Alaska Peninsula - Aleutian Islands Management Area Herring Sac Roe Fishery Management Plan, 2007

by

James Vincent Jackson

April 2007

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		fork length	FL
deciliter	dL	Code	AAC	mideye-to-fork	MEF
gram	g	all commonly accepted		mideye-to-tail-fork	METF
hectare	ha	abbreviations	e.g., Mr., Mrs.,	standard length	SL
kilogram	kg		AM, PM, etc.	total length	TL
kilometer	km	all commonly accepted		-	
liter	L	professional titles	e.g., Dr., Ph.D.,	Mathematics, statistics	
meter	m		R.N., etc.	all standard mathematical	
milliliter	mL	at	@	signs, symbols and	
millimeter	mm	compass directions:		abbreviations	
		east	E	alternate hypothesis	H_A
Weights and measures (English)		north	N	base of natural logarithm	e
cubic feet per second	ft ³ /s	south	S	catch per unit effort	CPUE
foot	ft	west	W	coefficient of variation	CV
gallon	gal	copyright	©	common test statistics	$(F, t, \chi^2, etc.)$
inch	in	corporate suffixes:		confidence interval	CI
mile	mi	Company	Co.	correlation coefficient	
nautical mile	nmi	Corporation	Corp.	(multiple)	R
ounce	oz	Incorporated	Inc.	correlation coefficient	
pound	lb	Limited	Ltd.	(simple)	r
quart	qt	District of Columbia	D.C.	covariance	cov
yard	yd	et alii (and others)	et al.	degree (angular)	0
•	•	et cetera (and so forth)	etc.	degrees of freedom	df
Time and temperature		exempli gratia		expected value	E
day	d	(for example)	e.g.	greater than	>
degrees Celsius	°C	Federal Information		greater than or equal to	≥
degrees Fahrenheit	°F	Code	FIC	harvest per unit effort	HPUE
degrees kelvin	K	id est (that is)	i.e.	less than	<
hour	h	latitude or longitude	lat. or long.	less than or equal to	≤
minute	min	monetary symbols		logarithm (natural)	ln
second	S	(U.S.)	\$, ¢	logarithm (base 10)	log
		months (tables and		logarithm (specify base)	log2, etc.
Physics and chemistry		figures): first three		minute (angular)	•
all atomic symbols		letters	Jan,,Dec	not significant	NS
alternating current	AC	registered trademark	®	null hypothesis	H_{O}
ampere	A	trademark	TM	percent	%
calorie	cal	United States		probability	P
direct current	DC	(adjective)	U.S.	probability of a type I error	
hertz	Hz	United States of		(rejection of the null	
horsepower	hp	America (noun)	USA	hypothesis when true)	α
hydrogen ion activity	pН	U.S.C.	United States	probability of a type II error	
(negative log of)			Code	(acceptance of the null	
parts per million	ppm	U.S. state	use two-letter	hypothesis when false)	β
parts per thousand	ppt,		abbreviations (e.g., AK, WA)	second (angular)	"
	% o		(6-,,)	standard deviation	SD
volts	V			standard error	SE
watts	W			variance	
				population	Var
				sample	var

FISHERY MANAGEMENT REPORT NO. 07-26

ALASKA PENINSULA - ALEUTIAN ISLANDS MANAGEMENT AREA HERRING SAC ROE FISHERY MANAGEMENT PLAN, 2007

by

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> > April 2007

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ABSTRACT

A Pacific herring *Clupea pallasi* sac roe fishery may occur in 2007 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 2007 management strategy, and guideline harvest levels, fishing industry requirements for participation, and Alaska Department of Fish and Game contacts. 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 pallasi*, sac roe fisheries, Alaska Peninsula, Aleutian Islands, Area M, management plan.

INTRODUCTION

This document provides commercial Pacific herring *Clupea pallasi* 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 in 2007.

Area M is divided into three subareas: (1) the North Peninsula, consisting of Bering Sea waters extending west from Cape Menshikof to Cape Sarichef, (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., 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 1-8).

The North Peninsula is composed of 3 districts and 26 statistical areas (Figures 2 through 4), the South Peninsula includes 3 districts and 47 statistical areas (Figures 4 and 5), the Aleutian Islands includes 5 districts and 41 statistical areas (Figures 6 and 7), and the Adak District (Figure 8). The North Peninsula, South Peninsula, the Adak District, and Aleutian Islands Dutch Harbor fisheries will be managed separately.

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).

The North Peninsula herring sac roe fishery occurred annually from 1982 to 1996, and in 1998 (Jackson *In prep;* Table 1). Prior to 1981, in 1997 and from 1999 to 2004, herring were not harvested because of poor market conditions and low observed herring biomass. In 2005, the department opened the first sac roe fishery on the North Alaska Peninsula since 1998. However, limited market interest kept the harvest to 351 tons (Table 1; Jackson 2006). There were no herring harvested on the North Alaska Peninsula in 2006 (Jackson *In prep*).

The South Peninsula herring sac roe fishery occurred annually between 1979 and 1996, except in 1983 when the BOF allocated the herring harvest to a food and bait fishery. From 1997 to 1999 there was little industry interest because of poor market conditions and no harvest took place (Jackson 2006; Table 1). During the 2000 season, the South Peninsula fishery remained closed to fishing because of the absence of stock data. After 2001, there has been little industry interest because of poor market conditions and/or low observed biomass and fishing has not occurred.

In 2004, the Alaska Board of Fisheries (BOF) established the Alaska Peninsula–Aleutian Islands Herring Management Plan (5 AAC 27.657). This management plan established a sac roe and/or

food and bait herring fishery for gillnet gear only in the Adak area, with a 500 ton allocation. To date, few herring have been harvested in this fishery. From April 15 through June 24 there is a sac roe herring fishery in the Unimak, Akutan, Unalaska, Umnak, and Adak districts.

2007 MANAGEMENT PLAN

During the 2007 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 Levels (GHLs) are not established for any management units except for the Port Moller (Table 2) and the Adak districts (5 AAC 27.657). All North Alaska Peninsula districts and all South Alaska Peninsula and Aleutian Islands districts lack recent histories of herring sac roe harvest, have not maintained significant fishing effort within the past decade, and have few or no records of observed biomass. They may open by emergency order during the 2007 season 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.

REGISTRATION REQUIREMENTS

Fishing Vessels

All Alaska Peninsula–Aleutian Islands Area seine and gillnet commercial herring permit holders must register themselves and each vessel that the permit holder will use, 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 must 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 also be made at the ADF&G offices in Cold Bay, Sand Point, or Dutch Harbor (Appendix A1). Catch reporting instructions will be explained during the registration process.

FISHING PERIODS

In the North Alaska Peninsula, the Port Moller, Port Heiden and Amak districts (Figures 2-4) may be opened by emergency order for commercial herring fishing from April 15 through July 15. In accordance with the Bering Sea Herring Fishery Management Plan (5 AAC 27.060), herring fishing in the Port Moller District will be allowed only when the department observes at least a 1,000 ton biomass in the area (Table 2). 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 to a level where overharvesting the stock is not a concern, 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 Peninsula waters, which include the Sand Point, Pavlof, and King Cove districts (Figures 4 and 5), and Aleutian Islands waters, which include the Unimak, Akutan, Unalaska, Umnak districts (Figures 6 and 7) may open to commercial herring sac roe fishing by emergency order during the 2007 season. Fishing periods and GHLs will be announced by emergency order if there is industry interest in harvesting herring and the department has quantified herring biomass in that area.

In the Adak District, the department shall manage the commercial herring fishery to allow a harvest of up to 500 tons, using gillnet gear, from June 24 through February 28. Fishing periods will be announced by emergency order if there is industry interest in harvesting herring from the area and the department has assessed the herring biomass in the area.

CATCH REPORTING

Processors and tender operators must report "in person" daily to the ADF&G while involved in the Alaska Peninsula-Aleutian Islands Area 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 the amount of herring on board tenders. A confidential reporting code will be provided to each processor and tender operator. 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. During the North Peninsula fishery, fish tickets must be delivered to local ADF&G personnel prior to transporting herring out of the Port Moller District or, within 10 days after termination of buying operations in other districts (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 during the Alaska Peninsula - Aleutian Islands Area herring sac roe fishery (5 AAC 27.631). A purse seine may not exceed 1,000 meshes in depth and 100 fathoms in length (5 AAC 27.632). The permit holder must be present while the gillnet is being fished (5 AAC 27.631 (b)). Gillnet mesh sizes of up to 3.5" may only be used in the Akutan and Unalaska Districts (5 AAC 27.631(d)).

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 used to monitor age composition, which assists in determining the health of a stock and in forecasting next 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. The department may use these reports to locate and document herring biomass. Past cooperation has proven valuable when evaluating stock status and managing the fishery.

NORTH AND SOUTH PENINSULA HERRING SAC ROE FISHERY

For the 2007 season, there are no pre-season GHLs in the South Peninsula. In the North Peninsula, if the department has documented a harvestable herring biomass, the GHL will be determined using a sliding scale exploitation rate (Table 2).

In the South Peninsula, 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. Fishing openings will be contingent upon industry interest in harvesting herring from a specific area and department documentation of sufficient herring biomass. The department will set a GHL based on the observed biomass. The department has documented little spawning herring biomass in South Peninsula waters, in part because of a limited number of aerial surveys. The ADF&G plans to conduct aerial surveys in 2007 and is requesting that any herring biomass observations be reported to department personnel in Sand Point.

ALEUTIAN ISLANDS HERRING SAC ROE FISHERY

During the 2007 season, 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)). Emergency orders setting fishing periods and GHLs in the Aleutian Islands will be contingent upon industry expressing interest in harvesting herring in a specific area and the department documenting sufficient herring biomass.

In the Adak District (Figure 8), a GHL of 500 tons of sac roe 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).

Details concerning the Alaska Peninsula-Aleutian Islands herring food and bait fishery can be found in the 2007 Alaska Peninsula-Aleutian Islands Management Area Food and Bait Herring Management Plan (Jackson *In prep*).

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.
- Jackson, J. *In prep*. 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, Anchorage.

TABLES AND FIGURES

Table 1.-Alaska Peninsula commercial herring sac roe harvest by time period, area, and year, 1979-2006.

	North Peninsula		South Peninsula		
_	Harvest	Harvest	Harvest	Harvest	
Year	(Tons)	Time Period	(Tons)	Time Period	Total
1979	Fisher	y closed	10.1	July 4- July 4	10.1
1980	Fishery closed		453.8	May 18-July 14	453.8
1981	Fisher	y closed	797.6	May 9-June 23	797.8
1982	505.5	May 31-June 12	176.2	May 31-June 14	176.2
1983	627.0	May 9-May 29	Fish	ery Closed	627.0
1984	431.2	May 24-June 8	210.2	May 13-June 1	641.4
1985	710.2	May 24-June 4	287.7	June 1-June 11	997.9
1986	894.4	May 18-May 30	281.9	June 7-June 14	1,176.3
1987	513.7	May 9-June 5	319.0	June 8-June 19	832.7
1988	294.3	May 17-June 15	376.7	May 31-June 20	671.0
1989	729.0	May 28-June 23	310.3	May 13-June 19	1,039.3
1990	272.8	June 4-June 19	312.2	May 14-June 14	585.0
1991	1,313.0	May 17-July 4	157.4	May 16-June 11	1,470.4
1992	3,969.0	May 23-June 17	180.4	June 4-June 7	4,149.4
1993	535.9	May 8-June 9	97.0	May 27-June 9	632.9
1994	89.8	May 21-June 7	8.2	June 2-June 3	98.0
1995	337.3	May 29-June 20	62.7	June 6-June 17	400.0
1996	a	June 12-June 18	117.3	May 10-June 27	213.1
1997	Fisher	y Closed	Fish	ery Closed	0.0
1998	a	May 21-June 3	Fish	ery Closed	a
1999	Fisher	y Closed	Fish	ery Closed	0.0
2000	Fisher	y Closed	Fish	ery Closed	0.0
2001	Fisher	y Closed	Fish	ery Closed	0.0
2002	Fisher	y Closed	Fish	ery Closed	0.0
2003	Fishery Closed		Fishery Closed		0.0
2004	Fisher	y Closed	Fish	ery Closed	0.0
2005	351.0	May 11-May 12	Fish	ery Closed	351.0
2006	Fisher	y Closed	Fish	ery Closed	0.0
1996-2005 Average	51.5		11.7		63.2

^a This information cannot be released due to confidentiality requirements.

Table 2.-Port Moller District herring sac roe guideline harvest levels, 2007.

Stock Size	Sliding Scale	Allowable
(Tons)	Exploitation Rate ^a	Harvest ^b
< 1,000	0%	0
1,001-1,500	10%	0-150
1,501-1,999	10%	150-200
2,000-2,500	15%	300-375
2,501-3000	15%	375-450
>3,000	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.

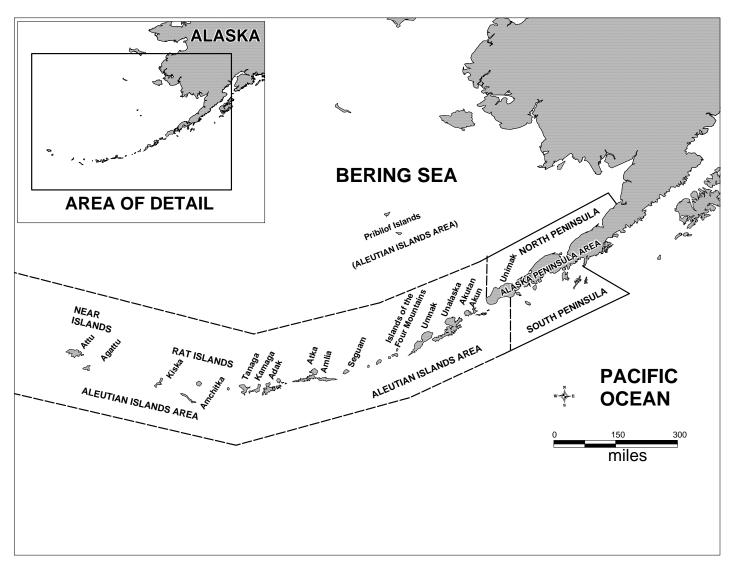


Figure 1.-Map of the Alaska Peninsula-Aleutian Islands herring management area.

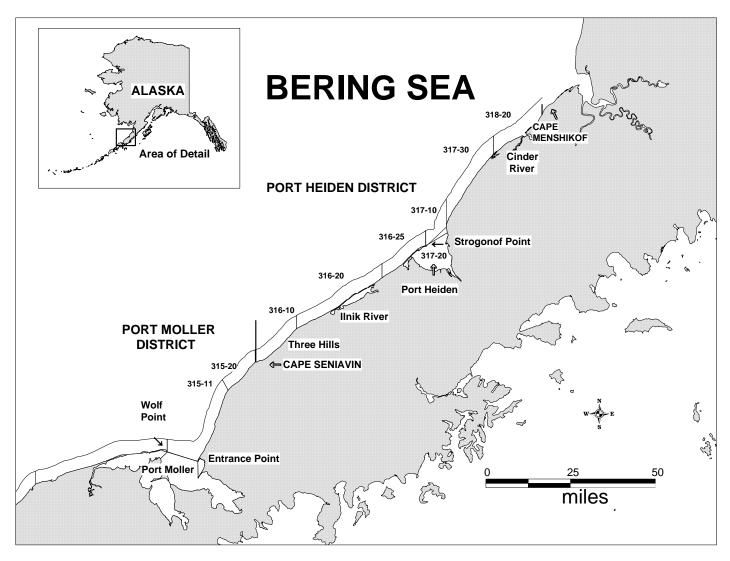


Figure 2.-Map of the Alaska Peninsula from Cape Menshikof to Wolf Point depicting commercial herring fishing statistical areas.

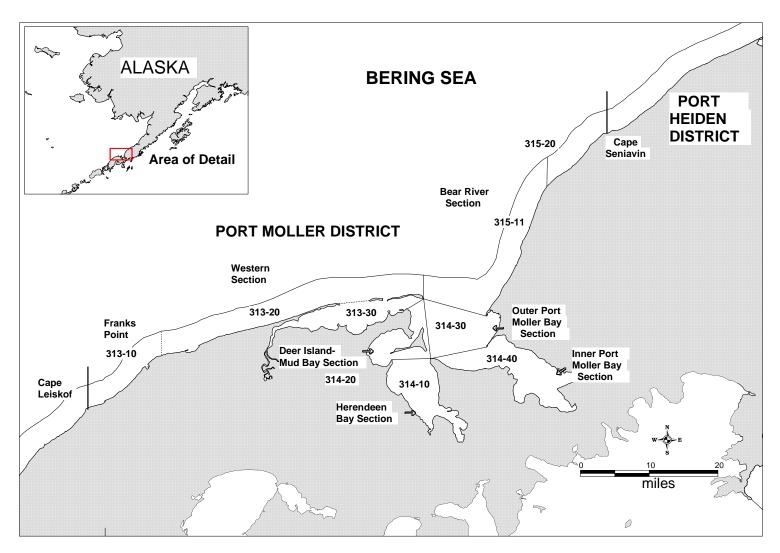


Figure 3.-Map of the Port Moller District depicting commercial herring fishing statistical areas.

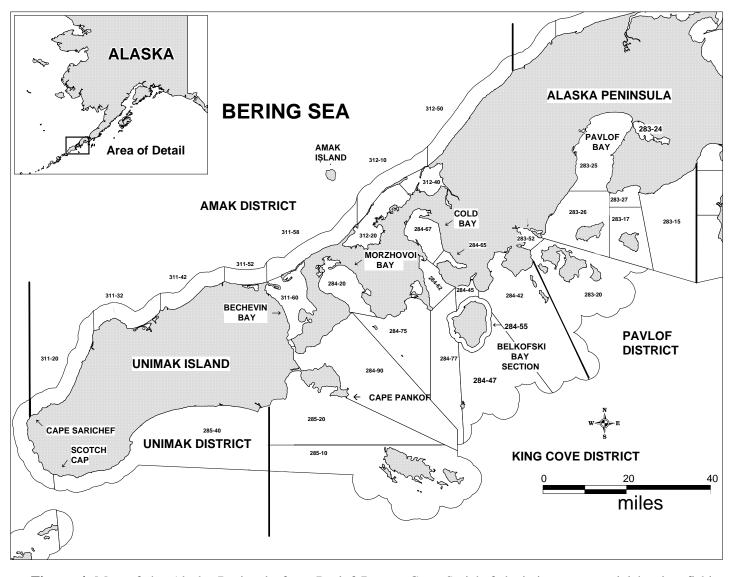


Figure 4.-Map of the Alaska Peninsula from Pavlof Bay to Cape Sarichef depicting commercial herring fishing statistical areas.

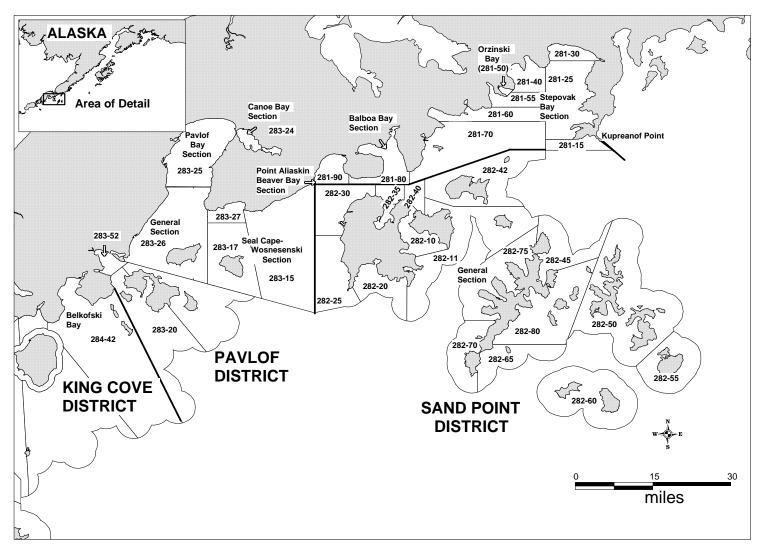


Figure 5.-Map of the Alaska Peninsula from Kupreanof Point to Belkofski Bay depicting commercial herring fishing statistical areas.

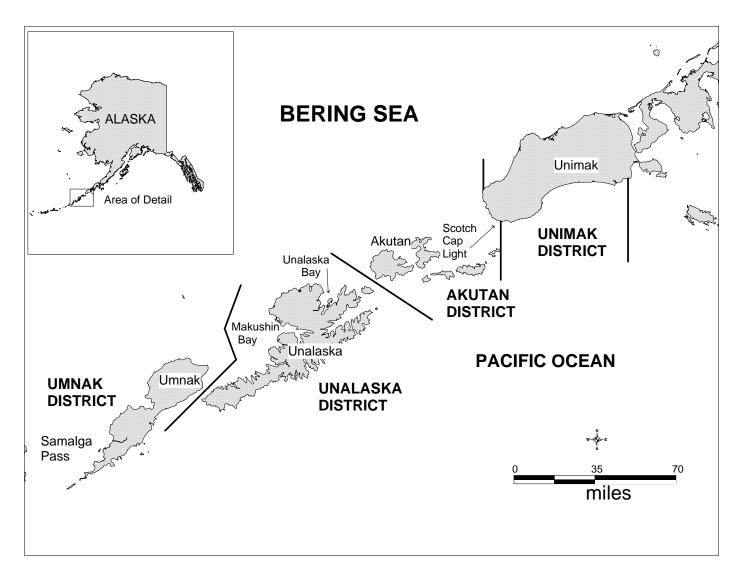


Figure 6.-Map of the eastern Aleutian Islands from Unimak Island to Samalga Pass depicting commercial herring fishing districts.

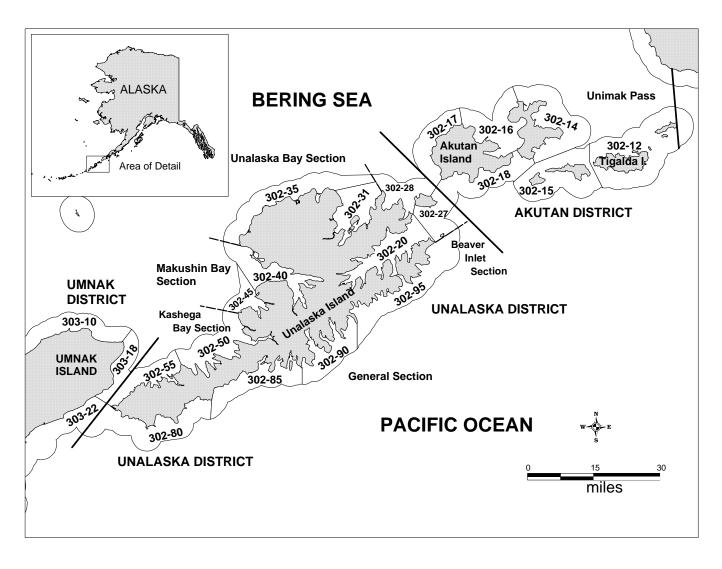


Figure 7.-Map of the eastern Aleutian Islands from Tigalda Island to Umnak Island depicting commercial herring fishing statistical areas.

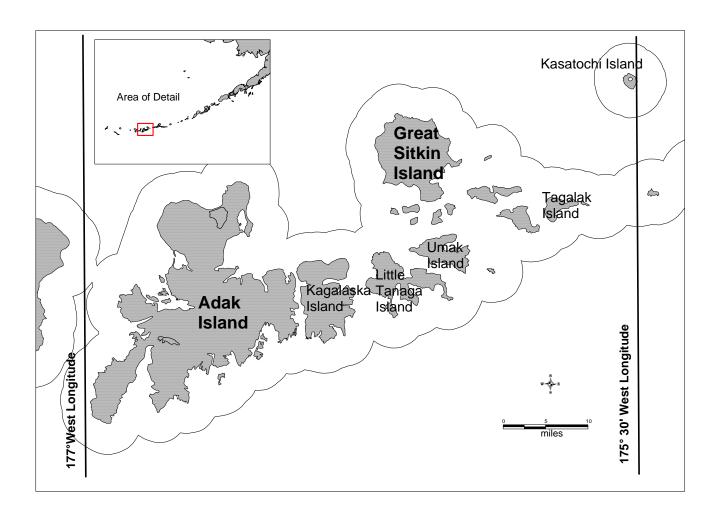


Figure 8.-Map of the Adak Island exploratory fishing area.

APPENDIX A: ADF&G OFFICE ADDRESSES

Appendix A1.-Local offices of the Alaska Department of Fish and Game.

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

VHF9

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