

Fishery Management Report No. 09-14

**Alaska Peninsula - Aleutian Islands Management Area
Herring Sac Roe Fishery Management Plan**

by

Aaron D. Poetter

April 2009

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



Symbols and Abbreviations

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

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

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HERRING SAC ROE FISHERY MANAGEMENT PLAN**

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April 2009

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This document should be cited as:

Poetter, A. D. 2009. Alaska Peninsula - Aleutian Islands Management Area herring sac roe fishery management plan. Alaska Department of Fish and Game, Fishery Management Report No. 09-14, Anchorage.

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

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ABSTRACT

A Pacific herring *Clupea pallasii* sac roe fishery may occur in the Alaska Peninsula-Aleutian Islands Management Area (Area M). This document is a guide for commercial herring harvesters, buyers, and tender operators and describes the management strategy, guideline harvest levels, fishing industry requirements for participation, and provides Alaska Department of Fish and Game contact information. Dates and times for possible commercial fishing periods will be established by emergency order and can be obtained from the Alaska Department of Fish and Game.

Key words: Pacific herring, *Clupea pallasii*, sac roe, Alaska Peninsula, Aleutian Islands, Area M, North Peninsula, South Peninsula, Port Moller, Sand Point, management plan, Alaska Board of Fisheries, guideline harvest level.

INTRODUCTION

This document provides commercial Pacific herring *Clupea pallasii* harvesters and buyers with guidelines that the Alaska Department of Fish and Game (ADF&G) will use to manage the Alaska Peninsula-Aleutian Islands Management Area (Area M) commercial herring sac roe fisheries.

Area M (Figure 1) is divided into three herring management subareas: (1) the North Peninsula, consisting of Bering Sea waters extending west from Cape Menshikof to Cape Sarichef (Figures 2-4); (2) the South Peninsula, consisting of Pacific Ocean coastal waters extending west of Kupreanof Point to near Cape Lazaref, on the south side of Unimak Island, 163° 30' W. long (5AAC 27.605 (d)). (Figures 4 and 5); and (3) the Aleutian Islands, consisting of Bering Sea waters extending west of Unimak Pass and Pacific Ocean waters extending west from 163° 30' W. long. to the International Date Line (Figures 1 and Figures 6-8)). The North Peninsula, South Peninsula, and the Aleutian Islands fisheries will be managed independently of each other.

The North Peninsula herring sac roe fishery occurred annually from 1982 to 1996, and again in 1998 and 2005 (Jackson 2008). In 2005, the department opened the first sac roe fishery on the North Alaska Peninsula since 1998. Limited market conditions constrained the harvest to 351 tons (Jackson 2008).

The South Peninsula herring sac roe fishery occurred annually from 1980 to 1996, except in 1983 when the Alaska Board of Fisheries (BOF) allocated the herring harvest to a food and bait fishery. Since 1997, there has been little industry interest because of poor market conditions and no harvest has taken place (Jackson 2006).

In 2004, the BOF established the Alaska Peninsula–Aleutian Islands Herring Management Plan (5 AAC 27.657). This action sets a 500 ton herring guideline harvest limit (GHL) in the Adak District, for harvest by gillnet gear only, as either sac roe or food and bait. Season dates are from June 24 through February 28. To date, no herring have been harvested in this fishery.

MANAGEMENT PLAN

In the Alaska Peninsula-Aleutian Islands Management Area herring sac roe fishery, the permit holder and buyer will be responsible for determining acceptable herring quality. The ADF&G will not close the herring fishery based on roe quality except in cases where excessive herring are expected to be wasted. Permit holders are encouraged to check with their buyer prior to fishing to determine industry standards for product quality and size. All herring harvested during the sac roe season that are sold as bait or discarded due to quality problems will be included as part of the total herring harvest.

Guideline harvest limits are not established for any management units except for the Port Moller (Table 1) and Adak districts (5 AAC 27.657). All North Alaska Peninsula, South Alaska Peninsula, and Aleutian Islands districts lack recent histories of herring sac roe harvest and have few records of observed biomass. The herring sac roe fisheries may open contingent upon 1) the industry notifying the department of interest in harvesting herring from a specific area, 2) the department documenting herring biomass, and 3) the department establishing a GHL. ADF&G office locations and inseason emergency order broadcast frequencies are listed in Appendix A1.

The global positioning system (GPS; North American Datum 1983) will be used to determine latitude and longitude coordinates throughout all Alaska Peninsula and Aleutian Islands herring fisheries (5 AAC 27.606).

NORTH AND SOUTH PENINSULA

In the North Alaska Peninsula Management Area, the Port Moller, Port Heiden and Amak districts (Figures 2-4) may be opened for commercial sac roe herring fishing from April 15 through July 15. In accordance with the Bering Sea Herring Fishery Management Plan (5 AAC 27.060 (c)), herring fishing in the Port Moller District will be allowed only if the department has documented a harvestable herring biomass of at least 1,000 tons in the area. The GHL will be determined using a sliding scale exploitation rate (Table 1). A minimum of six hours advance notice will be given prior to any fishing period in the Port Moller area, unless it is an extension of a current fishing period. If effort decreases, the six hour notice may be reduced or eliminated. Purse seine and gillnet gear will have concurrent openings throughout the North Peninsula.

In the South Alaska Peninsula Management Area, the Sand Point, Pavlof, and King Cove districts (Figure 5) may be opened for commercial sac roe herring fishing from April 15 through July 15 (5 AAC 27.610 (a)). Fishing openings will be contingent upon industry interest in harvesting herring from a specific area and department documentation of sufficient herring biomass. No more than a 25 ton harvest will be allowed from any section unless the ADF&G documents a herring biomass that would support a larger harvest. Little spawning herring biomass has been documented in South Peninsula waters, in part because of a limited number of aerial surveys. The department plans to conduct aerial surveys annually and is requesting that any herring biomass observations be reported to department personnel in Sand Point.

ALEUTIAN ISLANDS

All districts within the Aleutian Islands, which include the Unimak, Akutan, Unalaska, and Umnak districts may open to commercial herring sac roe fishing between April 15 and NOON June 24 (Figure 6; 5 AAC 27.610 (e)(1)). Fishing periods and GHLs in the Aleutian Islands will be contingent upon the industry expressing interest in harvesting herring in a specific area and the department documenting sufficient herring biomass.

In the Adak District (Figure 8), up to 500 tons of herring may be taken by gillnet gear only during the periods established by emergency order from April 15 through NOON, February 28 (5 AAC 27.657).

REGISTRATION REQUIREMENTS

Fishing Vessels

All Alaska Peninsula–Aleutian Islands Area seine and gillnet commercial herring permit holders must register by contacting the department in Dutch Harbor, Cold Bay, Sand Point, or Port Moller at least 48 hours before the sac roe season opens, or before beginning commercial herring fishing.

Tenders and Processors

All herring tenders and processors must register with the ADF&G prior to buying or tendering herring (5 AAC 27.662). North Peninsula buyers, processors, and tender agents may register with the ADF&G staff in the Port Moller office in person or through other means (e.g., radio, fax, or phone; Appendix A1). For the South Peninsula and Aleutian Islands districts, registration can be accomplished through the ADF&G offices in Cold Bay, Sand Point, or Dutch Harbor (Appendix A1). Catch reporting instructions will be explained during the registration process.

CATCH REPORTING

Processors and tender operators must report daily to the ADF&G while involved in the herring sac roe fishery (Appendix A1; 5 AAC 27.662). Daily reports must include the amount of herring harvested by catcher boats and an accurate estimate of herring on board tenders. Because the allowable harvest could quickly be exceeded, harvesters are encouraged to report harvests after each set, while tenders and processors are asked to report immediately upon completion of each delivery.

FISH TICKETS

Permit holders must provide specific harvest locations (statistical area or a specific landmark) to buyers, so that they can be recorded on fish tickets. Fish tickets must be delivered to local ADF&G personnel prior to departure from the area, and no later than 10 days after termination of buying operations in the area, or as otherwise specified by local representatives of the department (5 AAC 27.662). During the South Peninsula and Aleutian Islands fisheries, fish tickets must be received by ADF&G personnel in Sand Point within 10 days after termination of buying operations (Appendix A1). Fish tickets must include the weight of harvested herring in either units of short tons (2,000 lb.) or total pounds.

GILLNET AND SEINE SPECIFICATIONS

The aggregate length of herring gillnets in use by a herring Commercial Fisheries Entry Commission (CFEC) permit holder may not exceed 150 fathoms. The permit holder must be present while the gillnet is being fished (5 AAC 27.631 (b)). Gillnet mesh may be up to 2.5", except in the Akutan and Unalaska districts where gillnet mesh may be up to 3.5" (5 AAC 27.631 (d)). A purse seine may not exceed 1,000 meshes in depth and 100 fathoms in length (5 AAC 27.632).

AIRCRAFT

There are no restrictions on the use of aircraft in this fishery.

INDUSTRY COOPERATION

Cooperation of harvesters, tender operators, spotter pilots, and processors is encouraged when ADF&G personnel request herring samples from the commercial catch. Samples will be collected for monitoring age composition, which assists in determining the health of a stock and in forecasting the following year's run strength. The ADF&G will also be monitoring spawning activities and will be soliciting information regarding herring sightings to supplement information gathered by department personnel. The department's ability to monitor herring biomass is limited by aircraft availability and funding constraints. Industry cooperation in locating herring will enable the department to more efficiently monitor Alaska Peninsula-Aleutian Islands Area herring stocks. Harvesters and spotter pilots are encouraged to provide herring biomass estimates and spawning information to the ADF&G. Past cooperation has proven valuable when evaluating stock status and managing the fishery.

REFERENCES CITED

- Jackson, J. V. 2006. Alaska Peninsula-Aleutian Islands management area herring sac roe and food and bait fisheries annual management report, 2005. Alaska Department of Fish and Game, Fishery Management Report No. 06-20, Anchorage. <http://www.sf.adfg.state.ak.us/FedAidPDFs/fmr06-20.pdf>
- Jackson, J. V. 2008. Alaska Peninsula-Aleutian Islands management area herring sac roe and food and bait fisheries annual management report, 2006. Alaska Department of Fish and Game, Fishery Management Report No. 08-60, Anchorage. <http://www.sf.adfg.state.ak.us/FedAidPDFs/fmr08-60.pdf>

TABLES AND FIGURES

Table 1.–Port Moller District herring sac roe guideline harvest levels.

Stock Size (Tons)	Sliding Scale Exploitation Rate ^a	Allowable Harvest (tons) ^b
< 1,000	0%	0
1,001-1,500	10%	100-150
1,501-1,999	10%	150-200
2,000-2,500	15%	300-375
2,501-3000	15%	375-450
>3000	20%	>450

^a The guideline harvest level (GHL) increases proportionally to spawning biomass observed by ADF&G. A sliding scale exploitation rate will be used to determine the GHL.

^b Herring harvested along the Bering Sea coast (southwest of Cape Seniavin) will be allocated to the Port Moller and Herendeen bays guideline harvest level if it is determined that these herring were traveling into Port Moller or Herendeen bays.

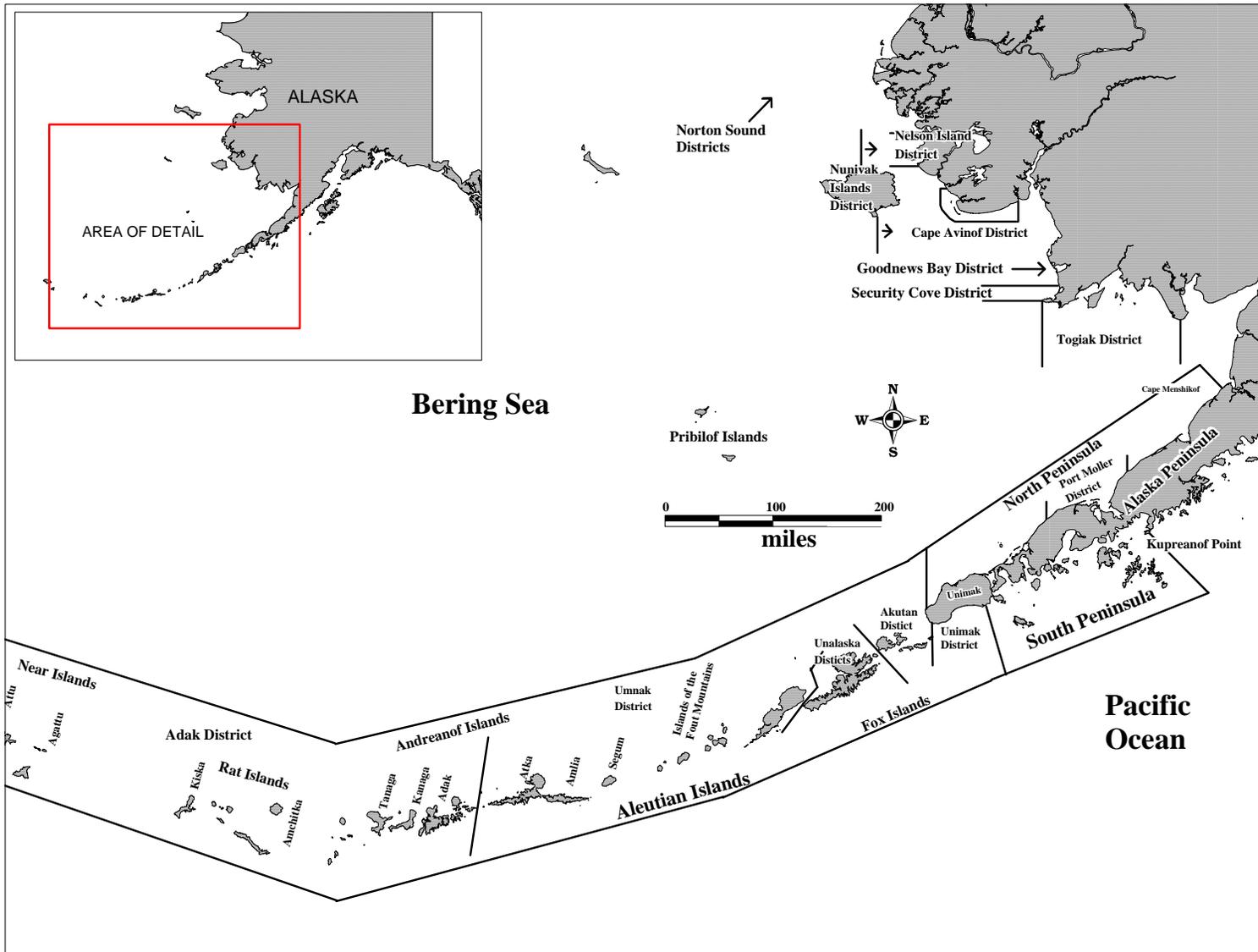


Figure 1.—Map of the Alaska Peninsula-Aleutian Islands herring management area.

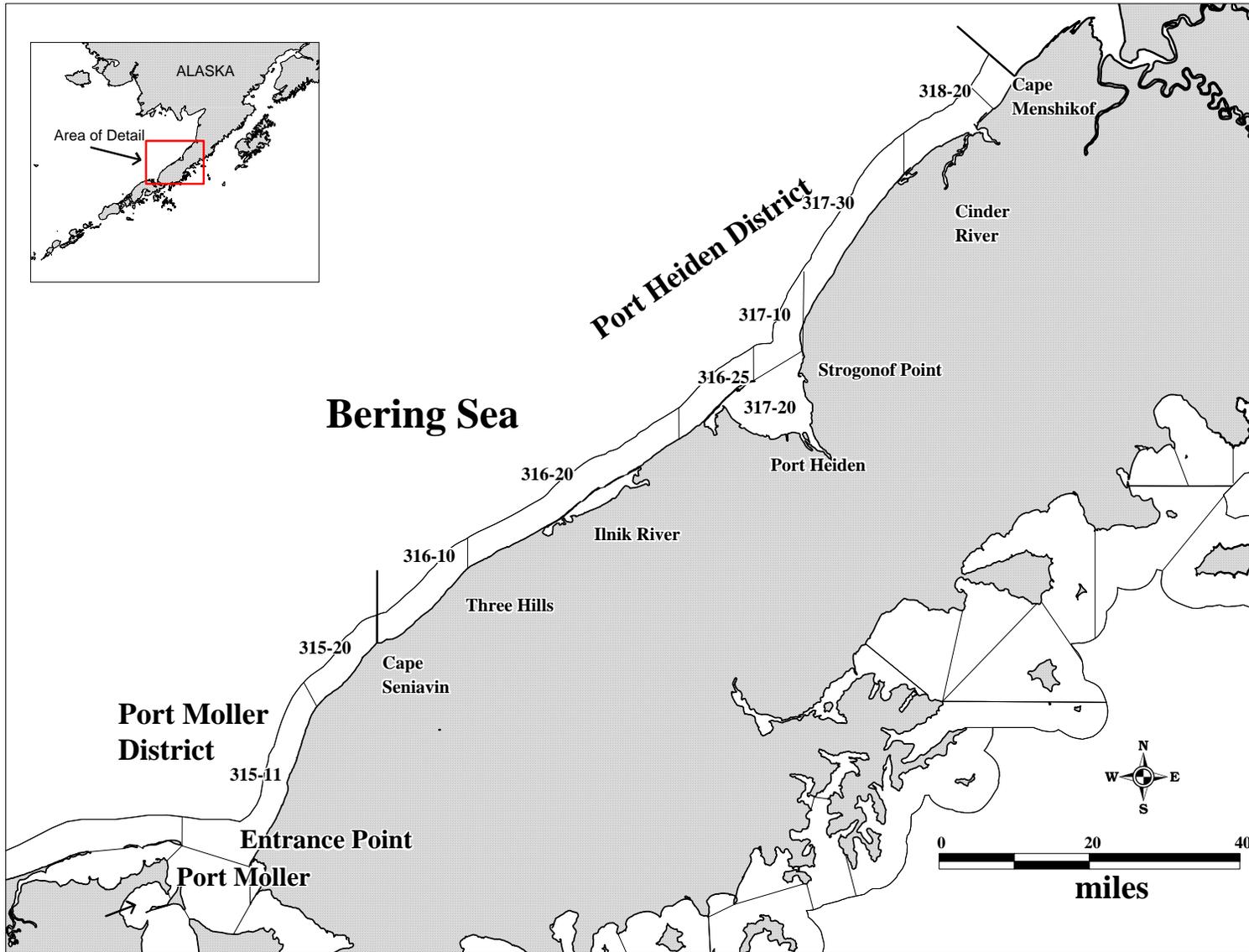


Figure 2.—Map of the Port Heiden and Port Moller Districts with commercial herring fishing statistical areas shown.

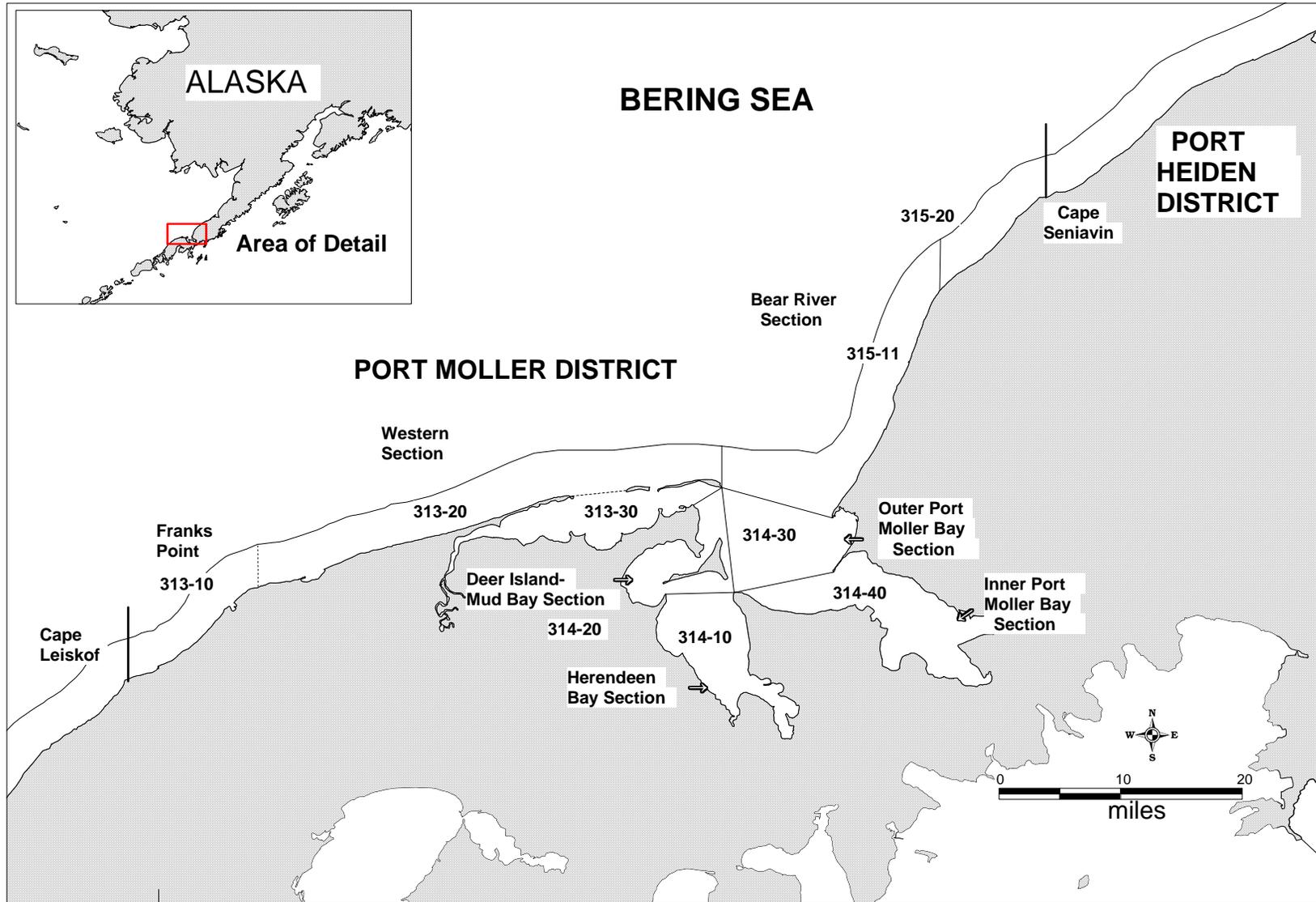


Figure 3.—Map of the Port Moller District depicting commercial herring fishing statistical areas.

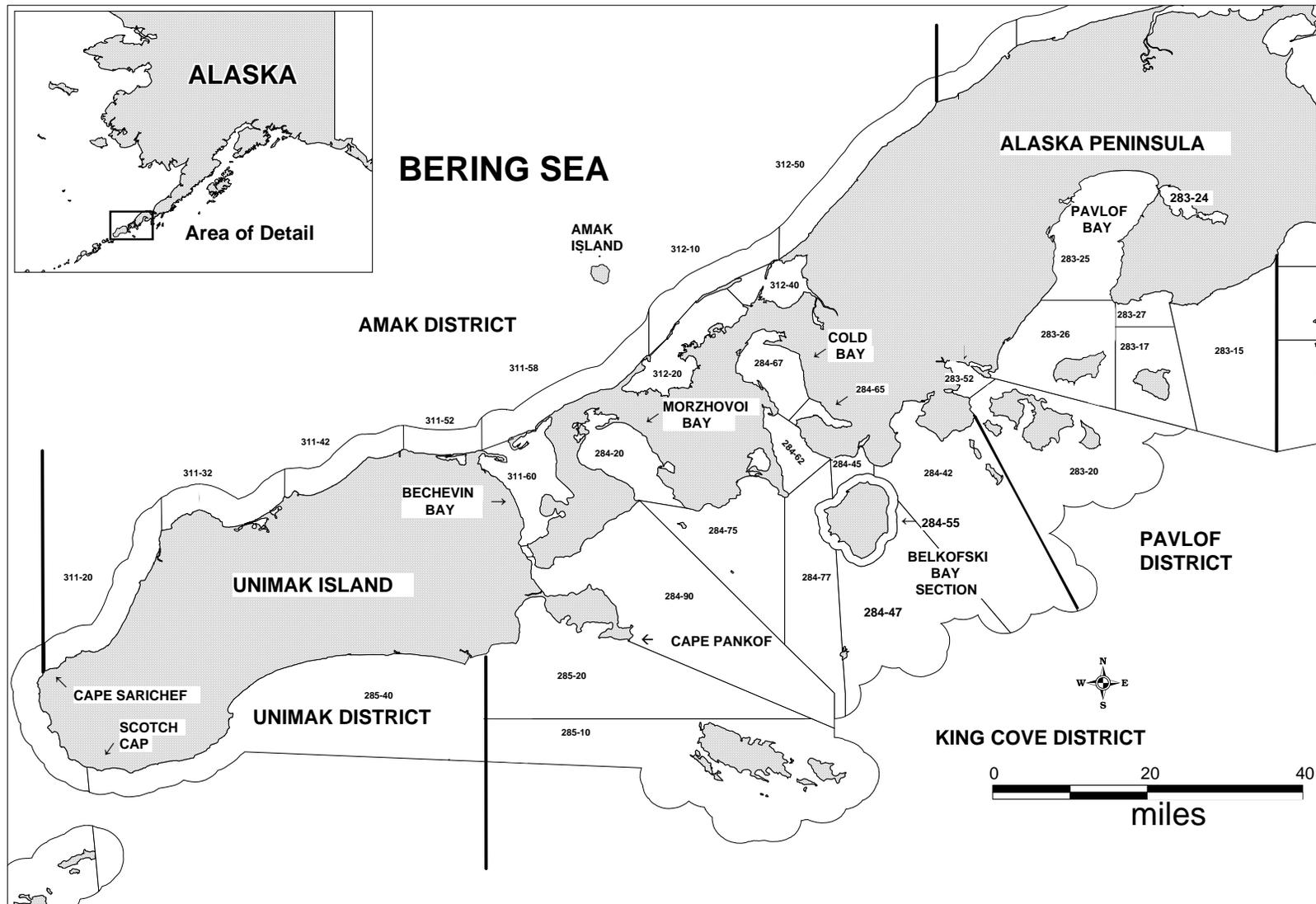


Figure 4.—Map of the Alaska Peninsula from Pavlof Bay to Cape Sarichef depicting commercial herring fishing statistical areas.

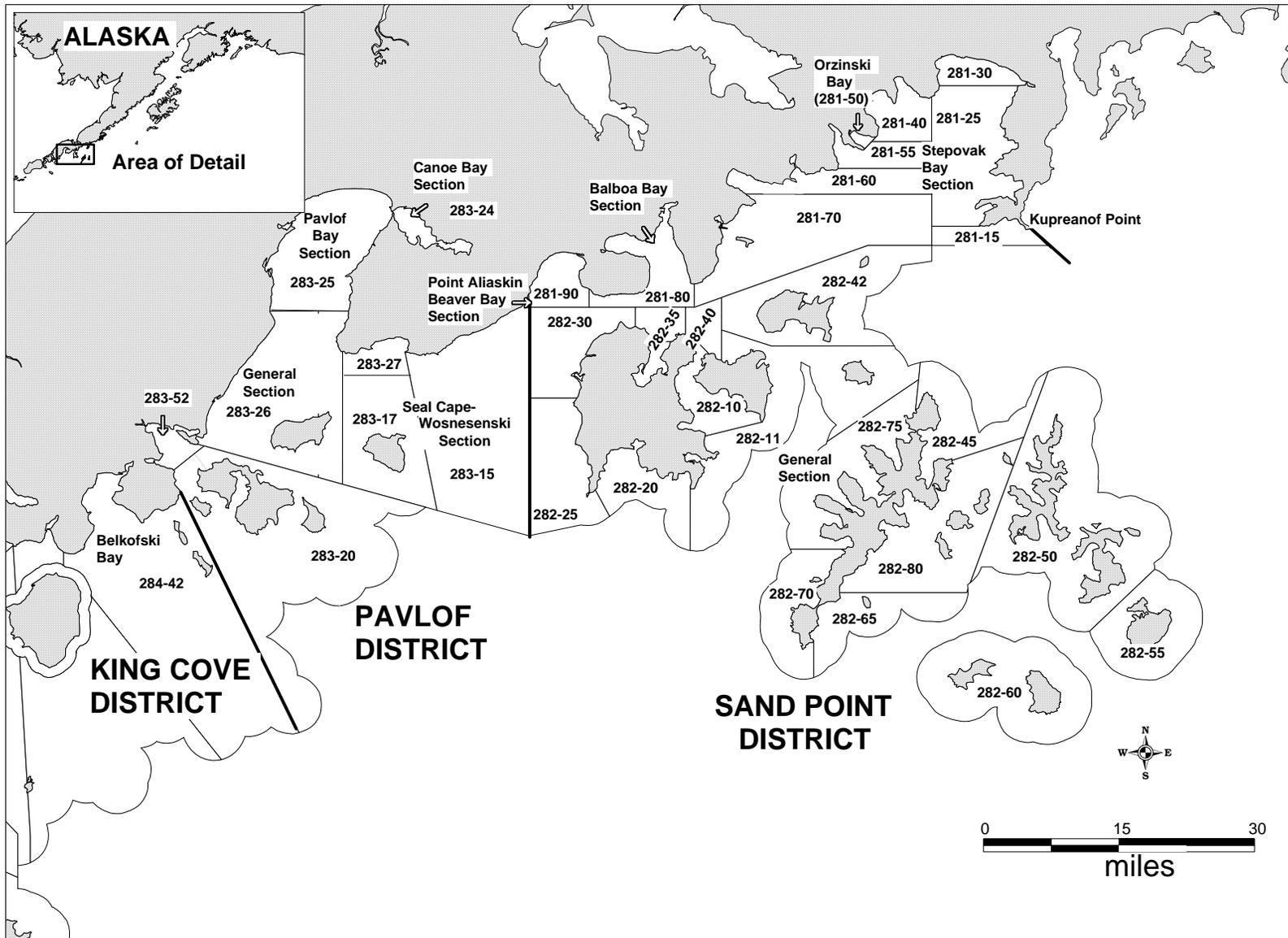


Figure 5.—Map of the Alaska Peninsula from Kupreanof Point to Belkofski Bay depicting commercial herring fishing statistical areas.

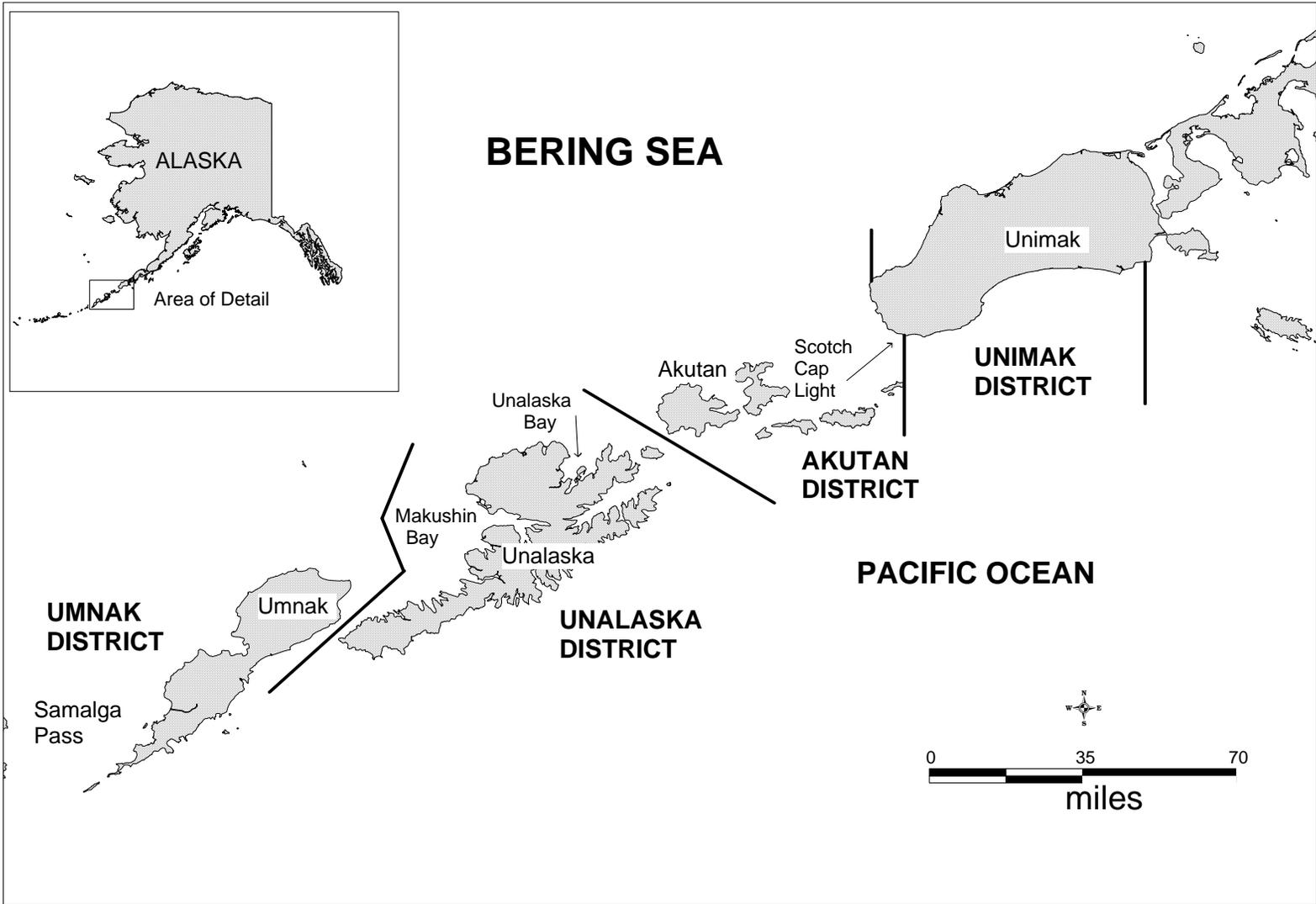


Figure 6.—Map of the eastern Aleutian Islands from Unimak Island to Samalga Pass depicting commercial herring fishing districts.

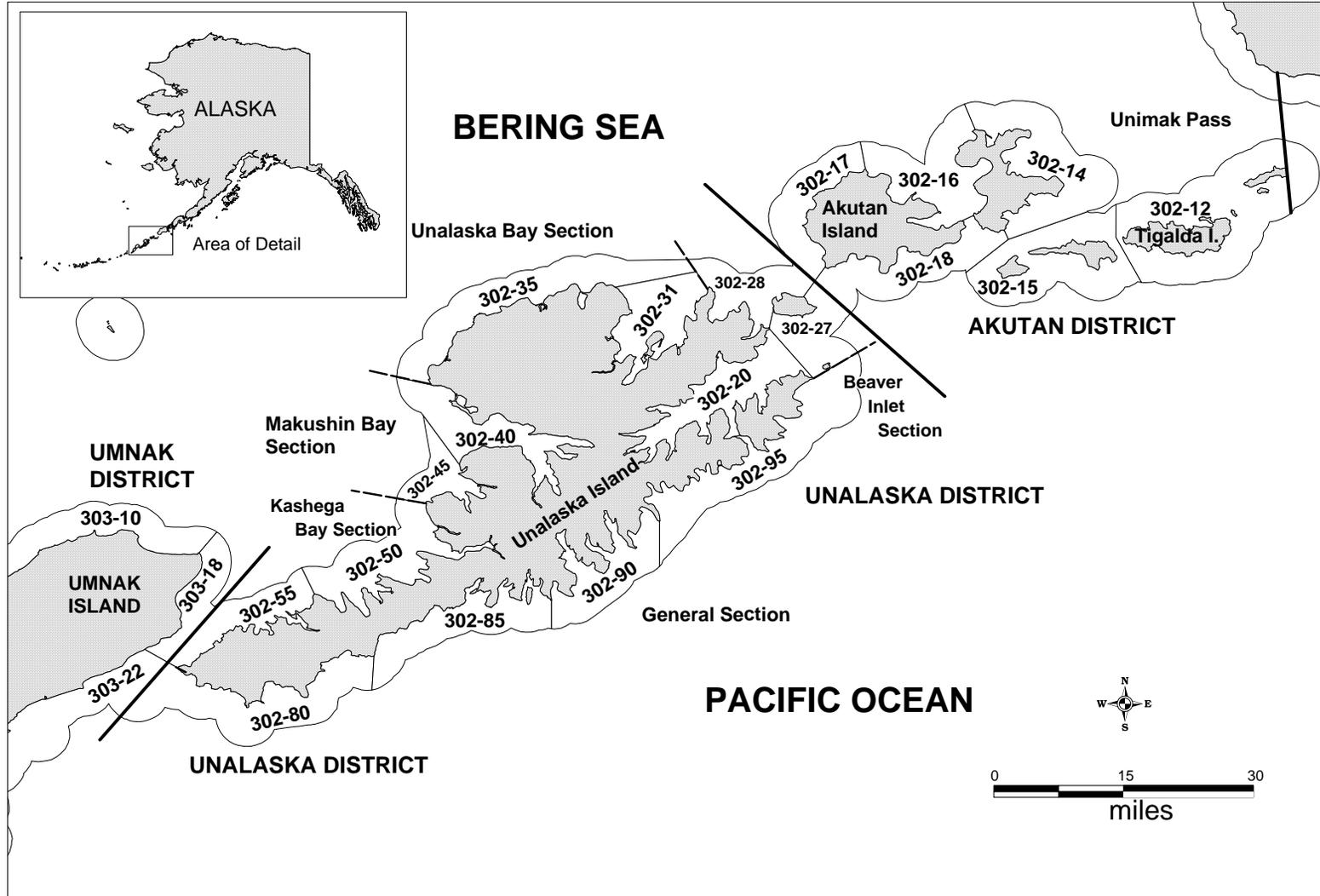


Figure 7.—Map of the eastern Aleutian Islands from Tigalda Island to Umnak Island depicting commercial herring fishing statistical areas.

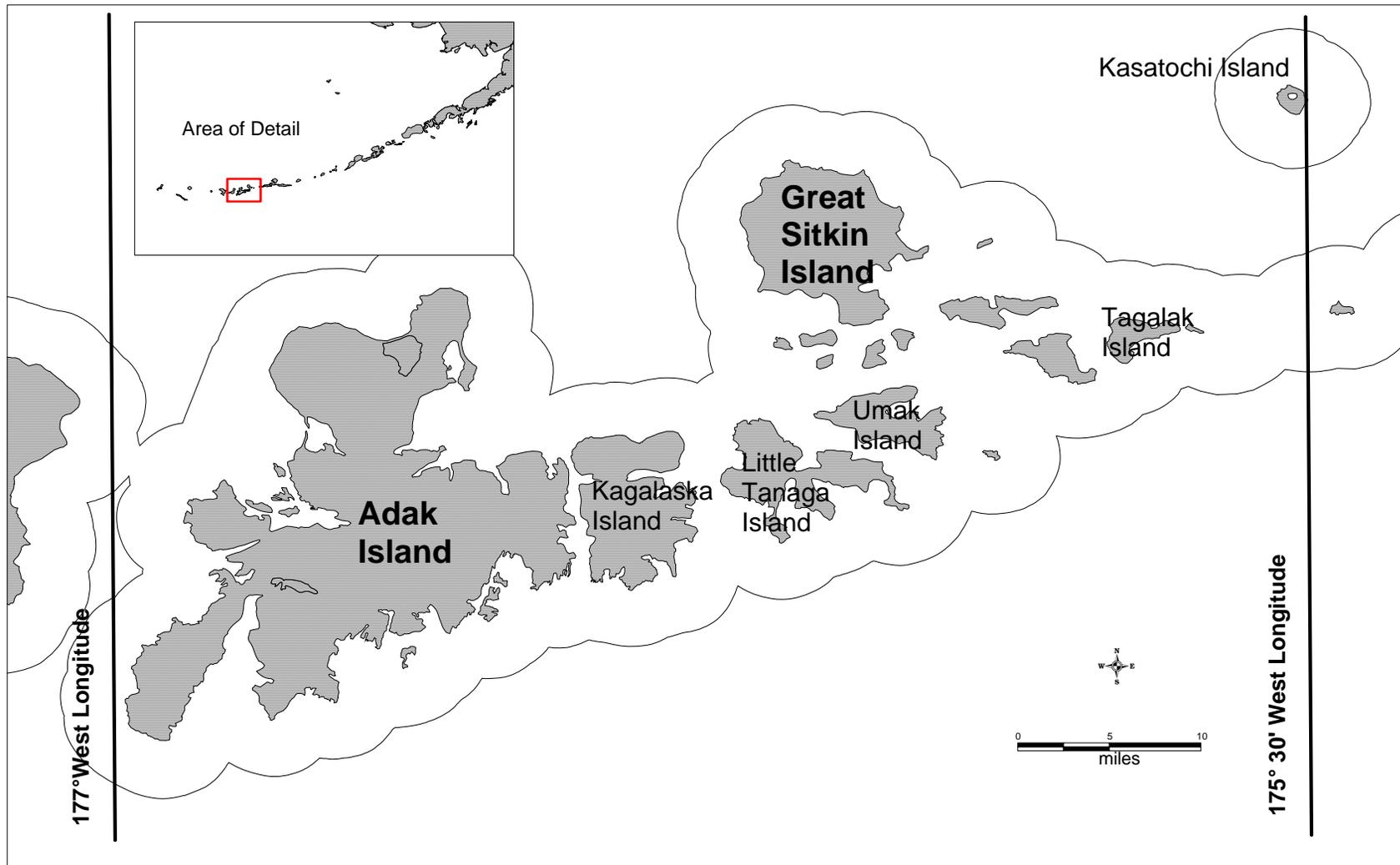


Figure 8.—Map of the Adak District exploratory fishing area.

APPENDIX A: ADF&G OFFICE ADDRESSES

Appendix A1.—Alaska Peninsula and Aleutian Islands Alaska Department of Fish and Game office information.

Sand Point

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

phone (907) 383-2066
fax (907) 383-2606

recorded message (907) 383-2334

VHF 6 and 73
Single Side Band 3.230 MHz
KWB 362

Dutch Harbor

Alaska Department of Fish and Game
P.O. Box 920587
Dutch Harbor, AK 99692

phone (907) 581-1219
fax (907) 581-1572

VHF 9

Single Side Band 4.125 MHz
WIM 76

Cold Bay

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

phone (907) 532-2419
fax (907) 532-2470

VHF 6
Single Side Band 3.230 and 3.261 MHz
KCO 332/KXP 78

Port Moller

Alaska Department of Fish and Game
P.O. Box 163
Port Moller, AK 99571-8999

phone (907) 375-2716
fax (907) 375-2715

VHF 72
Single Side Band 3.230 MHz
WNGV 537
