

4K95-19

ALASKA PENINSULA AND ALEUTIAN ISLANDS MANAGEMENT
AREAS SAC ROE HERRING MANAGEMENT PLAN, 1995

By

James N. McCullough

and

Rodney D. Campbell

Regional Information Report¹ No. 4K95-19

Alaska Department of Fish and Game
Commercial Fisheries Management and Development Division
211 Mission Road
Kodiak, Alaska

April 1995

¹The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished division reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data; this information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Division of Commercial Fisheries.

TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES	i
LIST OF FIGURES	i
INTRODUCTION	1
Local ADF&G Offices	3
MANAGEMENT PLAN	4
Registration Requirements	4
Tenders and Processors	4
Fishing Vessels	4
Fishing Periods	4
Catch Reporting	5
Fish Tickets	5
Gillnet And Seine Specifications	6
Aircraft	6
Cooperation	6
North Peninsula	6
South Peninsula	8
Aleutian Islands	8
LITERATURE CITED	10
TABLES	11
FIGURES	14

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Alaska Peninsula Management Area commercial sac roe herring catch by time period and area, 1979-94	11
2. Alaska Peninsula and Aleutian Islands Management Areas commercial sac roe herring harvest guideline levels by management area, 1995	12

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Map of the Alaska Peninsula Management Area, the study area on the Pacific Ocean portion of map is from Kupreanof Point to Unimak Island and on the Bering Sea from Cape Sarichef to Cape Menshikof	14
2. Map of the Alaska Peninsula Area from Cape Sarichef to Pavlof Bay with the statistical herring fishing areas shown	15
3. Map of the Port Moller District with the statistical herring fishing areas shown	16
4. Map of the Alaska Peninsula Area from Entrance Point to Cape Menshikof with the statistical herring fishing areas shown	17
5. Map of the Alaska Peninsula Management Area from Kupreanof Point to the King Cove District with the district and section boundaries shown	18
6. Map of the Alaska Peninsula Area from Bear Bay to Kupreanof Point with the statistical herring fishing areas shown	19
7. Map of the Aleutian Islands, "Dutch Harbor" Management Area, the study area is from the Unimak District to Samalga Pass	20
8. Map of the Aleutian Islands Area from Umnak Pass to Unimak Pass with the statistical herring fishing areas shown	21

INTRODUCTION

This document is intended to provide commercial herring fishers and buyers with information and guidelines the Alaska Department of Fish and Game (ADF&G) will use to manage the Alaska Peninsula and Aleutian Islands Management Areas commercial sac roe herring fisheries.

The Alaska Peninsula and Aleutian Islands Management Areas (Figures 1-8) are described as Management Area "M" and are divided into three subareas: (1) the North Peninsula, consisting of Bering Sea waters extending west from Cape Menshikof to Cape Sarichef; (2) the South Peninsula, consisting of Pacific Ocean coastal waters extending west of Kupreanof Point to 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 of 163°30' W.long. (the south side of Unimak Island near Cape Lazaref) to the International Date Line.

The North Peninsula fishery has occurred annually since 1982 while the South Peninsula sac roe herring fishery has occurred annually since 1979 (except in 1983 when the Alaska Board of Fisheries allocated the entire sac roe catch to the food and bait fishery; Table 1; McCullough and Campbell 1995). The Aleutian Islands Area has had no sac roe deliveries. All fisheries continue to be open-to-entry.

The sac roe fisheries target on individual herring stocks immediately prior to spawning to ensure the greatest roe development and maximum roe recovery. The desired product during the sac roe fisheries is pre-spawn herring having a roe recovery of about 10%, roe recovery standards are determined by industry. The 1990-94 North Peninsula sac roe fishery averaged 1,236.1 tons. The 1990-94 South Peninsula sac roe fishery averaged 151.0 tons. By regulation, both purse seine and gillnet gear are allowed to fish in any open area. Gillnet gear has not been used with much success, by regulation both gears have similar fishing times during each fishing period.

The commercial fisheries are intended to occur with minimal waste of the resource and within conservation limits as determined by ADF&G. ADF&G does not manage the Alaska Peninsula and Aleutian Islands Management Areas commercial sac roe herring harvest to enhance the value of the landed product because adequate inseason information and staff are not available (ADF&G 1994; 5 AAC 27.059). ADF&G will manage the fisheries per the statewide general herring guideline harvest policy which provides for harvests not to exceed 20% of the available spawning biomass (ADF&G 1994; 5 AAC 27.060).

Herring quality will be determined by the permit holder and the buyer. Roe recovery will not be a criteria for emergency openings or closures except in cases where excessive wastage is expected to be a factor. Permit holders are encouraged to check with their markets prior to fishing to determine acceptable minimum size, weight, and roe percentages. All herring harvested during the sac roe season which are sold as bait or discarded due to quality problems will be included as part of the total sac roe herring harvest.

Management units with guideline harvest levels (Table 2) are areas with individual stocks and have a history of sac roe harvests. Management units lacking historic harvests and biomass

estimates are open for exploration and may potentially support sac roe fisheries. Additional management units are open for exploration where fisheries occur outside of bays and lagoons and are not perceived to have habitat suitable for herring spawning. Due to the lack of data from exploratory areas, annual harvest levels may fluctuate considerably until more information about the stock status is obtained.

Inseason emergency order closures for each area will occur as the guideline harvest levels for each unit are achieved. Closures may be necessary prior to attaining a guideline harvest level if the fishery performance or aerial surveys indicate that a stock biomass is less than anticipated. Harvests in excess of their guideline harvest level will occur if the assessed available spawning biomass warrants continued catches. Closures will be used to ensure that excessive harvests in exploratory areas do not occur.

The North Peninsula sac roe guideline harvest level has been reduced to account for North Peninsula herring that are probably harvested during the Aleutian Islands (Dutch Harbor) food and bait fishery (Funk 1991). Non-Togiak herring stocks comprise about 22% of the Aleutian Islands herring catch; due to the July 16 opening date of the food and bait fishery, North Peninsula herring stocks probably comprise the majority of the non-Togiak herring component. The 1995 Aleutian Islands food and bait harvest allocation is 1,982 tons (K.A. Rowell, Alaska Department of Fish and Game, Anchorage, personal communication 1995). To insure that North Peninsula herring stocks are not harvested beyond a 20% exploitation rate for both the sac roe and food/bait fisheries combined, a sac roe exploitation rate of 16% of the spawning biomass will be the management goal.

Inseason emergency orders will be broadcast on the single side band radio on 4125 and 3230 Khz and on the VHF radio on channels 6 and 72, or other channels if arrangements are made with the local representative of ADF&G. Current announcements will be available 24-hours a day on the ADF&G record-a-phone at 383-2334.

Local offices of the Alaska Department of Fish and Game are:

Sand Point:

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

phone (907) 383-2066
fax (907) 383-2606
record (907) 383-2334
VHF 6 and 73
Single Side Band 3230

Dutch Harbor:

Alaska Department of Fish and Game
P.O. Box 308
Dutch Harbor, AK 99692-0308

phone (907) 581-1219
fax (907) 581-1572
VHF 6
Single Side Band 4125

Cold Bay:

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

phone (907) 532-2419
fax (907) 532-2470
VHF 6
Single Side Band 3230 and 4125

Port Moller:

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

phone (907) 987-2216
fax (907) 987-2215
VHF 72
Single Side Band 3230

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

phone (907) 987-2216
fax (907) 987-2215
VHF 72
Single Side Band 3230

MANAGEMENT PLAN

Registration Requirements

Tenders and Processors

Each tender operator and buyer-processor must register in person at an ADF&G office. In North Peninsula fisheries, registration of tenders and buyer-processors will occur on-the-grounds by the skipper/owner of the tender or buyer-processor only at the ADF&G Port Moller office. Registration of tenders and buyer-processors in North Peninsula waters outside of the Port Moller District, may be done using radio, fax, or phone. Registration must occur prior to buying or tendering herring in North Peninsula waters. For South Peninsula and Aleutian Islands fisheries, registration of tenders and buyer-processors will be conducted by an ADF&G representative at the Canoe Bay field camp, Cold Bay, Sand Point, or Dutch Harbor offices. Registration must occur prior to buying or tendering herring in South Peninsula and Aleutian Islands waters. Catch reporting instructions will be explained in detail during registration. If registering in person causes undue inconvenience, other arrangements may be possible, but ADF&G in Sand Point or Port Moller must be contacted.

Fishing Vessels

There are no special vessel registration requirements for either seine or gillnet vessels.

Fishing Periods

Fishing periods will be seven days per week and 24 hours per day in the Amak District of the North Peninsula and all South Peninsula and Aleutian Islands waters. If active gear levels increase to a point where the harvest may exceed the guideline harvest level, the normal continuous open fishing periods in the Amak District of the North Peninsula and South Peninsula and Aleutian waters may be changed to hourly openings followed by a closure to collect, summarize, and update all harvest data.

In the Port Moller and Port Heiden Districts of the North Peninsula, fishing periods will be announced by emergency order. A minimum of 6 hours notice will initially be given prior to the opening of any fishing period in the Port Moller and Port Heiden Districts, unless it is an extension of a fishing period in progress. If effort decreases to a level where overharvesting a stock does not become a concern, then the 6 hour notice may be reduced or eliminated.

Catch Reporting

Inseason management of the sac roe fisheries rely primarily on harvest data collected by ADF&G from fishers, tender operators, spotter pilots, and processor companies. During the 1995 season the Port Moller, Cold Bay, and Sand Point ADF&G office staff and a field crew in Canoe Bay will monitor the fisheries.

Processors and independent tender operators are required to provide timely daily catch reports of herring deliveries by management unit. Herring catches onboard tenders that have not yet delivered to the processor must also be reported daily. Timely and accurate harvest reports are critical in order to assess herring harvests and guide the management of each fishery. Inaccurate or late information could result in premature area closures or the guideline harvest being exceeded. To date industry cooperation has been excellent in support of the fisheries.

If monitoring of the Alaska Peninsula and Aleutian Islands Management Areas sac roe fisheries becomes impossible due to late catch reporting procedures, stringent inseason measures will be implemented to prevent excessive harvests. Such measures may include, but will not be limited to, frequent closures to assess fish ticket information, followed by notice (usually 24 hour) of the next fishing period. Failure to adhere to the reporting requirements specified on the tender registration form will result in enforcement action. Timely and accurate catch information provided by the processors will be essential in managing the fisheries. Processors and tender operators will be required to provide daily tallies of herring harvested (report into ADF&G on a daily basis even if no herring were purchased) by area and must provide accurate estimates of herring onboard tenders that have not yet delivered to the processor. Individual codes will be provided for each tender or processor required to report catches on a daily basis.

Fish Tickets

Fishers must provide specific catch locations (statistical area or a specific landmark) to buyers, so that they can be recorded on fish tickets.

Fish tickets must be delivered to a local ADF&G commercial fishery representative prior to transporting herring out of any subarea (North and South Peninsula or Aleutian Islands), and before completing operations and leaving Management Area M and no later than 10 days after termination of buying operations in the area. If delivering fish tickets directly to ADF&G personnel causes undue inconvenience, other arrangements can be made through contacting ADF&G at either Port Moller or Sand Point. For information and catch reporting during the sac roe herring fisheries in the Aleutian Islands west of Unimak contact ADF&G in Dutch Harbor on Single Side Band 4125 or VHF 6 radios.

Gillnet And Seine Specifications (5 AAC 27.631 and 5 AAC 27.632 in part)

The aggregate length of herring gillnets in use by a herring CFEC permit holder may not exceed 150 fathoms.

The interim-use or entry permit holder must be physically present while the gillnet is being fished.

Each drift gillnet in operation must have a buoy at one end and the opposite end must be attached to the fishing vessel. Each set gillnet in operation must be anchored and buoyed at both ends. Each buoy must be plainly and legibly marked with the permanent vessel license plate number (ADF&G number) of the vessel operating the gear. The buoy may bear only a single number and this number must be that of the vessel used in operating the gear. The numbers must be painted on the top one-third of the buoy in numerals at least four inches in height, one-half inch in width, and in a color contrasting to that of the buoy. The buoy markings must be visible on the buoy above the water surface.

No purse seine may be more than 1,000 meshes in depth and more than 100 fathoms in length.

Aircraft

There is no restriction on the use of aircraft.

Cooperation

Cooperation of fishers, tender operators, spotter pilots, and processors will be appreciated when ADF&G personnel request herring samples from the commercial catch, or from juvenile or spawnout schools inadvertently seined. Samples will be used for monitoring age composition, which assists in determining the health of a stock and in forecasting next years run strength. ADF&G will also be monitoring spawning activities and will be soliciting information on commercial herring sightings to supplement information gathered by ADF&G. Fishers and spotter pilots are encouraged to provide biomass and spawning information to ADF&G. These reports will be treated confidentially. Past cooperation has been excellent and has proven valuable in evaluating stock status and in gaining management information.

North Peninsula

The 1995 North Peninsula sac roe guideline harvest level is approximately 1,100 tons.

By emergency order (number 4-F-M-SP-01-95) the Amak District commercial sac roe herring fishery is from April 15 through June 30. Commercial herring fishing in the Amak District is continuous from the opening date of the district (April 15). The Port Moller and Port Heiden

Districts may open for commercial herring fishing from April 15 to June 30 but only during periods established by subsequent emergency order(s). A minimum six hour advance notice will be given prior to any fishing period in the Port Moller and Port Heiden Districts unless it is an extension of a fishing period. All North Peninsula sac roe herring fisheries will close on June 30, however if sac roe stocks are discovered during the July 1 through July 15 time period, appropriate locations can be opened to sac roe herring fishing by subsequent emergency order(s). ADF&G's ability to monitor herring fisheries becomes limited by mid-June, which may be a consideration in shortening fishing periods and seasons.

The season will close for each stock by emergency order as their respective guideline harvest levels are achieved; or when fishery performance and stock performance indicate that deviations from the guideline harvest levels are warranted (where actual harvests occur at levels greater or lesser than expected); or by July 1. Stocks which are considered under-exploited will remain open for adequate exploitation to occur or until July 1, the current emergency order closure date. During the sac roe season, stocks which have been closed to harvesting may be reopened if it is determined by ADF&G that more fish in spawning condition have moved into the area, increasing the available spawning biomass to the point that the initial exploitation rate has dropped substantially below 16%. When considering reopening an area, ADF&G will consider effort and establish a new guideline harvest level.

The Amak District will be open for continuous exploration. No reported catches nor biomass estimates have been made for the Amak District. Guideline harvest levels have not been established for the Amak District, nor the Western and Deer Island Sections of the Port Moller District (Table 2). Catches from these areas will be kept small until an estimate is made of the stock biomass by ADF&G. ADF&G's monitoring of exploratory commercial activity will be accomplished by requiring industry to report catches and by ADF&G aerial surveys.

Wastage of herring occurred in the Port Moller and Port Heiden Districts during the 1991 and 1992 seasons. In 1991, herring had been feeding on krill which resulted in unmarketable "belly burned" fish. If "belly burned" fish become a problem during the 1995 season, fishing periods may be shortened so that the daily tendering and processing capacity on-the-grounds will not be exceeded. In 1992, the bulk of the North Peninsula harvest occurred shortly after record harvests in the Togiak fishery, this severely limited processing and tender capacity. The limited processor capacity sometimes caused North Peninsula herring to be held for days before processing which resulted in wastage. Limited tender capacity also caused wastage when fishers caught herring but had no tenders available to transport the herring to a processor. If tender and processor capacity is limited and wastage problems are anticipated, fishing periods will be delayed until sufficient tender and processor capacity is available to transport and process the harvest. In 1992, several purse seine sets were made near the head of Port Heiden Bay. The shallow waters and sand bars prevented tenders from reaching these fishing vessels. The mortality rate on the released herring was excessive. To prevent a recurrence of this wastage problem, Port Heiden Bay will be closed for the duration of herring season south of 56°50' N. latitude (Figure 4).

South Peninsula

The 1995 South Peninsula sac roe guideline harvest level is approximately 150 tons.

By emergency order (number 4-F-M-SP-01-95) the Sand Point, Pavlof, and King Cove Districts commercial sac roe herring fisheries are from April 15 through July 15. Fishing periods are continuous from the opening date of each fishery. However, if ADF&G's ability to monitor the herring fisheries becomes limited, the department may have to consider shortening fishing periods and seasons.

The season will close for each stock by emergency order as their respective guideline harvest levels are achieved, or when fishery performance and stock performance indicate that deviations from the guideline harvest levels are warranted (where actual harvests occur at levels greater or lesser than expected). Stocks which are considered under-exploited will remain open for adequate exploitation to occur, or until the July 15 regulatory closure date. During the sac roe season, stocks which have been closed to harvesting may be reopened if it is determined by ADF&G that more fish in spawning condition have moved into the area, increasing the available spawning biomass to the point that the initial exploitation rate has dropped substantially below 20%. When considering reopening an area, ADF&G will consider effort and establish a new guideline harvest level.

The General Section (Shumagin Islands) of the Sand Point District, the Seal Cape-Wosnesenski Section of the Pavlof District, and the general Section of the King Cove District will be open for continuous exploration. No biomass estimates have been made for these sections, nor have guideline harvest levels been established. Catches from these sections will be kept small (no more than 50 tons of herring will be allowed to be harvested from waters near any single island or bay) until an estimate is made of the stock biomass by ADF&G. ADF&G monitoring of exploratory commercial activity will be accomplished by requiring industry to report catches and by ADF&G aerial surveys.

Aleutian Islands

By emergency order (number 4-F-M-SP-01-95) the Unimak, Akutan, Unalaska, Umnak, and Adak Districts commercial sac roe herring fishery is from April 15 through June 15. Aleutian Islands sac roe herring fisheries will close on June 15, however if sac roe stocks are discovered during the June 15 through July 15 time period, appropriate locations can be opened to sac roe herring fishing by emergency order(s). Fishing periods are continuous from the opening date of each fishery. However, ADF&G's ability to monitor herring fisheries becomes limited by mid-June, this may be a consideration in shortening fishing periods.

Information on Aleutian herring spawn is limited to Margarets Bay in Unalaska Harbor where a few herring in ripe condition were sampled by ADF&G in 1983 and 1984. No biomass estimates have been made of any Aleutian stocks, nor have guideline harvest levels been established. If spawning herring are harvested the season will close for each stock by emergency

order when fishery performance and stock performance indicate closures are warranted (where actual harvests occur at levels greater or lesser than expected). Stocks which are considered under-exploited will remain open for adequate exploitation to occur or until the June 15 emergency order closure date. During the sac roe season, stocks which have been closed to harvesting may be reopened if it is determined by ADF&G that more herring in spawning condition have moved into the area, increasing the available spawning biomass to the point that the initial exploitation rate has dropped substantially below 20%. When considering reopening an area, ADF&G will consider effort and establish a new guideline harvest level.

All Aleutian Islands Districts will be open for continuous exploration. Catches from these districts will be kept small (no more than 50 tons of herring will be allowed to be harvested from waters near any single island or bay) until an estimate is made of the stock biomass by ADF&G. ADF&G's monitoring of exploratory commercial activity will be accomplished by requiring industry to report catches and by ADF&G aerial surveys.

LITERATURE CITED

- ADF&G (Alaska Department of Fish and Game). 1994. 1994-95 Commercial herring fishing regulations, 1994 edition. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Juneau.
- McCullough, J.N., and R.D. Campbell. 1995. Alaska Peninsula and Aleutian Islands Management Areas sac roe herring report and the Aleutian Islands Management Area food and bait herring report, 1994. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report 4K95-2, Kodiak.
- Funk, F.C. 1991. Overview of Bering Seas herring migration, stock status, and commercial fisheries. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 5J91-13, Juneau.

Table 1. Alaska Peninsula Management Area commercial sac roe herring catch by time period and area, 1979-94.

Year	North Peninsula		South Peninsula		Total
	Harvest (Tons)	Time Period	Harvest (Tons)	Time Period	
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		797.4	May 9-June 23	797.4
1982	505.5	May 31-June 12	138.3	May 31-June 14	643.8
1983	627.0	May 9-May 29	0.0		627.0
1984	431.2	May 24-June 8	210.4	May 13-June 1	641.6
1985	710.2	May 24-June 4	287.8	June 1-June 11	998.0
1986	894.4	May 18-May 30	281.9	June 7-June 14	1,176.3
1987	513.8	May 9-June 5	319.0	June 8-June 19	832.8
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	1,470.5
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	98.1
<hr/>					
1990-94 Average	1,236.1		151.0		1,387.2

Table 2. Alaska Peninsula and Aleutian Islands Management Areas sac roe herring harvest guideline levels, by management area, 1995.^a

Management Area	Sac Roe Guideline Harvest In Short Tons
<i>North Peninsula</i>	
Amak District	b
Port Moller District ^c	
Western Section	b
Deer Island Section ^d	
Herendeen Bay Section	200
Inner Moller Bay Section	200
Outer Moller Bay	650
Bear River Section ^e	50
Port Heiden District ^f	b
<i>North Peninsula Total</i>	<i>1,100</i>
<i>South Peninsula</i>	
Sand Point District	
Stepovak Bay Section	50
Swedania Point-Balboa Bay Section	b
Point Aliaksin-Beaver Bay Section	b
General Section	b
Pavlof District	
Canoe Bay Section	100
Pavlof Bay Section	b
Seal Cape-Wosnesenski Section	b
General Section (Volcano Bay)	b
King Cove District	
Belkofski Section	b
Deer Passage Section	b
Cold Bay Section	b
General Section	b
<i>South Peninsula Total</i>	<i>150</i>
<i>Aleutian Islands</i>	
Unimak District	b
Akutan District	b
Unalaska District	b
Umnak District	b
Adak District	b
<i>Guideline Harvest Total^g</i>	<i>1,250</i>

-Footnotes Continued On Next Page-

Table 2. (page 2 of 2)

- ^a The Aleutian Islands Management Area is open for exploration; no deliveries have ever been made from the Aleutian Islands. Portions of a section, district, or area may be closed if it is suspected that additional harvests in a given location will exceed 20% of the spawning biomass.
- ^b All areas without guideline harvest levels are open for exploration. Harvests in these areas will be kept small until ADF&G is able to document the spawning biomass. For the General Section of the Sand Point District (Shumagin Islands), Seal Cape-Wosnesenski Section, the General Section of the King Cove District, Amak District, Western Section of the Port Moller District, and the Aleutian Islands, no more than 50 tons of herring will be allowed to be harvested from the waters near any single island or bay in exploratory areas unless ADF&G documents a herring biomass that would allow a larger harvest.
- ^c Herring abundance in the Port Moller District is difficult to document. The 1995 herring abundance may justify a larger catch than 1,100 tons, however to increase the guideline harvest level a larger than expected spawning biomass must be documented by ADF&G.
- ^d Herring harvested in the Deer Island Section of Herendeen Bay will be counted against the Herendeen Bay guideline harvest level.
- ^e Herring harvested along the Bering Sea coast will be counted against the Port Moller and Herendeen Bays guideline harvest level if it is suspected that these herring were traveling into Port Moller or Herendeen Bays.
- ^f In 1992, commercial quantities of herring were harvested for the first time in the Port Heiden District. The 1995 herring abundance may justify a catch larger than 50 tons, however to increase the guideline harvest level a larger than expected spawning biomass must be documented by ADF&G. The commercial herring fishery will be managed conservatively until adequate data is obtained to warrant a liberal management approach. Herring harvested along the Bering Sea coast will be counted against the Port Heiden guideline harvest level if it is suspected that these herring were traveling in to Port Heiden Bay.
- ^g Total does not include harvests that may occur in areas open for exploration.

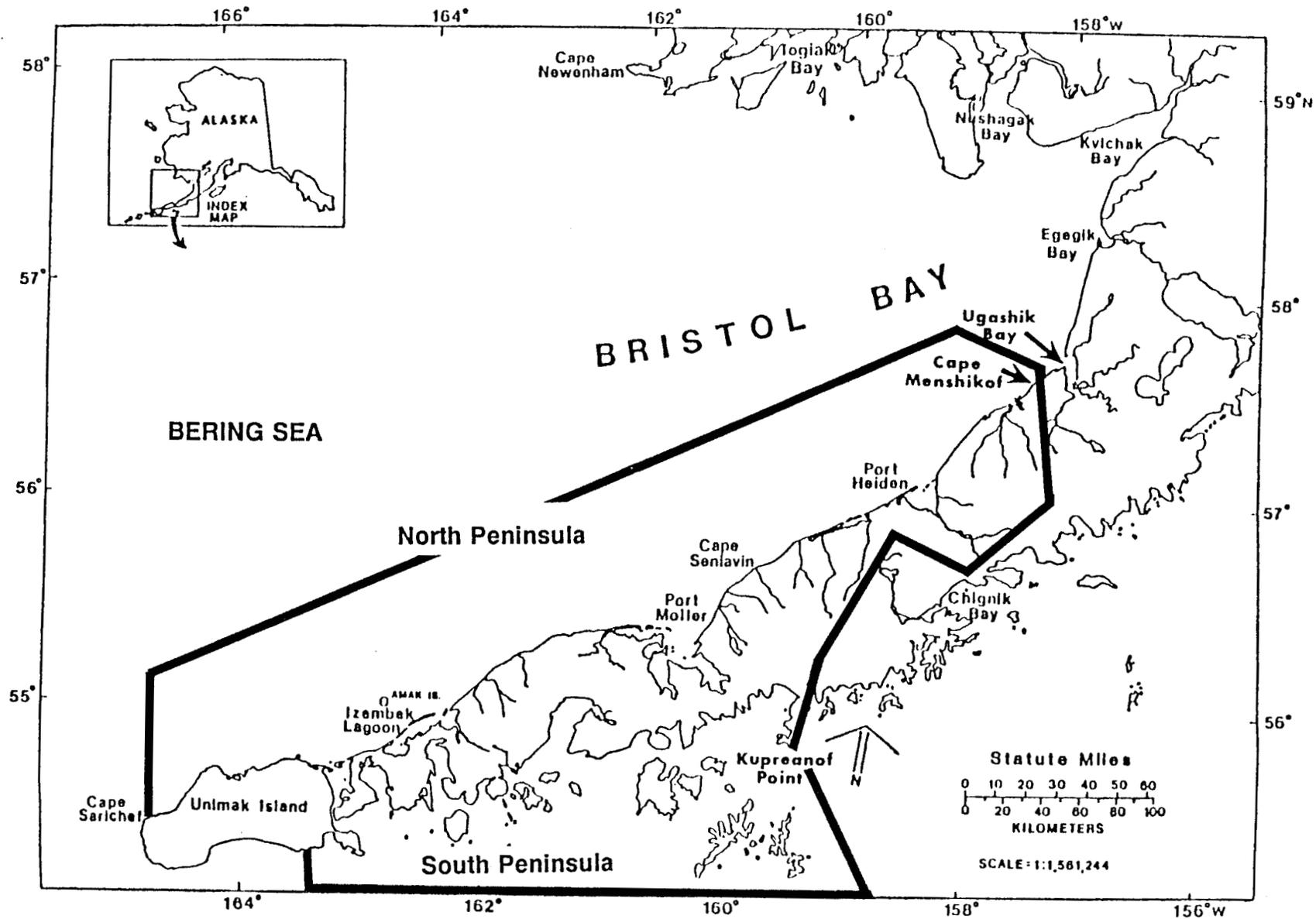


Figure 1. Map of the Alaska Peninsula Management Area, the study area on the Pacific Ocean portion of map is from Kupreanof Point to Unimak Island and on the Bering Sea from Cape Sarichef to Cape Menshikof.

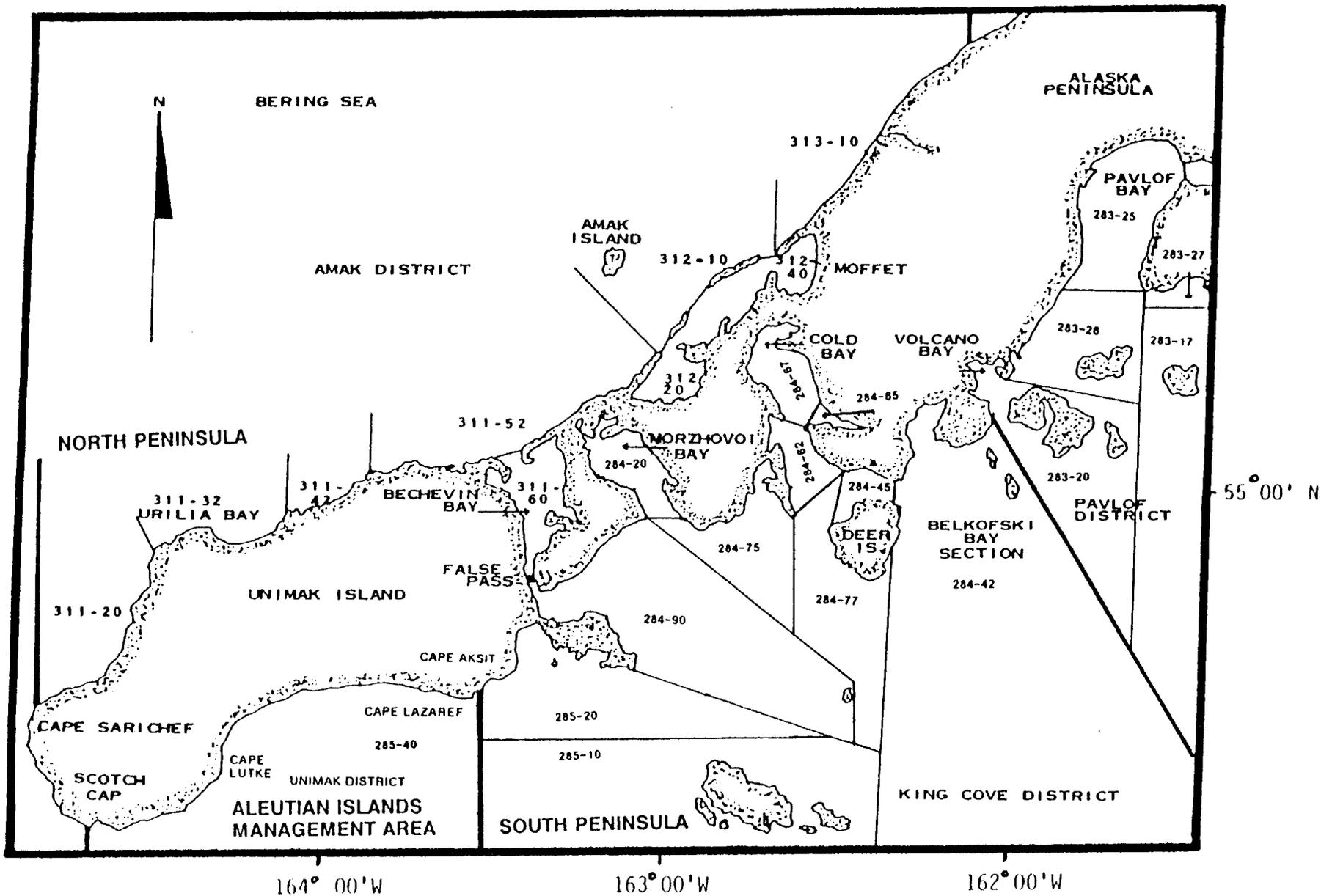


Figure 2. Map of the Alaska Peninsula Area from Cape Sarichef to Pavlof Bay with the statistical herring fishing areas shown.

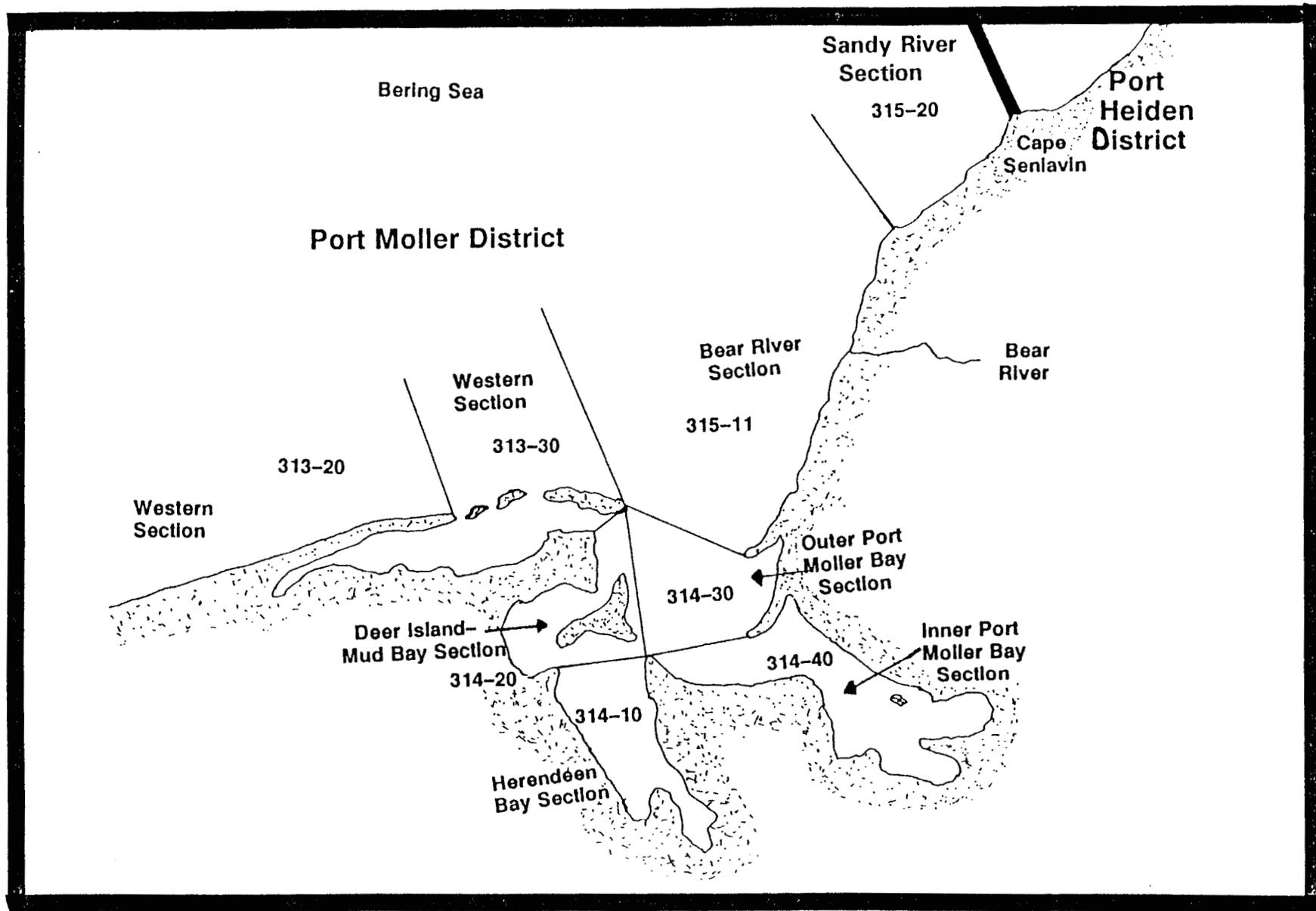


Figure 3. Map of the Port Moller District with the statistical herring fishing areas shown.

Port Moller
District

Port Heiden District

318-20
CAPE
MENSHIKOF

Cinder River

317-10

316-25

Strogonof Point

317-20
Port Heiden

316-20

316-22
Ilnik

316-10

Three Hills

Bear
River

315-11

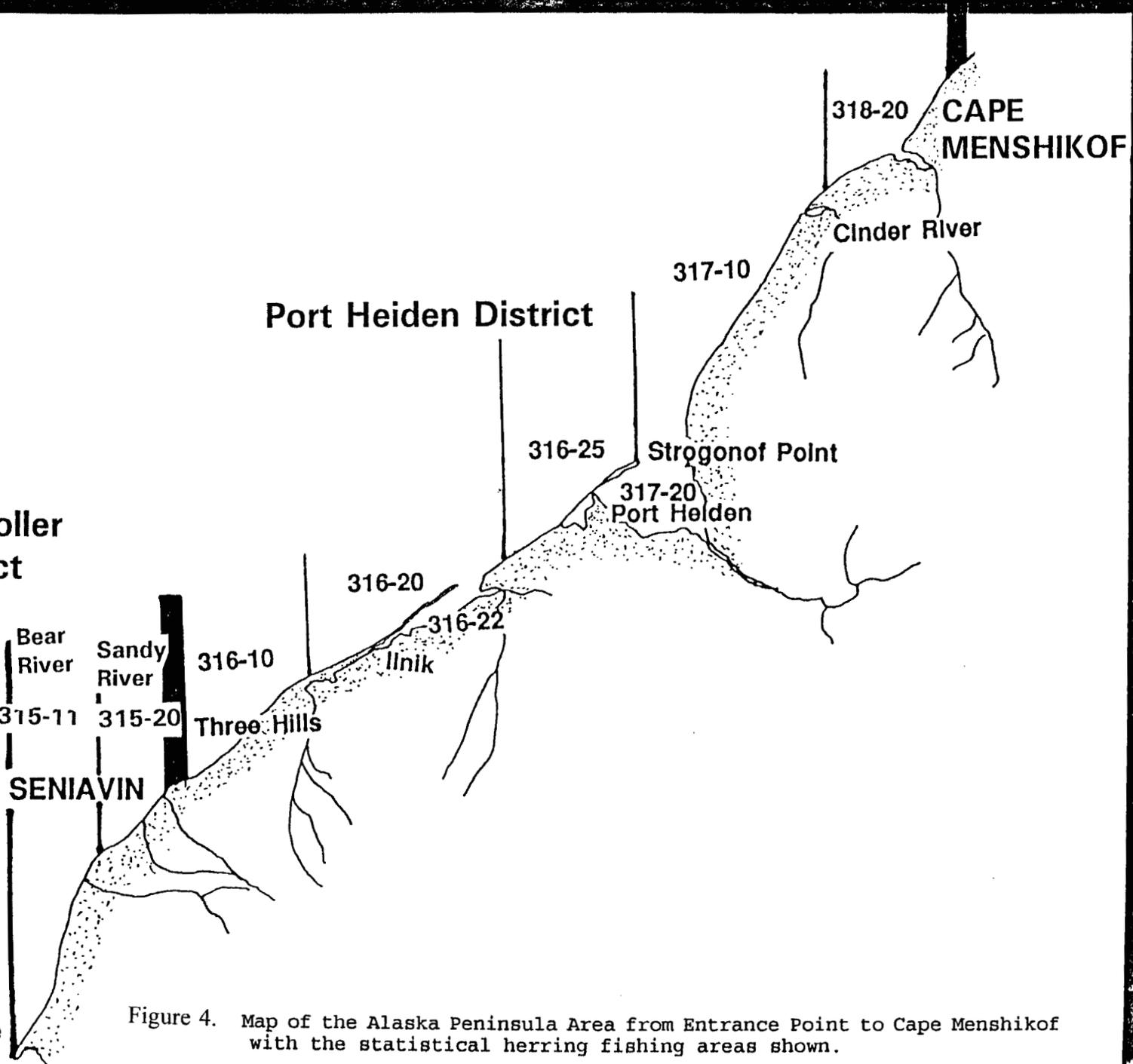
Sandy
River

315-20

CAPE SENIAVIN

Entrance
Point

Figure 4. Map of the Alaska Peninsula Area from Entrance Point to Cape Menshikof with the statistical herring fishing areas shown.



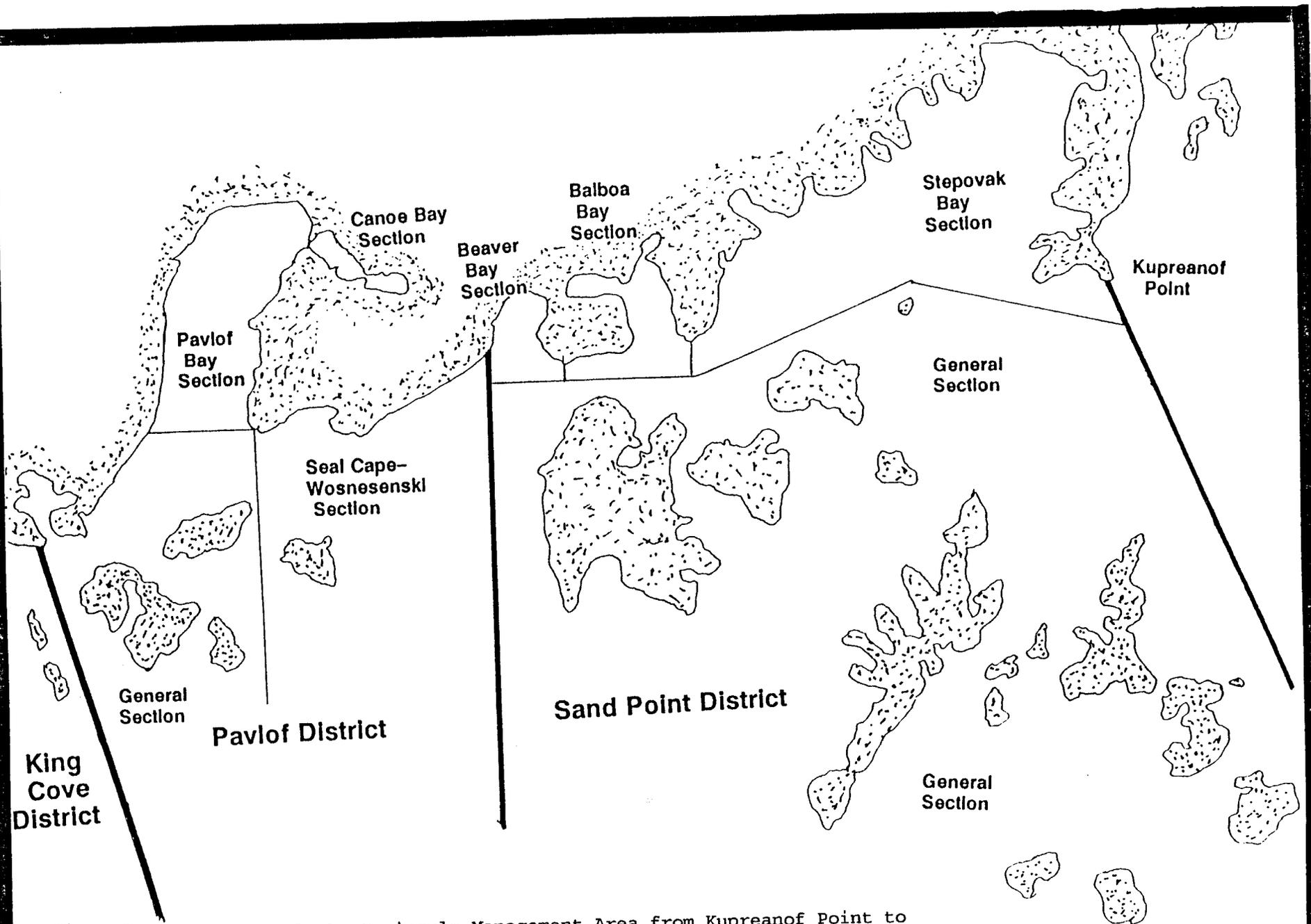


Figure 5. Map of the Alaska Peninsula Management Area from Kupreanof Point to the King Cove District with the district and section boundaries shown.

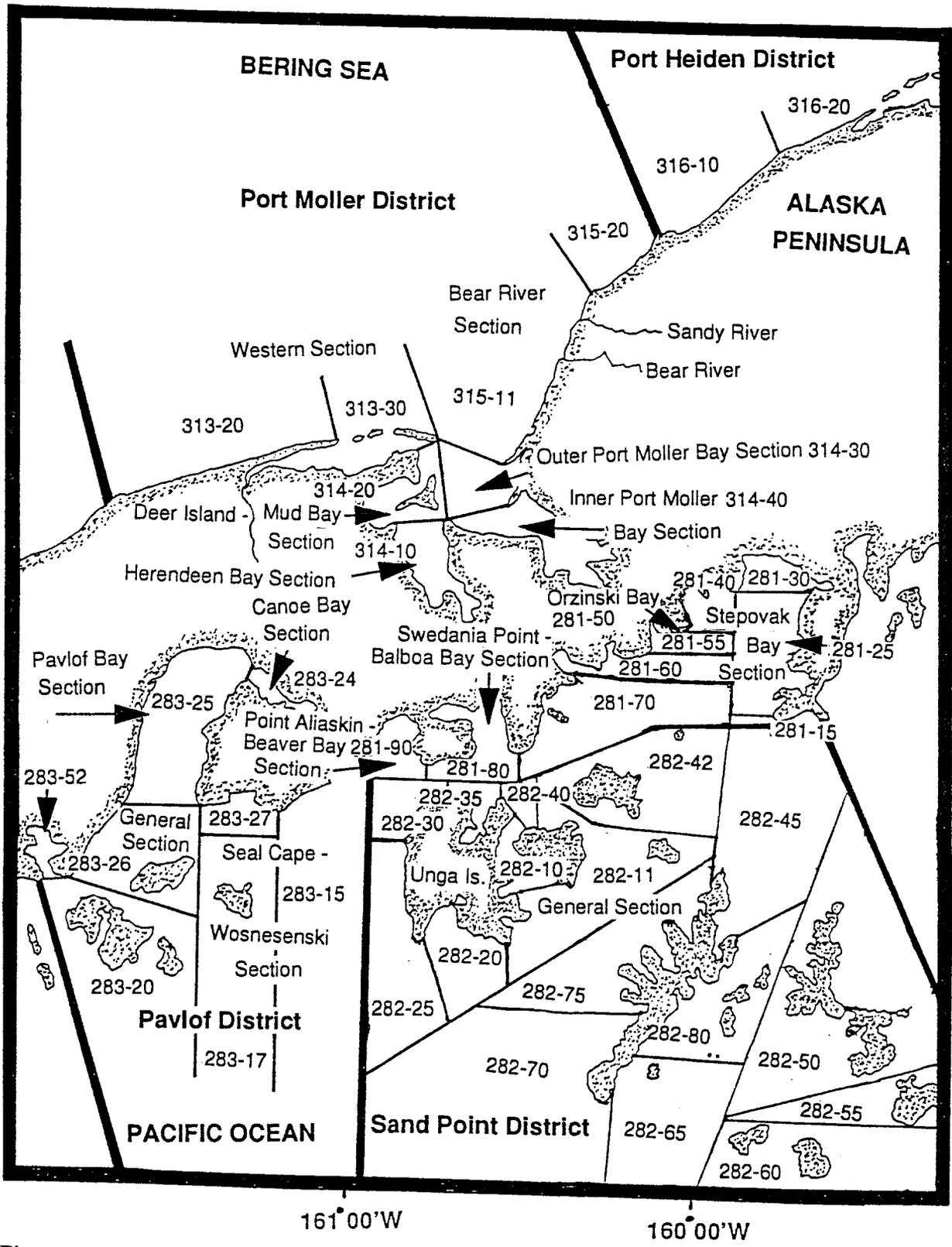


Figure 6. Map of the Alaska Peninsula Area from Bear Bay to Kupreanof Point with the statistical herring fishing areas shown.

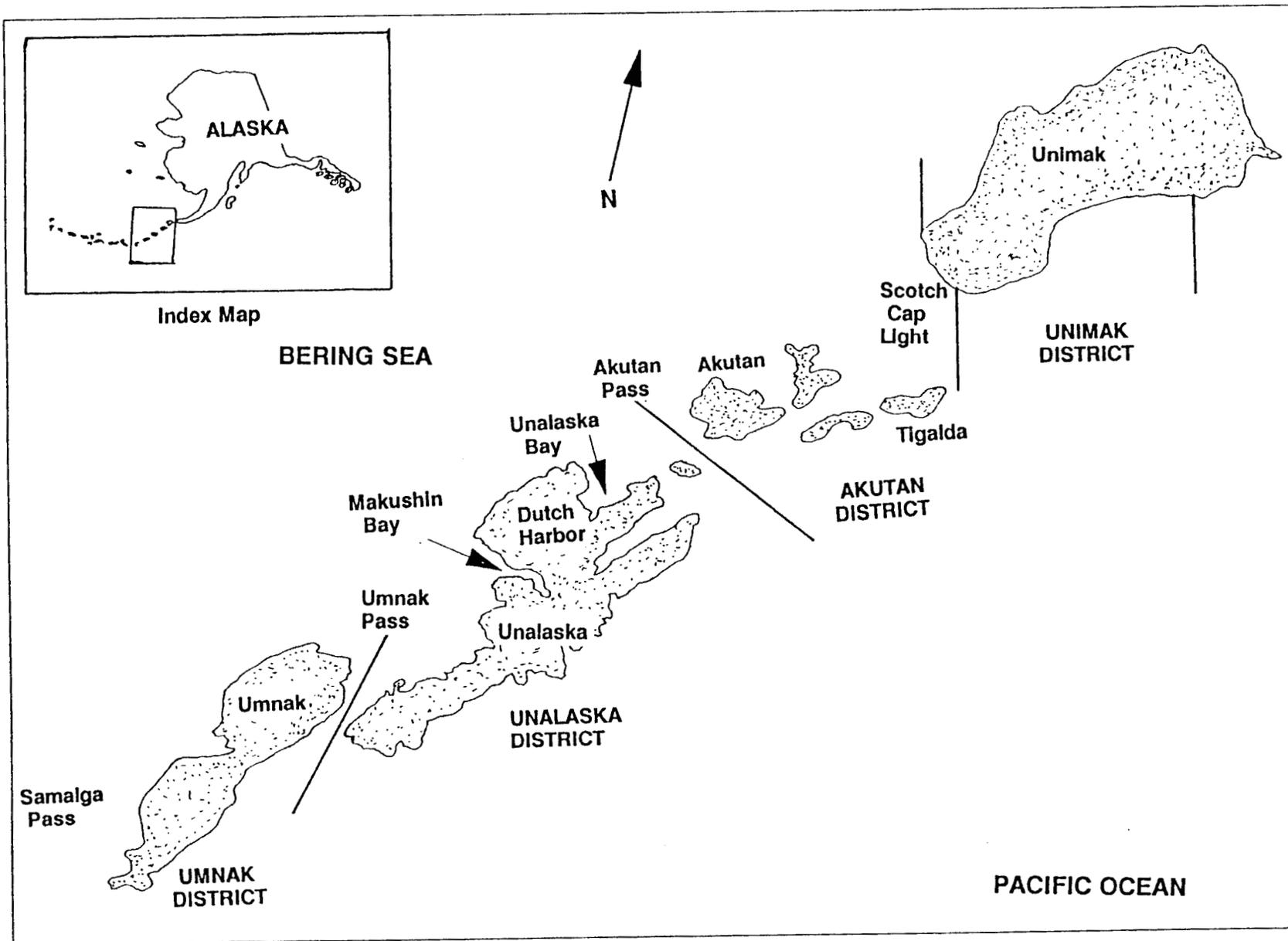


Figure 7. Map of the Aleutian Islands "Dutch Harbor" Management Area, the study area is from the Unimak District to Samalga Pass.

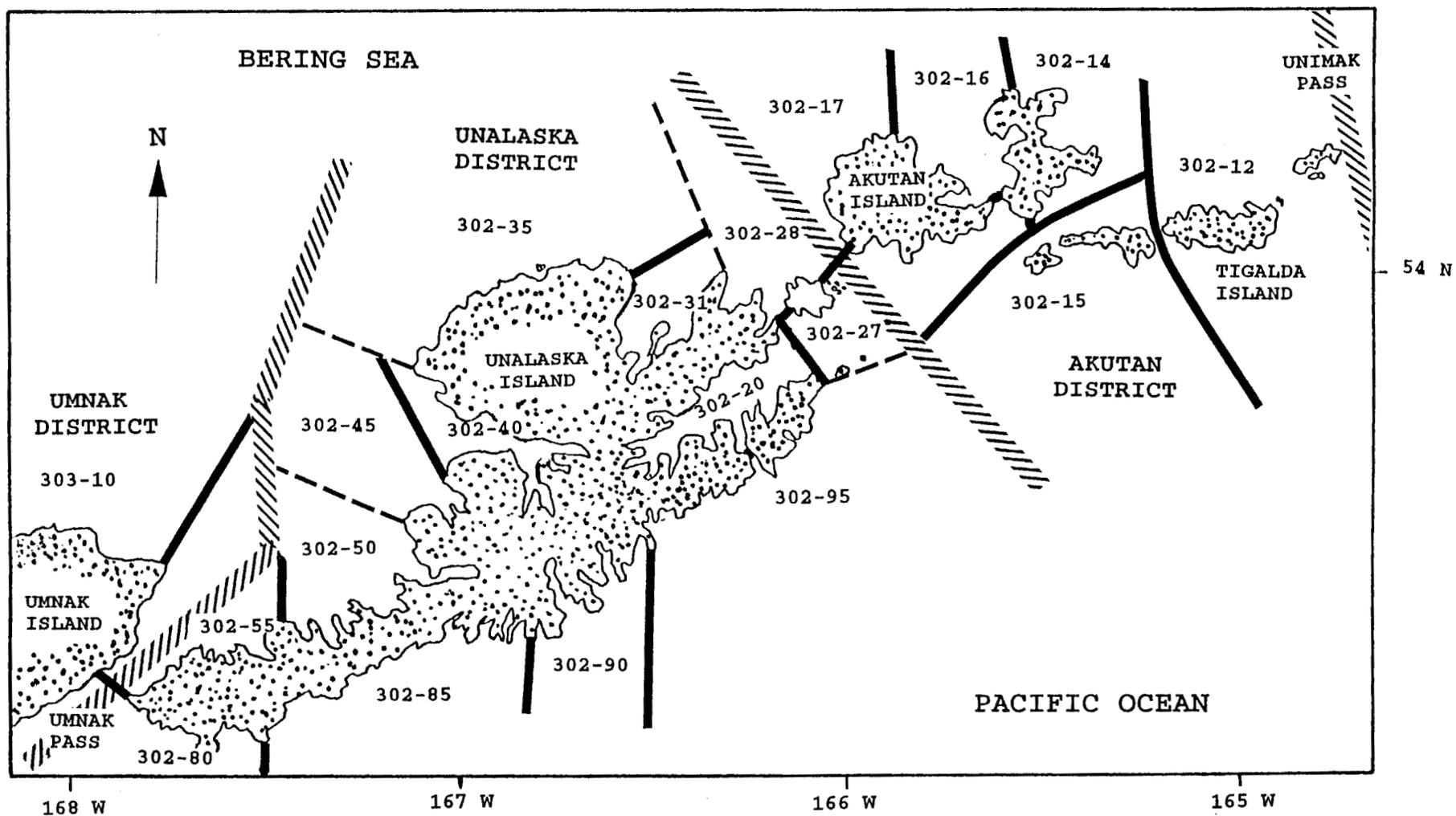


Figure 8. Map of the Aleutian Islands Area from Unimak Pass to Unimak Pass with the statistical herring fishing areas shown.

The Alaska Department of Fish and Game administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

If you believe you have been discriminated against in any program, activity, or facility, or if you desire further information please write to ADF&G, P.O. Box 25526, Juneau, AK 99802-5526; U.S. Fish and Wildlife Service, 4040 N. Fairfax Drive, Suite 300 Webb, Arlington, VA 22203 or O.E.O., U.S. Department of the Interior, Washington DC 20240.

For information on alternative formats for this and other department publications, please contact the department ADA Coordinator at (voice) 907-465-6077, (TDD) 907-465-3646, or (FAX) 907-465-6078.