

Fishery Management Report No. 06-20

**Alaska Peninsula-Aleutian Islands Management Area
Herring Sac Roe and Food and Bait Fisheries Annual
Management Report, 2005**

by

James V. Jackson

April 2006

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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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	all commonly accepted		total length	TL
kilometer	km				
liter	L	professional titles	e.g., Dr., Ph.D., R.N., etc.		
meter	m			Mathematics, statistics	
milliliter	mL	at	@	<i>all standard mathematical signs, symbols and abbreviations</i>	
millimeter	mm	compass directions:		alternate hypothesis	H _A
		east	E	base of natural logarithm	<i>e</i>
		north	N	catch per unit effort	CPUE
		south	S	coefficient of variation	CV
		west	W	common test statistics	(F, t, χ^2 , etc.)
		copyright	©	confidence interval	CI
		corporate suffixes:		correlation coefficient (multiple)	R
		Company	Co.	correlation coefficient (simple)	r
		Corporation	Corp.	covariance	cov
		Incorporated	Inc.	degree (angular)	°
		Limited	Ltd.	degrees of freedom	df
		District of Columbia	D.C.	expected value	<i>E</i>
		et alii (and others)	et al.	greater than	>
		et cetera (and so forth)	etc.	greater than or equal to	≥
		exempli gratia (for example)	e.g.	harvest per unit effort	HPUE
		Federal Information Code	FIC	less than	<
		id est (that is)	i.e.	less than or equal to	≤
		latitude or longitude	lat. or long.	logarithm (natural)	ln
		monetary symbols (U.S.)	\$, ¢	logarithm (base 10)	log
		months (tables and figures): first three letters	Jan,...,Dec	logarithm (specify base)	log ₂ , etc.
		registered trademark	®	minute (angular)	'
		trademark	™	not significant	NS
		United States (adjective)	U.S.	null hypothesis	H ₀
		United States of America (noun)	USA	percent	%
		U.S.C.	United States Code	probability	P
		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
				probability of a type II error (acceptance of the null hypothesis when false)	β
				second (angular)	"
				standard deviation	SD
				standard error	SE
				variance	
				population	Var
				sample	var

Weights and measures (English)					
cubic feet per second	ft ³ /s				
foot	ft				
gallon	gal				
inch	in				
mile	mi				
nautical mile	nmi				
ounce	oz				
pound	lb				
quart	qt				
yard	yd				

Time and temperature					
day	d				
degrees Celsius	°C				
degrees Fahrenheit	°F				
degrees kelvin	K				
hour	h				
minute	min				
second	s				

Physics and chemistry					
all atomic symbols					
alternating current	AC				
ampere	A				
calorie	cal				
direct current	DC				
hertz	Hz				
horsepower	hp				
hydrogen ion activity (negative log of)	pH				
parts per million	ppm				
parts per thousand	ppt, ‰				
volts	V				
watts	W				

FISHERY MANAGEMENT REPORT NO. 06-20

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HERRING SAC ROE AND FOOD AND BAIT FISHERIES
ANNUAL MANAGEMENT REPORT, 2005**

by

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ABSTRACT

From 1997 to 2005, commercial Pacific herring *Clupea pallasii* sac roe harvests did not occur in South Alaska Peninsula and Aleutian Islands waters due to a lack of industry interest. In 2005, the total South Alaska Peninsula herring biomass estimate was 140 short tons based on two aerial surveys. In the North Alaska Peninsula several aerial surveys conducted by Alaska Department of Fish and Game (ADF&G) biologist and industry spotter pilots observed an estimated 1,500 to 4,600 tons of herring. With a 1,000 ton threshold required by regulation to allow a commercial fishery in the Port Moller area, ADF&G opened the first sac roe fishery on the North Alaska Peninsula since 1998. However, limited market interest kept the harvest to 351 tons. The exvessel price per ton for the fishery was \$300, with a combined exvessel value of approximately \$105,300.

In 2005, the ADF&G conducted one aerial survey of Unalaska Bay in the Aleutian Islands and no herring were observed due to poor visibility. No herring were harvested in the Alaska Peninsula-Aleutian Islands Area Dutch Harbor herring food and bait gillnet fishery. The seine herring food and bait fishery harvest was 1,154 tons, which was 20 tons below the 1,174 tons allocation. Eleven permit holders formed a cooperative and one additional permit holder registered in association with a separate market, which limited the fishing effort and controlled the pace of the harvest. The price per ton for the fisheries ranged from \$100 to \$500, with a combined exvessel value of approximately \$370,095. In 2005, no herring were harvested in the Adak area.

Key words: Alaska Peninsula, Aleutian Islands, Adak, herring, harvest, age, length, weight, sex, sac roe, food, bait, cooperative

INTRODUCTION

The purpose of this report is to present: (1) historical information pertaining to the Alaska Peninsula-Aleutian Islands Management Area Pacific herring *Clupea pallasii* fisheries, (2) information from the commercial harvest in the Alaska Peninsula-Aleutian Islands Management Area during 2005, (3) estimates of the age composition, sex, and mean length and weight of herring harvested in Alaska Peninsula-Aleutian Islands commercial herring fisheries, and (4) biomass estimates of herring within the management area. This information helps Alaska Department of Fish and Game (ADF&G) evaluate harvest rates, recruitment events, and refine management of these fisheries. This report is intended as a reference document; interpretation and discussion of the data are limited.

The Alaska Peninsula-Aleutian Islands Herring Management Area is designated Management Area M and is divided into three sub areas: (1) the North Alaska Peninsula, consisting of Bering Sea waters extending west from Cape Menshikof to Cape Sarichef, (2) the South Alaska Peninsula, consisting of Pacific Ocean coastal waters extending west of Kupreanof Point to 163°30' W long. (the south side of Unimak Island near Cape Lazaref), 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. (the south side of Unimak Island near Cape Lazaref) to the International Date Line (Figure 1; 5 AAC 27.605).

The North Alaska Peninsula is composed of 3 districts and 23 statistical areas (Figures 2 and 3), the South Alaska Peninsula includes 3 districts and 45 statistical areas (Figures 4 and 5), and the Aleutian Islands Area includes 5 districts and 41 statistical areas (Figures 6 through 8).

HISTORY OF HERRING FISHERY

Herring have been reported throughout North and South Alaska Peninsula waters, and in Akutan, Unalaska, and Adak Island waters of the Aleutian Islands. In the past, major concentrations of herring have been documented (Table 1) and herring sac roe fishing effort has occurred in North Alaska Peninsula waters of Port Heiden, Port Moller, and Herendeen Bays, and along the Bering

Sea coast in near shore waters from Entrance Point to Cape Seniavin (Table 1). Typically, harvest of herring sac roe began in late May in both North Alaska Peninsula and South Alaska Peninsula waters and ended in mid to late June. In South Alaska Peninsula waters, most herring sac roe fishing effort occurred in the Shumagin Islands, and Stepovak, Pavlof, and Canoe Bays (Table 3). Herring sac roe fishing also occurred later in the season between Dolgoi Island and Lenard Harbor.

From 1981 to 1995, ADF&G collected harvest data and monitored the commercial herring sac roe fishery utilizing field crews in many locations on the Alaska Peninsula including Stepovak Bay, Canoe Bay, Port Heiden, and Port Moller. Crews also collected herring samples for age, weight, and length, documented spawn areas, and mapped spawning substrate. However, in 1996, due to budget cuts, the peninsula did not utilize field herring sac roe fishery field crews on the Alaska Peninsula. Instead, bags of herring were collected from fishermen and voluntarily given to the ADF&G personnel. Since 1998, no sac roe herring have been sampled on the Alaska Peninsula.

ADF&G personnel have conducted herring aerial surveys in Alaska Peninsula waters since 1976. These surveys have provided limited information primarily because of the large area involved, poor weather conditions, water turbidity, and the sporadic and unpredictable arrival of the herring.

North Alaska Peninsula

The first commercial North Alaska Peninsula herring sac roe harvest occurred in 1982 when 505.5 tons were harvested (Table 4). From 1992 to 2002, the harvests ranged from 0 to 3,969 tons and averaged 509.6 tons. Since 1982, the majority of the harvest has been taken from Herendeen Bay and Port Moller except in 1986, 1989, and 1998 when most of the harvest was taken along the Bering Sea coast between Entrance Point and Cape Seniavin (Table 5) and in 1992, when over 40% of the North Alaska Peninsula harvest came from Port Heiden.

Prior to 1982, fishing vessels destined for, or returning from, the Togiak herring fishery frequently surveyed for herring in the Port Moller and Port Heiden Districts, but no harvest occurred. During the 1986 to 1988 seasons, an average of 52 vessels were present in the Port Moller District, but only a few permit holders actually harvested herring. Starting in 1986, fishing effort increased, targeting the earlier arriving (May) biomass. From 1989 to 1990, ADF&G delayed the opening of the Port Moller District until May 30 in an attempt to shift fishing pressure from the earlier arriving to the later returning, more abundant herring. The Port Moller District opened prior to May 30 from 1991 to 1995 and again in 1998 because the herring biomass was sufficient to warrant commercial harvests.

South Alaska Peninsula

The South Alaska Peninsula herring sac roe fishery harvest and fishing effort has fluctuated since it began in 1979 (Tables 1 and 4). During years in which commercial herring sac roe fishery harvests occurred in the South Alaska Peninsula (1979 to 1996), landings have been reported from 18 statistical areas. Of these, only Canoe Bay (Figure 5) produced a consistent annual harvest (Table 3).

In South Alaska Peninsula waters, substantial harvest occurred in 1980 (453.8 tons), and harvest peaked in 1981 (798 tons; Table 4). The Alaska Board of Fisheries (BOF) closed the South Alaska Peninsula herring sac roe fishery in 1983, and changed the fishery to a winter herring food and bait fishery that, due to a lack of herring biomass and fishing effort, failed to develop.

From 1984 to 1991, the BOF allocated the harvest between the sac roe fishery (75% of the allowable harvest) and the food and bait fishery (25% of the allowable harvest). In 1992, the BOF allocated the entire harvest to the herring sac roe fishery (Burkey 2002a).

From 1982 to 2000, the herring fishing effort levels and harvests generally decreased in South Alaska Peninsula waters (Table 4). Many bays may have small harvestable quantities of herring but the cost of having fishing vessels, tenders, and airplanes available to harvest each section's small guideline harvest level (GHL) has discouraged fishers. Since 1997, no herring have been harvested in South Alaska Peninsula waters primarily because of a lack of industry participation.

Aleutian Islands

The Aleutian Islands herring food and bait season was established by regulation (5 AAC 27.655) and extends annually from June 24 through February 28. Fishing time is established by emergency order and is based on inseason evaluation of the observed biomass, effort levels, and harvest (Table 6).

Dutch Harbor Area

Only the waters near Unalaska and Akutan Islands have been open during the gillnet and purse seine fisheries in the Dutch Harbor area during recent years (Figures 6 through 9). ADF&G has implemented these area limitations while considering processing capabilities, herring concentrations, and logistical concerns with managing the fishery. In recent years, three management plans: (1) the Bering Sea Herring Fishery Management Plan (ADF&G 2005; 5 AAC 27.060), (2) the Bristol Bay Herring Management Plan (5 AAC 27.865), and (3) the Alaska Peninsula-Aleutian Islands Management Area Food and Bait Herring Management Plan (Burkey 2002b), have been used to manage the fishery.

A herring food and bait fishery occurred in the vicinity of Unalaska Island from 1929 to 1938 and in 1945 with harvests that ranged from 75 to 2,510 tons (Table 7). This early fishery consisted of gillnet and purse seine harvests. In an attempt to improve product quality, holding pounds were utilized by the numerous small, shore-based hand-packing operations. A large portion of the harvest was brined or frozen as a food or bait product. Purse seine gear accounted for the bulk of the harvest. From 1946 to 1980 commercial herring harvest did not occur.

From 1981 to 1986 and 1990 to 2000 only purse seine gear was used and harvests ranged from 820 to 3,578 tons (Tables 6 and 7). During the 1987 and 1988 seasons, one gillnet permit holder harvested herring and in 1989 two gillnet permit holders recorded landings. Purse seine vessels ranging up to 56 feet in length deploy seines up to 250 fathoms in length and usually 25 to 45 fathoms in depth. In 2001, the BOF adopted a regulation that allocated 7% of the total Dutch Harbor GHL to the gillnet fleet and 6 to 13 vessels participated in the fishery from 2001 to 2003 (Table 8 and 9). In 2004, the gillnet harvest allocation was increased to 14% and the CFEC registered 25 gillnet permit holders. Originally, gillnets could, by regulation, not exceed 150 fathoms in length and 2 1/8 to 2 1/2 inch mesh size, unless a permit for the use of larger mesh sizes (up to 3 inch) was obtained from ADF&G. All fishermen who participated in the Dutch Harbor gillnet fishery have obtained permits for the use of larger mesh size. In 2004, this regulation was changed to allow mesh sizes up to 3 1/2 inch without a special permit.

During 1994 to 1996, purse seine fishing occurred at night using scanning sonar to locate herring schools. Fishers would conduct organized sonar searches over fairly large areas to find herring concentrations. In 1992 to 1993 and 1997 to 2003, the purse seine fishery occurred during daylight hours and spotter aircraft were used to locate herring. The change to daylight openings improved the

department's ability to monitor and manage the fishery. During recent seasons, the number of spotter aircraft has ranged from a high of nine in 1997 to one in 2004. Historical harvest locations have extended over approximately 90 miles, from Tigalda Island to Makushin Bay on Unalaska Island (Figure 9). However, in most years, the majority of the harvest has occurred in Unalaska Bay. In 1991, the BOF changed the regulatory opening date of the fishery from August 15 to July 16 to reduce the chance of catching non-Togiak and North Alaska Peninsula herring stocks in the Dutch Harbor fishery. In 1998, the BOF changed the opening date again to NOON on July 15 because of aircraft safety concerns with the fishery being conducted in the dark (5 AAC 27.610 (e) (2) (A)).

Historically, quality concerns associated with feeding herring (i.e. belly burn) have occurred in the food and bait fishery. Feed problems were overcome in the past by using holding ponds, where seine-caught herring were held in pens until their stomachs emptied. Gillnet-caught herring required special handling to prevent spoilage. Most feed-related spoilage problems have been eliminated in recent years by using ice and chilled seawater in conjunction with rapid processing. However, in 2003, 7 of 23 gillnet deliveries had quality concerns and 19% of the total gillnet harvest was not purchased because of spoilage. This total was largely influenced by one large delivery, which accounted for 76% of the spoilage.

The fishery timing and availability of herring in the Dutch Harbor area has changed in recent years. Aleutian Islands herring were previously categorized into an early summer run (late June to late July) and a late summer run (late August to early September). Since 1980, herring have arrived in the Dutch Harbor area about July 1 and have been present through mid-September. Historical data of Dutch Harbor herring age composition are presented in Table 10.

From 1991 to 1998, permit holders were paid \$300 per ton (Table 7). In 1999, a high demand for bait herring in longline and pot fisheries resulted in permit holders receiving \$400 per ton on the grounds and, and up to \$600 per ton for herring delivered to the dock. In 2000 and 2001, exvessel prices were between \$300 and \$500 per ton and in 2002 they were \$400 per ton. In 2003, permit holders received \$300 to \$400 per ton until the last two days of the fishery, when prices dropped to \$50 per ton. In 2004, permit holders received \$300 per ton.

In 2004, the BOF established a herring pound seine fishery in the Alaska Peninsula-Aleutian Islands Management Area with an allocation of 100 tons (5 AAC 27.655 (c)). In the pound fishery, seine-caught herring are transferred to a holding pound and retained for several days for gut clearance. The rationale for this was to minimize belly burn and achieve a high quality product suitable for food markets.

Adak Area

An Adak Island area herring gillnet fishery was created by the BOF in 2004 (5 AAC 27.657; Figure 9). This fishery was allocated 500 tons, which could be harvested in either a sac roe or food and bait fishery. ADF&G has very little information on herring stocks in the Adak area (Figure 8).

HARVEST STRATEGY

Commercial herring fisheries are regulated by emergency order to achieve exploitation mandates by the BOF and to address problems with herring spoilage (Appendix A). Management plans and other BOF directives enable managers to develop harvest strategies by which these fisheries are prosecuted (ADF&G 2005; Burkey 2002b).

Dutch Harbor Food and Bait Allocation

The harvest strategy for the Aleutian Islands area Dutch Harbor herring food and bait fishery has changed since the fishery was re-established in 1981. During the 1981 and 1982 open seasons, there were no harvest restrictions. From 1983 to 1985, ADF&G implemented an annual harvest ceiling of 3,527 tons per year due to biological concerns over exploiting Eastern Bering Sea spawning stocks above 20%, specifically the Bristol Bay, Nelson Island, and Port Moller stocks. Scale pattern analysis studies identified that most herring harvested during the Aleutian Islands herring food and bait fishery are part of the Eastern Bering Sea herring biomass (Rogers and Schnepf 1985). In 1986, ADF&G reduced the Dutch Harbor fishery harvest allocation by 30% to 2,453 tons in response to the BOF concern for the possible lack of recruitment in the contributing stocks (primarily Togiak, which is estimated to be the main contributing stock to the Aleutian Island's fishery). This reduction corresponded with the percent reduction of the observed Togiak herring spawning biomass between 1985 and 1986. The 1987 herring harvest allocation was 2,332 tons, which was proportional to the 1985 to 1987 reduction of the observed Togiak spawning biomass.

In 1988, the BOF implemented the Bering Sea Herring Fisheries Management Plan (5 AAC 27.060), which established the biological criteria for calculating the Dutch Harbor food and bait allocation (Burkey 2002a; Appendix A). To ensure conservation of herring stocks, the BOF adopted a regulation requiring that the maximum exploitation of a herring stock should not exceed 20% of the spawning biomass. For the Togiak spawning stock, an allocation between the sac roe fishery, spawn-on-kelp fishery, and the Dutch Harbor food and bait fishery was established to prevent the harvest from exceeding 20% of the observed spawning biomass. The BOF also considered the number of fishermen involved and the value of the fishery when it established the allocations. The Dutch Harbor food and bait fishery was allocated 7% of the Togiak District's harvestable biomass after deducting 1,500 tons for the Togiak District spawn-on-kelp fishery.

In 2001, the BOF established a herring food and bait gillnet fishery by adopting a regulation that provided 7% of the total Dutch Harbor food and bait allocation to gillnet gear (5 AAC 27.655). Also, if the harvest by a fishery in a given year exceeded the amount allocated to that fishery, the excess tonnage was to be subtracted from the following year's allocation to that fishery (5 AAC 27.655 (b)). In 2002, the Dutch Harbor food and bait herring harvest by gillnet gear was 134 tons or 24 tons over the 110 ton allocation for this fishery. The seine fishery harvest was 2,617 tons, 1,149 tons over the 1,468 ton allocation. The BOF suspended the penalty provision for the 2003 season in response to an emergency petition by the Western Gulf of Alaska Fishermen. This resulted in the 2003 GHF (1,662 tons) being allocated to 7% (116 tons) for gillnet gear and 93% (1,546 tons) for seine gear (5 AAC 27.655). To keep the harvest within the allocations, the BOF directed ADF&G to allow the commercial purse seine herring fishery only through the formation of a cooperative fishery, if more than 10 permit holders registered to fish. In 2003 and 2004, fishing cooperatives were formed in both the seine and gillnet fleets and processors indicated their markets were less than the total allowable herring GHF. Processors advised skippers that were fishing for the cooperatives how much herring they wished to purchase daily and the vessels adjusted the pace of the fishery accordingly.

Dutch Harbor 2001 and 2005 Regulatory Changes

In 2001, the BOF adopted regulations that allowed gillnet fishers a practical opportunity to harvest herring in the Dutch Harbor fishery. Prior to the regulation changes, gillnet gear was not

practicable given the short (often less than one hour) open periods required to manage the purse seine fishery. Since 2001, the gillnet fishery has been allowed to open, by emergency order, beginning NOON June 24 and may extend through the close of the food and bait season on February 28. The fishery was allocated 7% of the total Dutch Harbor herring food and bait GHL (5 AAC 27.655). This allocation was increased to 14% in 2004.

Prior to 2004, gillnet permit holders had to obtain a special permit from ADF&G to use mesh sizes larger than 2 1/2 inches. Since 2004, in the Akutan and Unalaska Districts gillnet mesh sizes up to 3 1/2 inches may be used.

Another regulation adopted in 2001 required that any herring harvest that exceeded the GHL during the Dutch Harbor fishery was deducted from the following year's allocation by gear type (penalty provision). If less than the herring allocation was harvested, the unharvested allocation was not added to the following year's GHL (5 AAC 27.655 (b)). In 2002, the total harvest in the Aleutian Islands Dutch Harbor commercial herring fishery exceeded the GHL of 1,578 tons by 77% (1,220 tons). Application of the penalty provision (5 AAC 27.655 (b)) would have reduced the total allowable harvest in 2003 to 397 tons for the purse seine fishery and 92 tons for the gillnet fishery. In response to an emergency petition, the BOF repealed the penalty provision for 120 days, from May 15 to September 12, 2003.

In the Dutch Harbor food and bait fishery ADF&G may reserve up to 100 tons from the herring seine fishery allocation for the purposes of an experimental herring seine and pound fishery conducted in compliance with the terms of a permit issued by the commissioner (5AAC 27.655 (c)).

North and South Peninsula Sac Roe Guideline Harvest Levels

The GHL for the Port Moller District of the North Alaska Peninsula is determined inseason. It is based on the observed herring biomass from department aerial surveys. As established in the Bering Sea Herring Fishery Management Plan (5 AAC 27.060), an expectation of a minimum herring biomass of 1,000 tons is required prior to the department opening the commercial fishery in the Port Moller District.

Prior to 2000, South Alaska Peninsula and Aleutian Islands waters were opened by emergency order with individual sections assigned either GHLs based on recent-year biomass estimates or set at 10-25 tons with the potential of additional harvest if warranted by department surveys (Witteveen et al. 1999). During 2000, South Alaska Peninsula and Aleutian Islands waters remained closed to commercial fishing in order to prevent overharvest of individual spawning stocks. Since 2001, ADF&G has considered allowing harvest from individual stocks, if warranted, based on in season observed biomass.

CATCH DATA

ADF&G personnel compiled the commercial harvest data, which were based on computer tabulations originating from individual sale receipts (fish tickets) given to permit holders at the time of delivery.

Commercial harvest samples were collected during the 2005 North Alaska Peninsula herring sac roe fishery. Likewise, commercial harvest samples were collected during the 2005 Aleutian Island herring food and bait fishery. These samples provided age composition, sex, maturity status, weight-at-age, and length-at-age data from the commercial harvest (Table 10). Age was determined by examining scales (Warner and Shafford 1979) taken from the preferred area

located on the left side of the herring, three scales posterior to the center of the operculum. One scale was taken from each herring, and the ages were recorded and entered into a database.

Standard length measurements (lower jaw to the hypural plate) and fish weight were collected and entered into the herring database. Mean lengths (mm) and weights (g) were calculated for each year class and tabulated.

2005 FISHERY

NORTH ALASKA PENINSULA SAC ROE

In 2005, a commercial herring sac roe fishery occurred in North Alaska Peninsula waters. There are three commercial herring fishing districts in North Alaska Peninsula waters: Port Heiden, Port Moller, and Amak Districts (Figures 2 and 3). Purse seine and gillnet gear are permitted in North Alaska Peninsula waters and both gear types share common time and open areas. The department normally provides a minimum of six hours advance notice prior to commercial fishing periods in the Port Moller and Port Heiden Districts.

The GHL for the Port Moller District of the North Alaska Peninsula was determined pre-season and based on department and industry aerial surveys (Table 2). The observed herring biomass was determined to be 3300 tons. This was well above the minimum herring biomass threshold of 1,000 tons needed prior to the department opening the commercial fishery.

With limited processor interest and only two tenders, processing companies formed a cooperative and a total of seven permit holders used four seine vessels to harvest the herring. At 5:00 PM on May 10, ADF&G opened the Port Moller District to commercial herring fishing by seine gear for 48 hours (Appendix A). Four seine vessels in Port Moller Bight harvested a total of 351 tons of herring (Tables 4 and 5). The exvessel value of the 2005 sac roe fishery was estimated at \$105,300. The exvessel price was \$300 per ton.

A total of 182 herring were sampled from the commercial purse seine fishery (Table 11). The most abundant age classes in the sample were age-4 (17.5%), age-8 (42.3%) and age-9 (22.5%; Table 11; Figure 10). The average herring length in the sample was 271 mm, and the average weight was 292 g. The sex composition of the sample was 49.4% male, 50.0% female, and 0.6% unknown.

SOUTH ALASKA PENINSULA SAC ROE

In 2005, herring fisheries did not occur in South Alaska Peninsula waters because of a lack of industry interest. The Swedania Point-Balboa Bay, Point Aliaksin-Beaver Bay, and General Sections of the Sand Point District, the Pavlof Bay, Seal Cape-Wosnesenski and General Sections of the Pavlof District, and the King Cove District could have opened for exploratory fishing if biomass estimates warranted commercial fishing and there was industry interest in harvesting herring. Prior to 2000, and again in 2001 through 2005, exploratory herring sac roe fisheries in South Alaska Peninsula waters were open from April 15 through July 15. Fishing periods were established by emergency order and opened at NOON on odd number days of the month and closed at NOON on even number days of the month, followed by 24-hour closed periods. Due to the lack of industry interest no fishing periods have occurred since 1998.

On May 23, 2005 ADF&G conducted an aerial survey in South Alaska Peninsula coastal waters from Granville in Stepovak Bay to Lefthand in Balboa Bay. The total estimated biomass was 40

tons. On May 24 an aerial survey was conducted in waters of the Shumagin Islands. During this survey, a total of 100 tons of herring were observed.

Other forage fish, possibly capelin *Mallotus villosus*, Pacific sand lance *Ammodytes hexapterus*, eulachon *Thaleichthys pacificus* and juvenile pollock *Theragra chalcogramma* were observed during these surveys. However, the total biomass for these species for both the South Alaska Peninsula mainland and the Shumagin Islands was not estimated (Table 12).

ALEUTIAN ISLANDS FOOD AND BAIT FISHERY

Gillnet Fishery

In 2005, the Dutch Harbor herring commercial gillnet fishery occurred from July 1 through July 25, with 12 gillnet permit holders and two processors participating. At 8:00 AM on July 1, the Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area opened to commercial herring fishing by gillnet gear for 6 hours (Appendix A). The fishery opened again for 6 hours on July 5. The fishery had three 12 hour openings on July 7, July 10, and July 12. Daily, from July 15 through July 17, fishing was allowed in the Unalaska Bay Section. On July 17, the department opened Kalekta Bay in the Unalaska District to commercial gillnet fishing. On July 18, the department opened the Akutan District west of the longitude of Billings Head to gillnet gear (Appendix A). Daily between the July 18 and July 25, the Unalaska and Akutan districts were opened to commercial herring fishing with gillnet gear. No herring were harvested, and no herring were sampled from the gillnet harvest for length, weight, sex, and age composition.

Purse Seine Fishery

A preseason meeting with fishermen, processors, and other interested parties was held on Wednesday, July 14, to discuss the ADF&G management strategy, exchange information, and register vessels, tenders, and processors for the purse seine fishery. Three representatives from the processing companies attended the meeting. However no tender operators, seine fishermen, or spotter aircraft attended the meeting. Three processing companies formed a cooperative and a total of 11 permit holders used three purse seine vessels to harvest the herring. One additional permit holder registered with the department in association with a separate market, for a total purse seine fishery participation of four purse seine vessels and four processors. On July 15, the department conducted one aerial survey to assess herring biomass in the Dutch Harbor area. With poor visibility, no herring were sighted in the Unalaska District during this survey.

The 2005 Aleutian Islands food and bait seine fishery occurred within the Unalaska and Akutan Districts (Figures 7 and 9). At the preseason meeting the first 8-hour fishing period was announced to begin at NOON on July 15. This period was extended for 4 hours until MIDNIGHT, July 15. One vessel harvested 166 tons of herring in Unalaska Bay. On July 16, a 12-hour fishing period was announced from NOON until MIDNIGHT and then extended another half hour. No herring were harvested during this opening. On July 17, a 24-hour fishing period was announced from 10:00 AM until 10:00 AM on July 18. No herring were harvested during this opening. With a large portion of the allowable harvest remaining the department also opened Kalekta Bay in the Unalaska District for 16 hours from 6:00 PM on July 17, till 10:00 AM on July 18. Again no herring were harvested. ADF&G then opened up the Akutan District, west of Billings Head on the evening of July 18. For several consecutive 24-hour openings, Unalaska Bay, Kalekta Bay, and the Akutan District west of Billings Head, were open to commercial herring seine fishing from July 18-23. During these openings 139 tons of herring were harvested in Kalekta Bay in the Unalaska District, and 849 tons were harvested in the Akutan District, for a total of 1,154 tons.

ADF&G did not allow further fishing periods after July 25, because management staff in Dutch Harbor were assigned other duties and thus unavailable to monitor the herring fishery. Approximately 98% of the purse seine allocation was harvested in 2005. Exvessel prices ranged between \$100 to \$500 per ton and the total exvessel value of the 2005 purse seine fishery was an estimated \$370,095. Processors purchased all the herring as bait.

A total of 244 herring were sampled from the Unalaska District commercial purse seine fishery. The most abundant age classes in the sample were age-8 (36.4%), age-9 (25.4%) and age-12 (9.8%; Table 11; Figure 11). The average herring length in the sample was 296 mm, and the average weight was 444 g (Table 13). The sex composition of the sample was 52% male and 48% female. A total of 373 herring were sampled from the Akutan District commercial purse seine fishery. The most abundant age classes in the sample were age-8 (42.3%), age-9 (28.4%) and age-10 (4.8%; Table 14; Figure 12). The average herring length in the sample was 287 mm, and the average weight was 400 g (Table 14). The sex composition of the sample was 46% male and 54% female. From the combined Unalaska and Akutan Districts commercial purse seine fishery samples, the most abundant age classes were age-8 (40.0%), age-9 (27.2%) and age-12 (6.4%; Table 15; Figure 13). The average herring length in the combined sample was 291 mm, and the average weight was 417 g (Table 15). The sex composition of the combined sample was 47% male and 53% female.

Pound Fishery

In 2004, the BOF established a herring pound seine fishery in the Alaska Peninsula-Aleutian Islands Management Area with an allocation of 100 tons. In the pound fishery, seine-caught herring were transferred to a holding pound and retained for several days for gut clearance. The rationale for this was to minimize the risk of belly burn and achieve a high quality product suitable for food markets.

One permit holder participated in this fishery. One square pound of 40' x 40' was moored in the South Channel between Iliuliuk Harbor and Captains Bay. Fishing operations occurred during the purse seine fishing periods. Due to the low abundance of herring in Unalaska Bay, no live herring were put into a pound.

Adak Gillnet Fishery

Due to lack of industry interest, no herring were harvested in the Adak gillnet fishery in 2005. The Adak fishery is ongoing; by regulation, the season closes on February 28, 2006 and reopens at 12:00 NOON June 24, 2006. No effort has occurred in this fishery since September 15, 2004.

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TABLES AND FIGURES

Table 1.-Alaska Peninsula herring sac roe fishery harvest, number of landings and permits fished by year, 1979-2005

Year	North Peninsula			South Peninsula			Total		
	Tons	Landings	Permits	Tons	Landings	Permits	Tons	Landings	Permits
1979		No Harvest		10	a	a	10	a	a
1980		No Harvest		454	15	6	454	15	6
1981		No Harvest		797	93	56	797	93	56
1982	a	a	a	138	13	4	a	a	a
1983	627	47	23	0	0	0	627	47	23
1984	431	20	11	210	20	5	642	40	15
1985	710	31	17	288	8	5	998	39	20
1986	894	116	50	282	14	6	1,176	130	51
1987	514	46	27	319	8	a	833	54	27
1988	294	21	9	377	22	10	671	43	19
1989	729	24	10	310	31	13	1,039	55	19
1990	273	23	5	312	31	6	585	54	9
1991	1,313	59	11	157	26	10	1,470	85	18
1992	3,969	100	24	180	11	7	4,149	112	29
1993	536	44	16	a	a	a	a	a	a
1994	90	7	5	a	a	a	a	a	a
1995	337	37	12	a	a	a	a	a	a
1996	a	a	a	124	8	4	a	a	a
1997		No Harvest	0		No Harvest	0	0	0	0
1998	a	a	a		No Harvest	0	a	a	a
1999		No Harvest	0		No Harvest	0	0	0	0
2000		No Harvest	0		No Harvest	0	0	0	0
2001-2004		No Harvest	0		No Harvest	0	0	0	0
2005	351	12	4		No Harvest	0	351	12	4
1995-2003									
Average	337	22	3	124	8	1	70	0	0

^a Harvest numbers cannot be released due to state confidentiality requirements.

Table 2.-North Alaska Peninsula herring biomass aerial surveys (short tons), historical summary, 1984-2005.

Date	Port Moller District			Port Heiden District		Total Biomass Estimate	Aerial Survey Dates	
	Herendeen Bay	Port Moller Bay	Additional Biomass Harvested	Bear River to Strogonof Point	Port Heiden Bay Section		Begin	End
	1984	2,000	1,500-1,900	0	0			
1985	260	1,305	0	5,240	0	6,805	May 01 - June 13	
1986	1	28	0	0	0	29	May 16 - June 07	
1987	0	5,125	0	0	0	5,125	May 06 - June 03	
1988	1,737	442	0	8	0	2,187	May 17 - June 15	
1989	1,163	1,471	0	0	0	2,634	May 19 - June 16	
1990	155	387	0	0	0	542	May 21 - June 14	
1991	2,278 (250) ^a	4,651	0	1,471	0	8,400	May 17 - June 26	
1992	755	8,269	0	5,798	10,021	24,843	May 19 - June 18	
1993	775	2,878	0	33	0	3,686	May 04 - June 09	
1994	381	274	74	0	0	729	May 22 - May 28	
1995	60	477	200	0	0	737	May 13 - June 02	
1996	390 (390) ^a	986 (755) ^a	0	309	65	1,750	May 09 - June 18	
1997	160	45	0	0	0	205	May 22 - June 12	
1998	930	135	0	360 (200) ^a	0	1,425	May 11 - June 03	
1999	10	220	0	0	0	230	May 16 - June 14	
2000	115	350	0	0	0	465	May 15 - May 28	
2001	335	1,980	0	0	0	2,315	May 14 - May 22	
2002	85	255	0	0	0	340	May 15 - May 28	
2003	400	100	0	500	0	800	May 17 - May 29	
2004	0	0	0	0	0	0	June 02 - June 10	
2005	1,500 ^b	3,300	351	50	0	3,300	May 08 - May 24	
1995-2004								
Average	249	455	20	106	7	827		

^a Biomass estimates (tons) conducted by commercial spotter pilots are enclosed in parenthesis (); these estimates are included in the total biomass estimates. They may not be comparable to ADF&G estimates.

^b Biomass estimates (tons) conducted by both commercial spotter pilots and ADF&G biologists.

Table 3.-South Alaska Peninsula commercial herring sac roe fishery harvest (short tons) by geographic area, 1979-2005.

Year	Area									Total
	Stepovak Bay ^a	Balboa Bay	Pavlof Bay	Canoe Bay	Volcano-Dolgoi	Belkofski Bay	Lenard Harbor	Dolgoi Harbor	Shumagin Islands	
1979	0.0	0.0	0.0	0.0	0.0	10.1	0.0	0.0	0.0	10.1
1980	196.0	132.0	113.8	12.0	0.0	0.0	0.0	0.0	0.0	453.8
1981	128.6	35.7	263.1	168.1	64.8	15.7	121.6	0.0	0.0	797.6
1982	0.0	5.0	0.0	171.2	0.0	0.0	0.0	0.0	0.0	176.2
1983 ^b	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984	28.9	25.1	0.0	156.2	0.0	0.0	0.0	0.0	0.0	210.2
1985	10.9	0.0	38.0	238.8	0.0	0.0	0.0	0.0	0.0	287.7
1986	0.0	0.0	61.0	140.6	13.0	8.0	59.3	0.0	0.0	281.9
1987	0.0	0.0	91.7	117.7	0.0	37.8	59.5	12.3	0.0	319.0
1988	0.3	11.0	69.2	236.5	17.0	12.0	30.7	0.0	0.0	376.7
1989	39.2	17.7	52.8	148.3	0.0	0.0	8.6	5.2	38.5	310.3
1990	71.7	20.8	0.0	120.4	0.0	3.2	5.9	0.0	90.4	312.2
1991	19.3	19.3	0.0	77.5	0.0	0.0	0.0	0.0	41.4	157.4
1992	0.0	0.0	0.0	180.4	0.0	0.0	0.0	0.0	0.0	180.4
1993	4.6	0.0	0.0	92.4	0.0	0.0	0.0	0.0	0.0	97.0
1994	0.0	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	8.2
1995	0.0	9.8	0.0	52.9	0.0	0.0	0.0	0.0	0.0	62.7
1996	20.7	3.9	0.0	77.1	0.0	0.0	0.0	0.0	15.6	117.3
1997-2005	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995-2004										
Average	6.9	4.6	0.0	43.3	0.0	0.0	0.0	0.0	5.2	60.0

^a The 1984-88 catches came from Ramsey Bay, the 1989 and 1993 catch came from Granville Bay.

^b In 1983 the South Alaska Peninsula sac roe fishery was closed, all herring catches were allocated to a food and bait fishery that did not develop.

Table 4.-Alaska Peninsula Area commercial herring sac roe fishery harvest by time period, 1979-2005.

Year	North Peninsula		South Peninsula		Total Peninsula
	Harvest (Short Tons)	Harvest Time Period	Harvest (Short Tons)	Harvest Time Period	(Short Tons) Harvest
1979	0.0	-	10.1	July 4- July 4	10.1
1980	0.0	-	453.8	May 18-July 14	453.8
1981	0.0	-	797.6	May 9-June 23	797.6
1982	505.5	May 31-June 12	176.2	May 31-June 14	681.7
1983	627.0	May 9-May 29	0.0	-	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	^a
1997	0.0	-	0.0	-	0.0
1998	^a	May 21-June 3	0.0	-	^a
1999-2004	0.0	-	0.0	^b	0.0
2005	351.0	May 11-May 12	0.0	-	0.0
1995-2004					
Average	50.11		18.0		68.1

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

^b The South Alaska Peninsula exploratory herring sac roe fishery was closed during the 2000 season.

Table 5.-North Alaska Peninsula commercial herring sac roe fishery harvest by section, 1982-2005.

Year	Port Moller District			Bering Sea Coast	Port Heiden District	Total
	Deer Island Mud Bay Section	Herendeen Bay Section	Port Moller Bay Section		Port Heiden Bay Section	
1982	0	280	180	46	0	506
1983	0	509	37	81	0	627
1984	0	181	250	0	0	431
1985	0	173	256	281	0	710
1986	0	156	255	484	0	894
1987	0	157 ^a	350	7	0	514
1988	0	8	286	0	0	294
1989	0	67	247	416	0	729
1990	0	156	117	0	0	273
1991	156	167	690	300	0	1,313
1992	18	0	2,351	0	1,600	3,969
1993	0	107	371	58	0	536
1994	7	0	83	0	0	90
1995	3	146	188	0	0	337
1996	0	- ^b	- ^b	0	0	- ^b
1997	0	0	0	0	0	0
1998	0	0	- ^b	- ^b	0	- ^b
1999-2004	0	0	0	0	0	0
2005	351	0	0	0	0	351
1995-2004 Average	0	22	24	4	0	50

^a At least 11 tons were harvested in the Deer Island-Mud Bay Section.

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

Table 6.-Aleutian Islands Area Dutch Harbor commercial herring food and bait fishery summary, including landing date, days fished, preseason Togiak spawning biomass, guideline harvest level, harvest, and number of vessels fishing, 1981-2005.

Year	Landing Date		Days Fished	Preseason Togiak Spawning Biomass	GHLs Short Tons	Food & Bait Harvest Short Tons	Number Vessels Fishing
	First	Last		Short Tons		Tons	
1981	Aug 3	Aug 23	21	159,000	None	^a	^a
1982	Aug 5	Sep 12	39	98,000	None	3,565	7
1983	Jul 23	Sep 6	46	142,000	3,525 ^b	3,567	8
1984	Jul 17	Jul 27	11	115,000	3,525 ^b	3,578	9
1985	Jul 17	Aug 11	26	132,000	3,525 ^b	3,480	6
1986	Jul 16	Jul 28	13	96,000	2,453	2,394	7
1987	Jul 16	Jul 23	4	88,000	2,332	2,503	9
1988	Jul 16	Sep 18	21	132,000	3,100	2,004	8
1989	Jul 16	Aug 5	19	100,108	3,100	3,081	9
1990	Aug 15	Aug 15	<1	72,000	903	820	7
1991	Jul 17	Jul 17	<1	83,229	931	1,325	8
1992	Jul 16	Jul 28	5	60,214	1,940	1,949	11
1993	Jul 16	Jul 16	<1	164,135	2,193	2,790	13
1994	Jul 16	Jul 19	4	165,747	2,215	3,349	16
1995	Jul 16	Jul 16	<1	149,093	1,982	1,748	18
1996	Jul 16	Jul 16	<1	135,585	1,793	2,239	25
1997	Jul 15	Jul 19	5	125,000	1,645	1,950	26
1998	Jul 16	Jul 16	<1	121,054	1,590	1,994	22
1999	Jul 16	Jul 20	4	156,200	2,082	2,398	22
2000	Jul 15	Jul 15	<1	130,904	1,728	2,014	23
2001 ^c	Jun 25	Jul 16	10	119,818	1,572	1,439 ^d	20
2002	Jun 25	Jul 16	17	120,196	1,578	2,751 ^d	27
2003	Jun 24	Jul 19	7	126,213	1,662	1,487 ^d	19 ^e
2004	Jul 1	Aug 2	26	143,124	1,899	1,258 ^d	10 ^f
2005	Jul 1	Aug 26	11	105,029	1,365	1,154 ^d	5 ^g
1994-2004 Average			12	132,719	1,753	1,928	21

^a Number may not be released due to state confidentiality requirements.

^b Harvest ceiling of 3,525 established by Alaska Board of Fisheries.

^c In 2001 a gillnet fishery was established.

^d Includes both gillnet and seine harvest.

^e In 2003 the seine fishery was a cooperative.

^f In 2004, the gillnet fishery operated under a cooperative agreement and 13 seine permit holders formed a cooperative using 1 vessel.

^g In 2005, the gillnet fishery did not harvest any fish, and 11 seine permit holders formed a cooperative and used 3 seine vessels, 1 CFEC seine permit holder did not join the cooperative fishery.

Table 7.-Aleutian Islands Area Dutch Harbor herring food and bait fisheries historical summary for the purse seine fishery, 1929-2005.

Year	Harvest in Short Tons	No. Vessels		Tons Per Boat	Tons Per Landing	Price Per Ton	Exvessel Value (Thousands)	Exvessel Value Per Vessel (Thousands)
		Making Landings	Number Landings					
1929	1,259							Information not Available
1930	1,916							Information not Available
1931	1,056	26						Information not Available
1932	2,510	30						Information not Available
1933	1,585	38						Information not Available
1934	1,533							Information not Available
1935	2,412							Information not Available
1936	1,379							Information not Available
1937	579							Information not Available
1938	513							Information not Available
1939-44	No Fishery							
1945	75							Information not Available
1946-80	No Fishery							
1981	704	^a	16	352	44	300	211	^a
1982	3,565	7	95	509	38	300	1,020	146
1983	3,567	8	96	446	37	232	828	104
1984	3,578	9	61	398	59	210	751	83
1985	3,480	6	78	560	45	162	564	94
1986	2,394	7	53	342	45	254	600	86
1987	2,503	8	45	373	56	300	751	94
1988	2,004	8	59	251	34	252	505	63
1989	3,081	9	69	342	45	283	873	97
1990	820	7	8	117	103	350	287	41
1991	1,325	8	18	166	74	300	398	50
1992	1,949	11	26	177	75	300	573	52
1993	2,790	13	32	215	87	300	837	64
1994	3,349	14	65	239	52	300	1,005	72
1995	1,748	14	24	125	73	300	524	37
1996	2,239	24	29	93	77	300	672	28
1997	1,950	26	63	75	31	300	585	23
1998	1,994	22	22	91	91	300	598	27
1999	2,398	21	71	109	34	400-600	1,038	49
2000	2,014	20	28	88	72	300-500	671	34
2001	1,332	14	16	95	83	300-500	406	29
2002	2,617	12	14	218	187	300-450	909	76
2003	1,379	6 ^b	16	230	86	50-400	342	57
2004	1,035	3 ^c	17	345 ^c	61	100-500	309	103 ^c
2005	1,154	3 ^d	7	384 ^d	165	100-500	370	123 ^d

^a This information can not be released due to state confidentiality requirements.

^b Fishery was conducted by a cooperative fishery of 14 permit holders using 6 vessels.

^c A cooperative fishery of 13 permit holders used 1 vessel.

^d Eleven permit holders used 3 seine vessels in a cooperative fishery, 1 CFEC seine permit holder did not join the cooperative fishery.

Table 8.-Aleutian Islands Area Dutch Harbor herring food and bait fisheries historical summary for the gillnet fishery, 2001-2005.

Year	Harvest in Short Tons	No. Vessels		Tons Per Boat	Tons Per Landing	Price Per Ton	Exvessel	Exvessel Value
		Making Landings	Number Landings				Value (Thousands)	Per Vessel (Thousands)
2001	107	6	25	18	4	300-500	54	9
2002	134	13	37	10	4	400	54	4
2003	108	13	23	8	5	400	35 ^a	3
2004	216	7	37	31	6	300	65	9
2005	0	0	0	0	0	300	0	0
5 year Average	113	8	24	13	4	350	41	5

^a Twenty of the 108 tons were not purchased because of spoilage.

Table 9.-Aleutian Islands Area Dutch Harbor herring food and bait fisheries allocations, commercial harvest, and effort by gear type, 2001-2005.

Preseason Togiak Spawning														
Year	Biomass ^a	All Gear Types		Gillnet Fishery					Seine Fishery					
		Allocation ^a	Harvest ^a	Allocation ^a	Harvest ^a	Permits	Landings	Days Fished	Allocation ^a	Harvest ^a	Permits	Landings	Days Fished	
1991	83,229	931	1,325	0	0	0	0	0 ^b	931	1,325	8	18	<1	
1992	60,214	1,940	1,949	0	0	0	0	0 ^b	1,940	1,949	11	26	5	
1993	164,135	2,193	2,790	0	0	0	0	0 ^b	2,193	2,790	13	32	<1	
1994	165,747	2,215	3,349	0	0	0	0	0 ^b	2,215	3,349	14	65	4	
1995	149,093	1,982	1,748	0	0	0	0	0 ^b	1,982	1,748	14	24	<1	
1996	135,585	1,793	2,239	0	0	0	0	0 ^b	1,793	2,239	24	29	<1	
1997	125,000	1,645	1,950	0	0	0	0	0 ^b	1,645	1,950	26	63	5	
1998	121,054	1,590	1,994	0	0	0	0	0 ^b	1,590	1,994	22	22	<1	
1999	156,200	2,082	2,398	0	0	0	0	0 ^b	2,082	2,398	21	71	4	
2001	119,818	1,572	1,439	110	107	6	25	9	1,462	1,332	14	16	2	
2002	120,196	1,578	2,751	110	134	13	37	16	1,468	2,617	16	14	1	
2003	126,213	1,662	1,487	116	108	13	23	5	1,546	1,379	14 ^c	16	4	
2004	143,124	1,899	1,258	266	216	12	37	13	1,533	1,035	15 ^d	17	13	
2005	105,029	1,365	1,154	191	0	9	0	11	1,174	1,154	12 ^e	7	9	

^a Short tons.

^b No Dutch Harbor gillnet allocation prior to 2001.

^c Fourteen permit holders used 6 vessels in a cooperative fishery.

^d Thirteen permit holders used 1 vessel in a cooperative fishery.

^e Eleven permit holders used 3 vessels in a cooperative fishery, 1 permit holder did not join the cooperative fishery.

Table 10.-Estimated age composition of Aleutian Islands commercial herring food and bait harvests, in percent, 1991-2005.

Year	Percent at Age (Years)																
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
<i>Purse Seine</i>																	
1991	0.2	0.2	0.2	8.7	11.0	5.7	13.4	11.2	22.1	17.2	8.9	1.0	0.0	0.2	0.0	0.0	0.0
1992	0.0	0.3	0.2	0.3	23.3	25.0	4.8	15.2	8.9	10.0	9.4	2.5	0.2	0.0	0.0	0.0	0.0
1993	0.3	9.5	51.8	5.1	5.9	13.2	6.2	2.5	1.6	1.7	1.3	0.8	0.0	0.0	0.0	0.0	0.0
1994	0.2	1.7	24.3	36.7	3.8	4.0	13.3	6.5	3.6	3.3	1.0	0.9	0.9	0.0	0.0	0.0	0.0
1995	0.2	3.2	5.6	30.4	27.5	4.5	4.3	10.4	5.0	1.9	4.8	1.4	0.6	0.2	0.0	0.0	0.0
1996	0.0	0.7	8.2	16.1	35.8	25.8	3.3	2.9	2.7	1.6	1.5	0.8	0.4	0.2	0.0	0.0	0.0
1997	0.0	3.2	15.2	31.3	9.3	21.2	9.5	1.8	4.5	1.6	1.2	0.5	0.1	0.0	0.0	0.0	0.0
1998	0.0	6.5	7.9	25.3	26.0	8.5	14.6	8.4	0.5	1.4	0.3	0.0	0.1	0.1	0.0	0.0	0.0
1999	0.2	0.2	12.2	8.2	21.8	21.1	10.2	15.6	5.6	2.2	0.9	1.3	0.4	0.0	0.0	0.0	0.0
2000	0.0	0.0	0.7	19.8	16.6	12.4	14.5	10.8	12.4	8.2	2.3	1.3	0.5	0.0	0.0	0.0	0.0
2001	0.0	3.5	2.1	6.4	31.4	12.8	11.9	9.7	5.7	10.7	4.0	0.9	0.4	0.0	0.0	0.0	0.0
2002	0.0	0.0	3.0	6.3	4.3	25.3	11.6	9.3	12.3	9.0	12.0	5.0	0.0	3.0	2.0	0.0	0.0
2003	0.0	0.0	3.0	27.4	16.8	7.5	15.6	9.9	5.4	6.6	3.3	2.7	0.9	0.6	0.0	0.0	0.0
2004	0.0	0.0	0.0	18.8	39.3	8.4	3.9	14.6	3.4	5.9	1.9	0.7	1.4	1.2	0.0	0.0	0.0
2005	1.1	2.5	1.4	4.3	40.0	27.2	5.6	5.1	6.4	1.9	1.2	1.4	0.8	0.3	0.0	0.0	0.0
<i>Gillnet</i>																	
2002	0.0	0.5	4.8	3.2	3.4	22.0	9.4	20.1	11.2	8.8	10.2	4.3	1.0	0.0	0.5	0.0	0.0
2003	0.0	0.0	3.3	30.7	5.9	4.8	23.3	8.1	10.0	4.4	2.5	4.0	2.2	0.0	0.3	0.0	0.0
2004	0.0	0.0	0.2	13.8	35.4	5.7	4.7	20.5	5.2	7.1	3.2	1.7	0.9	0.7	0.0	0.0	0.2
2005	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 11.-Age, sex, weight and length of herring harvested during the North Alaska Peninsula commercial purse seine herring sac roe fishery, 2005.

Age (Years)	Sex			Total	Percent of Total	Weight			Standard Length		
	Male	Female	Unknown			Mean (g)	Standard Dev.	Number Weighed	Mean (mm)	Standard Dev.	Number Measured
3	1	0	0	1	0.5	117	-	1	208	-	1
4	16	15	1	32	17.5	182	24.5	32	238	19.5	32
5	2	7	0	9	4.9	223	22.9	9	250	6.9	9
6	1	4	0	5	2.7	247	41.7	5	260	17.2	5
7	1	7	0	8	4.3	279	23.0	8	272	5.4	8
8	42	35	0	77	42.3	315	43.0	77	278	11.0	77
9	22	19	0	41	22.5	347	57.6	41	286	11.2	41
10	5	2	0	7	3.8	347	34.5	7	288	7.6	7
11	0	1	0	1	0.5	395	-	1	289	-	1
12	0	1	0	1	0.5	377	-	1	306	-	1
Total	90	91	1	182	100	292^a	73.8^b	182	271	22.1^b	182

^a Total weighted average of the mean.

^b Total sample, standard deviation.

Table 12.-South Alaska Peninsula herring biomass aerial surveys, 2005.

Date	<u>Cold Bay</u>		<u>Pavlof Bay</u>		<u>Beaver/Balboa Bay</u>		<u>Stepovak Bay</u>		<u>Shumagin Is.</u>		Total (Tons)	Other Forage fish (st)	Surveyor
	Tons	Rating ^a	Tons	Rating ^a	Tons	Rating ^a	Tons	Rating ^a	Tons	Rating ^a			
May 23	Not Surveyed		Not Surveyed				40.0	3	Not Surveyed		40.0	-	Burkey
May 24	Not Surveyed		Not Surveyed		92.5	3	Not Surveyed		7.5	4	100.0	-	Burkey
Total Biomass Observed													
	0		0		92.5		40.0		7.5		140	-	
Estimated 2005 Biomass (Does not include herring observed during multiple surveys)													
					92.5		40.0		7.5		140	-	

^a Rating of survey: (1) Excellent, (2) Good, (3) Fair, (4) Poor, (5) Unsatisfactory

Cold Bay - Cold Bay to Volcano Bay/Dolgi Island

Pavlof Bay - Pavlof Bay to McGinty Point

Beaver/Balboa Bay - Beaver Bay to Dorenoi Bay

Stepovak Bay - Chichagof Bay to Kupreanof Point

Table 13.-Age, sex, weight and length of herring harvested during the Aleutian Islands Area Unalaska District commercial purse seine herring food and bait fishery, 2005.

Age (Years)	Sex			Total	Percent of Total	Weight			Standard Length		
	Male	Female	Unknown			Mean (g)	Standard Dev.	Number Weighed	Mean (mm)	Standard Dev.	Number Measured
4	1	0	0	1	0.4	255	-	1	241	-	1
5	1	0	0	1	0.4	317	-	1	261	-	1
6	2	2	0	4	1.6	290	61.8	4	258	10.4	4
7	3	6	0	9	3.6	399	23.2	9	287	11.2	9
8	44	45	0	89	36.4	410	70.0	89	289	14.4	89
9	30	32	0	62	25.4	446	38.9	62	296	8.3	62
10	11	6	0	17	6.9	453	54.8	17	296	9.6	17
11	9	7	0	16	6.5	485	47.9	16	304	12.8	16
12	7	17	0	24	9.8	508	47.3	24	309	8.9	24
13	4	5	0	9	3.6	511	48.5	9	316	8.7	9
14	1	2	0	3	1.2	565	22.7	3	320	3.0	3
15	2	3	0	5	2.0	539	50.1	5	308	13.5	5
16	2	1	0	3	1.2	525	26.3	3	318	10.7	3
17	1	0	0	1	0.4	520	-	1	315	-	1
Total	118	126	0	244	100	444^a	71.9^b	244	296^a	15.6^b	244

^a Total weighted average of the mean.

^b Total sample, standard deviation.

Table 14.-Age, sex, weight and length of herring harvested during the Aleutian Islands Area Akutan District commercial purse seine herring food and bait fishery, 2005.

Age (Years)	Sex			Total	Percent of Total	Weight			Standard Length		
	Male	Female	Unknown			Mean (g)	Standard Dev.	Number Weighed	Mean (mm)	Standard Dev.	Number Measured
4	2	4	0	6	1.6	242	21.6	6	247	5.6	6
5	12	2	1	15	4.0	282	50.8	15	256	15.3	15
6	3	2	0	5	1.3	304	67.5	5	262	12.6	5
7	11	7	0	18	4.8	359	35.9	18	280	9.9	18
8	68	90	0	158	42.3	392	51.9	158	285	14.3	158
9	44	62	0	106	28.4	407	45.3	106	289	8.7	106
10	10	8	0	18	4.8	419	44.5	18	296	11.4	18
11	6	10	0	16	4.2	482	54.7	16	306	10.3	16
12	9	7	0	16	4.2	501	41.3	16	309	10.0	16
13	1	2	0	3	0.8	441	78.3	3	303	13.2	3
14	2	3	0	5	1.3	489	64.0	5	313	14.1	5
15	2	2	0	4	1.0	461	51.9	4	309	6.6	4
16	0	2	0	2	0.5	536	1.4	2	317	23.3	2
17	1	0	0	1	0.2	486	-	1	311	-	1
Total	171	201	1	373	100	400 ^a	67.4 ^b	373	287 ^a	16.7 ^b	373

^a Total weighted average of the mean.

^b Total sample, standard deviation.

Table 15.-Age, sex, weight and length of herring harvested during the Aleutian Islands Area Unalaska and Akutan District combined commercial seine herring food and bait fishery, 2005.

Age (Years)	Sex			Total	Percent of Total	Weight			Standard Length		
	Male	Female	Unknown			Mean (g)	Standard Dev.	Number Weighed	Mean (mm)	Standard Dev.	Number Measured
4	3	4	0	7	1.1	244	20.3	7	246	5.5	7
5	13	2	1	16	2.5	284	49.9	16	256	14.9	16
6	5	4	0	9	1.4	298	61.3	9	260	11.2	9
7	14	13	0	27	4.3	373	37.0	27	282	10.7	27
8	112	135	0	247	40.0	398	59.5	247	287	14.4	247
9	74	94	0	168	27.2	421	47.0	168	292	9.2	168
10	21	14	0	35	5.6	436	52.0	35	296	10.4	35
11	15	17	0	32	5.1	483	50.6	32	305	11.4	32
12	16	24	0	40	6.4	505	44.7	40	309	9.3	40
13	5	7	0	12	1.9	494	61.9	12	313	10.9	12
14	3	5	0	8	1.2	518	63.4	8	315	11.5	8
15	4	5	0	9	1.4	504	63.1	9	308	10.3	9
16	2	3	0	5	0.8	530	19.5	5	318	13.9	5
17	2	0	0	2	0.3	503	24.0	2	313	2.8	2
Total	289	327	1	617	100	417^a	72.4^b	617	291^a	16.8^b	617

^a Total weighted average of the mean.

^b Total sample, standard deviation.

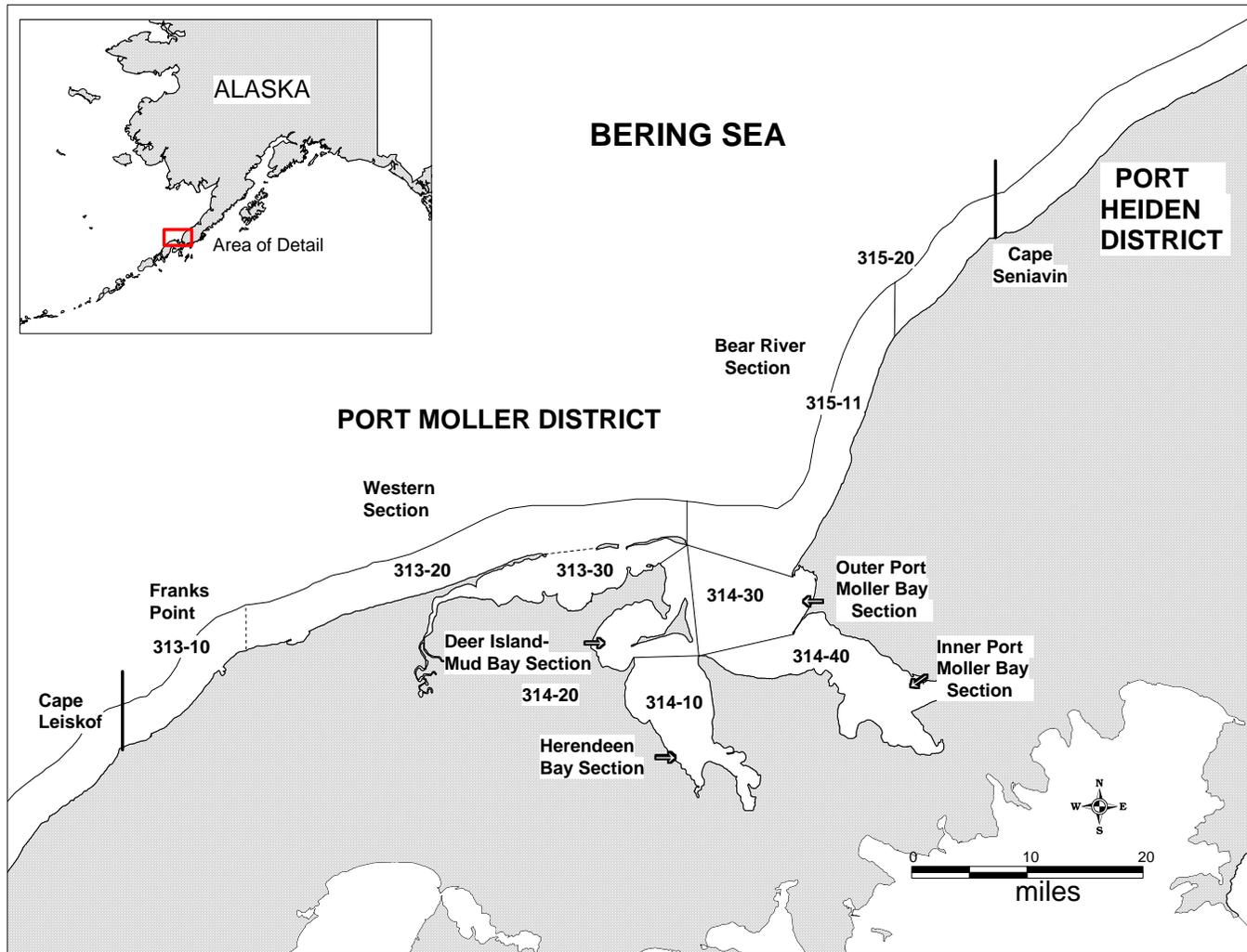


Figure 2.-Map of the Port Moller District with commercial herring fishing statistical areas shown.

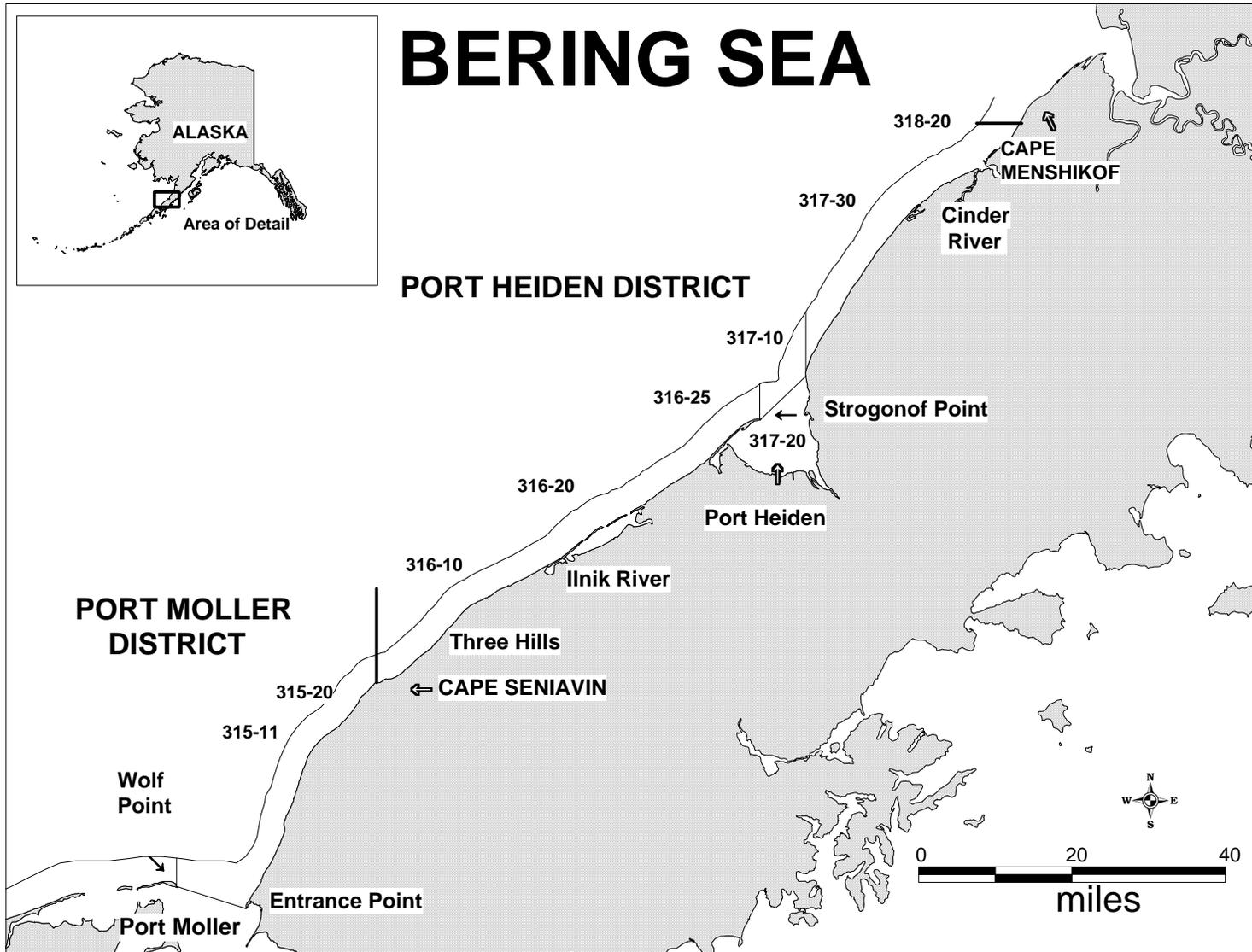


Figure 3.-Map of the Alaska Peninsula from Entrance Point to Cape Menshikof with commercial herring fishing statistical areas shown.

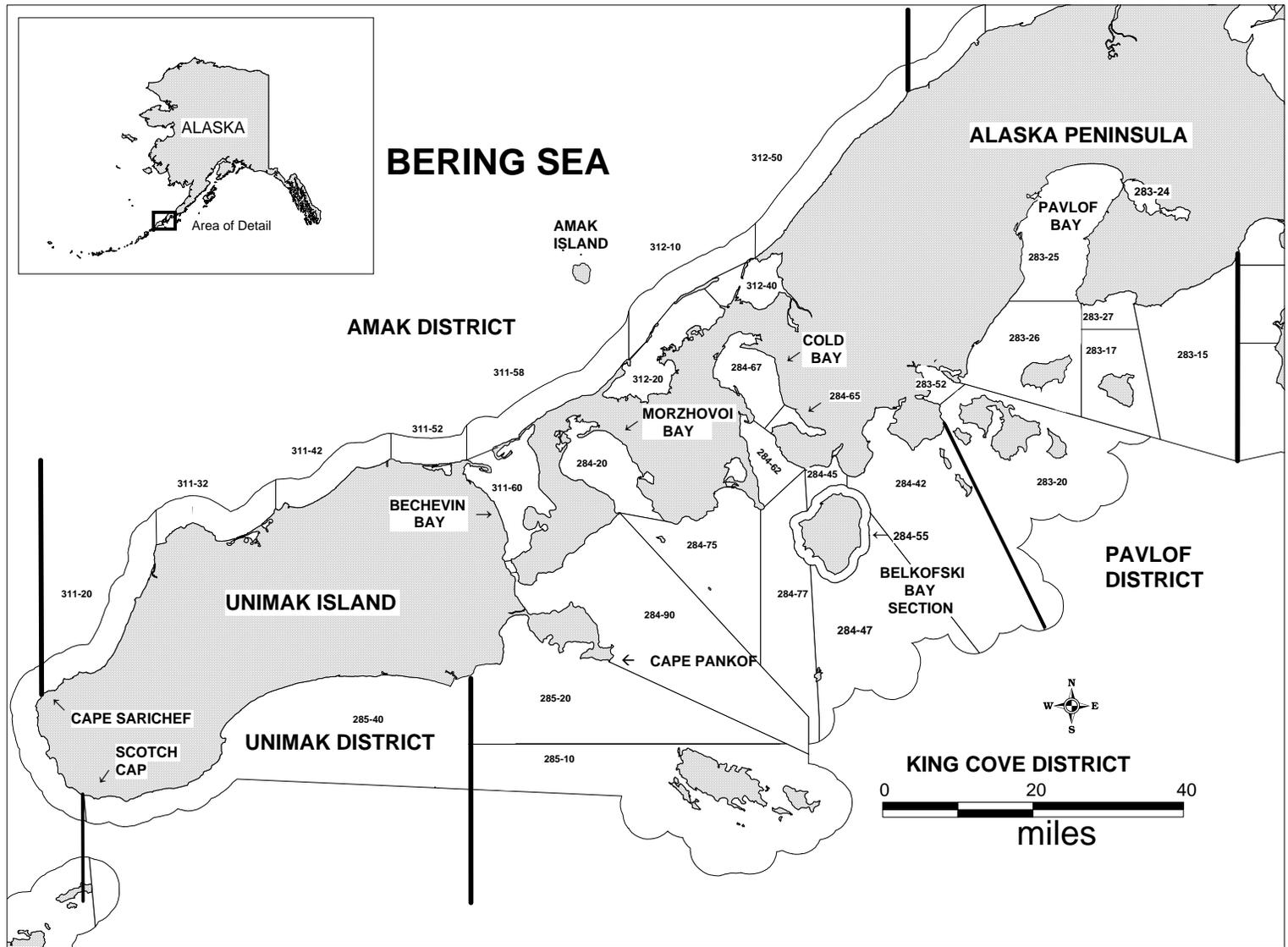


Figure 4.-Map of eastern Alaska Peninsula from Cape Sarichef to Pavlof Bay with commercial herring fishing statistical areas shown.

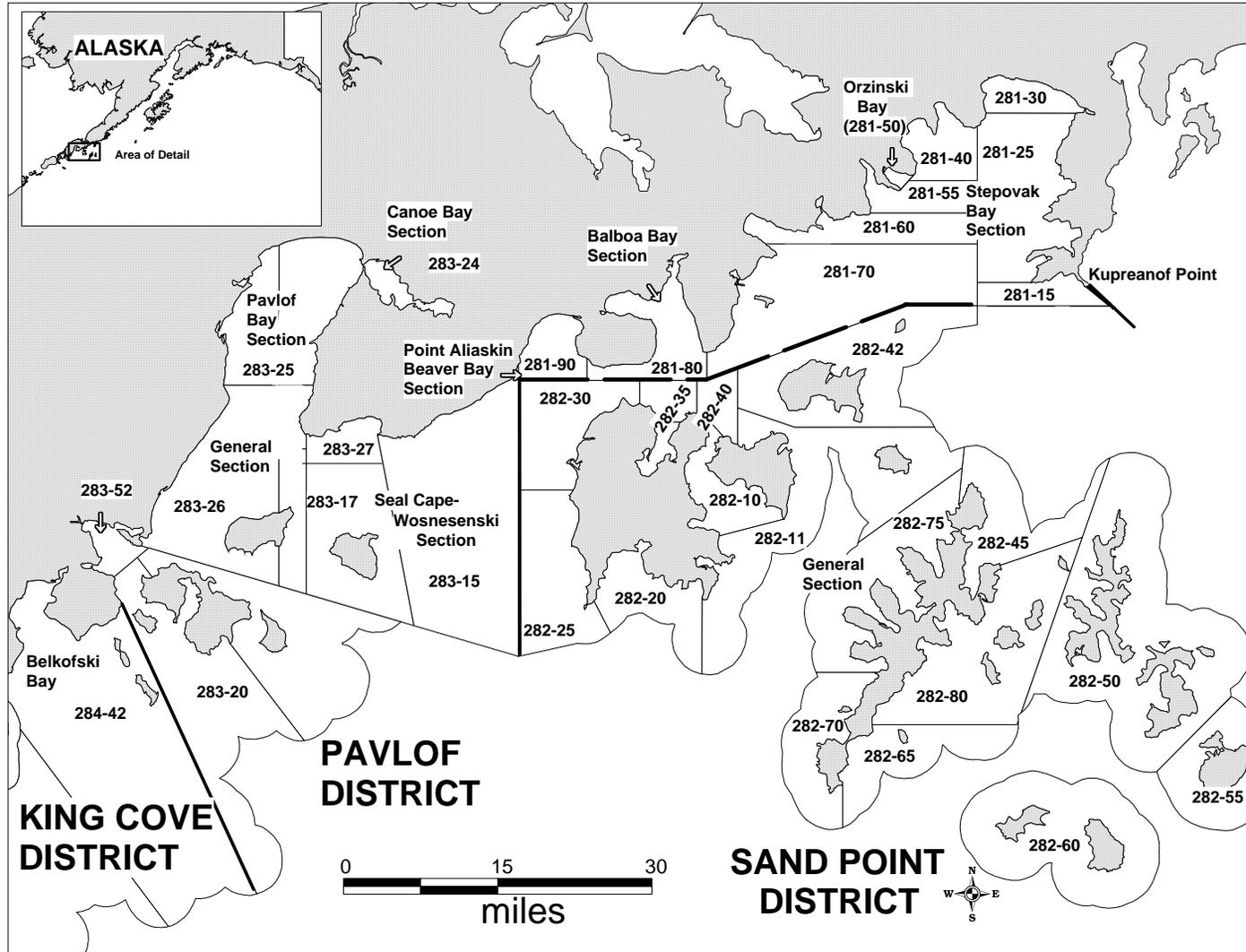


Figure 5.-Map of the South Alaska Peninsula from Belkofski Bay to Kupreanof Point with commercial herring fishing statistical areas shown.

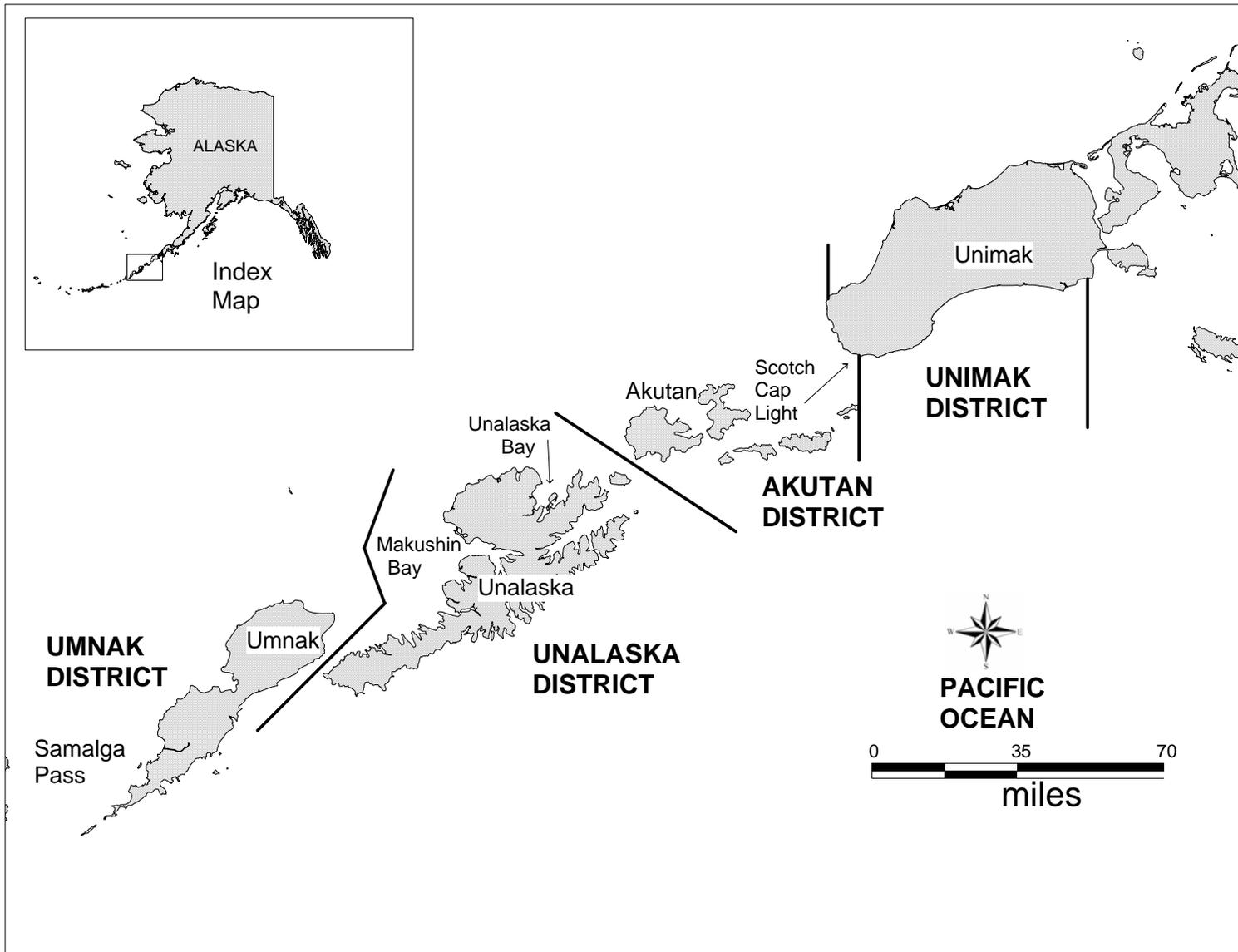


Figure 6.-Map of the eastern Aleutian Islands from Samalga Pass to Unimak Island with herring fishing districts shown.

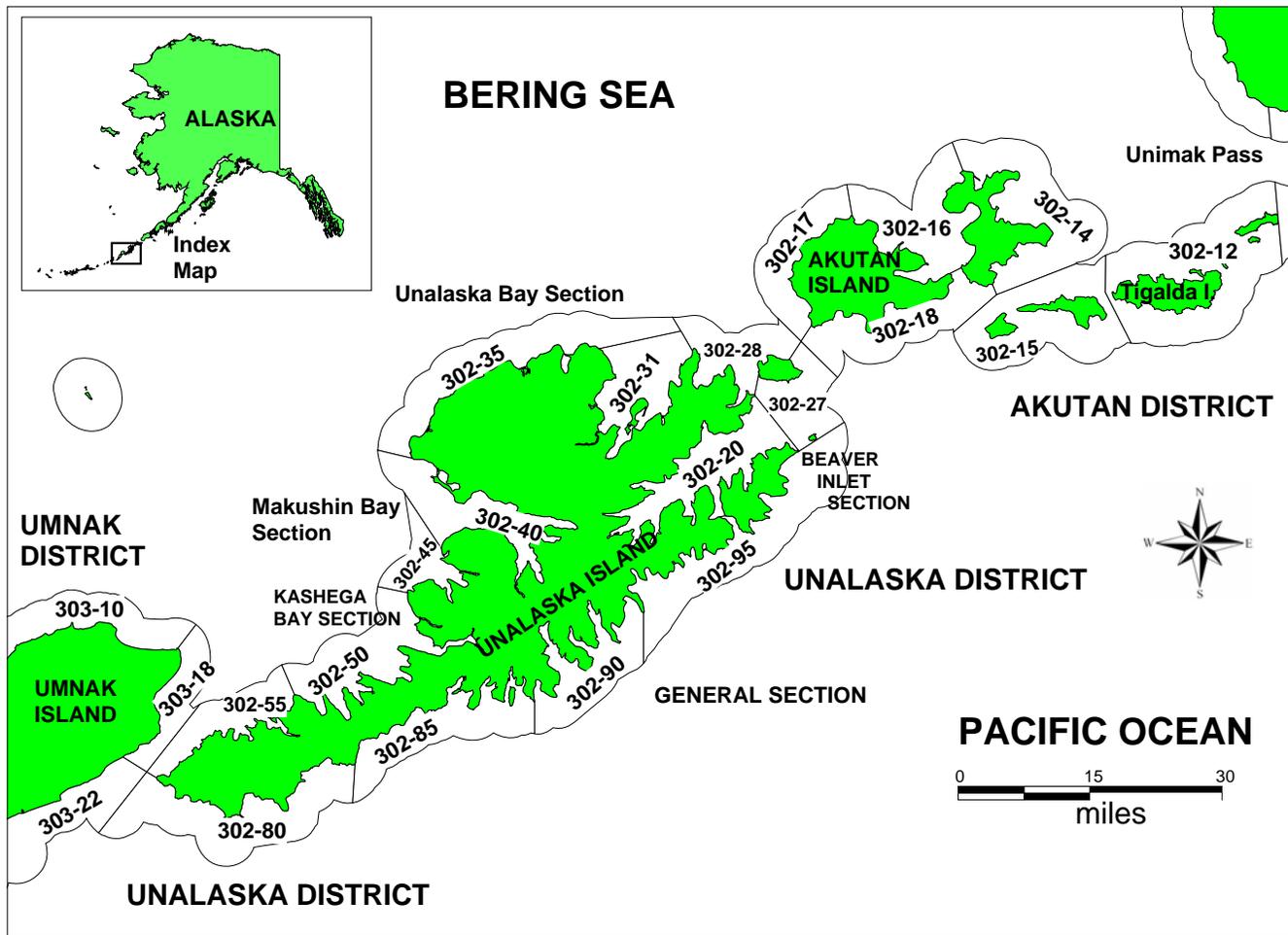


Figure 7.-Map of the eastern Aleutian Islands from Tigalda Island to Umnak Island with the statistical herring fishing areas shown.

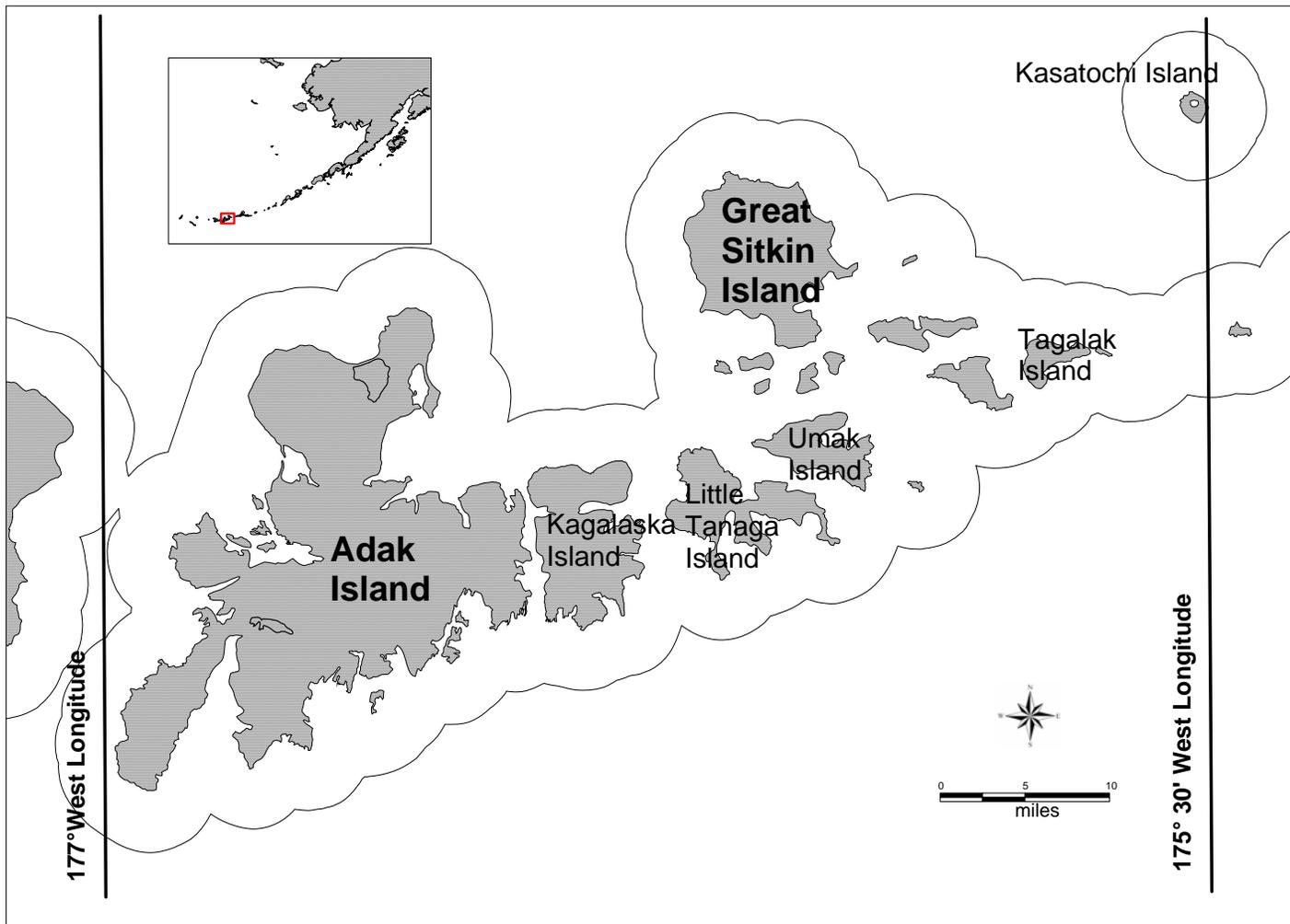


Figure 8.-Map of the Adak Island area with boundaries of exploratory herring fishery defined.

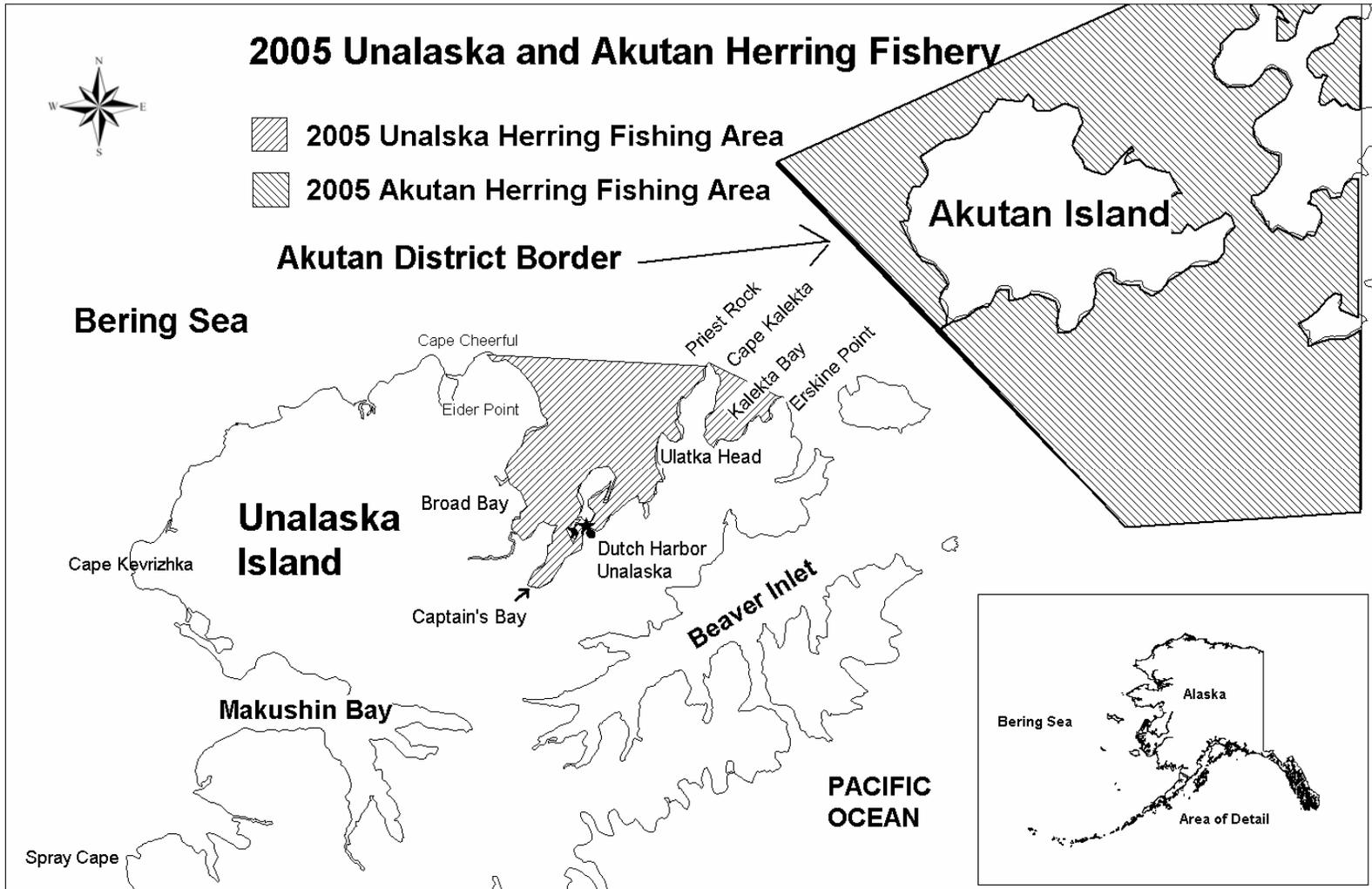


Figure 9.-Map of Akutan Island and Unalaska Island from Beaver Inlet to Makushin Bay, with the 2005 commercial herring fishery open area defined.

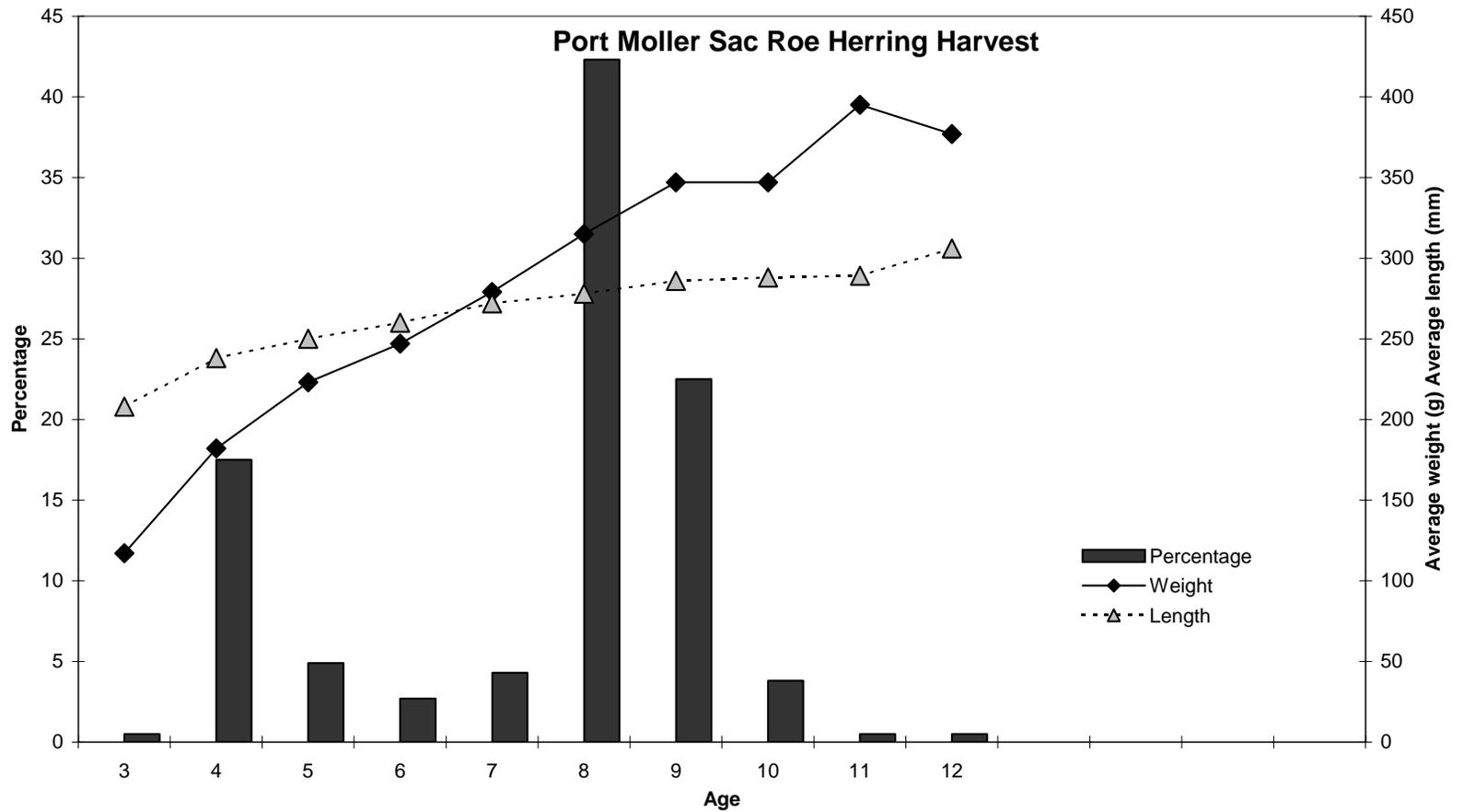


Figure 10.-Average length-at-age (mm), average weight-at-age (g), and age composition of herring harvested in the Port Moller sac roe purse seine fishery, 2005. Sample size (n) = 182.

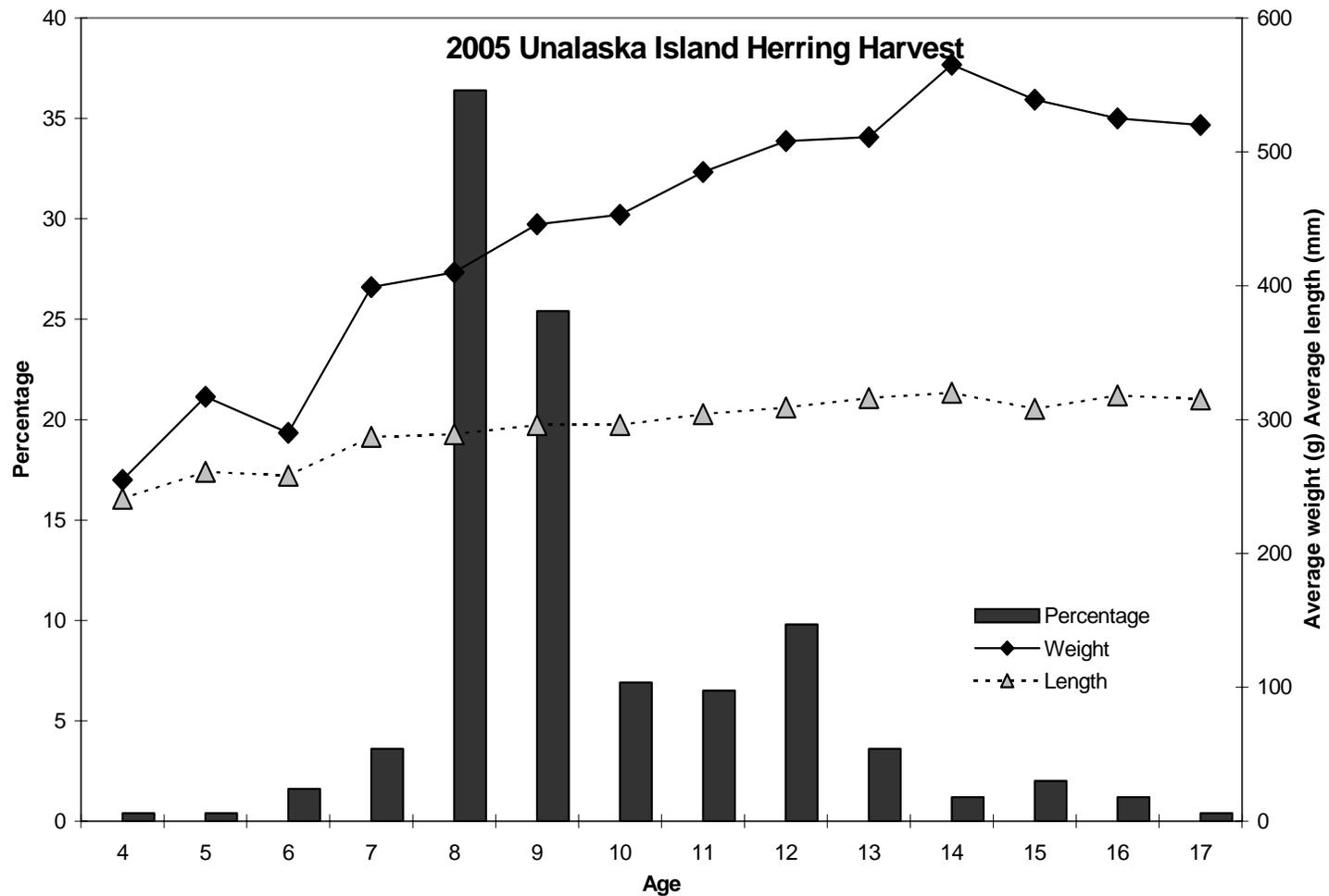


Figure 11.-Average length-at-age (mm), average weight-at-age (g), and age composition of herring harvested in the Aleutian Islands Management Area Unalaska Island seine food and bait fishery, 2005. Sample size (n) = 244.

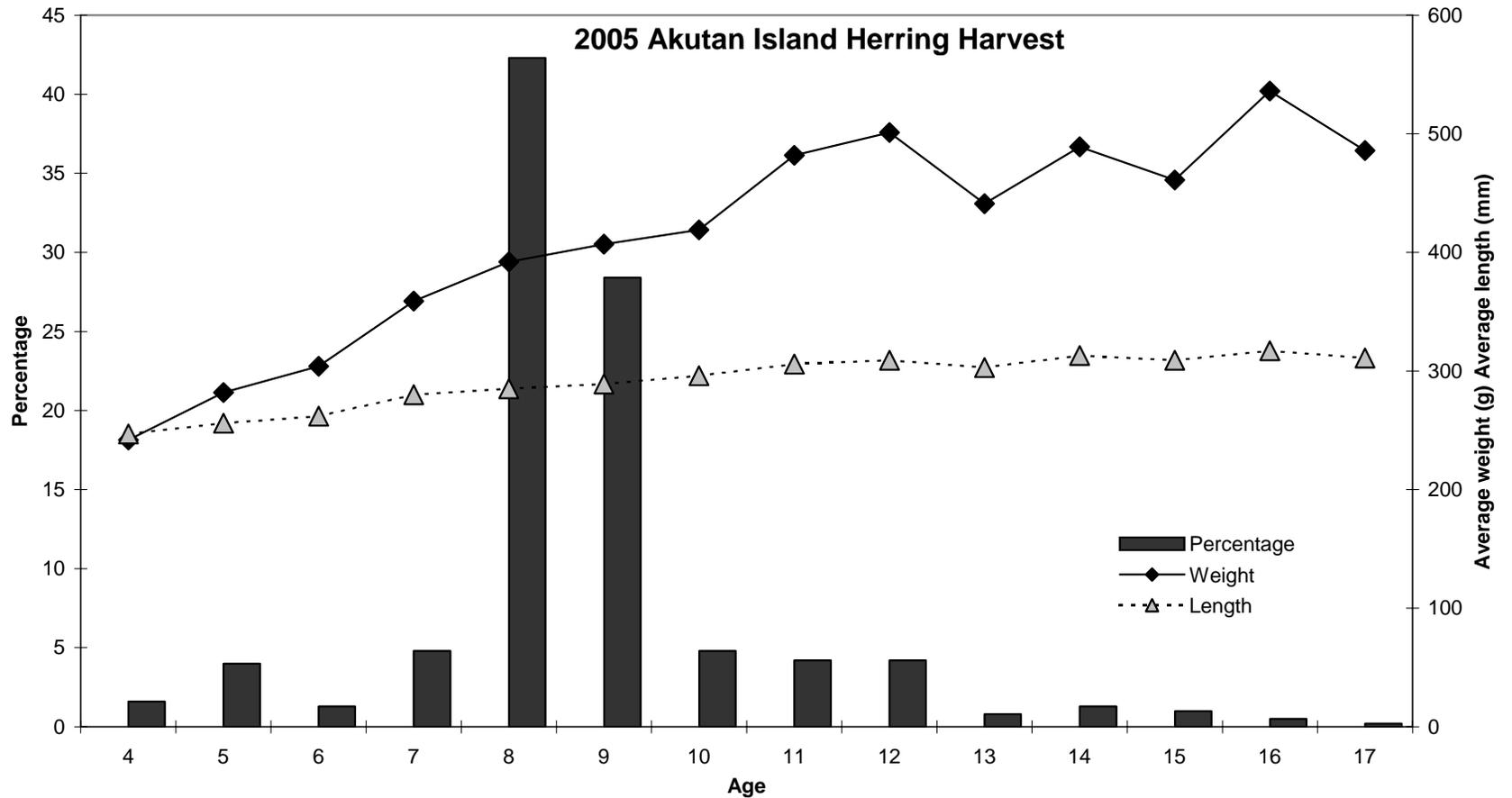


Figure 12.-Average length-at-age (mm), average weight-at-age (g) and age composition of herring harvested in the Aleutian Islands Management Area Akutan Island purse seine food herring and bait fishery, 2005. Sample size (n) = 373.

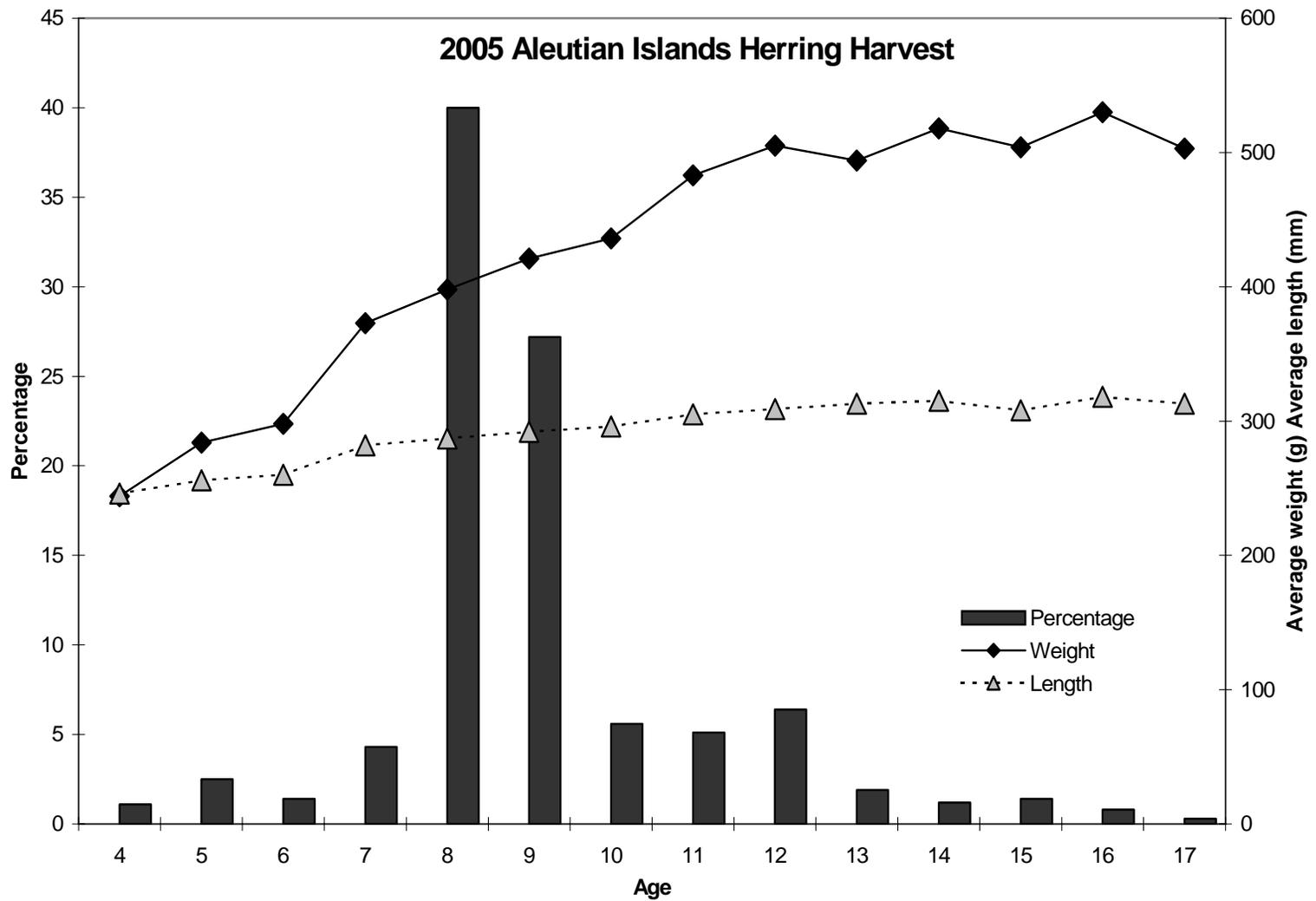


Figure 13.-Average length-at-age (mm), average weight-at-age (g) and age composition of herring harvested in the Aleutian Islands Management Area seine food and bait fishery, 2005. Sample size (n) = 617.

APPENDIX A: EMERGENCY ORDER SUMMARY, 2005

Appendix A1.—Emergency order summary, 2005.

EMERGENCY ORDER NO. 4-FH-M-PM-01-05

EFFECTIVE DATE: 5:00 PM Tuesday May 10, 2005

EXPLANATION: This emergency order allows a 48-hour commercial herring sac roe fishing period in the Port Moller District from 5:00 PM Tuesday, May 10 until 5:00 PM Thursday, May 12.

EMERGENCY ORDER NO. 4-FH-M-SP-01-05

EFFECTIVE DATE: 8:00 AM Friday July 1, 2005

EXPLANATION: This emergency order allows a 6-hour commercial herring gillnet fishing period in the Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area from 8:00 AM until 2:00 PM Friday July 1, 2005.

EMERGENCY ORDER NO. 4-FH-M-SP-02-05

EFFECTIVE DATE: 8:00 AM Tuesday July 5, 2005

EXPLANATION: This emergency order allows a 6-hour commercial herring gillnet fishing period in the Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area from 8:00 AM until 2:00 PM Tuesday, July 5, 2005

EMERGENCY ORDER NO. 4-FH-M-SP-03-05

EFFECTIVE DATE: 8:00 AM Thursday July 7, 2005

EXPLANATION: This emergency order allows a 12-hour commercial herring gillnet fishing period in the Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area from 8:00 AM until 8:00 PM Thursday, July 7, 2005.

EMERGENCY ORDER NO. 4-FH-M-SP-04-05

EFFECTIVE DATE: 8:00 AM Sunday July 10, 2005

EXPLANATION: This emergency order allows a 12-hour commercial herring gillnet fishing period in the Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area from 8:00 AM until 8:00 PM Sunday, July 10, 2005.

EMERGENCY ORDER NO. 4-FH-M-SP-05-05

EFFECTIVE DATE: 8:00 AM Wednesday July 13, 2005

EXPLANATION: This emergency order allows a 12-hour commercial herring gillnet fishing period in the Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area from 8:00 AM until 8:00 PM Wednesday, July 13, 2005.

-continued-

EMERGENCY ORDER NO. 4-FH-M-SP-06-05

EFFECTIVE DATE: NOON Friday July 15, 2005

EXPLANATION: This emergency order allows an 8-hour commercial purse seine and gillnet herring fishing period from NOON until 8:00 PM on Friday, July 15 in the waters of the Unalaska Bay south and west of a line from Eider Point at 53° 57.481' N lat., 166° 35.397' W long. to Ulakta Head at 53° 55.454' N lat., 166° 30.551' W long. and north of a line from Arch Rock at 53° 52.613' N lat., 166° 33.957', W long. to a point on the opposite shore of Captains Bay at 53° 52.721' N lat., 166° 34.601' W long.

EMERGENCY ORDER NO. 4-FH-M-SP-07-05

EFFECTIVE DATE: 8:00 PM Friday July 15, 2005

EXPLANATION: This emergency order allows an approximately 4-hour commercial purse seine and gillnet herring fishing period from 8:00 PM until 11:59 PM on Friday, July 15 in the waters of the Unalaska Bay south and west of a line from Eider Point at 53° 57.481' N lat., 166° 35.397' W long. to Ulakta Head at 53° 55.454' N lat., 166° 30.551' W long. and north of a line from Arch Rock at 53° 52.613' N lat., 166° 33.957', W long. to a point on the opposite shore of Captains Bay at 53° 52.721' N lat., 166° 34.601' W long.

EMERGENCY ORDER NO. 4-FH-M-SP-08-05

EFFECTIVE DATE: NOON Saturday July 16, 2005

EXPLANATION: This emergency order allows an approximately 12-hour commercial purse seine and gillnet herring fishing period from NOON until 11:59 PM on Saturday, July 16 in the waters of the Unalaska Bay south and west of a line from Eider Point at 53° 57.481' N lat., 166° 35.397' W long. to Ulakta Head at 53° 55.454' N lat., 166° 30.551' W long. and north of a line from Arch Rock at 53° 52.613' N lat., 166° 33.957', W long. to a point on the opposite shore of Captains Bay at 53° 52.721' N lat., 166° 34.601' W long.

EMERGENCY ORDER NO. 4-FH-M-SP-9-05

EFFECTIVE DATE: 11:59 PM Saturday July 16, 2005

EXPLANATION: This emergency order allows an approximately 30-minute commercial purse seine and gillnet herring fishing period from 11:59 PM on Saturday, July 16 until 12:30 AM Sunday, July 17, 2005, in the waters of the Unalaska Bay south and west of a line from Eider Point at 53° 57.481' N lat., 166° 35.397' W long. to Ulakta Head at 53° 55.454' N lat., 166° 30.551' W long. and north of a line from Arch Rock at 53° 52.613' N lat., 166° 33.957', W long. to a point on the opposite shore of Captains Bay at 53° 52.721' N lat., 166° 34.601' W long.

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EMERGENCY ORDER NO. 4-FH-M-SP-10-05

EFFECTIVE DATE: 10:00 AM Sunday July 17, 2005

EXPLANATION: This emergency order allows a 24-hour commercial purse seine and gillnet herring fishing period from 10:00 AM on Sunday, July 17 until 10:00 AM Monday, July 18, 2005, in the waters of the Unalaska Bay south and west of a line from Eider Point at 53° 57.481' N lat., 166° 35.397' W long. to Ulakta Head at 53° 55.454' N lat., 166° 30.551' W long. and north of a line from Arch Rock at 53° 52.613' N lat., 166° 33.957', W long. to a point on the opposite shore of Captains Bay at 53° 52.721' N lat., 166° 34.601' W long.

EMERGENCY ORDER NO. 4-FH-M-SP-11-05

EFFECTIVE DATE: 6:00 PM Sunday July 17, 2005

EXPLANATION: This emergency order allows a 16-hour commercial purse seine and gillnet herring fishing period from 6:00 PM on Sunday, July 17 until 10:00 AM Monday, July 18, 2005, in the waters of the Unalaska District, that portion of Kalekta Bay south from a line running from Erskine Point 53° 58.92' N lat., 166° 16.5' W long. to Cape Kalekta at 54° N lat., 166° 22' W long. will open to commercial herring fishing with seine, pound, and gill net gear for 16 hours from 6:00 PM July 17, until 10:00 AM July 18.

EMERGENCY ORDER NO. : 4-FH-M-SP-12-05

EFFECTIVE DATE: 10:00 AM Monday July 18, 2005

EXPLANATION: This emergency order allows a 24-hour commercial purse seine and gillnet herring fishing period from 10:00 AM on Monday, July 18 until 10:00 AM Tuesday, July 19, 2005, in the waters of the Unalaska Bay south and west of a line from Eider Point at 53° 57.481' N lat., 166° 35.397' W long. to Ulakta Head at 53° 55.454' N lat., 166° 30.551' W long. and north of a line from Arch Rock at 53° 52.613' N lat., 166° 33.957', W long. to a point on the opposite shore of Captains Bay at 53° 52.721' N lat., 166° 34.601' W long. and in the waters of the Unalaska District, that portion of Kalekta Bay south from a line running from Erskine Point 53° 58.92' N lat., 166° 16.5' W long. to Cape Kalekta at 54° N lat., 166° 22' W long.

EMERGENCY ORDER NO. 4-FH-M-SP-13-05

EFFECTIVE DATE: 10:00 PM Monday July 18, 2005

EXPLANATION: This emergency order allows a 12-hour commercial purse seine and gillnet herring fishing period from 10:00 PM on Monday, July 18 until 10:00 AM Tuesday, July 19, 2005, in the waters of Akutan District west of the longitude of Billings Head at 165° 28.67 W long

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EMERGENCY ORDER NO. 4-FH-M-SP-14-05

EFFECTIVE DATE: 10:00 AM Tuesday July 19, 2005.

EXPLANATION: This emergency order allows a 24-hour commercial purse seine and gillnet herring fishing period from 10:00 AM on Tuesday, July 19 until 10:00 AM Wednesday, July 20, 2005, in the waters of the Unalaska Bay south and west of a line from Eider Point at 53° 57.481' N lat., 166° 35.397' W long. to Ulakta Head at 53° 55.454' N lat., 166° 30.551' W long. and north of a line from Arch Rock at 53° 52.613' N lat., 166° 33.957', W long. to a point on the opposite shore of Captains Bay at 53° 52.721' N lat., 166° 34.601' W long. and in the waters of the Unalaska District, that portion of Kalekta Bay south from a line running from Erskine Point 53° 58.92' N lat., 166° 16.5' W long. to Cape Kalekta at 54° N lat., 166° 22' W long. and in the waters of Akutan District west of the longitude of Billings Head at 165° 28.67 W long.

EMERGENCY ORDER NO. 4-FH-M-SP-15-05

EFFECTIVE DATE: 10:00 AM Wednesday July 20, 2005

EXPLANATION: This emergency order allows a 24-hour commercial purse seine and gillnet herring fishing period from 10:00 AM on Wednesday, July 20 until 10:00 AM Thursday, July 21, 2005, in the waters of the Unalaska Bay south and west of a line from Eider Point at 53° 57.481' N lat., 166° 35.397' W long. to Ulakta Head at 53° 55.454' N lat., 166° 30.551' W long. and north of a line from Arch Rock at 53° 52.613' N lat., 166° 33.957', W long. to a point on the opposite shore of Captains Bay at 53° 52.721' N lat., 166° 34.601' W long. and in the waters of the Unalaska District, that portion of Kalekta Bay south from a line running from Erskine Point 53° 58.92' N lat., 166° 16.5' W long. to Cape Kalekta at 54° N lat., 166° 22' W. long., and in the waters of Akutan District west of the longitude of Billings Head at 165° 28.67 W long.

EMERGENCY ORDER NO. 4-FH-M-SP-16-05

EFFECTIVE DATE: 4:00 PM Thursday July 21, 2005

EXPLANATION: This emergency order allows a 18-hour commercial purse seine herring fishing period from 4:00 PM on Thursday, July 21 until 10:00 AM Friday, July 22, 2005, in the waters of the Unalaska Bay south and west of a line from Eider Point at 53° 57.481' N lat., 166° 35.397' W long. to Ulakta Head at 53° 55.454' N lat., 166° 30.551' W long. and north of a line from Arch Rock at 53° 52.613' N lat., 166° 33.957', W long. to a point on the opposite shore of Captains Bay at 53° 52.721' N lat., 166° 34.601' W long. and in the waters of the Unalaska District, that portion of Kalekta Bay south from a line running from Erskine Point 53° 58.92' N lat., 166° 16.5' W long. to Cape Kalekta at 54° N lat., 166° 22' W long., and in the waters of Akutan District west of the longitude of Billings Head at 165° 28.67 W long.

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EMERGENCY ORDER NO. 4-FH-M-SP-17-05

EFFECTIVE DATE: 10:00 AM Friday July 22, 2005

EXPLANATION: This emergency order allows a 24-hour commercial gillnet herring fishing period from 10:00 AM on Friday July 22, until 10:00 AM Saturday, July 23, 2005, in the waters of the Unalaska Bay south and west of a line from Eider Point at 53° 57.481' N lat., 166° 35.397' W long. to Ulakta Head at 53° 55.454' N lat., 166° 30.551' W long. and north of a line from Arch Rock at 53° 52.613' N lat., 166° 33.957', W long. to a point on the opposite shore of Captains Bay at 53° 52.721' N lat., 166° 34.601' W long. and in the waters of the Unalaska District, that portion of Kalekta Bay south from a line running from Erskine Point 53° 58.92' N lat., 166° 16.5' W long. to Cape Kalekta at 54° N lat., 166° 22' W long., and in the waters of Akutan District west of the longitude of Billings Head at 165° 28.67 W long.

EMERGENCY ORDER NO. 4-FH-M-SP-18-05

EFFECTIVE DATE: 10:00 AM Saturday July 23, 2005

EXPLANATION: This emergency order allows a 24-hour commercial gillnet herring fishing period from 10:00 AM on Saturday July 23, until 10:00 AM Sunday, July 24, 2005, in the waters of the Unalaska Bay south and west of a line from Eider Point at 53° 57.481' N lat., 166° 35.397' W long., to Ulakta Head at 53° 55.454' N lat., 166° 30.551' W long., and north of a line from Arch Rock at 53° 52.613' N lat., 166° 33.957', W long. to a point on the opposite shore of Captains Bay at 53° 52.721' N lat., 166° 34.601' W long., and in the waters of the Unalaska District, that portion of Kalekta Bay south from a line running from Erskine Point 53° 58.92' N lat., 166° 16.5' W long. to Cape Kalekta at 54° N lat., 166° 22' W long., and in the waters of Akutan District west of the longitude of Billings Head at 165° 28.67 W long.

EMERGENCY ORDER NO. 4-FH-M-SP-19-05

EFFECTIVE DATE: 10:00 AM Monday July 25, 2005

EXPLANATION: This emergency order allows a 24-hour commercial gillnet herring fishing period from 10:00 AM on Monday July 25, until 10:00 AM Tuesday, July 26, 2005, in the waters of the Unalaska Bay south and west of a line from Eider Point at 53° 57.481' N lat., 166° 35.397' W long., to Ulakta Head at 53° 55.454' N lat., 166° 30.551' W long., and north of a line from Arch Rock at 53° 52.613' N lat., 166° 33.957', W long. to a point on the opposite shore of Captains Bay at 53° 52.721' N lat., 166° 34.601' W long., and in the waters of the Unalaska District, that portion of Kalekta Bay south from a line running from Erskine Point 53° 58.92' N lat., 166° 16.5' W long. to Cape Kalekta at 54° N lat., 166° 22' W long., and in the waters of Akutan District west of the longitude of Billings Head at 165° 28.67 W long.

**APPENDIX B. ALEUTIAN ISLANDS AREA DUTCH HARBOR
HERRING FOOD AND BAIT FORECAST, 2006**

Appendix B1.-Aleutian Islands Area Dutch Harbor herring food and bait forecast, 2006.

The 2006 Togiak herring forecast and harvest allocation is listed below for the Togiak District sac roe fishery and the Dutch Harbor food and bait fishery, given a maximum 20% exploitation rate of the projected run biomass: (Frederick West, ADF&G, Anchorage, memo January 10, 2005).

Harvest Allocation of the 2006 Forecasted Pacific Herring Run Biomass, Togiak District, Bristol Bay

	Biomass (Short Tons)	Harvest (Short Tons)
2005 Forecasted Biomass	129,976	
Exploitation @ Maximum 20%		
For Total Allowable Harvest		25,995
Togiak Spawn-on-Kelp Fishery (Fixed Allocation)		1,500
Remaining Allowable Harvest		24,495
Dutch Harbor Food/Bait Allocation (7.0% of the remaining allocation)		1,715
Purse seine Allocation (86%)		1,475
Gillnet Allocation (14%)		240
Remaining Allowable Harvest for		
Togiak District Sac Roe Fishery		22,780
Purse Seine Allocation 70.0%		15,946
Gillnet Allocation 30.0%		6,834

**APPENDIX C. ALASKA PENINSULA HERRING SAC ROE
FISHERY FORECAST, 2006.**

Appendix C1.-Alaska Peninsula herring sac roe fishery forecast, 2006.

This forecast is for North and South Alaska Peninsula areas with guideline harvest levels, excluding those areas open for exploration such as the General Section of the Sand Point District, Seal Cape-Wosnesenski Section, the General Section of the King Cove District, Amak District, and the Western Section of the Port Moller District. This forecast does not include the Aleutian Islands Management Area, which has no history of herring sac roe harvests, or the Port Heiden District.

The 2006 North Alaska Peninsula herring sac roe GHL is 0 to 150 tons. Considering historical herring biomass estimates in the North Alaska Peninsula waters, management of the North Alaska Peninsula herring sac roe fishery will again be conservative in 2006. Historically, the previous year's North Alaska Peninsula herring biomass estimate has been a poor indicator of herring returns in the following year. In 2006, the GHL will be adjusted inseason based on the observed stock size. The following table shows the sliding scale allowable harvest on the estimated mature biomass when the threshold of 1,000 tons is assured.

Stock Size (Short Tons)	Sliding Scale Allowable	
	Exploitation Rate	Harvest
Less than 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
2,501-3,000	15%	375-450
> 3,000	20%	> 450

At low biomass levels, a conservative approach will be taken to allow the local stocks to rebuild and to account for North Alaska Peninsula herring that may contribute to the Dutch Harbor food and bait fishery. Rowell et. al. (1990) estimated that up to 22% of the Dutch Harbor food and bait harvest may be non-Togiak herring. Based on estimated travel time of eastern Bering Sea herring stocks to Dutch Harbor and the fishery opening date of July 16, North Alaska Peninsula stocks may compose a portion of the non-Togiak component. During periods when large biomass levels are observed a higher harvest rate will be allowed. The Alaska Board of Fisheries has established a maximum exploitation rate of 20% of the spawning biomass of those stocks. The forecast does not include the Port Heiden District where commercial fishing occurred only during 1992.

Confidence in the North Alaska Peninsula forecast is only fair. In the Port Moller District, a 1,000 ton threshold of mature herring is required before the department may allow a commercial harvest in that district. Prior to 1996, aerial surveys were conducted but there was no threshold requirement.

The 2006 South Alaska Peninsula forecasted sac roe harvest is 0 tons, based on the belief that industry will not be interested in harvesting herring in South Alaska Peninsula waters in 2006. Two aerial surveys in 2005 resulted in an observed biomass estimate of 140 tons. No age class data were available in 2005, so it is unknown what age classes will dominate the 2006 stocks.