Fishery Management Report No. 09-41

Alaska Peninsula-Aleutian Islands Management Area Herring Sac Roe and Food and Bait Fisheries Annual Management Report, 2007

by

Nicole L. Zeiser

October 2009

Alaska Department of Fish and Game **Divisions of Sport Fish and Commercial Fisheries**

Symbols and Abbreviations

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Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

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

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat. or long.
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Measures (fisheries)

fork length	FL
mideye to fork	MEF
mideye to tail fork	METF
standard length	SL
total length	TL

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$\log_2$, etc.
minute (angular)	'
not significant	NS
null hypothesis	H_O
percent	%
probability	P
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

FISHERY MANAGEMENT REPORT NO. 09-41

ALASKA PENINSULA-ALEUTIAN ISLANDS MANAGEMENT AREA HERRING SAC ROE AND FOOD AND BAIT FISHERIES ANNUAL MANAGEMENT REPORT, 2007

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ABSTRACT

This report summarizes the 2007 commercial Pacific herring *Clupea pallasi* sac roe and food and bait fisheries that occurred in the Alaska Peninsula-Aleutian Islands Management Area (Area M). Area M is split into three sub-areas: the North Alaska Peninsula, the South Alaska Peninsula, and the Aleutian Islands.

In 2007, there were no deliveries in the North Alaska Peninsula, South Alaska Peninsula, or Aleutian Islands commercial herring sac roe fisheries due to lack of industry interest. Total herring biomass estimates from aerial surveys in 2007 for the North Peninsula were 1,805 tons. There were no aerial surveys conducted on the South Peninsula or in the Aleutian Islands Management Area in 2007.

In 2007, commercial herring food and bait fishery harvests occurred in the Aleutian Islands during both gillnet and seine gear fishing periods. The Aleutian Islands "Dutch Harbor" herring food and bait allocation was set at 1,779 tons, of which 1,530 tons were allocated to the seine fleet, 249 tons to the gillnet fleet, and 100 tons were reserved for the experimental pound fishery. The 2007 fishery was conducted from July 10 until August 3. A total of 1,248 tons of herring were harvested in the seine fishery, negligible amounts of herring were harvested in the gillnet fishery, and no herring were harvested in the pound fishery. The price per ton ranged from $100 to $500 per ton, with a combined exvessel value of approximately $437,000.

In 2007, 500 tons of herring were allocated to the Aleutian Islands "Adak" food and bait gillnet fishery. However, no herring were harvested in the fishery due to lack of industry interest.

Key words: AMR, Area M, Alaska Peninsula, Aleutian Islands, *Clupea pallasi*, Adak, herring, harvest, age, length, weight, sac roe, food, bait, combine, Dutch Harbor, Atka-Amlia, guideline harvest limit, Area Management Report.

INTRODUCTION

This report presents information concerning the commercial Pacific herring *Clupea pallasi* sac roe and food and bait fisheries that occurred in the Alaska Peninsula-Aleutian Islands Management Area (Area M) in 2007. This report is intended as a reference document and provides a regulatory history, historical harvest data by fishery, harvest strategies, and a summary of the 2007 fishery management activities, along with age, weight, and length (AWL) data collected from the commercial harvests. Harvest estimates were taken from the Alaska Department of Fish and Game (ADF&G) fish ticket database in October 2007. Data provided in this report supersedes any data previously published by the department.

Area M herring fisheries are divided into three sub-areas: the North Alaska Peninsula, the South Alaska Peninsula, and the Aleutian Islands (Figure 1). The North Alaska Peninsula Area consists of the Bering Sea waters extending west from Cape Menshikof to Cape Sarichef, encompassing the Port Heiden, Port Moller and Amak districts (Figures 1-4). The South Alaska Peninsula Area consists of the Pacific Ocean waters extending west of Kupreanof Point to a point on the south side of Unimak Island near Cape Lazaref (163° 30' W. long.) and includes the King Cove, Pavlof, and Sand Point districts (Figures 4 and 5). Finally, the Aleutian Islands Area consists of the Bering Sea waters extending west of Cape Sarichef and the Pacific Ocean waters west of a point near Cape Lazaref (163°30' W. long.) to the International Date Line and includes the Unimak, Akutan, Unalaska, Umnak, and Adak districts (Figures 1 and 4, Figures 6 through 9; 5 AAC 27.605 and 27.600).

NORTH ALASKA PENINSULA SAC ROE FISHERY

HISTORICAL PERSPECTIVE

Major concentrations of herring have been documented on the Bering Sea coast from Adak to Cape Seniavin (Table 1; Figures 1-3; Shaul et al. 1987; Warner and Shafford 1979). The Alaska Department of Fish and Game (ADF&G) has been conducting herring biomass surveys in Alaska Peninsula-Aleutian Islands waters since 1976. However, these surveys have provided limited information on herring abundance and distribution primarily because of limited aerial survey coverage due to the large area involved, inclement weather conditions, water turbidity, and the lack of available staff and suitable aircraft.

Prior to 1982, fishing vessels returning from the Togiak herring sac roe fishery frequently surveyed for herring in North Alaska Peninsula waters, but no harvest occurred (Shaul et al. 1982). The herring sac roe fishery in North Alaska Peninsula waters typically began in late May and ended in mid to late June. Beginning in 1986, fishermen started targeting the earlier (May) herring biomass. In 1989 and 1990, the department delayed the opening of the fishery in the Port Moller District until May 30 in an attempt to shift fishing pressure to the later and more abundant herring stocks (Shaul et al. 1991). In some years, the Port Moller District was open to herring fishing prior to May 30, due to sufficient herring biomass (Tables 1-4). There was not a herring fishery in the North Peninsula from 1999 through 2004 due to either low biomass estimates or the lack of industry interest in purchasing herring. In 2005, ADF&G opened the first sac roe fishery in North Alaska Peninsula waters since 1998, but there was little harvest due to limited market interest.

HARVEST STRATEGY

Herring may be commercially harvested each spring for their sac roe from April 15 through July 15 in the Amak, Port Moller, and Port Heiden districts (Figures 2-4; 5 AAC 27.610). The guideline harvest level (GHL) for the Port Moller District is determined in season and is based on the observed herring biomass from aerial surveys. As established in the Bering Sea Herring Fishery Management Plan (5 AAC 27.060), a minimum herring biomass of 1,000 tons is required prior to the department opening the commercial fishery in the Port Moller District (Appendix A1).

THE 2007 SEASON

In 2007, no commercial herring sac roe fishery occurred in North Alaska Peninsula waters. On May 19 and 20, the department conducted aerial surveys from Herendeen Bay to Port Heiden and observed a herring biomass of 1,805 tons (Table 1). However, due to the lack of industry participation no fishing periods occurred.

SOUTH ALASKA PENINSULA SAC ROE FISHERY

HISTORICAL PERSPECTIVE

The harvest of herring sac roe has fluctuated in South Alaska Peninsula waters since it began in 1979 (Shaul et al. 1991; Tables 2 and 3). The majority of the fishing effort has occurred around the Shumagin Islands, and Stepovak, Pavlof, and Canoe bays (Table 5; Figures 4 and 5). Of

these, only Canoe Bay (Figure 5) produced a consistent annual harvest (Table 5). Beginning in 1992, herring fishing effort and harvests gradually diminished in South Alaska Peninsula waters (Tables 2–4). 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 has discouraged both fishermen and processors. There has been no commercial herring sac roe fishery in the South Alaska Peninsula since 1996 (Table 5).

From 1981 to 1995 ADF&G used field crews on the Alaska Peninsula to observe the herring sac roe fisheries (McCullough and Campbell 1996). ADF&G personnel collected herring samples for age, weight, length, and sexual maturity. In addition, department personnel documented spawning areas and mapped spawning substrate. In 1996, the department discontinued utilizing herring sac roe fishery field crews on the Alaska Peninsula due to budget constraints.

HARVEST STRATEGY

Herring may be commercially harvested each spring for their sac roe from April 15 through July 15 in the Sand Point, Pavlof, and King Cove districts (Figures 4 and 5; 5 AAC 27.610). The South Alaska Peninsula herring sac roe fishery is opened by emergency order with individual sections assigned GHLs of no more than 25 tons with the potential of additional harvest opportunity if warranted by department surveys (Jackson 2007).

THE 2007 SEASON

In 2007, no commercial herring fishery occurred in South Alaska Peninsula waters due to a lack of industry participation. No aerial surveys were conducted in South Alaska Peninsula waters due to budget constraints and inclement weather.

ALEUTIAN ISLANDS SAC ROE FISHERY

HISTORICAL PERSPECTIVE

No herring sac roe has ever been harvested in the Aleutian Islands area due to both lack of interest and limited available biomass.

HARVEST STRATEGY

Herring may be commercially harvested each spring for their sac roe from April 15 through June 24 in the Unimak, Akutan, Unalaska, Umnak and Adak districts. The GHL for each individual section is determined in season based on observed herring biomass.

THE 2007 SEASON

In 2007, and since its inception, there has not been any sac roe herring commercially harvested in the Aleutian Islands area. No aerial surveys were conducted in the Aleutian Island waters due to lack of industry interest.

ALASKA PENINSULA HERRING FOOD AND BAIT FISHERIES

HISTORICAL PERSPECTIVE

There has never been a herring food and bait fishery in North Alaska Peninsula waters. In 1983, the Alaska Board of Fisheries (BOF) closed the South Alaska Peninsula herring sac roe fishery and changed the fishery to a winter herring food and bait fishery (Burkey and Duesterloh 2003). However, due to a lack of herring biomass in Stepovak Bay, the fishery 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 and Duesterloh 2003). Since 1996, there has not been a herring food and bait fishery in South Alaska Peninsula primarily because of lack of industry participation.

ALEUTIAN ISLANDS "DUTCH HARBOR" HERRING FOOD AND BAIT FISHERIES

HISTORICAL PERSPECTIVE

From 1929 to 1938 and in 1945, herring food and bait fisheries occurred in the vicinity of Unalaska Bay (Table 6; Figures 6 and 7). Historically, a mixture of gillnet and seine gear, and holding pounds were utilized and there were numerous, small shore-based hand packing operations. A large portion of the catch was brined for either food or bait purposes. In those early years, seine gear provided the bulk of the herring harvest (Schwarz 1988). From 1946 to 1980, commercial herring harvest did not occur.

Regulatory History

When the fishery began again in 1981, herring were harvested from Tigalda Island to Umnak Island (Figures 7 and 8). However, the majority of the harvest occurred within several miles of shore-based processing facilities in Unalaska and Akutan bays. During the 1981 and 1982 seasons, there were no harvest restrictions (Schwarz 1988). From 1983 to 1985 the BOF implemented a harvest ceiling of 3,527 tons. In 1986, the department modified the harvest ceiling to 2,453 tons over concern for depressed western Alaska herring stocks. In 1988, the BOF implemented the Bering Sea Herring Fishery Management Plan (5 AAC 27.060), which established the criteria for calculating the Dutch Harbor food and bait herring allocation. The plan directs ADF&G to manage the fishery so that the overall exploitation of a herring stock should not exceed 20% of the spawning biomass. For the Togiak spawning stock, the dominate stock harvested in the Dutch Harbor food and bait fishery (Rowell et al. 1991), 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 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 (5 AAC 27.865 (b)(7)).

In 1990, the BOF changed the 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 (Shaul et al. 1991). In

1998, the BOF changed the opening date of the purse seine fishery to NOON on July 15 because of aircraft safety concerns (5 AAC 27.610 (e) (2) (A)). The gillnet fishery may open as early as NOON on June 24.

Historical Effort

From 1981 to 1986 and 1990 to 2000, only purse seine gear was used to harvest herring in the Dutch Harbor food and bait fishery (Table 6). However, between 1987 and 1989, and again in 1997, gillnet permit holders recorded landings. In 2001, the BOF adopted a regulation that allocated 7% of the total Dutch Harbor GHL to the gillnet fleet. From 2001 to 2003, the number of gillnet fishermen increased from 6 to 13 vessels (Tables 7 and 8). In 2004, the gillnet harvest allocation was further increased to 14%. However, since 2004 the Dutch Harbor food and bait herring gillnet harvest has been negligible.

In 2004, the BOF established a herring seine and pound 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. However, no significant amounts of herring have been placed into the pounds.

Catch Sampling and Fishery Monitoring

The department collects age composition information from herring harvested in the Aleutian Islands to gain insight into recruitment trends. Since 1981, the ADF&G has been collecting AWL and sexual maturity data on herring harvested in the Unalaska and Akutan districts.

HARVEST STRATEGY

Three management plans (1) the Bering Sea Herring Fishery Management Plan, (2) the Bristol Bay Herring Management Plan (5 AAC 27.865 (b)), and (3) the Dutch Harbor Food and Bait Herring Allocation Plan (5 AAC 27.655) are used to manage the Aleutian Islands "Dutch Harbor" food and bait herring fishery. Fishing time is established by emergency order and is based on an allocation of Togiak biomass, the inseason evaluation of the observed biomass, effort levels, and harvest (Table 9). In 2007, the department did not conduct aerial surveys to assess herring biomass in the Dutch Harbor area because of budget constraints.

In order for the Unimak, Akutan, Unalaska, or Umnak districts (Figures 1 and 7) to open to herring food and bait fishing, each Western Alaska herring stock must surpass its respective BOF mandated spawning biomass threshold (5 AAC 27.060(h)). These fisheries include the Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island, Cape Romonzof, and Norton Sound districts (Figure 1). The biomass of all the respective Bering Sea herring stocks were forecasted to be above their respective threshold levels for 2007 (Appendix B1). The ADF&G updates the biomass estimates for each stock as herring move into coastal waters during spawning migrations. The projected harvest allocation for the 2007 Dutch Harbor herring food and bait fishery was 1,779 tons (Appendix C1). This allocation was derived according to the Bristol Bay Herring Management Plan, where a maximum exploitation on the Bristol Bay herring stock is 20% in which 1,500 tons are reserved for the Togiak District spawn-on-kelp fishery, and 7% of remaining harvestable biomass goes to the Dutch Harbor herring food and bait fishery. The 2007 Togiak herring spawning biomass was projected to be 134,566 tons (Table 9; Appendix C1).

The Dutch Harbor herring food and bait allocation is divided between gear groups according to the Dutch Harbor herring Food and Bait Allocation Plan, which gives 86% to the seine fishery and 14% to the gillnet fishery. These allocations are considered independent of each other so that one gear group may not harvest herring allocated to the other gear group. Furthermore, 100 tons may be reserved from the purse seine allocation for a herring pound fishery. For the 2007 season, this resulted in a projected harvest allocation of 1,530 tons for the purse seine fishery, 100 tons for the seine pound fishery, and 249 tons for the gillnet fishery (Appendix C1).

THE 2007 SEASON

Gillnet Fishery

In 2007, the Dutch Harbor food and bait herring commercial gillnet fishery occurred from July 10 through August 3. Four permit holders and one processor registered in this fishery. At NOON on July 10, the Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area opened to commercial herring fishing by gillnet gear for 48 hours (Appendix D1). From July 10 through July 27 the commercial herring gillnet fishery was open continuously in Unalaska Bay. The department extended the fishery for an additional 96 hours between July 30 and August 3. There were a total of 11 gillnet fishing periods between July 10 and August 3. Due to the small number of active participants, all the 2008 Dutch Harbor gillnet harvest information will remain confidential.

Purse Seine Fishery

In 2007, the Aleutian Islands food and bait seine fishery occurred from July 15 to July 27, within the Unalaska and Akutan Districts (Figure 6, 7, and 9). The fishery was open simultaneously in the Akutan District west of the longitude of Billings Head, the Unalaska Bay Section and that portion of Kalekta Bay south of a line running from Erskine Point to Cape Kalekta (Figure 9; Appendix D1). Over the course of the fishery, 12 deliveries were made for a total harvest of 1,248 tons of herring (Table 6 and 8). Exvessel prices ranged between $100 to $500 per ton. The total exvessel value of the 2007 purse seine fishery was an estimated $437,000 (Table 6).

Pound Fishery

In 2007, only one Commercial Fisheries Entry Commission (CFEC) permit holder registered with the department; however no herring pounds were utilized.

ALEUTIAN ISLANDS HERRING FOOD AND BAIT SAMPLING SUMMARY

A total of 230 herring were sampled from the Unalaska District commercial purse seine fishery (Table 10). The most abundant age classes in the Unalaska District samples were age-9 (28.3%), age-10 (21.3%) and age-8 (13.5%; Table 10; Figure 10). The average herring length in the sample was 294 mm, and the average weight was 450 g (Table 10). The sex composition of the sample was 49% male and 50% female, with 1% unknown. A total of 112 herring were sampled from the Akutan district commercial purse seine fishery. The most abundant age classes in the sample were age-6 (25.0%), age-10 (19.6%) and age-5 (12.5%; Table 11; Figure 11). The average herring length in the sample was 283 mm, and the average weight was 374 g (Table 11). The sex composition of the sample was 45% male and 55% female. From the combined Unalaska and Akutan districts commercial purse seine fishery samples, a total of 342 herring were sampled. The most abundant age classes were age-9 (21.6%), age-10 (20.8%) and age-8 (12.9%; Tables 12 and 13; Figures 12 and 13). The average herring length in the combined sample was 290 mm, and the average weight was 426 g (Table 12). The sex composition of the combined sample was 48% male and 52% female (Table 12).

ALEUTIAN ISLANDS "ADAK" HERRING FOOD AND BAIT FISHERIES

HISTORICAL PERSPECTIVE

In 2004, the BOF enacted the Alaska Peninsula-Aleutian Islands Herring Management Plan (5 AAC 27.657). This plan established a herring gillnet fishery in the Adak Island area (Figure 8) with a 500 ton allocation independent of the Dutch Harbor food and bait allocation. Herring can be harvested as food and bait from June 24 until February 28.

HARVEST STRATEGY

The Adak herring gillnet fishery will be opened by emergency order if industry expresses interest in harvesting this allocation.

THE 2007 SEASON

Due to lack of industry interest, no herring were harvested in the Adak gillnet fishery in 2007 or the winter of 2008. No effort has occurred in this fishery since it was established in 2004.

REFERENCES CITED

Burkey C. and S. Duesterloh. 2003. Alaska Peninsula-Aleutian Islands Management Area herring sac roe and food and bait fisheries annual management report, 2003. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K03-63, Kodiak.

Jackson, J. V. 2007. Alaska Peninsula-Aleutian Islands Management Area herring sac roe fishery management plan, 2007. Alaska Department of Fish and Game, Fishery Management Report No. 07-26, Anchorage.

McCullough, J. N., and R. D. Campbell. 1996. Alaska Peninsula-Aleutian Islands Management Areas sac roe herring report and the Aleutian Islands Management Area food and bait herring report. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K96-12, Kodiak.

Rowell, K. A., H. J. Geiger, and B. G. Bue. 1991. Stock Identification of Pacific herring in the eastern Bering Sea trawl bycatch and the Dutch Harbor directed food and bait fishery. Proceedings of the International Herring Symposium. Alaska Sea Grant Report, No 91-01, 1991, pp 255-278.

Schwarz, L. 1988. Peninsula/Aleutians herring sac-roe fishery. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K88-03, Kodiak.

Shaul, A. R., T. R. Gilmer, J. N. McCullough, and L. M. Malloy. 1982. 1982 Fin Fisheries annual report Alaska Peninsula- Aleutian Islands Areas. Area Management Report. Kodiak

Shaul, A. R., L. J. Schwarz, J. N. McCullough, L. M. Malloy, and S. J. Theis. 1987. 1986 Alaska Peninsula and Aleutian Islands Area annual finfish management report. Alaska Department of Fish and Game, Division of Commercial Fisheries, Finfish Management Report 3-87.

Shaul, A. R., J. N. McCullough, A. J. Quimby, R. S. Berceli, and M. E. Stopha. 1991. 1990 Alaska Peninsula–Aleutian Islands Areas salmon and herring annual management report. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 4K91-12, Kodiak.

Warner, I. M., and P. Shafford. 1979. Forage fish spawning surveys-southern Bering Sea. Alaska Marine Environmental Assessment Project. Completion Report (revised November 1979), Alaska Department of Fish and Game, Kodiak.

TABLES AND FIGURES

Table 1.–Herring biomass estimates, in tons, for the North Alaska Peninsula, by area, 1984-2007.

	Port Moller District				Port Heiden District			
Date	Herendeen Bay	Port Moller Bay	Other Areas	Bear River to Strogonof Point	Port Heiden Bay Section	Total Biomass Estimate	Aerial Survey Dates Begin	End
1984	2,000	1,500-1,900	0	0	0	3,500-3,900	May 9	July 31
1985	260	1,305	0	5,240	0	6,805	May 1	June 13
1986	1	28	0	0	0	29	May 16	June 7
1987	0	5,125	0	0	0	5,125	May 6	June 3
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 4	June 9
1994	381	274	74	0	0	729	May 22	May 28
1995	60	477	200	0	0	737	May 13	June 2
1996	390 (390)[a]	986 (755)[a]	0	309	65	1,750	May 9	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 3
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 2	June 10
2005	1,500[b]	3,300	50	0	3,000	4,850	May 8	May 24
2006	4,500	1,150	0	585	0	6,235	May 26	May 28
2007	290	1,515	0	0	0	1,805	May 19	May 20
1997-2006 Average	804	754	35	150	6	1,052		

[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 2.–Alaska Peninsula herring sac roe fishery harvest, number of landings and permits fished by year, 1979-2007.

	North Peninsula			South Peninsula			Total		
Year	Tons	Landings	Permits	Tons	Landings	Permits	Tons	Landings	Permits
1979	[a]	[a]	[a]	[b]	[b]	[b]	[b]	[b]	[b]
1980	[a]	[a]	[a]	454	15	6	454	15	6
1981	[a]	[a]	[a]	798	93	56	797	93	56
1982	[b]	[b]	[b]	176	13	4	[b]	[b]	[b]
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	[b]	[b]	[b]	514	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	[b]	[b]	[b]	[b]	[b]	[b]
1994	90	7	5	[b]	[b]	[b]	[b]	[b]	[b]
1995	337	37	12	[b]	[b]	[b]	[b]	[b]	[b]
1996	[b]	[b]	[b]	117	8	4	[b]	[b]	[b]
1997 [a]									
1998	[b]	[b]	[b]	[a]	[a]	[a]	[b]	[b]	[b]
1999 [a]									
2000 [a]									
2001 [a]									
2002 [a]									
2003 [a]									
2004 [a]									
2005	351	12	4	[a]	[a]	[a]	351	12	4
2006 [a]									
2007 [a]									
1997-2006 Average	42	2	1	0	0	0	42	2	1

[a] No fishery.

[b] Harvest numbers cannot be released due to state confidentiality requirements.

Table 3.–Alaska Peninsula Area commercial herring sac roe fishery harvest by time period, 1979-2007.

	North Peninsula		South Peninsula		
Year	Harvest (Tons)	Harvest Time Period	Harvest (Tons)	Harvest Time Period	Total
1979	[a]	[a]	[b]	July 4-July 4	[b]
1980	[a]	[a]	454	May 18-July 14	454
1981	[a]	[a]	798	May 9-June 23	798
1982	[b]	May 31-June 12	176	May 31-June 14	[b]
1983	627	May 9-May 29	[c]		627
1984	431	May 24-June 8	210	May 13-June 1	642
1985	710	May 24-June 4	288	June 1-June 11	998
1986	894	May 18-May 30	282	June 7-June 14	1,176
1987	514	May 9-June 5	319	June 8-June 19	833
1988	294	May 17-June 15	377	May 31-June 20	671
1989	729	May 28-June 23	310	May 13-June 19	1,039
1990	273	June 4-June 19	312	May 14-June 14	585
1991	1,313	May 17-July 4	157	May 16-June 11	1,470
1992	3,969	May 23-June 17	180	June 4-June 7	4,149
1993	536	May 8-June 9	[b]	May 27-June 9	[b]
1994	90	May 21-June 7	[b]	June 2-June 3	[b]
1995	337	May 29-June 20	[b]	June 6-June 17	[b]
1996	[b]	June 12-June 18	117	May 10-June 27	[b]
1997	[a]		[a]	[a]	
1998	[b]	May 21-June 3	[a]	[a]	[b]
1999	[a]	[a]	[a]	[a]	-
2000	[a]	[a]	[a]	[a]	-
2001	[a]	[a]	[a]	[a]	-
2002	[a]	[a]	[a]	[a]	-
2003	[a]	[a]	[a]	[a]	-
2004	[a]	[a]	[a]	[a]	-
2005	351	May 11-May 12	[a]	[a]	351
2006	[a]	[a]	[a]	[a]	-
2007	[a]	[a]	[a]	[a]	-
1997-2006 Average	42		0		42

[a] No fishery.

[b] This information cannot be released due to confidentiality requirements.

[c] Fishery closed.

Table 4.–North Alaska Peninsula commercial herring sac roe fishery harvest in tons by section, 1982-2007

	Port Moller District				Port Heiden District	
Year	Deer Island Mud Bay Section	Herendeen Bay Section	Port Moller Bay Section	Bear River Bering Sea Coast	Port Heiden Bay Section	Total
1982	0	[a]	[a]	[a]	0	[a]
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	11 [b]	157	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	[a]	[a]	0	0	[a]
1997 [c]						
1998	0	0	[a]	[a]	0	[a]
1999 [c]						
2000 [c]						
2001 [c]						
2002 [c]						
2003 [c]						
2004 [c]						
2005	0	0	351	0	0	351
2006 [c]						
2007 [c]						
1997-2006 Average	0	0	37	2	0	39

[a] This information cannot be released due to confidentiality requirements.

[b] At least 11 tons were caught in the Deer Island-Mud Bay Section.

[c] No fishery.

Table 5.–South Alaska Peninsula commercial herring sac roe fishery harvest in tons by geographic area, 1979-2007.

	Area									
Year	Stepovak Bay[a]	Balboa Bay	Pavlof Bay	Canoe Bay	Volcano-Dolgoi	Belkofski Bay	Lenard Harbor	Dolgoi Harbor	Shumagin Islands	Total
1979	0	0	0	0	0	10	0	0	0	10
1980	196	132	114	12	0	0	0	0	0	454
1981	129	36	263	168	65	16	122	0	0	798
1982	0	5	0	171	0	0	0	0	0	176
1983 [b]	0	0	0	0	0	0	0	0	0	0
1984	29	25	0	156	0	0	0	0	0	210
1985	11	0	38	239	0	0	0	0	0	288
1986	0	0	61	141	13	8	59	0	0	282
1987	0	0	92	118	0	38	60	12	0	319
1988	0	11	69	237	17	12	31	0	0	377
1989	39	18	53	148	0	0	9	5	39	310
1990	72	21	0	120	0	3	6	0	90	312
1991	19	19	0	78	0	0	0	0	41	157
1992	0	0	0	180	0	0	0	0	0	180
1993	5	0	0	92	0	0	0	0	0	97
1994	0	0	0	8	0	0	0	0	0	8
1995	0	10	0	53	0	0	0	0	0	63
1996	21	4	0	77	0	0	0	0	16	118
1997 [c]										
1998 [c]										
1999 [c]										
2000 [c]										
2001 [c]										
2002 [c]										
2003 [c]										
2004 [c]										
2005 [c]										
2006 [c]										
2007 [c]										
1998-2007 Average	0	0	0	0	0	0	0	0	0	0

[a] The 1984-1988 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.

[c] No fishery.

Table 6.–Aleutian Islands Area Dutch Harbor herring food and bait fisheries historical summary for the purse seine fishery, 1929-2007.

Year	Harvest in Tons	No. Vessels Making Landings	Number Landings	Tons Per Boat	Tons Per Landing	Price ($) Per Ton	Exvessel Value ($) (Thousands)	Exvessel Value Per Vessel (Thousands)
1929	1,259	[a]	[a]	[a]	[a]	[a]	[a]	[a]
1930	1,916	[a]	[a]	[a]	[a]	[a]	[a]	[a]
1931	1,056	26	[a]	[a]	[a]	[a]	[a]	[a]
1932	2,510	30	[a]	[a]	[a]	[a]	[a]	[a]
1933	1,585	38	[a]	[a]	[a]	[a]	[a]	[a]
1934	1,533	[a]	[a]	[a]	[a]	[a]	[a]	[a]
1935	2,412	[a]	[a]	[a]	[a]	[a]	[a]	[a]
1936	1,379	[a]	[a]	[a]	[a]	[a]	[a]	[a]
1937	579	[a]	[a]	[a]	[a]	[a]	[a]	[a]
1938	513	[a]	[a]	[a]	[a]	[a]	[a]	[a]
1939-1944	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
1945	75	[a]	[a]	[a]	[a]	[a]	[a]	[a]
1946-1980	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
1981	704	[c]	[c]	[c]	[c]	[c]	[c]	[c]
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	3,554	6	68	592	52	$162	$564	$94
1986	2,394	7	54	342	44	$254	$600	$86
1987	2,485	8	44	311	56	$300	$751	$94
1988	1,983	8	50	248	40	$252	$505	$63
1989	3,079	9	67	342	46	$283	$873	$97
1990	820	7	15	117	55	$350	$287	$41
1991	1,325	8	18	166	74	$300	$398	$50
1992	1,982	11	27	180	73	$300	$573	$52
1993	2,824	13	33	217	86	$300	$837	$64
1994	3,349	14	65	239	52	$300	$1,005	$72
1995	1,705	14	23	122	74	$300	$524	$37
1996	2,279	24	30	95	76	$300	$684	$28
1997	1,950	26	63	75	31	$300	$585	$23
1998	1,994	22	22	91	91	$300	$598	$27
1999	2,437	21	72	116	34	$400-600	$1,038	$49
2000	2,014	20	22	101	92	$300-500	$671	$34
2001	1,332	14	29	95	46	$300-500	$406	$29
2002	2,664	12	15	222	178	$300-450	$909	$76
2003	1,379	6 [d]	16	230	86	$50-400	$342	$57
2004	1,038	1 [e]	16	346 [e]	65	$100-500	$309	$103 [e]
2005	1,159	3 [f]	7	386 [f]	166	$100-500	$370	$123 [f]
2006 [h]	952	2 [g]	18	476 [g]	53	$100-500	$384	$192 [g]
2007 [h]	1,248	2	12	624	104	$100-500	$437	$219

-continued-

Table 6.–Page 2 of 2.

Year	Harvest in Tons	No. Vessels Making Landings	Number Landings	Tons Per Boat	Tons Per Landing	Price ($) Per Ton	Exvessel Value ($) (Thousands)	Exvessel Value Per Vessel (Thousands)
1929-1938 Average	1,474	[a]	[a]	[a]	[a]	[a]	[a]	[a]
2002-2006 Average	1,439	12	14	226	109	$130-480	$463	$66
1997-2006 Average	1,692	19	28	133	84	$225-460	$561	$42

[a] Information not available

[b] No fishery

[c] This information can not be released due to state confidentiality requirements.

[d] Fishery was conducted by a cooperative fishery of 14 permit holders using six vessels.

[e] A cooperative fishery of 13 permit holders used one boat.

[f] Eleven permit holders used three vessels in a cooperative fishery; one CFEC permit holder did not join this fishery.

[g] One vessel used in a cooperative fishery, one CFEC permit holder did not join the cooperative fishery.

[h] CFEC permit holders formed a combine fishery.

Table 7.–Aleutian Islands Area Dutch Harbor herring food and bait gillnet historical harvest summary, 2001-2007.

Year	Harvest in Tons	No. Vessels Making Landings	Number Landings	Tons Per Boat	Tons Per Landing	Price Per Ton	Exvessel Value (Thousands)	Exvessel Value Per Vessel (Thousands)
2001	105	6	25	18	4	$300-500	$53	$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
2006 [b]								
2007 [b]								
2002-2006 Average	92	7	20	10	3	340	31	3

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

[b] This information can not be released due to state confidentiality requirements.

Table 8.–Aleutian Islands Area herring food and bait fisheries allocations (tons), commercial harvest (tons), and effort by gear type, 1991-2007.

	All Gear Types		Gillnet Fishery					Seine Fishery				
Year	Allocation	Harvest	Allocation	Harvest	Permits	Landings	Days Fished	Allocation	Harvest	Permits	Landings	Days Fished
1991	931	1,325	[a]	0	0	0	[b]	931	1,325	8	18	1
1992	1,940	1,982	[a]	0	0	0	[b]	1,940	1,982	11	26	5
1993	2,193	2,824	[a]	0	0	0	[b]	2,193	2,824	13	32	1
1994	2,215	3,349	[a]	0	0	0	[b]	2,215	3,349	14	65	4
1995	1,982	1,705	[a]	0	0	0	[b]	1,982	1,705	14	24	1
1996	1,793	2,279	[a]	0	0	0	[b]	1,793	2,279	24	29	1
1997	1,645	1,950	[a]	0	0	0	[b]	1,645	1,950	26	63	5
1998	1,590	1,994	[a]	0	0	0	[b]	1,590	1,994	22	22	1
1999	2,082	2,437	[a]	0	0	0	[b]	2,082	2,437	21	21	4
2000	1,728	2,014	[a]	0	0	0	[b]	1,728	2,014	23	28	1
2001	1,572	1,437	110	105	6	25	9	1,462	1,332	14	16	2
2002	1,578	2,799	110	134	13	37	16	1,468	2,664	16	14	1
2003	1,662	1,487	116	108	13	23	5	1,546	1,379	14 [d]	16	4
2004	1,899	1,255	266	216	12	37	13	1,533	1,038	15 [e]	17	13
2005	1,365	1,159	191	0	9	0	11	1,174	1,159	12 [f]	7	9
2006	1,715	954	240	[g]	[g]	[g]	[g]	1,375	952	2 [h]	18	15
2007	1,779	1,254	249	[g]	[g]	[g]	[g]	1,530	1,248	2 [h]	12	12
Average 2002-2006	1,644	1,531	185	92	10	20	9	1,419	1,439	12	14	8
1997-2006	1,684	1,749	172	56	6	12	9	1,560	1,692	17	22	6

[a] No allocation

[b] No data

[c] Fourteen permit holders used six vessels in a cooperative fishery.

[d] Thirteen permit holders used one vessel in a cooperative fishery.

[e] Eleven permit holders used three vessels in a cooperative fishery, one CFEC permit holder did not join the cooperative fishery.

[f] Several permit holders formed a cooperative and used one vessel, one permit holder did not join the cooperative fishery.

[g] This information can not be released due to state confidentiality requirements.

[h] CFEC permit holders formed a combine fishery.

Table 9.–Aleutian Islands Area, Dutch Harbor commercial herring food and bait fishery (all gear combined) summary, 1981-2007.

Year	Landing Date First	Landing Date Last	Days Fished	Preseason Togiak Spawning Biomass Tons	GHLs Tons	Food & Bait Harvest Tons	Number Vessels Fishing
1981	Aug 3	Aug 23	21	159,000	[a]	[b]	[b]
1982	Aug 5	Sep 12	39	98,000	[a]	3,565	7
1983	Jul 23	Sep 6	46	142,000	3,525 [c]	3,567	8
1984	Jul 17	Jul 27	11	115,000	3,525 [c]	3,578	9
1985	Jul 17	Aug 11	26	132,000	3,525 [c]	3,554	6
1986	Jul 16	Jul 28	13	96,000	2,453	2,394	7
1987	Jul 16	Jul 23	4	88,000	2,332	2,485	9
1988	Jul 16	Sep 18	21	132,000	3,100	1,999	9
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	1,982	12
1993	Jul 16	Jul 16	1	164,135	2,193	2,824	14
1994	Jul 16	Jul 19	4	165,747	2,215	3,349	14
1995	Jul 16	Jul 16	1	149,093	1,982	1,705	15
1996	Jul 16	Jul 16	1	135,585	1,793	2,279	27
1997	Jul 15	Jul 19	5	125,000	1,645	1,950	27
1998	Jul 16	Jul 16	1	121,054	1,590	1,994	22
1999	Jul 16	Jul 20	4	156,200	2,082	2,437	22
2000	Jul 15	Jul 15	1	130,904	1,728	2,014	20
2001 [d]	Jun 25	Jul 16	10	119,818	1,572	1,437 [e]	22
2002	Jun 25	Jul 16	17	120,196	1,578	2,799 [e]	28
2003	Jun 24	Jul 19	7	126,213	1,662	1,487 [e]	24 [f]
2004	Jul 15	Jul 29	26	143,124	1,899	1,038 [e]	15 [g]
2005	Jul 15	Aug 20	11	105,029	1,365	1,159 [e]	4 [h]
2006	Jul 16	Jul 27	12	129,976	1,715	954 [e]	4 [i]
2007	Jul 16	Jul 27	12	134,566	1,779	1,254 [e]	4 [ı]
2002-2006 Average			15	124,908	1,644	1,487	15
1997-2006 Average			9	127,751	1,684	1,727	19

[a] No allocation.

[b] Numbers may not be released due to state confidentiality requirements.

[c] Harvest ceiling of 3,525 established by Alaska Board of Fisheries.

[d] In 2001, a gillnet fishery was established.

[e] Includes both gillnet and seine harvest.

[f] In 2003, the seine fishery was a cooperative.

[g] In 2004, the gillnet fishery operated under a cooperative agreement and 13 seine permit holders used 1 vessel.

[h] In 2005, the gillnet fishery did not harvest any fish, and 11 seine permit holders formed a cooperative using 3 seine vessels; 1 CFEC permit holder did not join the cooperative fishery.

[I] In 2006 and 2007, the gillnet fishery harvested only one ton of herring, and seine permit holders formed a cooperative using only 1 seine vessel; 1 CFEC seine permit holder did not join the cooperative fishery.

Table 10.–Age, sex, weight, and length of herring sampled from the Unalaska District purse seine harvest, 2007.

Age	Sex				Percent of	Weight			Standard Length		
(Years)	Male	Female	Unknown	Total	Total	Mean (g)	Standard Dev.	Number Weighed	Mean (mm)	Standard Dev.	Number Measured
4	0	1	0	1	0.4	475	0.0	1	305	0.0	1
5	1	2	1	4	1.7	372	120.0	4	281	23.4	4
6	6	8	0	14	6.1	395	81.0	14	284	17.2	14
7	9	7	0	16	7.0	401	72.5	16	281	15.0	16
8	14	17	0	31	13.5	400	67.8	31	282	14.2	31
9	32	33	0	65	28.3	431	72.6	65	292	17.4	65
10	18	31	0	49	21.3	450	64.7	49	293	11.4	49
11	14	9	0	23	10.0	445	86.1	23	293	14.2	23
12	10	4	0	14	6.1	499	73.6	14	304	13.2	14
13	6	1	0	7	3.0	488	57.2	7	305	11.6	7
14	0	1	0	1	0.4	463	0.0	1	291	0.0	1
15	1	2	0	3	1.3	478	66.0	3	305	15.3	3
16	1	0	0	1	0.4	452	0.0	1	292	0.0	1
17	1	0	0	1	0.4	557	0.0	1	309	0.0	1
Total	113	116	1	230	100.0	-	-	230	-	-	230
Average	-	-	-	-	-	450	54.4	-	294	10.9	-

Table 11.–Age, sex, weight, and length of herring sampled from the Akutan District purse seine harvest, 2007.

Age	Sex				Percent	Weight			Standard Length		
(Years)	Male	Female	Unknown	Total	of Total	Mean (g)	Standard Dev.	Number Weighed	Mean (mm)	Standard Dev.	Number Measured
4	1	0	0	1	0.9	260	0.0	1	248	0.0	1
5	9	5	0	14	12.5	251	47.6	14	254	13.7	14
6	9	19	0	28	25.0	313	55.2	28	271	22.9	28
7	6	5	0	11	9.8	342	84.5	11	273	20.6	11
8	4	9	0	13	11.6	335	82.4	13	279	27.7	13
9	3	6	0	9	8.0	394	61.8	9	286	12.8	9
10	11	11	0	22	19.6	377	64.5	22	284	12.4	22
11	7	2	0	9	8.0	418	51.6	9	295	8.2	9
12	0	2	0	2	1.8	436	50.2	2	305	14.1	2
13	0	1	0	1	0.9	494	0.0	1	305	0.0	1
14	0	2	0	2	1.8	490	34.6	2	316	0.7	2
Total	50	62	0	112	100	-	-	112	-	-	112
Average	-	-	-	-	-	374	48.4	-	283	12.1	-

Table 12.–Age, sex, weight, and length of herring sampled from the Aleutian Islands Area purse seine harvest, 2007.

Age	Sex				Percent	Weight			Standard Length		
(Years)	Male	Female	Unknown	Total	of Total	Mean (g)	Standard Dev.	Number Weighed	Mean (mm)	Standard Dev.	Number Measured
4	1	1	0	2	0.6	348	180.3	2	277	40.3	2
5	10	7	1	18	5.3	278	83.3	18	260	19.4	18
6	15	27	0	42	12.3	340	74.7	42	276	21.9	42
7	15	12	0	27	7.9	377	81.6	27	278	17.5	27
8	18	26	0	44	12.9	381	77.5	44	281	18.9	44
9	35	39	0	74	21.6	427	72.0	74	291	17.0	74
10	29	42	0	71	20.8	428	72.8	71	290	12.4	71
11	21	11	0	32	9.4	437	78.1	32	293	12.7	32
12	10	6	0	16	4.7	491	73.0	16	304	12.8	16
13	6	2	0	8	2.3	489	53.0	8	305	10.8	8
14	0	3	0	3	0.9	481	28.8	3	303	10.1	3
15	1	2	0	3	0.9	478	66.0	3	305	15.3	3
16	1	0	0	1	0.3	452	0.0	1	292	0.0	1
17	1	0	0	1	0.3	557	0.0	1	309	0.0	1
Total	163	178	1	342	100	-	-	342	-	-	342
Average	-	-	-	-	-	426	63	-	290	15	-

Table 13.–Estimated age composition of Aleutian Islands commercial herring food and bait purse seine harvests, 1991-2007.

	Percent at Age (Years)														
Year	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Purse Seine															
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
2006	0.4	5.9	6.2	3.5	5.2	32.0	23.9	3.4	4.7	5.3	2.9	3.1	1.3	1.0	0.4
2007	0.5	5.2	12.2	7.8	12.8	21.6	20.7	9.3	4.6	2.3	0.8	0.8	0.2	0.2	0.0
2003-2007 Average															
	0.4	2.7	4.6	12.4	22.8	19.3	13.9	8.5	4.9	4.4	2.0	1.7	0.9	0.7	0.1
1997-2006 Average															
	0.2	2.2	5.2	15.1	21.1	17.6	12.1	8.9	6.1	5.3	3.0	1.7	0.6	0.6	0.2

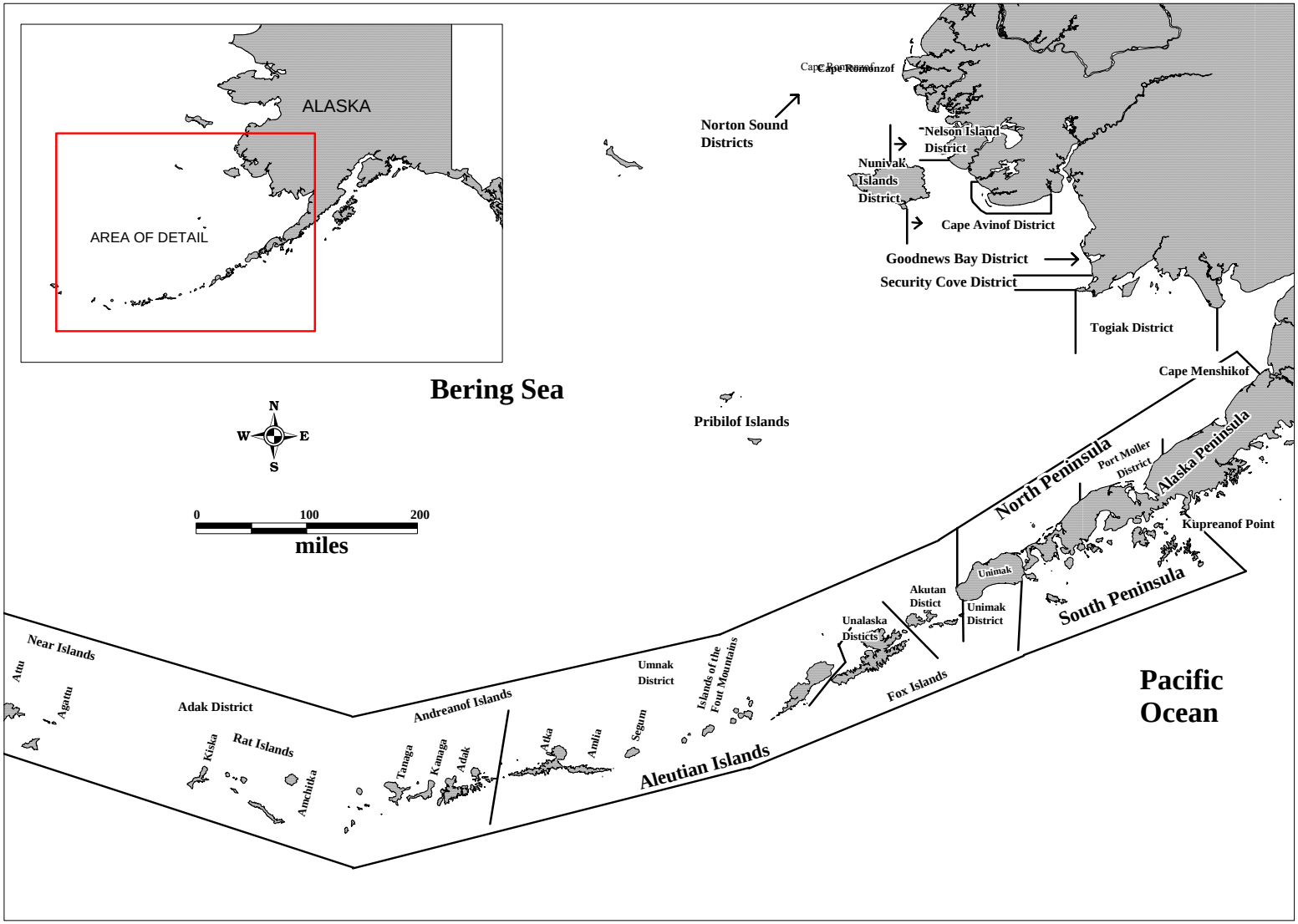

Figure 1.–Map of the Bering Sea Management Plan (5 AAC 27.060) commercial herring districts.

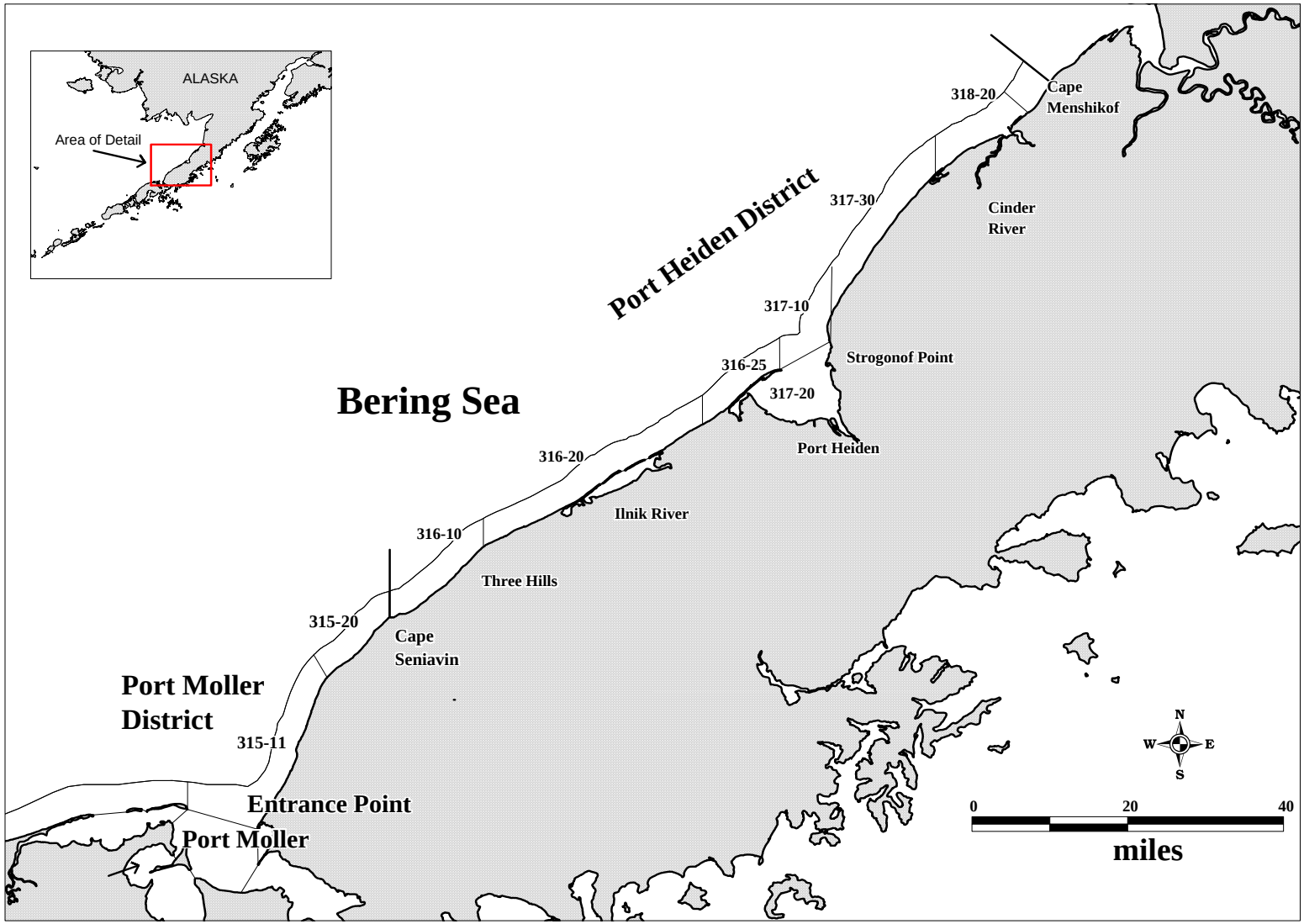

Figure 2.–Map of the Port Heiden and Port Moller Districts with commercial herring fishing statistical areas shown.

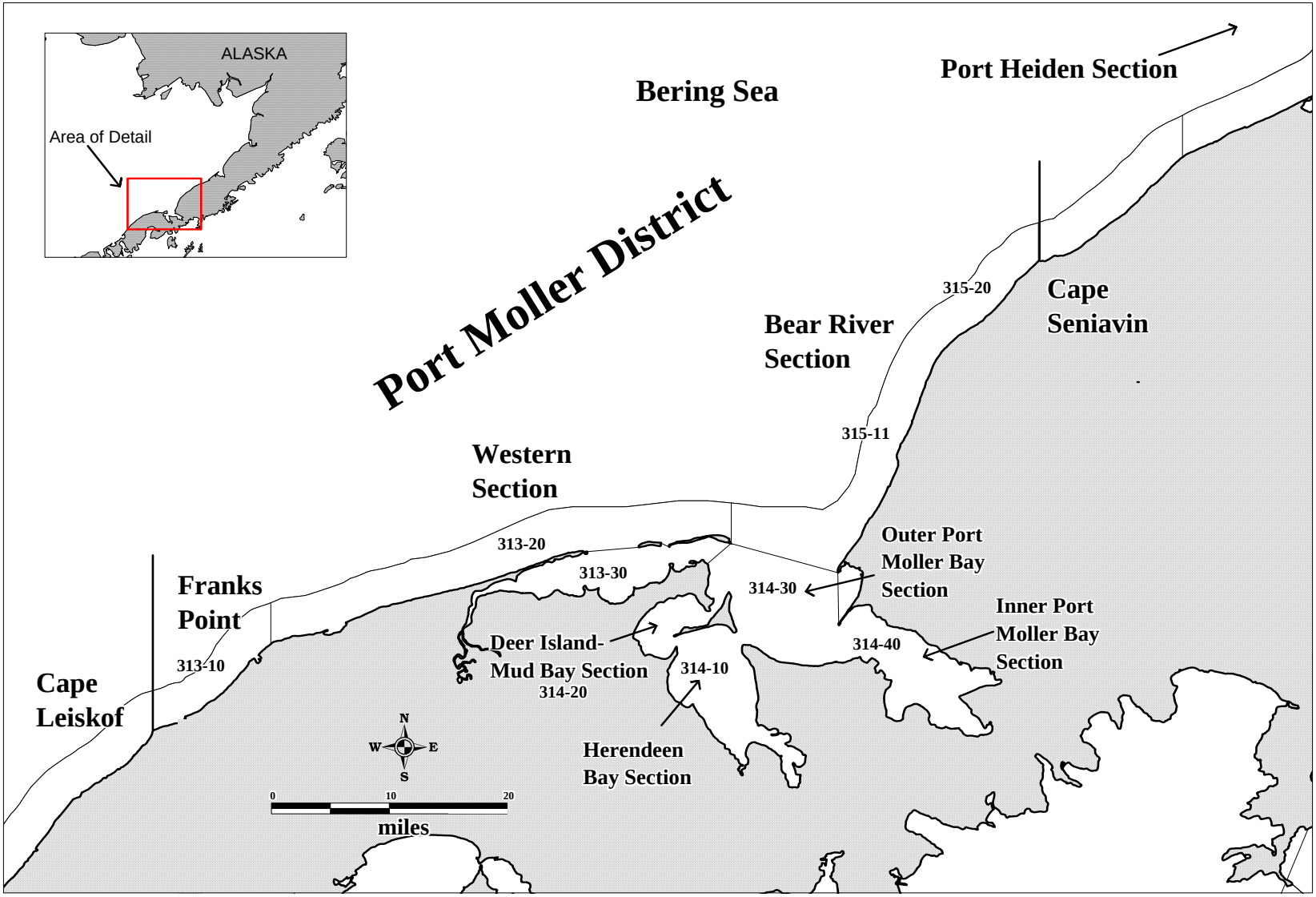

Figure 3.–Map of the Port Moller District with commercial herring fishing statistical areas shown.

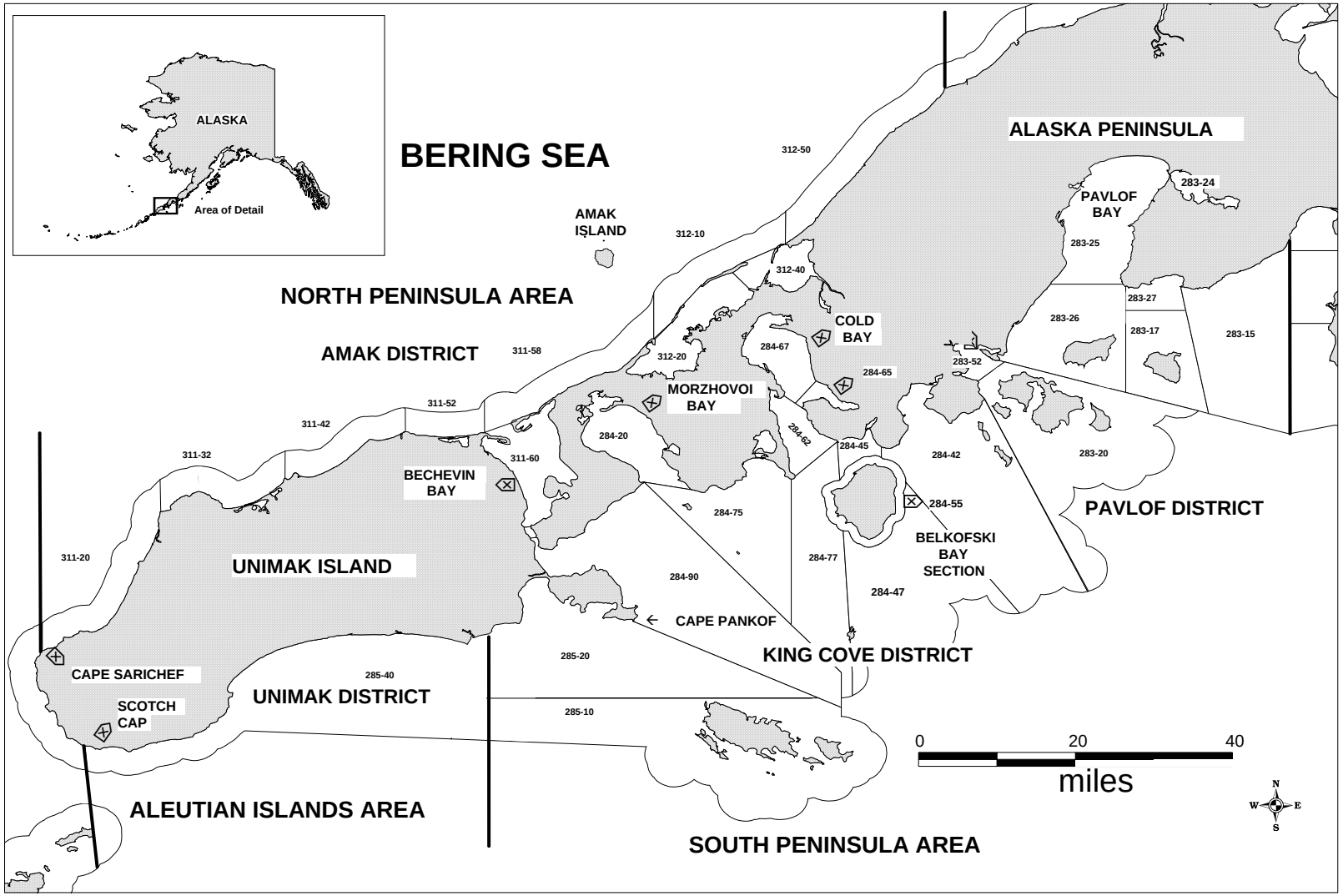

Figure 4.–Map of the Amak, Unimak, King Cove, and Pavlof districts with commercial herring fishing statistical areas shown.

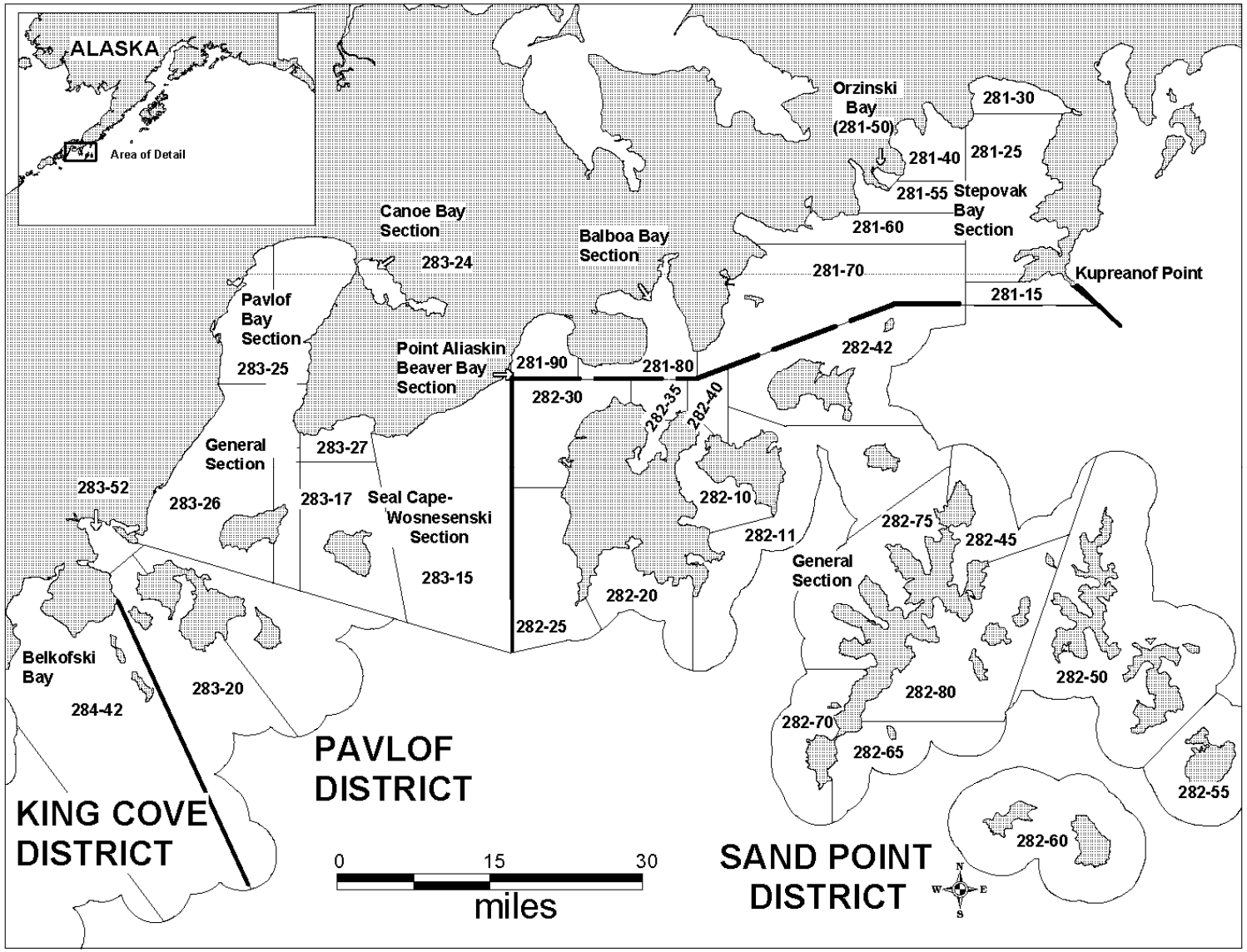

Figure 5.–Map of the Pavlof and Sand Point districts with commercial herring fishing statistical areas shown.

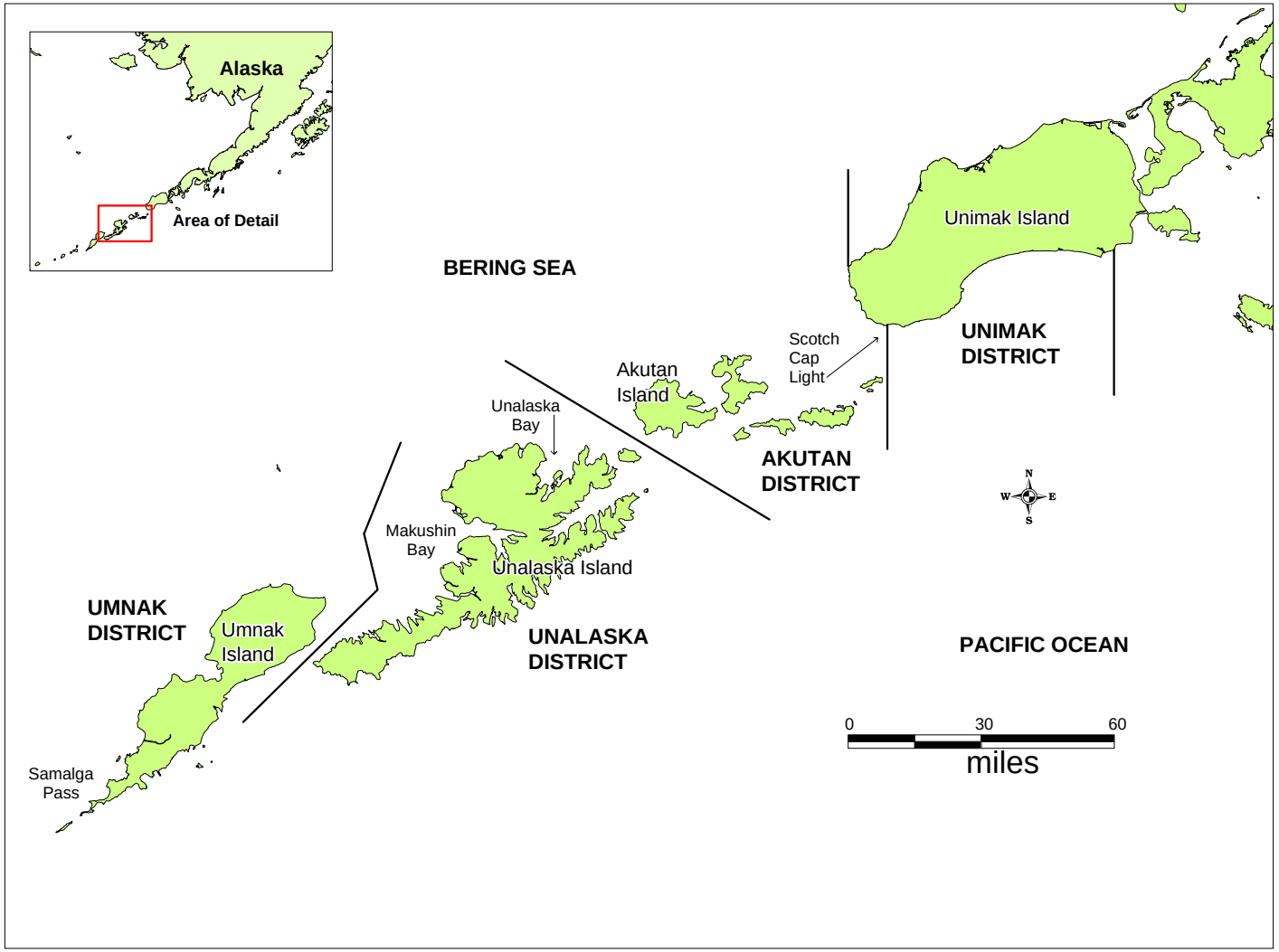

Figure 6.–Map of the Aleutian Islands from Samalga Pass to Unimak Island with herring fishing districts shown.

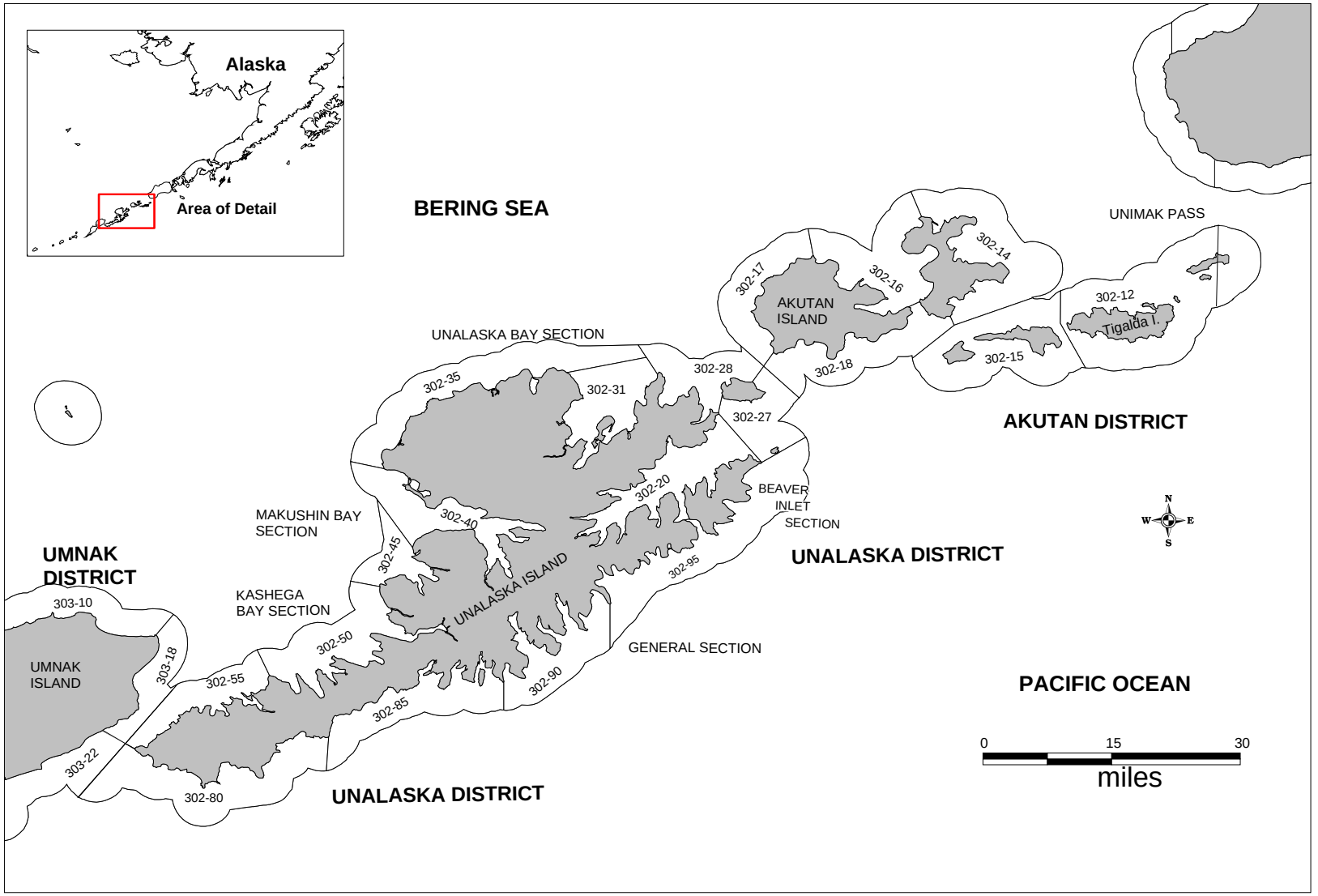

Figure 7.–Map of the Aleutian Islands from Unimak Pass to Umnak Island with the statistical herring fishing areas shown.

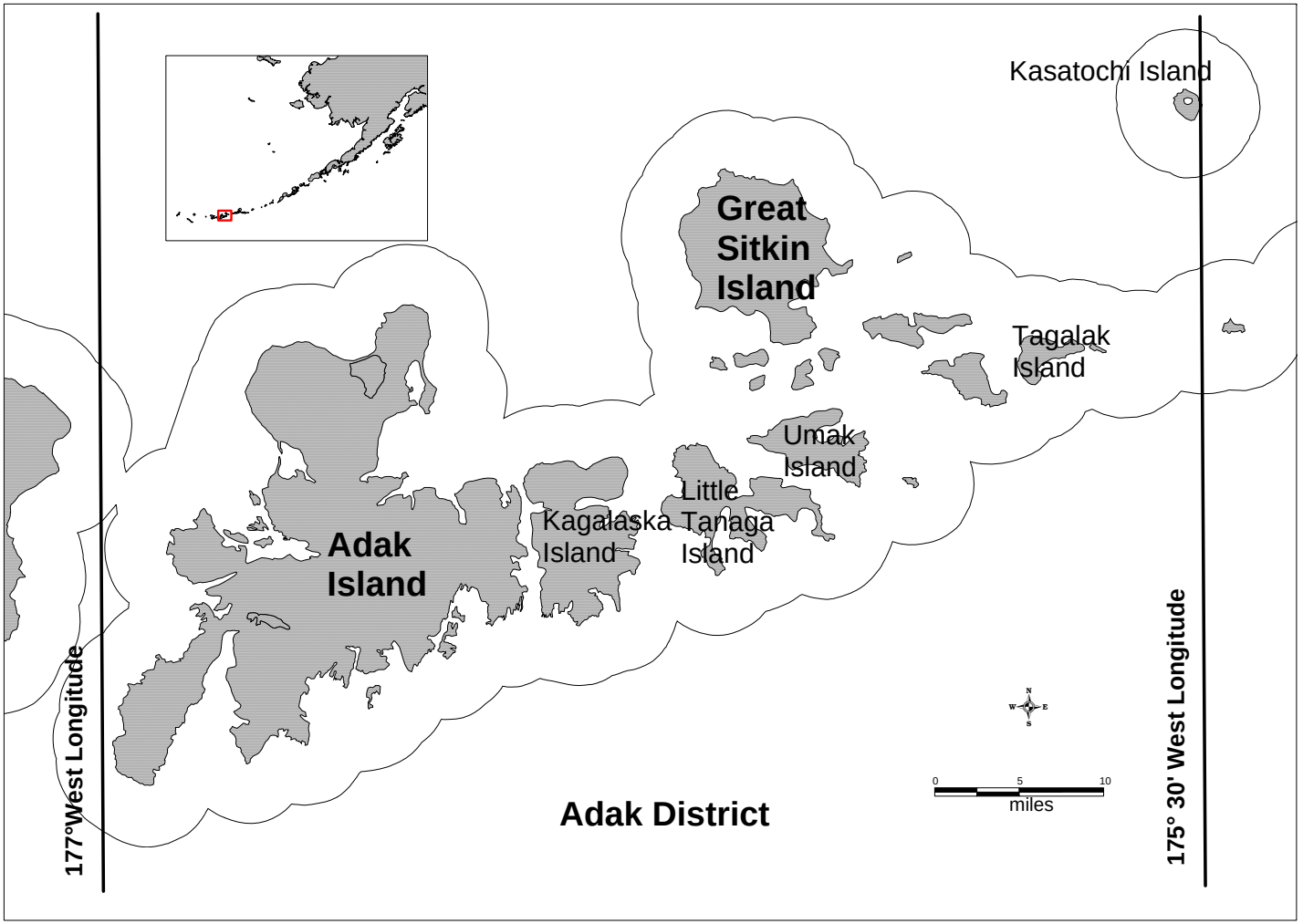

Figure 8.–Map of the Adak Island area with boundaries of exploratory herring fishery defined.

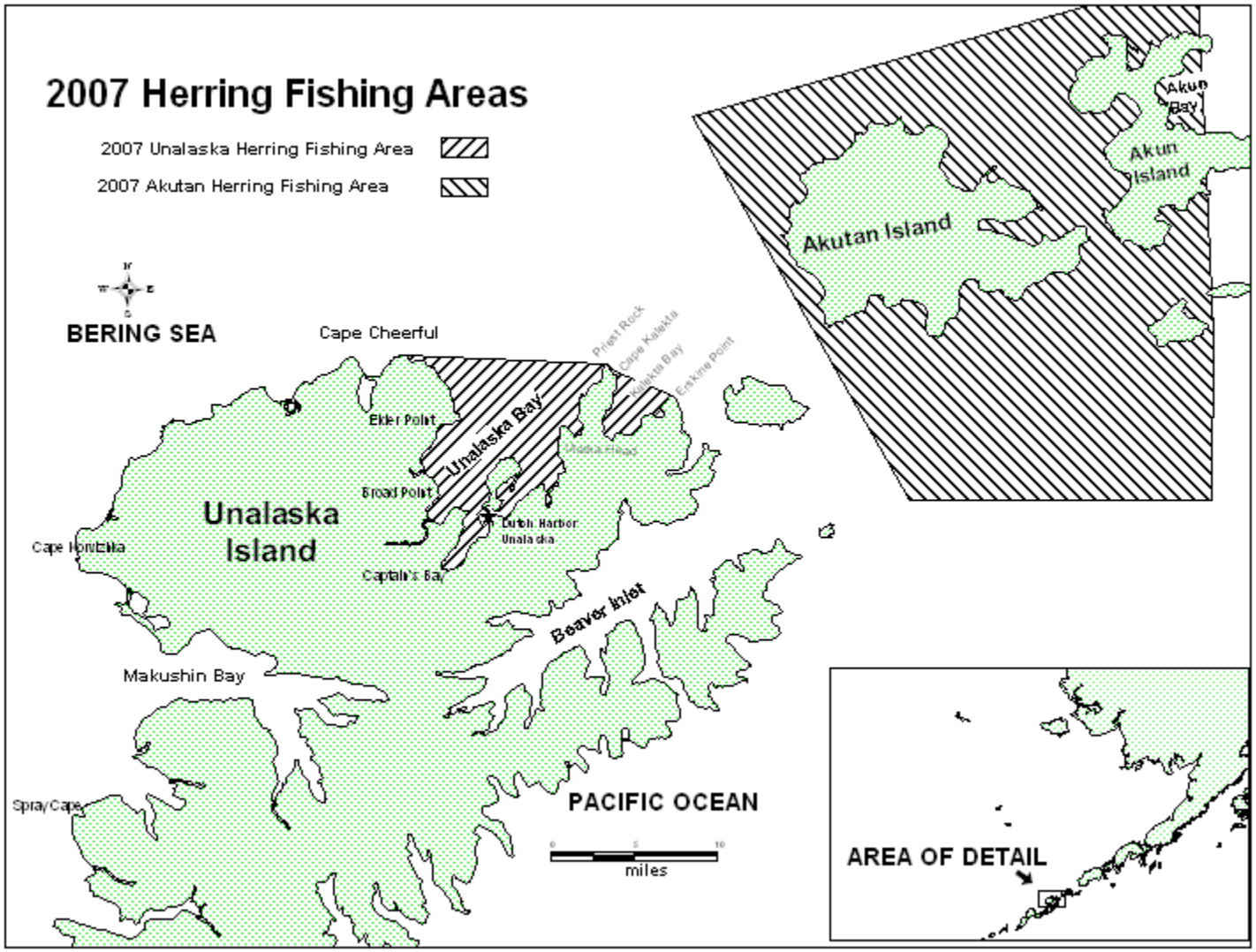

Figure 9.–Map of Akutan and Unalaska Islands from Akun Bay to Spray Cape, with the 2007 commercial herring fishery open areas shown.

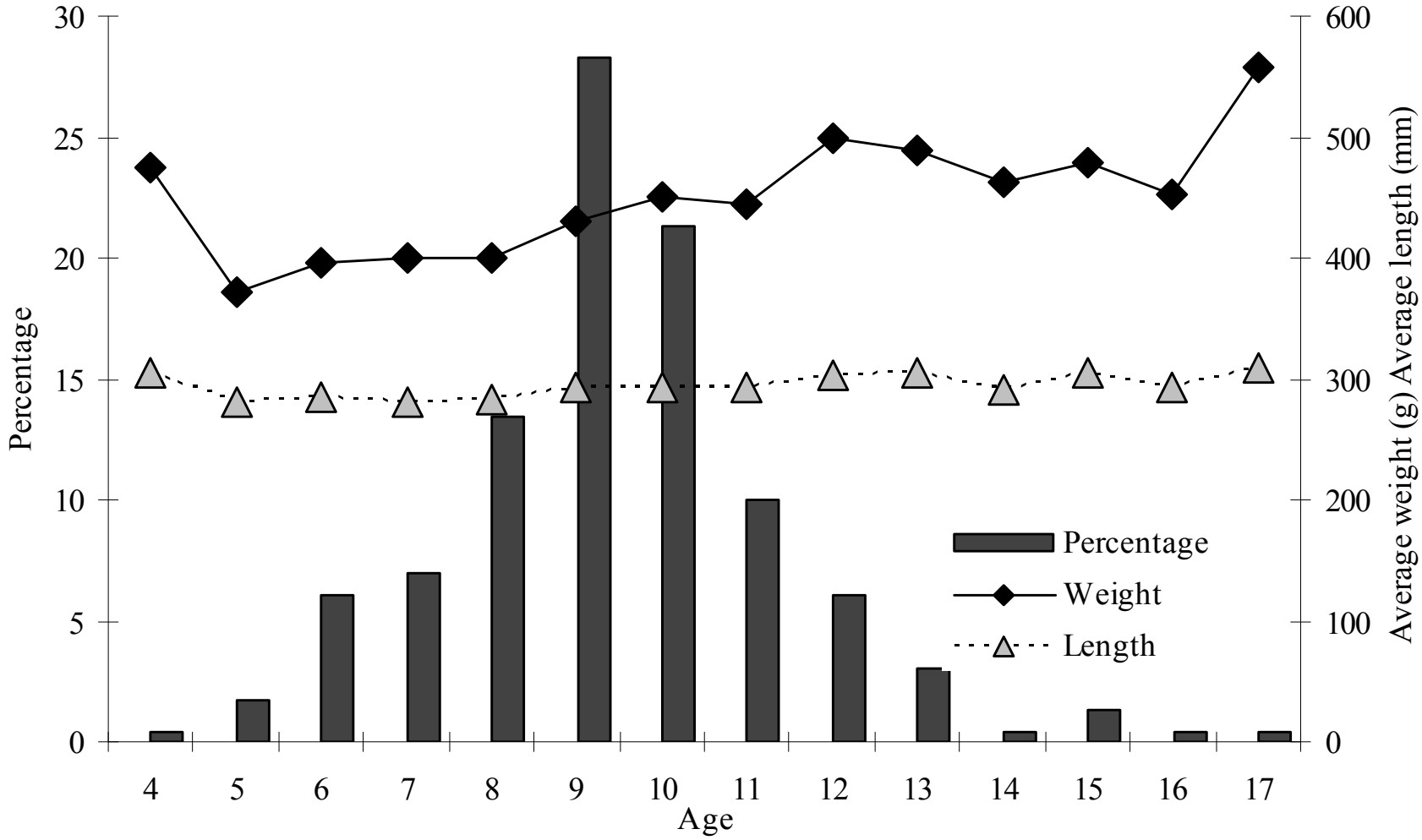

Figure 10.–Estimated average length-at-age (mm), average weight-at-age (g), and age composition of herring harvested in the Unalaska District, 2007 (sample size = 230).

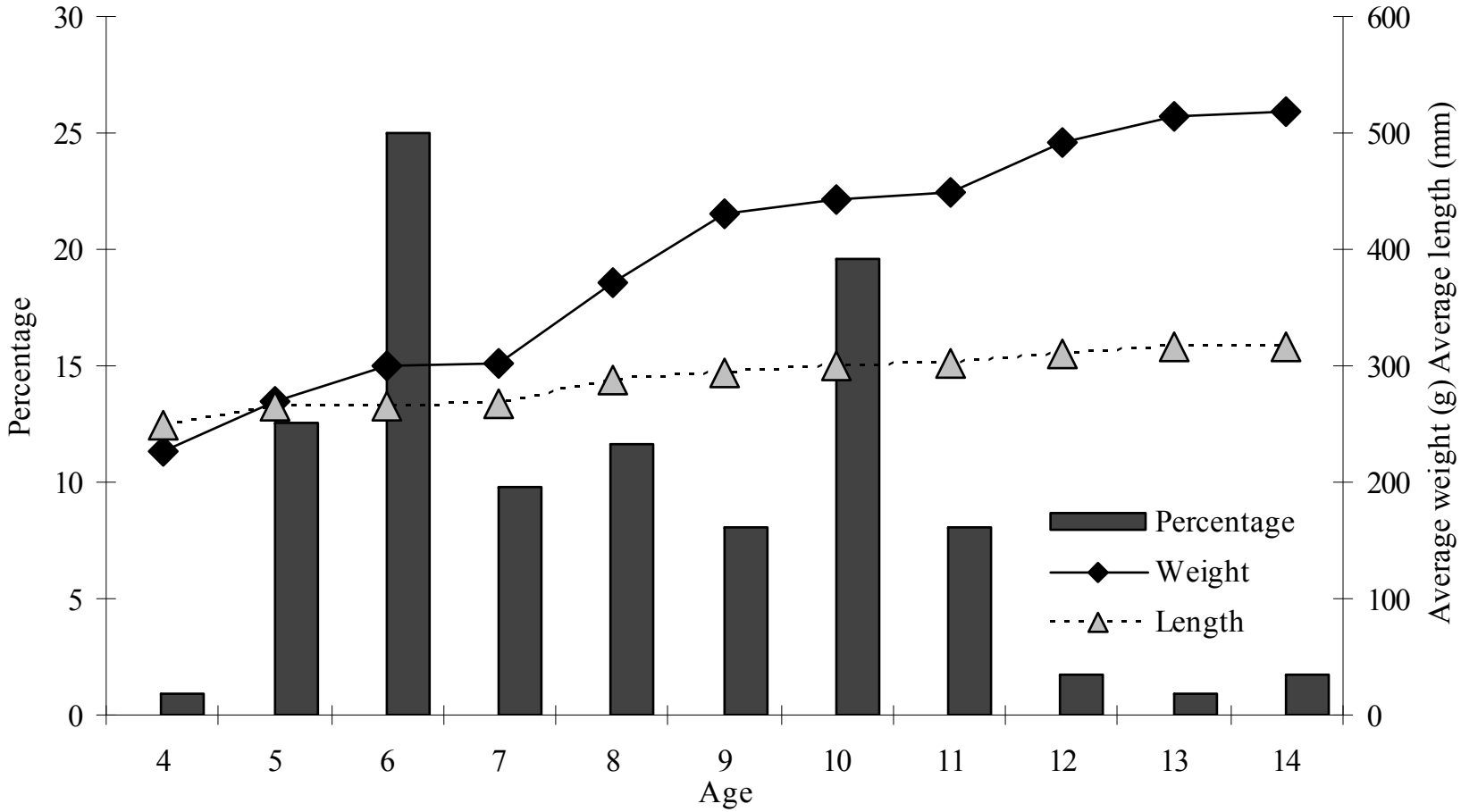

Figure 11.–Estimated average length-at-age (mm), average weight-at-age (g) and age composition of herring harvested in the Akutan District, 2007 (Sample size = 112).

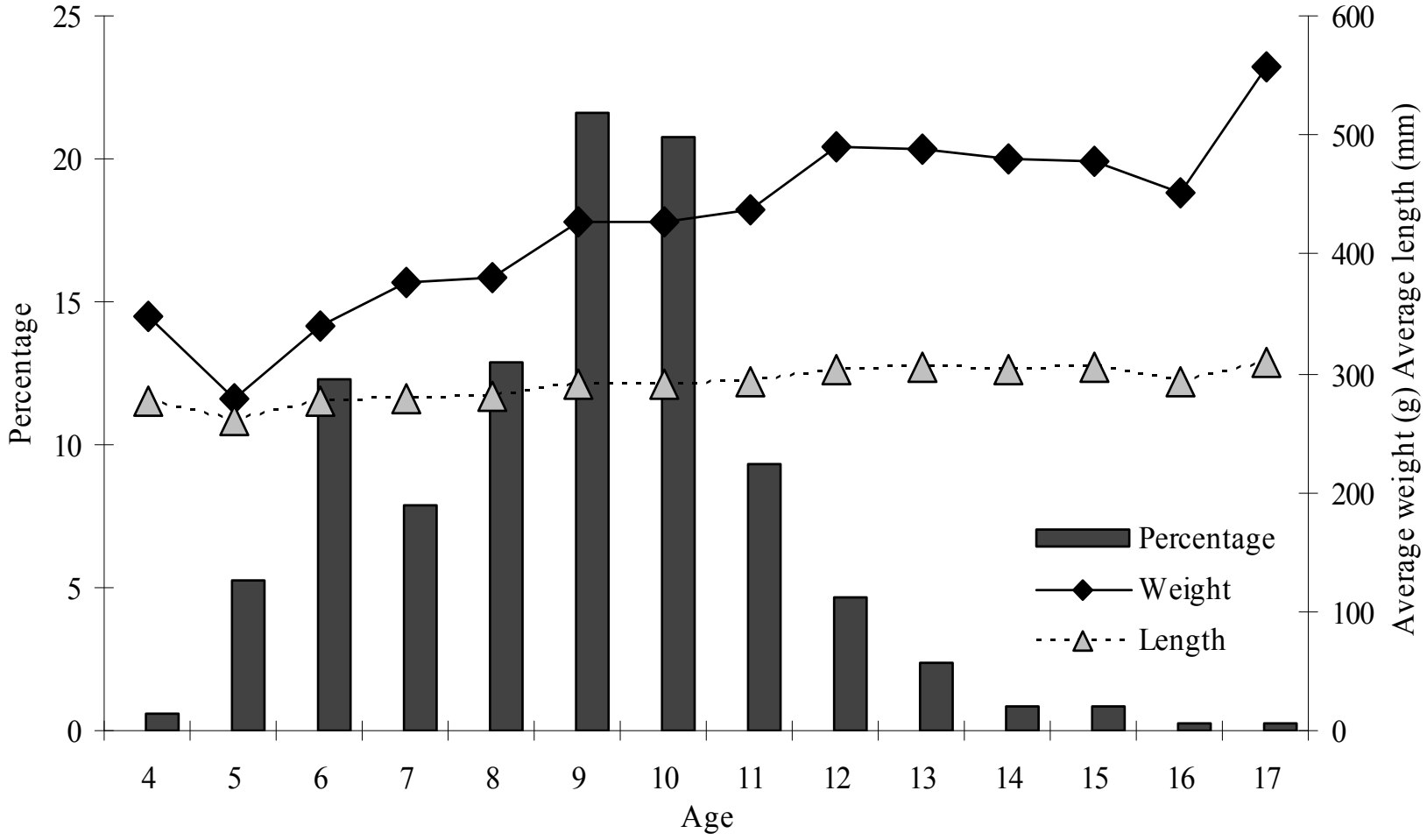

Figure 12.–Estimated average length-at-age (mm), average weight-at-age (g) and age composition of herring harvested in the Aleutian Islands Management Area, 2007 (Sample size = 342).

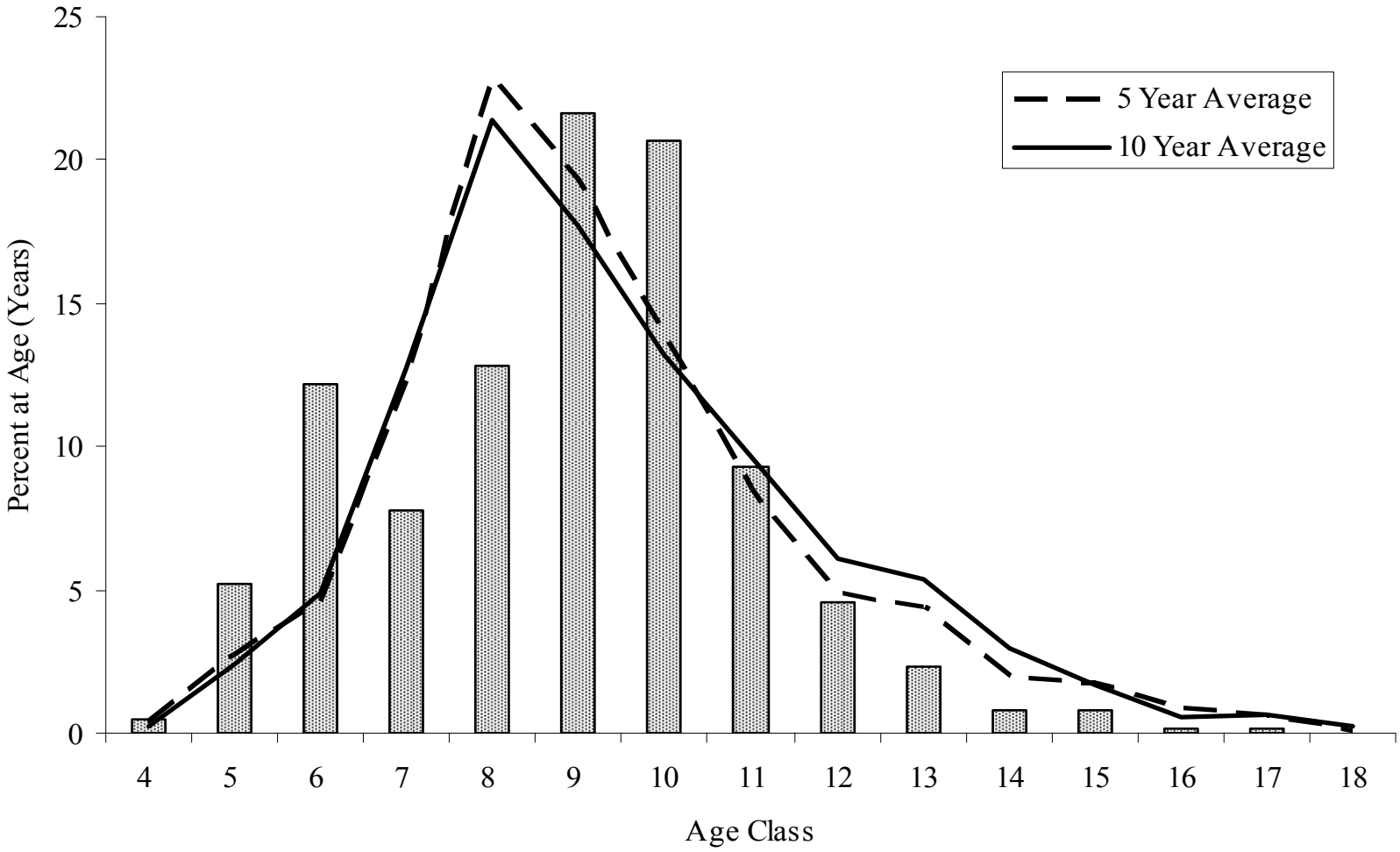

Figure 13.–Estimated age composition of the Aleutian Islands commercial herring food and bait fishery, 2007.

APPENDIX A: ALASKA PENINSULA HERRING SAC ROE FISHERY HARVEST PROJECTION, 2007

Appendix A1.–Alaska Peninsula herring sac roe fishery harvest projection, 2007.

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 North Alaska Peninsula herring sac roe GHL is 150 to 200 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 2007. Historically, the previous year's North Alaska Peninsula herring biomass estimate has been a poor indicator of herring returns in the following year. In 2007, the GHL will be adjusted in season 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 (Tons)	Sliding Scale Exploitation Rate	Allowable Harvest
Less than 1,000	0%	0
1,001 - 1,500	10%	100-150
1,500 - 1,999	10%	150-200
2,000 - 2,500	15%	300-375
2,500 - 3,000	15%	375-450
> 3,000	20%	> 450

Confidence in the North Alaska Peninsula harvest projection 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 2007 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 2007.

APPENDIX B: ARCTIC-YUKON-KUSKOKWIM HERRING OUTLOOK AND MANAGEMENT STRATEGY FOR 2007

ALASKA DEPARTMENT OF FISH & GAME

DIVISION OF COMMERCIAL FISHERIES

Arctic-Yukon-Kuskokwim Region

NEWS RELEASE

November 17, 2006

Arctic-Yukon-Kuskokwim Herring Outlook and Management Strategy for 2007

Projections from postseason escapement estimates suggest that the 2007 spawning biomass for northeastern Bering Sea herring stocks (Security Cove to Norton Sound Districts) will be 62,214 tons, with an anticipated allowable harvest of 12,364 tons. If the return is as expected, only a very small reduction in biomass will be observed in most districts. The most abundant age classes expected to occur in the herring biomass are age 10 (30%), age 5 (29%) and age 11 (13%). Age 9 and older herring are expected to comprise 57% of the returning biomass.

Variability in the quality of aerial survey assessments of biomass and deviations from the assumed survival or recruitment rates may result in the observed biomass being either above or below these projections. Therefore, guideline harvest levels may be adjusted during the season according to observed herring spawning biomass. If determining herring abundance using aerial survey methods is not possible, stock abundance will be assessed using information from the projected biomass, test and commercial catches and spawn deposition observations. In addition, in accordance with the AYK Region harvest strategy, the commercial fishery will not target newly recruited age classes (age 2 through age 5 herring). In all districts, the Department will work cooperatively with fishers and buyers to optimize roe recovery during the 2007 season. In each district, the occurrence and length of fishing periods and harvests will depend on inseason abundance estimates, roe quality, spawning activity, weather conditions, fishing effort and processor interest.

Security Cove District

The 2007 projected return to the Security Cove District is 7,081 tons. A 20% exploitation rate would result in a harvest of 1,416 tons. Commercial fishing will not be allowed until the observed biomass reaches 1,200 tons, or significant spawning activity is observed. Ages 5, 6 and 10 are expected to comprise 69% of the returning biomass (33%, 12% and 24%, respectively). Age 9 and older herring are expected to comprise 49 % of the biomass.

Goodnews Bay District

The management strategy for the Goodnews Bay District will be similar to that planned for Security Cove. The season will open and close by emergency order when a biomass of 1,200 tons or significant spawning activity is observed. The 2007 projected return of herring to the Goodnews Bay

-continued-

District is 3,683 tons. A 20% exploitation rate would result in a harvest of 737 tons. Ages 10, 9, and 5 herring are expected to comprise 64% the biomass (28%, 15%, and 21% respectively). Age 9 and older herring are expected to comprise 59% of the biomass.

Cape Avinof District

Either significant spawning activity or a biomass of 500 tons must be observed before the commercial herring season can be opened. The 2007 projected biomass for the Cape Avinof District is 878 tons. The exploitation rate will be no greater than 15% because of the limited database for this area and to ensure the subsistence fishing priority. A 15% commercial exploitation rate would result in a harvest of 132 tons. Ages 5, 6, and 10 are expected to comprise 69% of the returning biomass (33%, 12%, and 24% respectively). Age 9 and older herring are expected to comprise 49% of the biomass.

Nelson Island District

In the Bering Sea Herring Fishery Management Plan, the Alaska Board of Fisheries set a minimum biomass threshold of 3,000 tons for the Nelson Island District. The inseason estimate of herring biomass must exceed the threshold level before a commercial fishery can be allowed. The spawning biomass projected to return in 2007 to the Nelson Island District is 3,614 tons. At a total exploitation rate of 20%, minus 200 tons (6%) for subsistence harvest, the commercial harvest guideline will be 523 tons. Ages 5, 6, and 10 are expected to constitute 77% of the returning population, contributing 43%, 12% and 22%, respectively. Age 9 and older herring are expected to comprise 40% of the biomass.

Nunivak Island District

The biomass of herring projected to return to the Nunivak Island District in 2007 is 4,054 tons. A 20% exploitation rate would result in a harvest of 811 tons. The commercial season will open when the biomass reaches 1,500 tons or when significant spawning is observed. Ages 5, 6, and 10 are expected to comprise 69% of the returning biomass (33%, 12% and 24%, respectively). Age 9 and older herring are expected to comprise 49% of the biomass.

Cape Romanzof District

The projected biomass of herring to return to Cape Romanzof District in 2007 is expected to be 4,489 tons. At a 20% exploitation rate, the allowable harvest is expected to be 898 tons and will be based on inseason indicators of abundance. Since water turbidity in the Cape Romanzof area generally prevents aerial observations of herring, spawn deposition and test and commercial catch rates will be used to determine the timing and duration of commercial fishing periods. Ages 10, 9, and 5 are expected to comprise 64% of the returning biomass (27%, 15% and 22%, respectively). Age 9 and older herring are expected to comprise 55% of the biomass.

Norton Sound District

-continued-

The biomass of herring projected to return in 2007 to Norton Sound is 38,415 tons. A 20% exploitation rate would result in a harvest guideline of 7,683 tons. A maximum of 320 tons of herring are reserved to allow for the pound fishery to harvest a maximum of 90 tons of product (combined weight of herring roe and kelp). This leaves 7,363 tons for sac roe harvest. The beach seine harvest is, by regulation, 10% of the sac roe projected harvest, or 736 tons. The 2007 herring fishery will be opened by emergency order and the fishery will close by emergency order when up to 20% of the available herring biomass has been harvested. Varied harvest rates may be applied to individual subdistricts based on biomass distribution, roe quality, weather, and sea ice conditions. Ages 10, 11 and 5 are expected to dominate the returning population, contributing 33%, 17% and 28%, respectively. Age 9 and older herring are expected to comprise 61% of the biomass.

Port Clarence District

Generally, the Department does not project an outlook for the Port Clarence fishery because of the lack of data for Port Clarence herring and the limited scope of the fishery. The guideline harvest of 165 tons established by the Board of Fisheries in 1981 will determine the allowable harvest in 2007. This harvest guideline is based on two years of research conducted by the Department in both the Port Clarence and Kotzebue Districts. Even though this guideline has not appeared in the regulation book since 1984, it still represents the best estimate of harvestable biomass.

Table 1. Projections of Pacific herring spawning biomass and harvest guideline for commercial fishing districts in the northeastern Bering Sea, Alaska, 2007.

District	Threshold	2006 Observed Biomass (tons)	2007 Projected Biomass (tons)	Exploitation Rate (%)	2007 Harvest Guideline (tons)
Security Cove	1,200	7,477 [a]	7,081	20	1,416
Goodnews Bay	1,200	4,111 [a]	3,683	20	737
Cape Avinof	500	916	878	15	132
Nelson Island[b]	3,000	3,809 [a]	3,614	14	523
Nunivak Island	1,500	4,260 [a]	4,054	20	811
Cape Romanzof	1,500	4,813	4,489	20	898
Norton Sound	7,000	41,257	38,415	20	7,683
Port Clarence	-	-	-	-	165
Totals			62,214	20	12,364

[a] Represents the projected biomass for 2006. Aerial surveys were incomplete or adversely affected by weather.

[b] Nelson Island commercial harvest is 20% of projected biomass minus 200 st for subsistence harvest.

APPENDIX C: ALEUTIAN ISLANDS AREA DUTCH HARBOR HERRING FOOD AND BAIT FORECAST, 2007

Appendix C1.–Forecasted harvest allocation for Togiak sac roe and Dutch Harbor herring food and bait fisheries, 2007.

This forecast is for the "Dutch Harbor": Unimak, Akutan, and Unalaska Districts and that portion of the Umnak District located east of Samalga Pass, and west of the Adak line at 177° W long, herring food and bait fishery (Chuck Brazil and Fred West, ADF&G, Anchorage, memo November 9, 2007).

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

This forecast is for the "Dutch Harbor": Unimak, Akutan, and Unalaska Districts and that portion of the Umnak District located east of Samalga Pass, and west of the Adak line at 177° W long, herring food and bait fishery (Chuck Brazil and Fred West, ADF&G, Anchorage, memo November 9, 2007).

Harvest Allocation of the 2007 Forecasted Pacific

Herring Run Biomass, Togiak District, Bristol Bay

	Biomass (Tons)	Harvest (Tons)[d]
2007 Forecasted Biomass	134,566	
Exploitation at maximum 20%		
For Total Allowable Harvest		26,913
Togiak Spawn-on-Kelp Fishery (Fixed Allocation)		1,500
Remaining Allowable Harvest		25,413
Dutch Harbor Food/Bait Allocation [a]		**1,779**
Purse Seine Allocation [b]		**1,530**
Pound Fishery Allocation		**100**
Gillnet Allocation [c]		**249**

[a] The Dutch Harbor Food/Bait allocation is 7% of the remaining allowable harvest.

[b] The purse seine allocation for 2007 is 86% of the Dutch Harbor allocation minus the pound fishery allocation of 100 tons.

[c] The gillnet allocation for 2007 is 14% of the Dutch Harbor allocation.

[d] Ton = 2000 lbs

APPENDIX D: ALEUTIAN ISLANDS FOOD AND BAIT HERRING FISHERY EMERGENCY ORDER SUMMARY, 2007

Appendix D1.–Emergency order summary, 2007.

EMERGENCY ORDER NO. 4-FH-M-SP-01-07

EFFECTIVE DATE: 12:00 NOON Tuesday , July 10, 2007

EXPLANATION: The Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area will open to commercial herring fishing with gillnet gear for 48 hours from 12:00 NOON July 10 until 12:00 NOON July 12.

EMERGENCY ORDER NO. 4-FH-M-SP-02-07

EFFECTIVE DATE: 12:00 NOON Thursday, July 12, 2007

EXPLANATION: The Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area will open to commercial herring fishing with gillnet gear for 48 hours from 12:00 NOON July 12 until 12:00 NOON July 14.

EMERGENCY ORDER NO. 4-FH-M-SP-03-07

EFFECTIVE DATE: 12:00 NOON Sunday, July 15, 2007

EXPLANATION: That portion of the Akutan District west of the longitude of Billings Head at 165° 28.67 W. long., the Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area and that portion of Kalekta Bay south of a line running from Erskine Point at 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 purse seine gear for 48 hours from 12:00 NOON July 15 until 12:00 NOON July 17.

EMERGENCY ORDER NO. 4-FH-M-SP-04-07

EFFECTIVE DATE: 12:00 NOON Saturday, July 14, 2007

EXPLANATION: The Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area will remain open to commercial herring fishing with gillnet gear for an additional 48 hours from 12:00 NOON July 14 until 12:00 NOON July 16.

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

EFFECTIVE DATE: 12:00 NOON Monday, July 16, 2007

EXPLANATION: The Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area will remain open to commercial herring fishing with gillnet gear for an additional 48 hours from 12:00 NOON July 16 until 12:00 NOON July 18.

EMERGENCY ORDER NO. 4-FH-M-SP-06-07

EFFECTIVE DATE: 12:00 NOON Tuesday, July 17, 2007

EXPLANATION: That portion of the Akutan District west of the longitude of Billings Head at 165° 28.67 W. long., the Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area and that portion of Kalekta Bay south of a line running from Erskine Point at 53° 58.92' N. lat., 166° 16.5' W. long. to Cape Kalekta at 54° N. lat., 166° 22' W. long. will remain open to commercial herring fishing with purse seine gear for 48 hours from 12:00 NOON July 17 until 12:00 NOON July 19.

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

EFFECTIVE DATE: 12:00 NOON Wednesday, July 18, 2007

EXPLANATION: The Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area will remain open to commercial herring fishing with gillnet gear for an additional 48 hours from 12:00 NOON July 18 until 12:00 NOON July 20.

EMERGENCY ORDER NO. 4-FH-M-SP-08-07

EFFECTIVE DATE: 12:00 NOON Thursday, July 19, 2007

EXPLANATION: That portion of the Akutan District west of the longitude of Billings Head at 165° 28.67 W. long., the Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area and that portion of Kalekta Bay south of a line running from Erskine Point at 53° 58.92' N. lat., 166° 16.5' W. long. to Cape Kalekta at 54° N. lat., 166° 22' W. long. will remain open to commercial herring fishing with purse seine gear for 48 hours from 12:00 NOON July 19 until 12:00 NOON July 21.

EMERGENCY ORDER NO. 4-FH-M-SP-09-07

EFFECTIVE DATE: 12:00 NOON Friday, July 20, 2007

EXPLANATION: The Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area will remain open to commercial herring fishing with gillnet gear for an additional 48 hours from 12:00 NOON July 20 until 12:00 NOON July 22.

EMERGENCY ORDER NO. 4-FH-M-SP-10-07

EFFECTIVE DATE: 12:00 NOON Saturday, July 21, 2007

EXPLANATION: That portion of the Akutan District west of the longitude of Billings Head at 165° 28.67 W. long., the Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area and that portion of Kalekta Bay south of a line running from Erskine Point at 53° 58.92' N. lat., 166° 16.5' W. long. to Cape Kalekta at 54° N. lat., 166° 22' W. long. will remain open to commercial herring fishing with purse seine gear for 48 hours from 12:00 NOON July 21 until 12:00 NOON July 23.

EMERGENCY ORDER NO. 4-FH-M-SP-11-07

EFFECTIVE DATE: 1012:00 NOON Sunday, July 22, 2007

EXPLANATION: The Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area will remain open to commercial herring fishing with gillnet gear for an additional 48 hours from 12:00 NOON July 22 until 12:00 NOON July 24.

EMERGENCY ORDER NO. 4-FH-M-SP-12-07

EFFECTIVE DATE: 12:00 NOON Monday, July 23, 2007

EXPLANATION: That portion of the Akutan District west of the longitude of Billings Head at 165° 28.67 W. long., the Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area and that portion of Kalekta Bay south of a line running from Erskine Point at 53° 58.92' N. lat., 166° 16.5' W. long. to Cape Kalekta at 54° N. lat., 166° 22' W. long. will remain open to commercial herring fishing with purse seine gear for 48 hours from 12:00 NOON July 23 until 12:00 NOON July 25.

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EMERGENCY ORDER NO. 4-FH-M-SP-13-07

EFFECTIVE DATE: 12:00 NOON Tuesday, July 24, 2007

EXPLANATION: The Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area will remain open to commercial herring fishing with gillnet gear for an additional 24 hours from 12:00 NOON July 24 until 12:00 NOON July 25.

EMERGENCY ORDER NO. 4-FH-M-SP-14-07

EFFECTIVE DATE: 12:00 NOON Wednesday, July 25, 2007

EXPLANATION: That portion of the Akutan District west of the longitude of Billings Head at 165° 28.67 W. long., the Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area and that portion of Kalekta Bay south of a line running from Erskine Point at 53° 58.92' N. lat., 166° 16.5' W. long. to Cape Kalekta at 54° N. lat., 166° 22' W. long. will remain open to commercial herring fishing with purse seine gear for 48 hours from 12:00 NOON July 25 until 12:00 NOON July 27. The Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area will remain open to commercial herring fishing with gillnet gear for an additional 48 hours from 12:00 NOON July 25 until 12:00 NOON July 27.

EMERGENCY ORDER NO. 4-FH-M-SP-15-07

EFFECTIVE DATE: 12:00 NOON Thursday, July 26, 2007.

EXPLANATION: The Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area will open to commercial herring fishing with gillnet gear for an additional 48 hours from 12:00 NOON July 30 until 12:00 NOON August 1.

EMERGENCY ORDER NO. 4-FH-M-SP-16-07

EFFECTIVE DATE: 12:00 NOON Friday, July 27, 2007

EXPLANATION: The Unalaska Bay Section of the Alaska Peninsula-Aleutian Islands Herring Management Area will remain open to commercial herring fishing with gillnet gear for an additional 48 hours from 12:00 NOON August 1 until 12:00 NOON August 3.