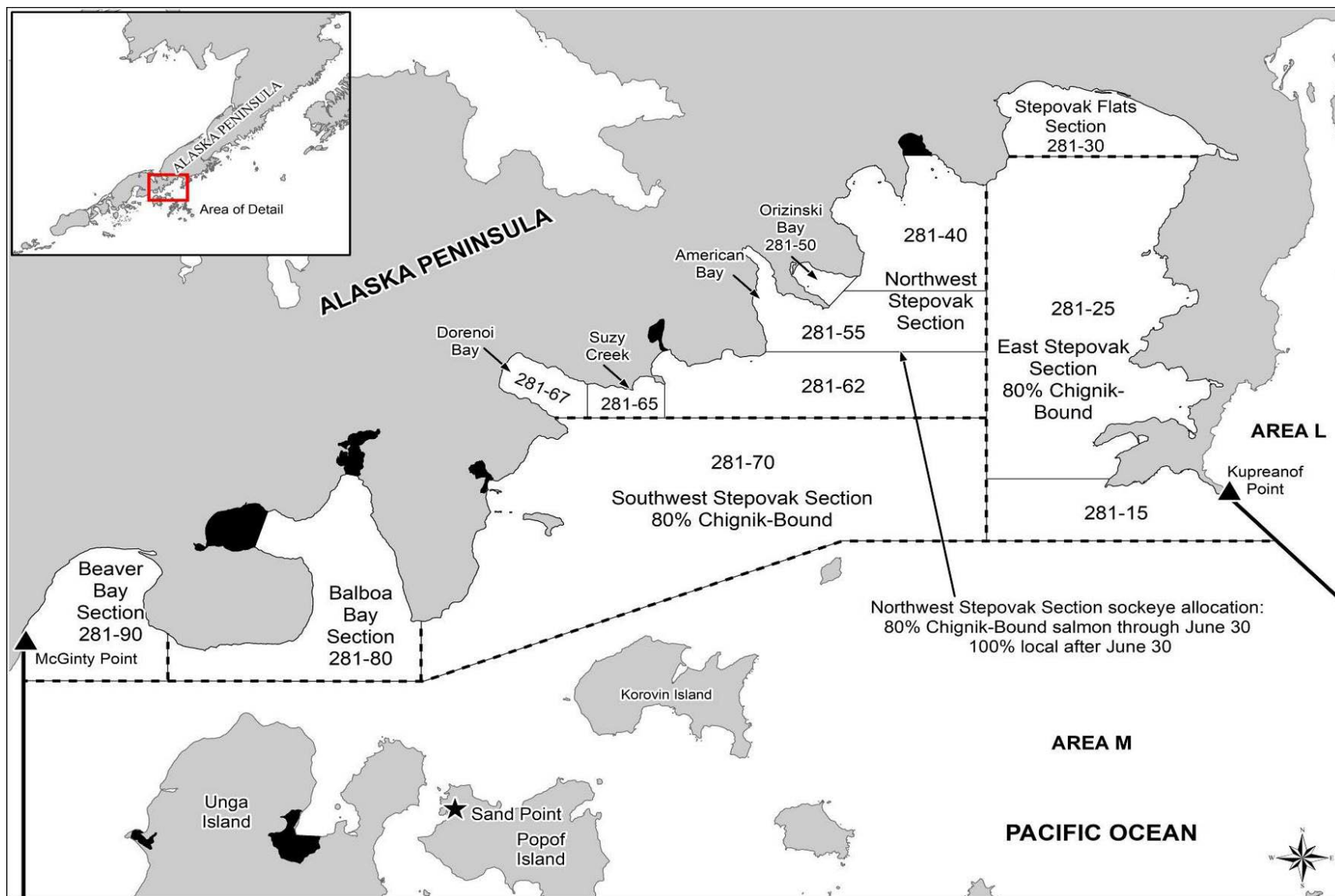


Figure 6.—Map of the Southeastern District Mainland from Kupreanof Point to McGinty Point with the commercial salmon fishery sections defined.

June 2023 Gear Types Schedule

June 2023 Gear Types Schedule						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
	Seine gear fishing periods					
	Set and drift gillnet gear fishing periods					
4	5	6	7	8	9	10
		6 a.m.	Open 64 hours (Set Gillnet Gear Only)			6 a.m.
11	12	13	14	15	16	17
Open 68 hours		2 a.m.	76 hr closure		6 a.m.	Open 66 hours
Open 88 hours		10 p.m.		6 a.m.	Open 88 hours	
18	19	20	21	22	23	24
	32 hr closure		Open 88 hours			32 hr closure
10 p.m.	300,000 chum trigger evaluation point	6 a.m.	Open 88 hours			450,000 chum trigger evaluation point
25	26	27	28	29	30	
6 a.m.	Open 88 hours					
8 a.m.	Open 88 hours					

Figure 7.—All gear types fishing periods in the South Unimak and Shumagin Islands June fisheries, 2023.

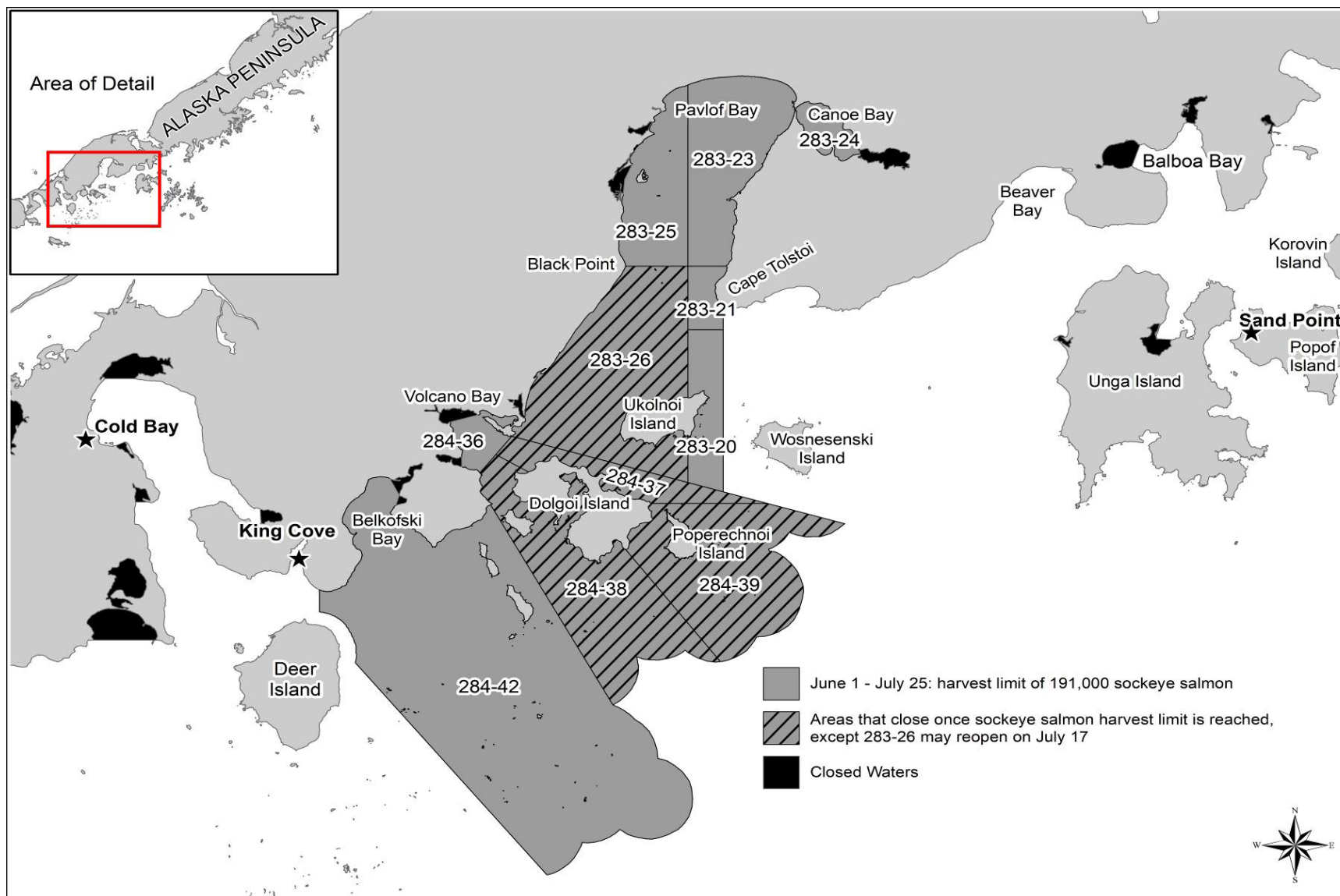


Figure 8.—Map depicting the statistical areas (283-20 through 283-26 and 284-36 through 284-42) that contribute to the “Dolgoi Island area” sockeye salmon harvest for the June Management Plan, and the areas that will close once 191,000 sockeye salmon have been harvested.

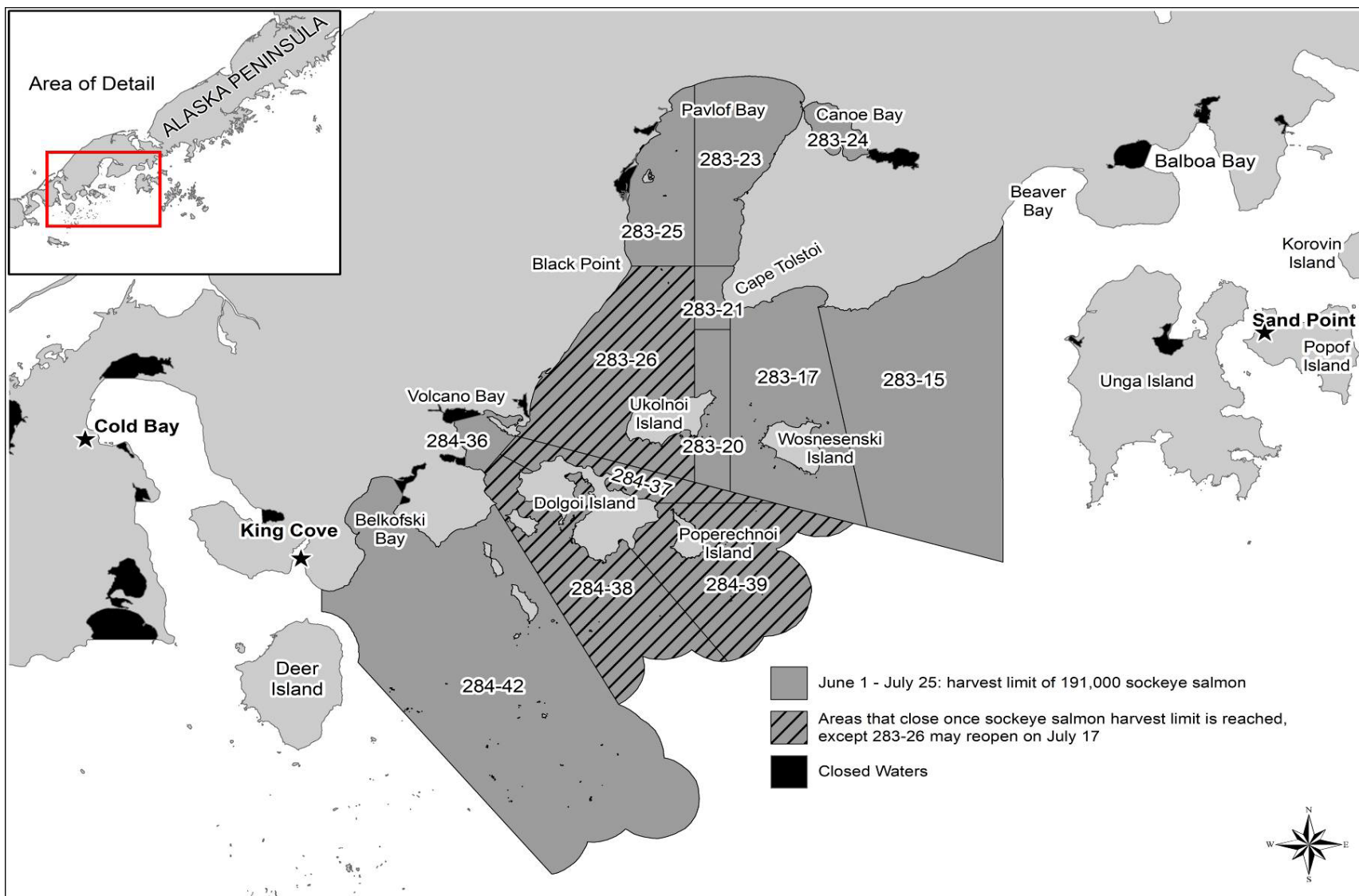


Figure 9.—Map depicting the statistical areas (283-15 through 283-26 and 284-36 through 284-42) that contribute to the “Dolgoi Island area” sockeye salmon harvest for the post-June Management Plan, and the areas that will close once 191,000 sockeye salmon have been harvested.

July 2023 All Gear Types Schedule						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
Note: All fishing periods start at 6:00 AM. All fishing periods are for all gear types.						
2	3	4	5	6	7	8
				6:00 AM 33 Hours 3:00 PM		
9	10	11	12	13	14	15
	6:00 AM 36 Hours 6:00 PM				6:00 AM 36 Hours 6:00 PM	
16	17	18	19	20	21	22
		6:00 AM 36 Hours 6:00 PM				6:00 AM 36 Hours
23	24	25	26	27	28	29
6:00 PM			6:00 AM 36 Hours 6:00 PM			
30	31					
6:00 AM 36 hours 6:00 PM						

Figure 10.—All gear types fishing periods in the South Unimak and Shumagin Islands post-June fisheries, 2023.

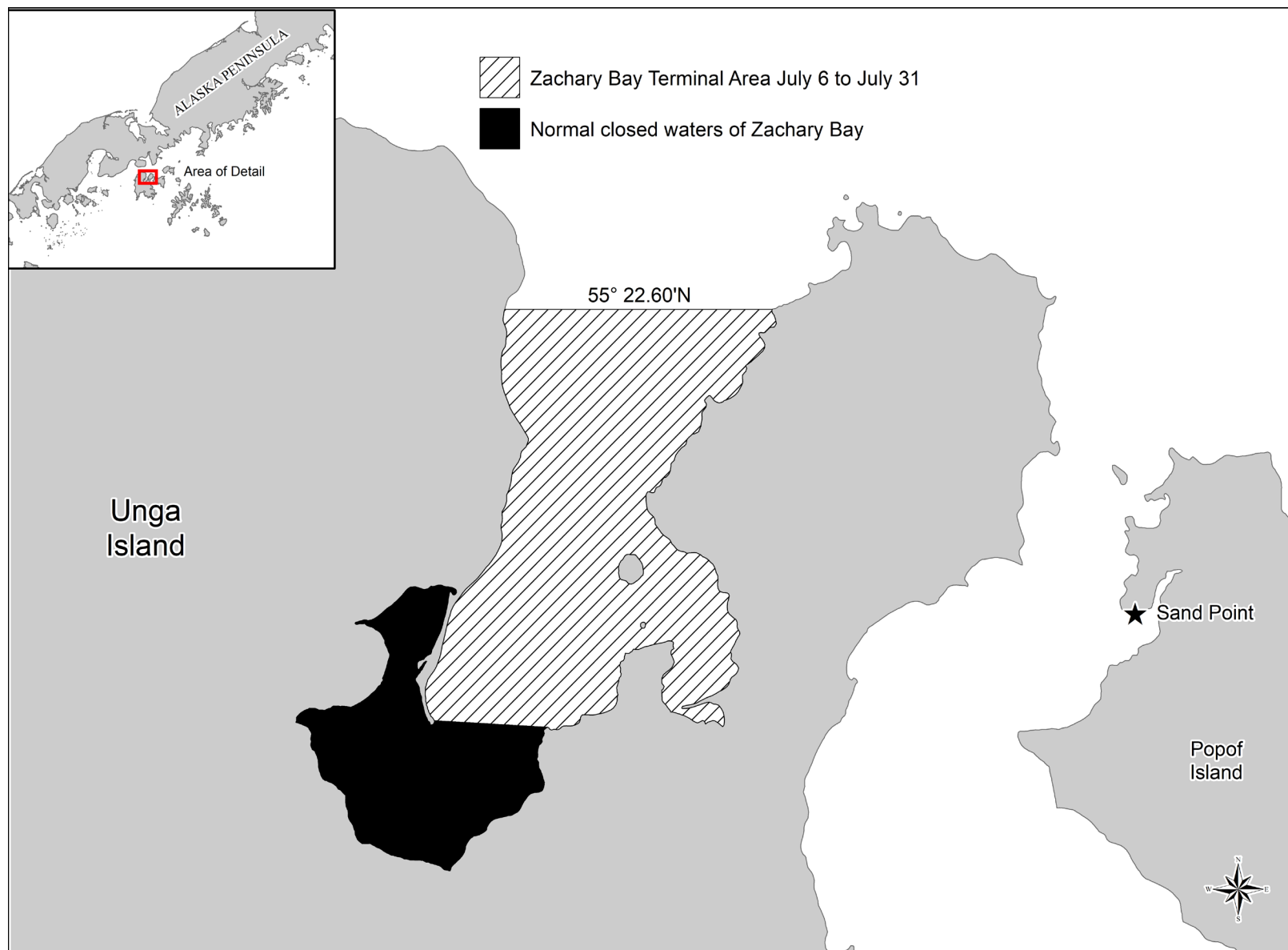


Figure 11.—Zachary Bay closed waters and post-June terminal fishing area.

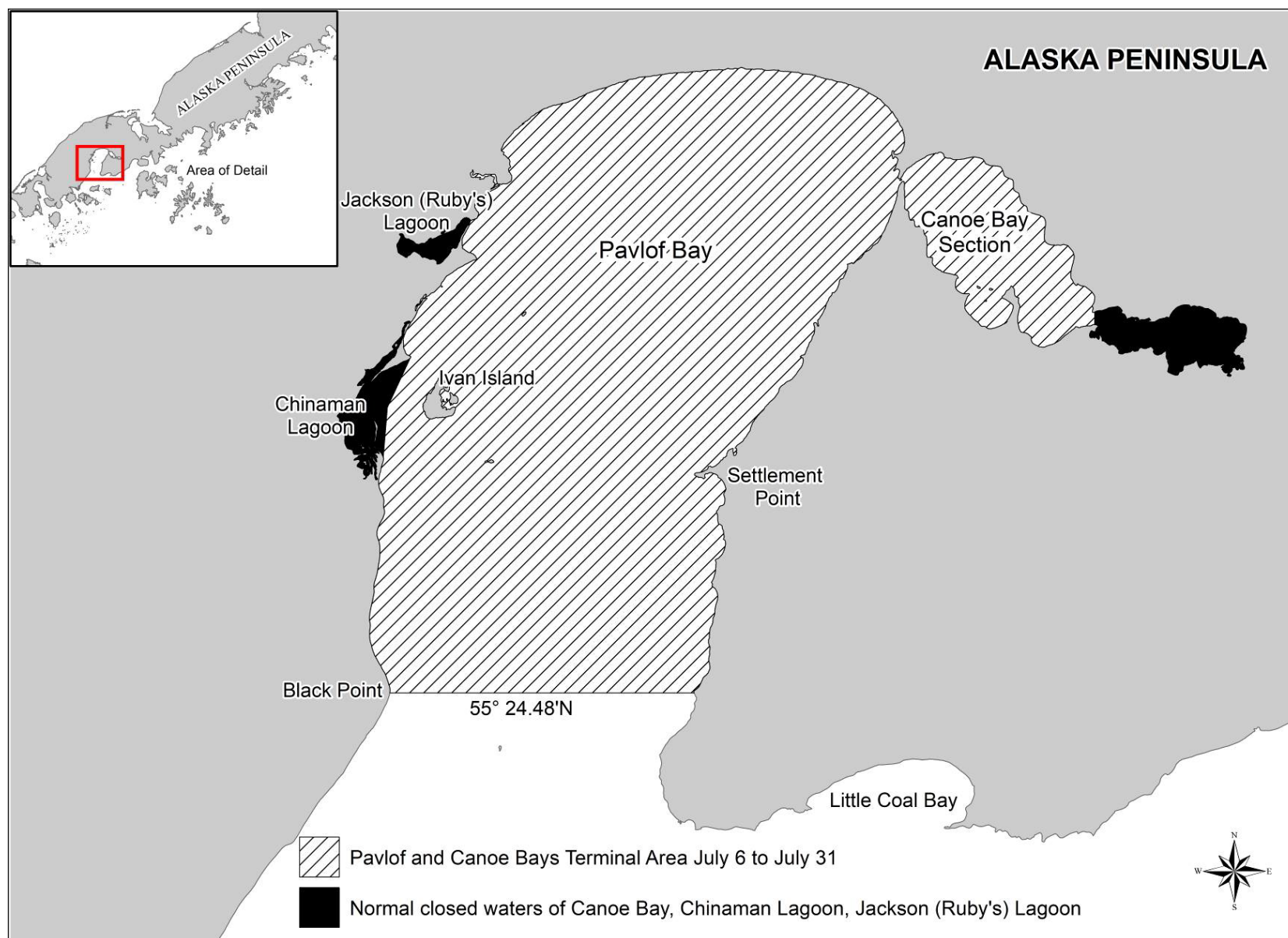


Figure 12.—Canoe Bay Section and Upper Pavlof Bay closed waters and post-June terminal fishing areas.

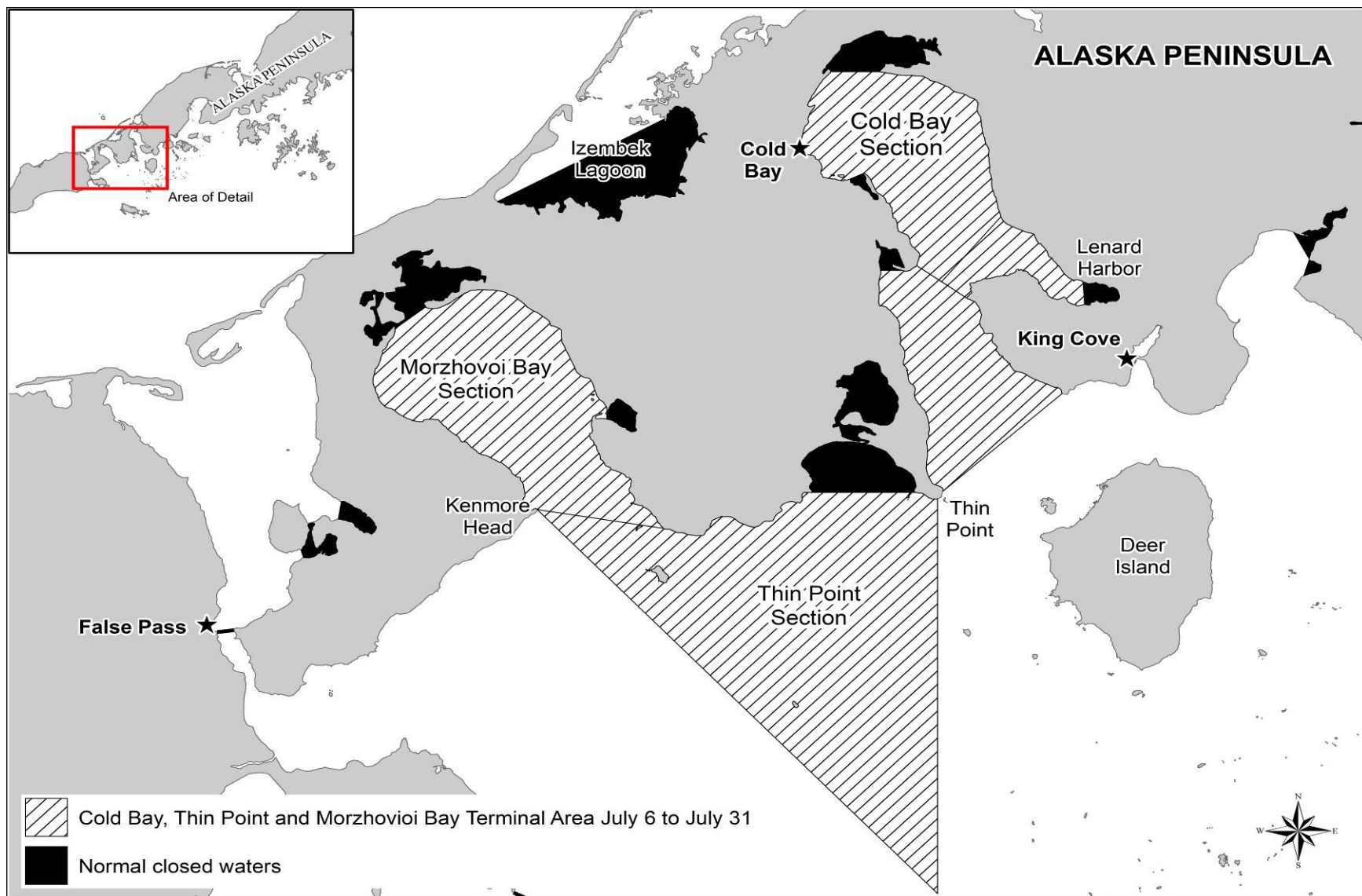


Figure 13.—Cold Bay, Thin Point, and Morzhovoi Bay Sections closed waters and post-June terminal fishing areas.

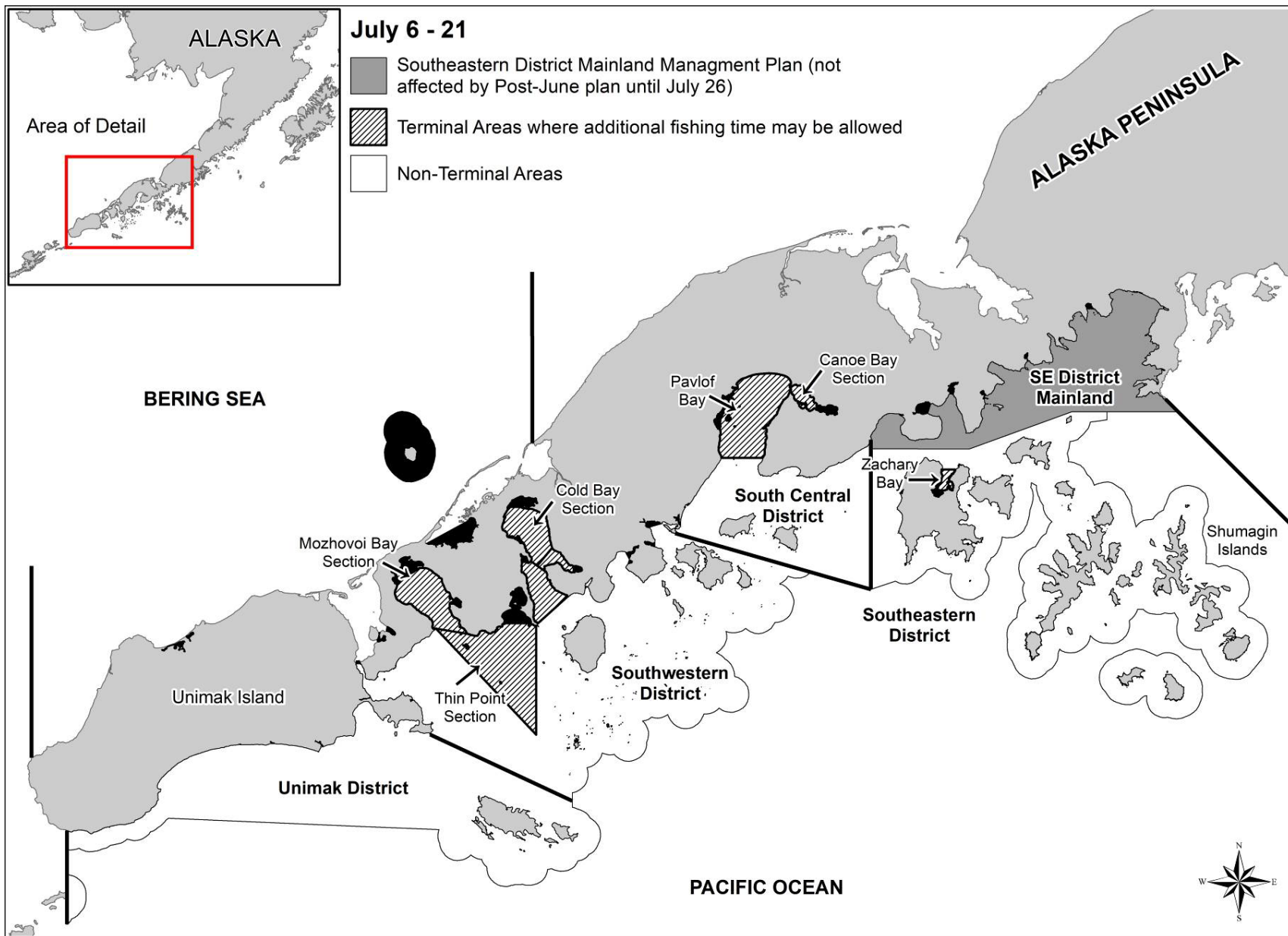


Figure 14.—South Alaska Peninsula post-June terminal fishing areas from July 6 through July 21.

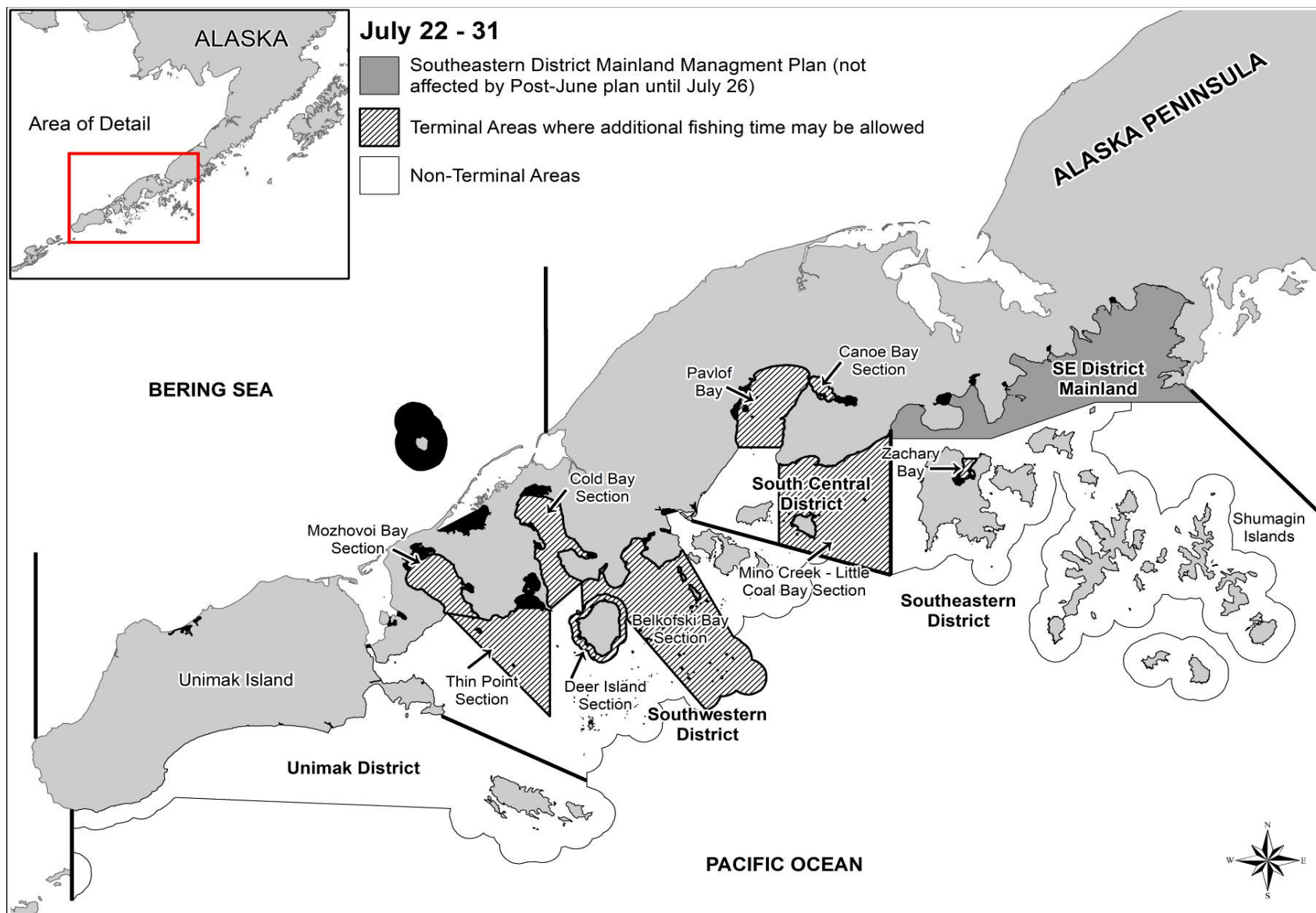


Figure 15.—South Alaska Peninsula post-June terminal fishing areas from July 22 through July 31.

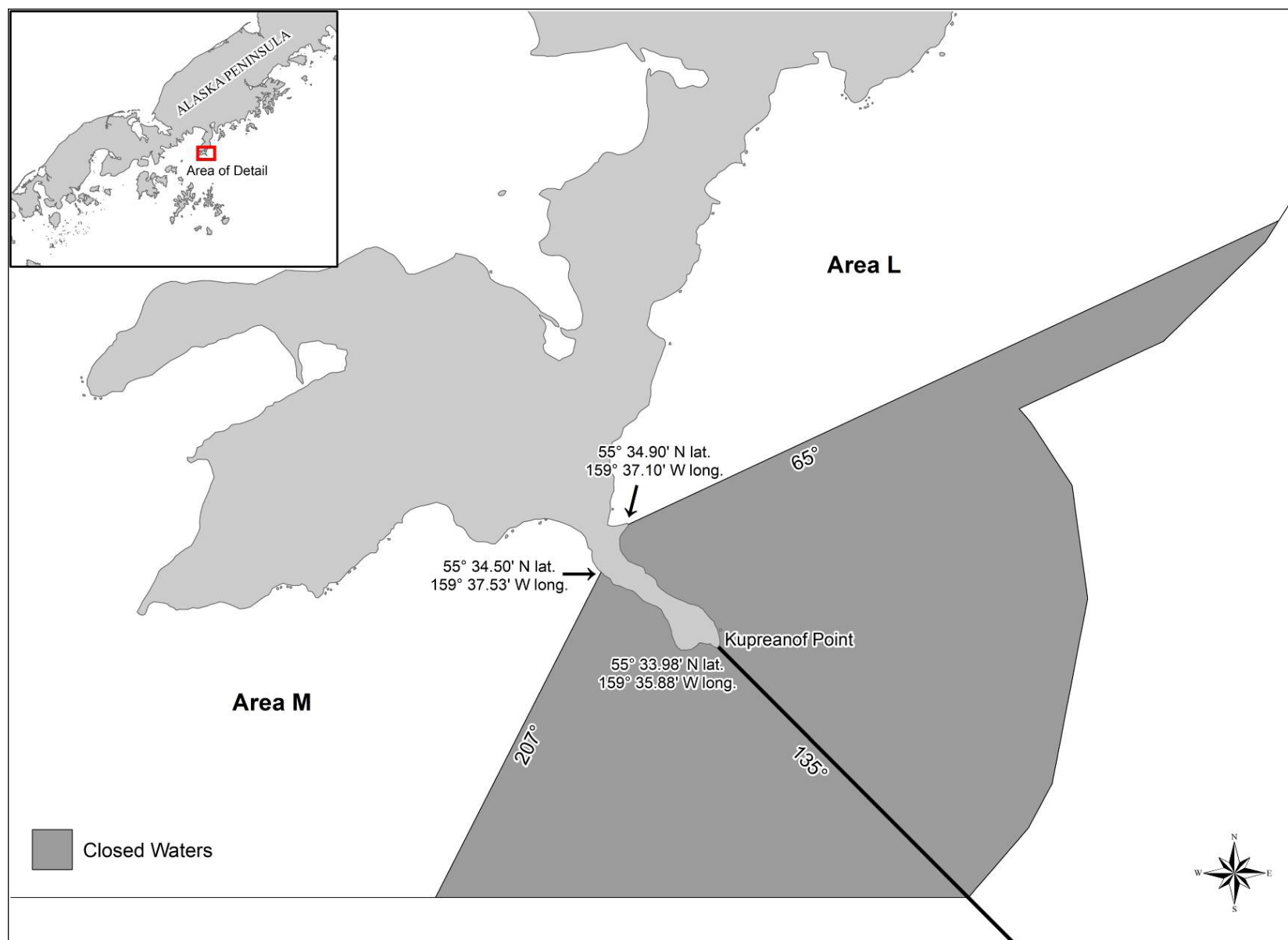


Figure 16.—Map of Kupreanof Point area closed waters.

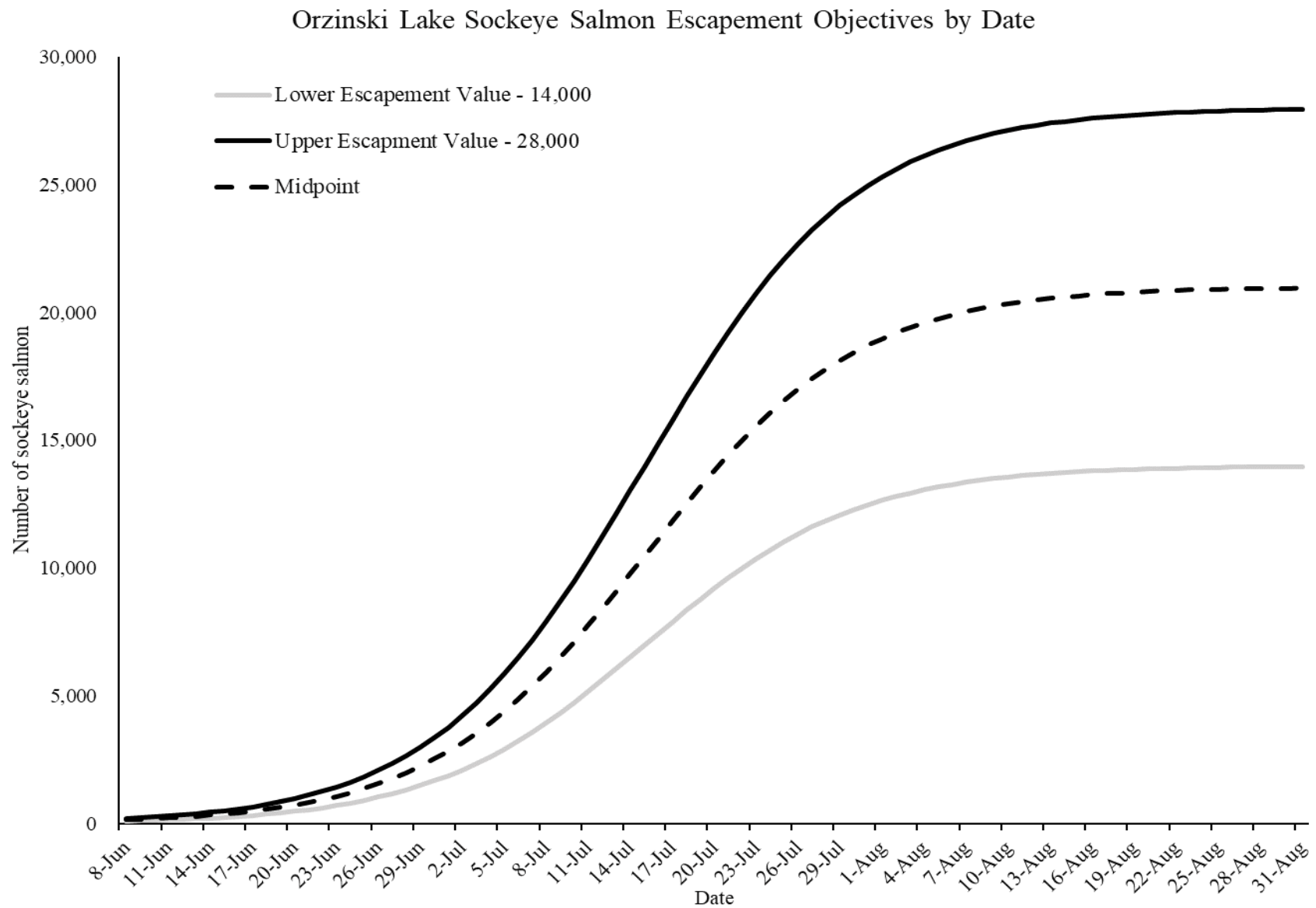


Figure 17.—Average run timing relative to lower and upper escapement goals for sockeye salmon into Orzinski Lake.

APPENDIX A. 2023 SALMON FORECASTS

Preliminary forecast of the 2023 run

Table 1.–Point estimate and ranges (80% prediction intervals) of the 2023 South Alaska Peninsula pink salmon forecast.

Stock	Escapement goal (millions)	2023 run	Point estimate (millions)	Range (millions)
South Alaska Peninsula	SEG: 1.75–4.0	Total run forecast ^a	13.0	6.8–19.1
		Escapement ^b	4.0	1.8–4.0
		Post-June harvest estimate	9.0	2.8–15.1
		Harvest category	<i>STRONG</i>	

^a Post-June harvest and escapement.

^b The escapement estimate is the upper end of the aggregate goal range (1.75–4.0 million) in 2023.

The 2023 South Alaska Peninsula predicted pink salmon harvest is expected to be in the **Strong** category with a point estimate of 13.0 million (Table 1). Harvest categories were delimited from the 20th, 40th, 60th, and 80th percentiles of historical post-June commercial harvest on the South Alaska Peninsula from 1988 to 2022 (Table 2).

Table 2.–Categorical ranges of South Alaska Peninsula pink salmon harvest and this year’s forecast in bold.

Harvest Category	Range (millions)	Percentile
<i>Poor</i>	Less than 2.0	Less than 20 th
<i>Weak</i>	2.0 to 4.0	21 st to 40 th
<i>Average</i>	4.0 to 6.9	41 st to 60 th
<i>Strong</i>	6.9 to 9.9	61st to 80th
<i>Excellent</i>	Greater than 9.9	81 st to 100 th

The 2023 South Alaska Peninsula pink salmon harvest forecast is derived from a total run forecast minus the upper end (4 million fish) of the annual South Alaska Peninsula escapement goal range. Based on best model fit, the total run was forecasted fitting a simple linear regression using the average air temperature in Cold Bay between emergence (April) and early ocean survival (November). The regression model was fit to odd-year South Peninsula pink salmon returns lagged 2 years ahead from 1983 through 2021. The mean absolute percent error since 2011 is 69% for the pink salmon forecast compared to actual.

Tyler Lawson, Alaska Peninsula–Aleutian Islands Asst. Area Management Biologist

Heather Finkle, Finfish Research Biologist, Westward Region.

Appendix A2.–2023 Chignik Management Area sockeye salmon forecast.

Total Production		Forecast Estimate (thousands)	Forecast Range (thousands)
Early run	Total Run Estimate	920	388–2,178
	Optimal Escapement	350	300–400
	Harvest Estimate ^{b,c}	570	
Late run	Total Run Estimate	604	176–1,189
	Optimal Escapement	300	240–360
	Harvest Estimate ^{b,c}	304	
Total Chignik System	Total Run Estimate	1,524	565–3,367
	Biological Escapement	625	450–800
	Combined OEG	650	
	Chignik Area ^b	874	
	SEDM Area	0	
	Cape Igvak Section	0	

Note: Column numbers may not total or correspond exactly with numbers in text due to rounding.

^a Harvest represents the surplus from achieving the midpoint of the escapement goal. During the February 2023 Board of Fisheries, the inriver run goal of 20,000 sockeye salmon was removed. The Alaska Board of Fisheries instituted optimal escapement goals (OEGs) for the early run (300,000 to 400,000 sockeye salmon) and late run (240,000 to 360,000 sockeye salmon).

^b Based on historical run size and timing, a harvestable surplus of Chignik River system sockeye salmon is not forecast to exceed 300,000 by July 8 or 600,000 fish by July 25 in the Chignik Management Area, therefore, as outlined in regulations 5 AAC 09.360 and 5 AAC 18.360, no commercial fisheries were forecasted in the Southeastern District Mainland and Cape Igvak during the regulatory timeframe thru July 25 and July 5 respectively, thus the harvest of Chignik-bound sockeye salmon in those areas is expected to be zero.

^c Achieving the midpoint of the early run OEG (350,000 fish) is estimated to yield a Chignik Area harvest of 570,000 early-run sockeye salmon. Achieving the midpoint of the late run OEG (300,000 fish) is estimated to yield a Chignik Area harvest of 304,000 late-run sockeye salmon.

^d The biological escapement goal is for the single, total run goal. Targeting the midpoints of the early- and late-run OEGs is estimated to reduce the harvest by 25,000 fish.

Forecast Methods

Each regression model was assessed with standard regression diagnostic procedures. Data were log transformed to address non-normality or unequal variance. Prediction intervals (80%) for the regression estimates were calculated using the variances of the regression models. Age class returns not estimated with statistical models utilized pooled medians with data from 2000 to the present; median prediction intervals were calculated from the 10th and 90th percentiles of the data.

The 2023 total Chignik River sockeye salmon run was forecasted by modeling returns of stock components and summing those results by age. Early-run prior year log transformed ocean-age-2 returns predicted early-run log transformed ocean-age-3 returns using data from the 2000 outmigration year to the present. Prior year early-run ocean-age-1 returns predicted log transformed ocean-age-2 returns (outmigration years 2000 to present). Late-run age-2.2 returns predicted late-run age-2.3 returns using data from the 2000 brood year to the present.

The early- and late-run regression and median estimates were summed to estimate the total Chignik River sockeye salmon run for 2023. The total run 80% prediction interval was calculated by summing the lower and upper prediction bounds of the two runs.

–continued–

Forecast Discussion

The 2023 Chignik River sockeye salmon total run is forecasted to be 1.52 million fish, which is 50,000 fish more than the 10-year average run of 1.47 million fish and almost 420,000 fish more than the 2022 total run of 1.10 million fish. The Chignik River sockeye salmon total run is predicted to be composed of approximately 84% ocean-age-3 and 16% ocean-age-2 fish.

The projected 2023 total harvest estimate of 874,000 fish is based on achievement of the midpoint of the combined optimal escapement goal range. For 2023, total run sockeye salmon harvest in the Chignik Management Area was forecasted to exceed 600,000 fish. However, based on historical run size and timing, the harvestable surplus in the CMA is not expected to exceed 300,000 sockeye salmon by July 8 or 600,000 sockeye salmon by July 25. Therefore, no fishing is anticipated in the Southeastern District Mainland of the Alaska Peninsula Management Area during the regulatory period thru July 25 or in the Cape Igvak Section of the Kodiak Management Area during the regulatory period thru July 5

The wide confidence intervals around the point estimate of the 2023 forecasts reflect the uncertainty inherent in the forecast models. Given the sibling relationships used for forecasting the run and the low 2022 ocean-age 3 returns, the 2023 forecast may overestimate returns if environmental variables, which are unknown at this time, remain spurious. Due to the range of variation in the relationships used in these forecasts and their historical accuracy, our confidence in the forecast is fair.

Forecast by Heather Finkle, Finfish Research Biologist, Westward Region.