

KODIAK MANAGEMENT AREA
SAC ROE HERRING FISHERY HARVEST STRATEGY,
FOR THE 2003 SEASON



By

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TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES	i
LIST OF FIGURES	ii
ABSTRACT.....	1
INTRODUCTION.....	2
FISHERY MANAGEMENT.....	2
Districts and Sections	2
Guideline Harvest Levels	2
Inseason Fishery Management.....	3
Catch Reporting.....	4
ADF&G Field Crew/Permit Holder Cooperation.....	4
Emergency Order Announcements: "Getting the Word"	5
GENERAL HARVEST POLICY.....	5
ALLOCATIVE HARVEST STRATEGY	5
EXCLUSIVE GEAR SECTIONS	7
REGULATORY SUMMARY	8
Season Dates, Fishing Periods, and Emergency Orders.....	8
Purse Seine Fishing Periods.....	8
Gillnet Fishing Periods	8
Seine Specifications and Operations	8
Gillnet Specifications and Operations	9
Extra Time For Gillnetters.....	10
Waters Closed to Herring Fishing	10
Registration Requirements	10
Tenders and Processors	10
Fishing Vessels.....	10
Herring Size Limits	11

TABLE OF CONTENTS (Cont.)

	<u>Page</u>
TABLES	12
FIGURES	19

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Historical harvest data for the commercial sac roe and food/bait herring fisheries and percent of the total annual herring harvest that occurs by fishery, Kodiak Management Area, 1964-2002	12
2. Sac roe herring fishery summary of season length, guideline harvest level (GHL), harvest data by gear type, percentage of harvest by gear type, number of landings, and estimated exvessel earnings, Kodiak Management Area, 1979-2002.....	13
3. Alaska statewide average sac roe herring harvests for 1998-2002 and preliminary 2003 harvest projections.....	14
4. Alaska Department of Fish And Game, Division of Commercial Fisheries management staff, 2003	15
5. List of districts and management sections, guideline harvest levels (GHLs), closed sections, and district allocation percentages for the Kodiak Management Area sac roe herring fishery, 2003	16

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Map of the Kodiak Management Area illustrating the sac roe herring fishery districts	19
2. Map showing the North Afognak, West Afognak, South Afognak, and Inner Marmot Districts and Sections	20
3. Map showing the Uganik and Uyak Districts and Sections.....	21
4. Map showing the Northeast District and Sections.....	22
5. Map showing the Eastside District and Sections	23
6. Map showing the Alitak District and Sections.....	24
7. Map showing the North Mainland District and Sections.....	25
8. Map showing the Mid-Mainland, South Mainland, and Sturgeon Districts and Sections	26

ABSTRACT

The Kodiak Management Area (KMA) has two commercial herring fisheries: a spring sac roe fishery and a fall food/bait fishery. This document provides permit holders, tender operators, and buyers with information that the Alaska Department of Fish and Game (ADF&G) will use to manage the KMA sac roe herring fishery. This fishery targets herring immediately prior to spawning to ensure the greatest roe development and maximum roe recovery. Roe recovery standards are established by the industry.

The 2003 KMA overall guideline harvest level (GHL) is 2,600 tons, with 1,920 tons of the GHL allocated to the purse seiners and 680 tons of the GHL allocated to the gillnetters.

INTRODUCTION

This fishery was open-to-entry from 1964 to 1980, under a moratorium to new entries from 1981 to 1984, and has been designated a limited entry fishery since 1985. Gear for this fishery includes purse seine and gillnet. In 2000, an allocative harvest strategy was implemented to provide opportunities for gillnet permit holders to harvest approximately 25% and purse seine permit holders to harvest approximately 75% of the total preseason guideline harvest level (GHL). Separate gear areas were also established as a condition of the strategy.

The Kodiak Management Area (KMA) sac roe herring fishery has occurred annually since 1964 and the harvest averaged 1,915 (short) tons (Table 1). From 1993-2002 the annual harvest averaged about 3,050 tons and ranged from 1,370 tons in 2000 to 5,893 tons in 1994. GHLs are established by the department and from 1993-2002 ranged from 1,495 tons in 1999 to 4,550 in 1994 (Table 2).

The 2002 fishery GHL was 1,860 tons and 30 purse seine and 14 gillnet permit holders participated in the fishery to harvest 1,677 tons. Purse seine gear harvested 1,274 tons (76%) and gillnet gear 403 tons (24%) of the total harvest, with a total exvessel value of \$838,500 dollars (Table 2). The 2003 harvest forecast of 2,600 tons represents approximately 5.8% of the projected statewide sac roe herring harvest of 44,416 tons (Table 3).

FISHERY MANAGEMENT

Districts and Sections

The KMA is divided into 13 districts, which define geographical areas used in managing the sac roe herring fishery (Figure 1). Each district is further divided into smaller areas called sections with a total of 82 sections (Figures 2-8). Sections are intended to define the spawning area used by a stock of herring or to define a geographical harvest location. Since 1979 herring have been harvested within 63 sections. Statistical charts, which illustrate districts and sections, are available at the Kodiak, Alaska Department of Fish and Game (ADF&G) office.

Guideline Harvest Levels

After the annual review of stock status trends for the entire KMA, the department determines which sections will be open to commercial fishing. Each section's GHL is set based on the following information: 1) fishery performance during the preceding season or seasons, (e.g., harvest timing, harvest duration, average school size), 2) trends in age composition, 3) spawn and juvenile herring observations, 4) aerial surveys, and 5) hydroacoustic surveys.

For the 2003 season GHLS have been established for 40 sections and five sections have been designated exploratory. The remaining 37 sections will remain closed, based on either low stock abundance or no record of historical sac roe herring harvest. Guideline harvest levels are not guaranteed quotas, and the actual harvest may exceed or fall short of these projections.

Inseason Fishery Management

The department will actively manage certain sections of the seine fishery in 2003 to maintain control over harvest rates. This will occur at the start of the season, when effort levels are the highest, in areas that are known to have early spawning stocks, such as the Paramanof Bay and Village Islands Sections. The department will, as necessary, use its emergency order authority as a harvest control by limiting the duration of fishing periods and/or the specific portion of a section that may open, if overharvest concerns exist. Initial fishing periods in these sections may be short (i.e., 10 minutes) followed by a closed period, to allow the department to assess the harvest before allowing additional fishing time. Emergency order announcements concerning the opening time, fishing period duration, and open area of a section will be made on VHF channel 6 from department vessels (R/V Resolution in Paramanof Bay and the R/V K-Hi-C in Uganik Bay) prior to 12:00 NOON April 15th.

The department will need the industry's support to evaluate the available biomass and roe maturity prior to opening the fishery (based on aerial and hydroacoustic surveys and sample seine catches). If the department determines that the harvests can be controlled (low effort or small available biomass to harvest) then the fishery may be allowed to open as in previous seasons. There may also be the need to utilize this more active style of management in the Kiliuda and Outer Ugak Bay Sections, if conditions warrant.

The department will delay the opening of some sections (seine and gillnet) that are known to have later spawning herring. These sections will likely include the Inner and Outer Ugak Sections. These sections will be opened by emergency order when the department has a field crew available to station on the grounds to monitor the fishery.

The department will continue to rely on the industry to establish roe recovery standards. Changes in management style create additional responsibilities for the department management staff, Fish and Wildlife Protection (FWP) staff, and fishery participants. Support and assistance from the industry is necessary for this style of fishery management to be successful. The management changes should result in a more manageable fishery, which will benefit the long-term health of the herring stocks.

Inseason management of the sac roe herring fishery relies primarily on harvest data collected by department field crews stationed in sections where harvests are anticipated to occur. During this season three field crews and staff on two department vessels will monitor the fishery.

Generally, once the preseason GHLS has been achieved or approached for a section it will be closed. Due to the rapid pace of harvest in certain locations, inperiod closures are likely. When inperiod closures are necessary there may be no more than five minutes advanced notice prior to the closure

time, which will be announced on VHF channel 6. Other ways of receiving emergency order closures are referenced on page 5, “Getting the Word”.

At any time during the season, if the department determines that herring stock abundance is below preseason expectations, sections may be closed prior to reaching their GHL.

The allocative harvest strategy allows the department to close an entire district, by gear type, once its gear specific district GHL has been achieved. The department may also make adjustments in the management based on inseason changes in fish behavior or harvest patterns.

Catch Reporting

Processors and independent tender operators are required to provide timely daily catch reports of herring deliveries, by section. Herring catches onboard tenders that have not yet been delivered to the processing facility must also be reported daily to department personnel. Tender operators are urged to monitor VHF channel 6, to remain aware of section closures. Timely and accurate harvest reports received from department field crews, permit holders, tender operators, spotters, and processors are critical in the assessment of herring harvests and guide management of the fishery. Inaccurate or late information could result in premature area closures or GHLs being greatly exceeded.

Tender operators and buyers are required to register with the department in Kodiak prior to starting operations and will be given a packet containing regulations and statistical charts. Reporting times and schedules will be specified at the time of registration.

ADF&G Field Crew/Permit Holder Cooperation

Department personnel aboard state vessels and personnel in remote tent camps (Table 4) will make frequent contacts with permit holders to collect harvest data, fleet movement information, spawn observations, and observations of juvenile and adult herring concentrations.

Permit holders and spotter pilots are encouraged to also provide biomass estimates, juvenile herring observations, and spawn observations to the department field crews or management staff. Past cooperation has helped the department to evaluate stock status and gain critical management information. This information will remain confidential. The department is particularly interested in any observations of herring in closed management sections, and timely information will be used to direct department aerial or hydroacoustic surveys.

The department needs to collect samples from the commercial herring harvests. Cooperation by permit holders is greatly appreciated. Department personnel will also accept samples of juvenile herring. Samples are primarily used to monitor age composition and, when used with other stock performance indicators, will assist in determining stock status.

Emergency Order Announcements: "Getting the Word"

All permit holders, tender operators, and processors are responsible for staying updated on section closures as they occur inseason. This can be accomplished by: 1) contact with the herring management staff in the Kodiak office, in person or by telephone at 486-1830 or office and vessels using Matrix Satellite Phone Dispatch, Kodiak office (Dispatch #7410), R/V Resolution (Dispatch #7411), and R/V K-Hi-C (Dispatch #7412); 2) contact with department field personnel and vessels on VHF Channel 6, or on SSB frequency 3.230 MHz (call sign WON32 Kodiak Fish and Game), or SSB frequency 4.125 MHz (call sign WHM29 Kodiak Fish and Game); 3) contact with any local herring processor for the latest Kodiak herring news release; 4) calling the department 24-hour recorded message phone at 486-4559; 5) listening for emergency order updates broadcast daily by ADF&G at 8:15 AM on the department SSB frequency 3.230 MHz; 6) obtaining a copy of the most recent emergency order, from outside the main entrance to the Kodiak ADF&G building; or 7) listening to the ADF&G reports broadcast over the local AM and FM radio stations (consult stations for broadcast times).

Inperiod emergency closure announcements for management sections may occur with short notification time (5 minutes or less). All permit holders and tender operators should monitor VHF channel 6 during fishing periods to ensure that they hear inperiod emergency closures when announced by the department. Announcements will be made from department vessels, from field crews, or from department or chartered aircraft. Because of the numerous announcements associated with this fishery, it is recommended that fishermen document the latest emergency order announcement broadcast by either marking closed sections on a chart or making a tape recording of the broadcast.

GENERAL HARVEST POLICY

This commercial fishery is intended to occur in an orderly fashion, with minimal waste of the resource, and within conservation limits as determined by the department. The department will manage the fishery per the general statewide herring guideline harvest policy, which provides for catches in traditional inshore areas, for the greatest roe recovery, and not to exceed a 20% exploitation rate on the available spawning biomass. Roe recovery standards are determined by industry personnel.

ALLOCATIVE HARVEST STRATEGY

The BOF adopted an allocative harvest strategy for the KMA sac roe herring fishery in 2000. The harvest strategy provides the opportunity for gillnet permit holders to harvest approximately 25%, and purse seine permit holders approximately 75%, of the total preseason guideline harvest level for the management area. Following is the allocative harvest strategy:

5 AAC 27.535. HARVEST STRATEGIES FOR KODIAK AREA.

(e) The department shall manage the sac roe fishery to provide opportunities for gillnet permit holders to harvest approximately 25 percent and purse seine permit holders to harvest approximately 75 percent of the total preseason guideline harvest level for the management area as follows; the commissioner shall issue emergency orders as necessary:

(1) depending on the department's assessment of effort levels, harvest rates, and its ability to monitor the fishery, the length of the fishing periods for either or both gear groups may be increased or reduced;

(2) except as provided in (4) of this subsection, the department shall establish guideline harvest levels by section based on information such as historical data, current and past fishery performance, sampling of commercial catches, and aerial surveys each year;

(A) except in districts where only one section is open to fishing, the department shall designate one legal gear type for each section with a guideline harvest level;

(B) in districts where only one section is open for fishing, the department will, in its discretion, assign a portion of the guideline harvest level to each gear type;

(C) for allocative purposes only, the North Mainland, Mid Mainland and South Mainland Districts will be considered one district and the North Afognak, West Afognak, and South Afognak Districts will be considered one district;

(D) each district having more than one section that is open for fishing will have approximately 20 to 30 percent of the guideline harvest level for the district allocated to the gillnet permit holders and 70 to 80 percent allocated to the purse seine permit holders;

(3) an individual section shall be closed to fishing once its guideline harvest level has been achieved; a district shall be closed to either gear type or both gear types once its gear specific district guideline harvest level has been achieved; the guideline harvest level for an individual section may be adjusted downward inseason depending on observed stock abundance; the department may make adjustments in the management of a section based on inseason changes in fish behavior or harvest patterns; these changes may result in an adjacent section closure.

(4) a section that does not have an extensive history of sac roe production may be designated as exploratory with no specified guideline harvest level; permit holders for either gear type may fish an exploratory section; a section listed as exploratory under this paragraph may be opened or closed, based on inseason information such as observed stock abundance, harvest levels, and changes in fish behavior or harvest patterns, including such changes in adjacent sections.

EXCLUSIVE GEAR SECTIONS

The department initially assigned exclusive gear sections (purse seine versus gillnet) in 2000. The department examined historical harvest timing by district to give each gear group opportunities for harvesting early- and late-spawning herring stocks. Gear section assignments were also based on historical gear harvests by section, on fishery manageability concerns (smaller herring stocks and GHLS are often assigned to gillnetters), and other selections were based primarily on the mathematics of the allocation percentages.

For the 2003 season the department assigned GHLS by section (Table 5). Several sections have experienced changes in stock status that resulted in changes in section GHLS. Sections that had major increases in GHLS from the 2002 season include the Village Islands, West Uganik Passage, South Arm Uganik Bay, Inner Ugak Bay, Outer Ugak Bay, Foul Bay, Danger Bay, Portage Bay, and Kizhuyak Bay. Only the Malina Bay Section had a decrease in the GHLS from the 2002 season.

Also, for 2003 several sections have had a change in gear status as a result of changes in stock status (increase or decrease in herring abundance and GHLS) to meet the 75% seine and 25% gillnet GHLS allocation by district. Sections changing to seine areas in 2003 include the Foul Bay, West Uganik Passage, and Inner Alitak Bay. Sections changing to gillnet areas in 2003 include: Tonki Bay and Viekoda Bay. Five sections are designated as exploratory for the 2003 season that extend from Puale Bay south to Imuya Bay. These exploratory sections will be open to both gear types.

The department has also reopened several sections for the 2003 season that have been closed to fishing in recent years. These are sections that the department has documented a notable increase in herring abundance that now warrant small GHLS (10-20 tons). These sections will be open to gillnet gear only, as a means of reducing harvest rates and to serve as a commercial test fishery to confirm or disprove the department assessment. These sections include: Izhut Bay, Zachar Bay, Inner Deadman Bay, Outer Deadman Bay, and Womans Bay.

The allocation plan directs the department to assign, for each district, from 20-30% of the section GHLS to gillnet permit holders and 70-80% to purse seine permit holders. Due to the variable number of sections per district and the variable GHLS by section, the district allocation percents for purse seiners range as high as 76.9% for the Afognak Districts to a low of 71.4% in the Alitak District. For allocation purposes the three Mainland Districts are considered one district, and the three Afognak Districts are also considered one district. The Inner Marmot, Northeast, and Uyak Districts have only one open section each, with 100% of the GHLS (40 tons total) allocated to gillnet gear.

The total 2003 KMA GHLS is 2,600 tons, with 1,920 tons of the GHLS (73.8%) assigned to purse seiners and 680 tons of the GHLS (26.2%) assigned to the gillnetters (Table 5).

REGULATORY SUMMARY

Season Dates, Fishing Periods, and Emergency Orders

In most sections the 2003 season will begin at 12:00 NOON on April 15 and will close at 12:00 NOON on June 30. For the Paramanof Bay and Village Islands Sections emergency order announcements concerning the opening time, fishing period duration, and open area of a section will be made on VHF channel 6 from department vessels (R/V Resolution in Paramanof Bay and the R/V K-Hi-C in Uganik Bay) prior to 12:00 NOON April 15th.

The initial opening date of the Inner and Outer Ugak Bay Sections will be delayed until a department field crew can be stationed in the bay. Fishing periods occur on a staggered schedule for both gear types. Staggered days of fishing provide clearly defined closed periods which allow department staff time to collect, summarize, and update all harvest data. The closures also allow for comparisons between reported and actual harvests. The department will issue an Emergency Order prior to the start of the season that establishes open areas by gear type.

Purse Seine Fishing Periods

Unless modified by emergency order, fishing periods for purse seiners from April 15 through May 7, are from 12:00 NOON until 9:00 PM on odd-numbered days, and from 9:00 AM until 12:00 NOON on even-numbered days, if a harvestable surplus is available. From May 8 through June 30 fishing periods for purse seiners are from 12:00 NOON until 10:00 PM on odd-numbered days, and from 9:00 AM until 12:00 NOON on even-numbered days, if a harvestable surplus is available.

As previously discussed, fishing periods in some sections may be reduced for seine gear prior to the initial opening on April 15 or inseason as needed by the department.

Gillnet Fishing Periods

Unless modified by emergency order, fishing periods for gillnetters from April 15 through June 30 will be 24 hours in duration starting at 12:00 NOON on odd-numbered days until 12:00 NOON on even-numbered days. There will be a 24 hour closure between fishing periods.

Seine Specifications and Operations

Seine specifications were last changed at the 2000 BOF meeting.

5 AAC 27.525. Seine specifications and operations for Kodiak Area.

- (a) From April 1 through July 31, no purse seine shall exceed 18 fathoms stretch measure in depth or 100 fathoms in length. The depth shall be determined by using a stretch measure of the web from the corkline to the bottom of the net including any lines that hang below the lead line. (See regulation 5 AAC 39.975 (11) for the definition of stretched measure.)
- (d) From April 1 through July 31, an Area K CFEC sac roe seine permit holder may only use the vessel identified on the permit to take herring, unless the permit holder has registered, in person at the Department's Kodiak office, to use a replacement vessel. Only one replacement seine vessel may be registered by a CFEC permit holder at a time.

Gillnet Specifications and Operations

5 AAC 27.050 LAWFUL GEAR FOR HERRING.

- (c) describes gillnet mesh sizes as follows, “The mesh size of a herring gillnet may not be less than two and one-eighth inches or more than two and one-half inches.”

5 AAC 27.520. Gillnet specifications and operations for Kodiak Area.

- (a) The aggregate length of herring gillnets in use by a CFEC permit holder may not exceed 150 fathoms.
- (b) The interim-use or entry permit holder must be physically present while the gillnet is being fished.
- (c) 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 net in operation must be anchored and buoyed at both ends. All buoys must be at least 10 inches in diameter and all buoys used on an individual gillnet must be of the same color. 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 number 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. Set gillnets must have a buoy spaced every 25 fathoms along the net and the buoys must be floating on the surface of the water.
- (e) From April 1-July 31, a herring gillnet may not exceed 230 meshes in depth.

Extra Time For Gillnetters

5 AAC 27.520

(d) Herring gillnets may remain in the water for four hours after the announced closing time for any opening of three hours or less of fishing time. No herring gillnet may be set or reset after a closure time. Herring gillnets may remain in the water up to four hours after an emergency closure if that closure is announced by the department less than three hours before the closure time. No herring gillnet may remain in the water past the 12:00 NOON even-day closure time.

Waters Closed to Herring Fishing

5 AAC 27.530. (b) During the commercial herring sac roe fishing season, herring may not be taken in the waters of Women's Bay enclosed by a line from Shannon's Point (57° 43.80' N. lat., 152° 31.60 W.long.) to Nymans Peninsula (57° 43.30' N. lat., 152° 31.40 W. long.).

(d) During the period from April 15 through June 30, herring may not be taken in the following waters of Uganik Island:

- (1) south and west of a line from 57° 51.10' N. lat., 153° 13.53" W. long., to 57° 52. 12' N. lat., 153° 15.20' W. long.;
- (2) north of a line from 57° 49.37' N. lat., 153° 17.65' W. long., to 57° 49.47' N. lat., 153° 19.30' W. long.;
- (3) east of a line from 57° 50.85' N. lat., 153° 19.18' W. long., to 57° 49.43' N. lat., 153° 19.20' W. long.

Registration Requirements

Tenders and Processors

Each tender operator, buyer, and processor must register with the Kodiak ADF&G office either in person or through an authorized agent for that tender or processor.

Registration must occur prior to taking fish on board the tender or taking fish at the processing plant.

Details of tender and floating processor reporting requirements will be finalized at the time of registration.

Fishing Vessels

There are no special registration requirements for either seine or gillnet vessels, unless a purse seine permit holder intends to use a different vessel than is listed on the permit card. (See regulation 5 AAC 27.525)

Herring Size Limits

As stated in 5 AAC 27.536, no CFEC herring seine permit holder may sell or have aboard a vessel any herring that were taken during the sac roe herring season if the number of individual herring per 50 lbs. of net weight exceeds 250 fish (approximately 91 grams average weight).

To prevent waste, permit holders are encouraged to check with their markets prior to fishing to determine the acceptable minimum size/weight and roe percentages. All herring that are harvested during the sac roe season and sold as bait, or are discarded due to quality problems will be included as part of the total sac roe herring harvest and must be reported.

Table 1. Historical harvest data for the commercial sac roe and food/bait herring fisheries and percent of the total annual herring harvest that occurs by fishery, Kodiak Management Area, 1964-2002.

Year	Sac Roe Fishery Harvest (Tons)	Food and Bait Fishery Harvest (Tons)	Total Herring Harvest (Tons)	Sac Roe Fishery Percent of Total Harvest (%)	Food Bait Fishery Percent of Total Harvest (%)
1964	568	310	878	65%	35%
1965	657	35	692	95%	5%
1966	2,769	198	2,967	93%	7%
1967	1,662	300	1,962	85%	15%
1968	2,001	15	2,016	99%	1%
1969	1,130	11	1,141	99%	1%
1970	342	8	350	98%	2%
1971	284	44	328	87%	13%
1972	215	50	265	81%	19%
1973	831	178	1,009	82%	18%
1974	868	40	908	96%	4%
1975	8	5	13	62%	38%
1976	5	0	5	100%	0%
1977	338	0	338	100%	0%
1978	904	399	1,303	69%	31%
1979	1,735	125	1,860	93%	7%
1980	2,383	381	2,764	86%	14%
1981	2,065	18	2,083	99%	1%
1982	1,771	326	2,097	84%	16%
1983	2,318	33	2,351	99%	1%
1984	2,163	123	2,286	95%	5%
1985	1,968	102	2,070	95%	5%
1986	1,558	213	1,771	88%	12%
1987	2,146	217	2,363	91%	9%
1988	2,171	340	2,511	86%	14%
1989	2,249	345	2,594	87%	13%
1990	2,347	313	2,660	88%	12%
1991	2,432	215	2,647	92%	8%
1992	4,283	312	4,595	93%	7%
1993	4,929	837	5,766	85%	15%
1994	5,893	677	6,570	90%	10%
1995	4,604	507	5,111	90%	10%
1996	3,386	651	4,037	84%	16%
1997	3,235	756	3,991	81%	19%
1998	2,057	127	2,184	94%	6%
1999	1,651	0	1,651	100%	0%
2000	1,370	0	1,370	100%	0%
2001	1,694	115	1,809	94%	6%
2002	1,677	135	1,812	93%	7%
Average					
1964-2002	1,915	217	2,131	90%	10%
5 Yr. Avg.					
1998-2002	1,690	75	1,765	96%	4%
10 Yr. Avg.					
1993-2002	3,050	381	3,430	91%	9%

Table 2. Sac roe herring fishery summary of season length, guideline harvest level (GHL), harvest data by gear type, percentage of harvest by gear type, number of landings, and estimated exvessel earnings, Kodiak Management Area, 1979-2002.

Year	Season Length (Days)	G-H-L (Tons)	Total Harvest (Tons)	Harvest by Gear Type		Percent Harvest by Gear Type		Number of Landings by Gear Type		Units of Gear Fished ^a		Average Catch by Gear		Estimated Average Earnings		Price per Ton (\$)
				Seine (Tons)	Gillnet (Tons)	Seine	Gillnet	Seine	Gillnet	Seine	Gillnet	Seine (Tons)	Gillnet (Tons)	Seine (\$)	Gillnet (\$)	
1979	36	2,400	1,735	1,457	278	84%	16%	-	-	57	125	26	2	\$38,342	\$3,336	\$1,500
1980	35	2,400	2,383	2,009	374	84%	16%	-	-	92	109	22	3	\$15,068	\$2,368	\$690
1981	48	2,400	2,065	1,596	469	77%	23%	207	406	79	114	20	4	\$14,647	\$2,983	\$725
1982	59	2,400	1,771	1,447	324	82%	18%	138	191	45	67	32	5	\$17,686	\$2,660	\$550
1983	51	2,400	2,319	1,797	522	77%	23%	164	284	41	64	44	8	\$35,063	\$6,525	\$800
1984	54	2,400	2,163	1,691	472	78%	22%	138	212	39	69	43	7	\$34,687	\$5,472	\$800
1985	59	2,000	1,968	1,244	724	63%	37%	118	348	34	81	37	9	\$32,929	\$8,044	\$900
1986	61	1,690	1,558	1,110	448	71%	29%	132	385	31	71	36	6	\$34,016	\$5,994	\$950
1987	61	1,640	2,146	1,591	554	74%	26%	122	411	29	62	55	9	\$54,862	\$8,935	\$1,000
1988	59	2,065	2,171	1,304	867	60%	40%	169	555	33	76	40	11	\$51,370	\$14,830	\$1,300
1989	76	2,415	2,249	1,513	736	67%	33%	171	627	37	83	41	9	\$34,749	\$7,535	\$850
1990	75	2,375	2,347	1,644	703	70%	30%	156	544	27	63	61	11	\$51,756	\$9,485	\$850
1991	83	2,510	2,432	1,697	735	70%	30%	169	587	32	64	53	11	\$45,077	\$9,762	\$850
1992	77	2,720	4,283	3,260	1,023	76%	24%	185	706	40	74	82	14	\$40,750	\$6,912	\$500
1993	77	3,525	4,929	4,203	726	85%	15%	237	294	41	86	103	8	\$56,382	\$4,643	\$550
1994	71	4,550	5,893	4,976	917	84%	16%	285	485	66	57	75	16	\$60,315	\$12,870	\$800
1995	73	4,480	4,604	3,837	768	83%	17%	280	642	73	71	53	11	\$66,858	\$13,759	\$1,272
1996	69	4,180	3,386	2,322	1,064	69%	31%	202	890	57	74	41	14	\$81,474	\$28,757	\$2,000
1997	49	3,435	3,235	2,629	606	81%	19%	183	418	64	59	41	10	\$12,323	\$3,081	\$300
1998	50	2,030	2,057	1,954	103	95%	5%	110	26	35	7	56	15	\$16,749	\$4,414	\$300
1999	38	1,495	1,651	1,589	62	96%	4%	94	16	31	5	51	12	\$23,732	\$5,741	\$463
2000 ^b	37	1,735	1,370	1,290	80	94%	6%	57	23	31	10	42	8	\$20,806	\$4,000	\$500
2001	47	1,540	1,694	1,412	282	83%	17%	67	37	33	9	43	31	\$21,394	\$15,667	\$500
2002	46	1,860	1,677	1,274	403	76%	24%	37	50	30	14	42	29	\$21,233	\$14,393	\$500
Averages																
1979-2002	58	2,527	2,587	2,035	552	78%	22%	156	370	45	63	47	11	\$36,761	\$8,424	\$810
Five Year																
1998-2002	44	1,732	1,690	1,504	186	89%	11%	73	30	32	9	47	19	\$20,783	\$8,843	\$453
Ten Year																
1993-2002	56	2,883	3,050	2,549	501	85%	15%	155	288	46	39	55	16	\$38,127	\$10,733	\$719

^a From 1979-1998 fishery participation was based on vessels making landings, 1999-2002 data based on actual participation.

^b An allocative harvest strategy was in effect starting in 2000.

Table 3. Alaska statewide average sac roe herring harvests for 1998-2002 and preliminary 2003 harvest projections.

Fishery Location	Average Harvest 1998-2002	2003 Harvest Projection
<i>Southeast</i>		
Kah Shakes	0	Closed
Sitka Sound	8,461	8,058
Seymour Canal	2,417	1,712
Hobart/Houghton	180	Closed
Total All Areas	11,058	9,770
<i>Prince William Sound</i>	769	Closed
<i>Cook Inlet</i>		
Kamishak District	60	Closed
Upper Cook Inlet	4	20
Total All Areas	64	20
<i>Kodiak</i>		
Total Area	1,690	2,600
<i>Alaska Peninsula</i>		
North Peninsula	0	0
South Peninsula	0	0
Total Area	0	0
<i>Bristol Bay (Togiak)</i>		
Seine	14,513	15,457
Gill Net	5,493	6,624
Total Area	20,006	22,081
<i>AYK Area</i>		
Security Cove	700	918
Goodnews Bay	455	1,037
Cape Avinof	373	572
Nunivak Island	44	1,036
Nelson Island	1,011	824
Cape Romanzof	399	654
<i>Norton Sound</i>		
Gillnet	2,428	4,268
Beach Seine	16	471
<i>Port Clarence</i>	0	165
AYK Total	5,426	9,945
Statewide Total Harvest	39,013	44,416

Table 4. Alaska Department of Fish and Game, Division of Commercial Fisheries management staff, 2003.

Office Staff:

Regional Supervisor	Denby Lloyd
Regional Management Finfish Supervisor	Jim McCullough
Area Management Biologist	Kevin Brennan
Assistant Area Management Biologist	Dennis Gretsck
Assistant Area Management Biologist	Jeff Wadle
Fishery Biologist	Paul Kuriscak
Fishery Technician	Joey Lindberg

Field Staff:

R/V K-Hi-C:

Boat Officer	Tom Emerson
Assistant Area Management Biologist	Dennis Gretsck

R/V Resolution:

Boat Officer	Ron Kutchick
Assistant Area Management Biologist	Jeff Wadle

Field Crews:

Fishery Biologist	Paul Kuriscak
Fishery Technician	Jon Becker
Fishery Technician	Carl Peterson
Fishery Technician	Dave Waters
Fishery Technician	Robin Overall

Table 5. List of districts and management sections, guideline harvest levels (GHLs), list of closed sections, and district allocation percentages for the Kodiak Management Area sac roe herring fishery, 2003.

Statistical Area	Management Section	2003 Guideline Harvest Level (Tons)	Purse Seine Tons	Gillnet Tons
<i>NORTH AFOGNAK DISTRICT</i>				
NA10	Shuyak Island	CLOSED	CLOSED	CLOSED
NA20	Delphin Bay	CLOSED	CLOSED	CLOSED
NA30	Perenosa Bay	CLOSED	CLOSED	CLOSED
NA40	Seal Bay	CLOSED	CLOSED	CLOSED
NA50	Tonki Bay	10	CLOSED a	10
<i>WEST AFOGNAK DISTRICT</i>				
WA10	Raspberry Strait	CLOSED	CLOSED	CLOSED
WA20	Malina Bay	10	CLOSED	10
WA31	Paramanof Bay	250	250	CLOSED
WA32	Foul Bay	50	50	CLOSED a
WA40	Blue Fox/Devil's Inlet	10	CLOSED	10
WA50	Offshore W. Afognak	CLOSED	CLOSED	CLOSED
<i>SOUTH AFOGNAK DISTRICT</i>				
SA10	Izhut Bay b	10	CLOSED	10
SA20	Kitoy Bay	CLOSED	CLOSED	CLOSED
SA30	MacDonalds Lagoon	CLOSED	CLOSED	CLOSED
SA40	Danger Bay	50	CLOSED	50
SA50	Litnik	CLOSED	CLOSED	CLOSED
SA60	Duck Bay	CLOSED	CLOSED	CLOSED
TOTAL ALL AFOGNAK DISTRICTS		390	300	90
DISTRICT ALLOCATION PERCENTAGE			76.9%	23.1%
<i>UGANIK DISTRICT</i>				
UG10	Kupreanof	CLOSED	CLOSED	CLOSED
UG20	Viekoda	80	CLOSED a	80
UG21	Terror Bay	60	60	CLOSED
UG30	Village Islands	800	800	CLOSED
UG31	West Uganik Pass	60	60	CLOSED a
UG32	NE Arm Uganik	10	CLOSED	10
UG33	E. Arm Uganik	10	CLOSED	10
UG34	S. Arm Uganik	200	CLOSED	200
UG40	Offshore Uganik	CLOSED	CLOSED	CLOSED
DISTRICT TOTAL		1,220	920	300
DISTRICT ALLOCATION PERCENTAGE			75.4%	24.6%
<i>UYAK DISTRICT</i>				
UY10	Offshore Uyak	CLOSED	CLOSED	CLOSED
UY20	Harvester Island	CLOSED	CLOSED	CLOSED
UY30	Inner Uyak	CLOSED	CLOSED	CLOSED
UY32	Browns Lagoon	CLOSED	CLOSED	CLOSED
UY31	Larsen Bay	CLOSED	CLOSED	CLOSED
UY40	Zachar Bay b	15	CLOSED	15
UY50	Spiridon Bay	CLOSED	CLOSED	CLOSED
DISTRICT TOTAL		15	CLOSED	15
DISTRICT ALLOCATION PERCENTAGE			0%	100%

-Continued-

Table 5. (page 2 of 3)

Statistical Area	Management Section	2003 Guideline Harvest Level (Tons)	Purse Seine Tons	Gillnet Tons
<i>ALITAK DISTRICT</i>				
AL10	Outer Alitak	CLOSED	CLOSED	CLOSED
AL20	Inner Alitak a	*Note: Sections AL20 and AL31 will be managed as one section, 60 ton GHL.		
AL21	Inner Deadman B. b	*Note: Sections AL21 and AL22 will be managed as one section, 20 ton GHL.		
AL22	Outer Deadman B.b	20	CLOSED	20
AL30	Sulua Bay	CLOSED	CLOSED	CLOSED
AL31	Portage Bay	60	60	CLOSED
AL40	Lower Olga/Moser	CLOSED	CLOSED	CLOSED
AL41	No. Upper Olga Bay	CLOSED	CLOSED	CLOSED
AL50	Upper Olga Bay	10	CLOSED	10
AL60	Geese/Twoheaded	15	15	CLOSED
DISTRICT TOTAL		105	75	30
DISTRICT ALLOCATION PERCENTAGE			71.4%	28.6%
<i>STURGEON/HALIBUT DISTRICT</i>				
SH10	Sturgeon/Halibut	CLOSED	CLOSED	CLOSED
<i>EASTSIDE DISTRICT</i>				
EA10	Kaiugnak	*Note: Sections EA10 and EA20 will be managed as one section, 10 ton GHL.		
EA20	SW. Sitkalidak	10	10	CLOSED
EA21	Three Saints Bay	15	CLOSED	15
EA22	Newman Bay	*Note: Sections EA22 and EA23 will be managed as one section, 50 ton GHL.		
EA23	W. Sitkalidak Strait	50	50	CLOSED
EA24	Barling Bay	50	50	CLOSED
EA30	E. Sitkalidak St.	50	50	CLOSED
EA31	Tanginak Anchorage	CLOSED	CLOSED	CLOSED
EA40	Outer Sitkalidak	CLOSED	CLOSED	CLOSED
EA41	Boulder Bay	10	CLOSED	10
EA42	Shearwater Bay	50	CLOSED	50
EA43	Outer Kiliuda Bay	*Note: Sections EA43 and EA44 will be managed as one section, 200 t. GHL.		
EA44	Inner Kiliuda Bay	200	200	CLOSED
EA50	Outer Ugak Bay	200	200	CLOSED
EA51	Inner Ugak Bay	110	CLOSED	110
EA52	Pasagshak	10	CLOSED	10
DISTRICT TOTAL		755	560	195
DISTRICT ALLOCATION PERCENTAGE			74.2%	25.8%
<i>NORTHEAST DISTRICT</i>				
NE10	Womens Bay b	10	CLOSED	10
NE20	Kalsin Bay	CLOSED	CLOSED	CLOSED
NE30	Middle Bay	CLOSED	CLOSED	CLOSED
NE40	Inshore Chiniak	CLOSED	CLOSED	CLOSED
NE50	Offshore Chiniak	CLOSED	CLOSED	CLOSED
DISTRICT TOTAL		10	CLOSED	10
DISTRICT ALLOCATION PERCENTAGE			CLOSED	100%
<i>INNER MARMOT DISTRICT</i>				
IM10	Monashka Bay	CLOSED	CLOSED	CLOSED
IM20	Anton Larsen Bay	CLOSED	CLOSED	CLOSED
IM30	Sharatin Bay	CLOSED	CLOSED	CLOSED
IM40	Kizhuyak Bay	15	CLOSED	15
IM50	Spruce Island	CLOSED	CLOSED	CLOSED
DISTRICT TOTAL		15	CLOSED	15
DISTRICT ALLOCATION PERCENTAGE			CLOSED	100%

-Continued-

Table 5. (page 3 of 3)

Statistical Area	Management Section	2003 Guideline Harvest Level (Tons)	Purse Seine Tons	Gillnet Tons
<i>NORTH MAINLAND DISTRICT</i>				
NM10	Hallo Bay	CLOSED	CLOSED	CLOSED
NM20	Inner Kukak	25	CLOSED	25
NM30	Outer Kukak	CLOSED	CLOSED	CLOSED
NM40	Missak Bay	CLOSED	CLOSED	CLOSED
<i>MID MAINLAND DISTRICT</i>				
MM10	Inner Katmai	50	50	CLOSED
MM20	Outer Katmai	CLOSED	CLOSED	CLOSED
MM30	Alinchak	15	15	CLOSED
MM40	Puale Bay	EXPLORATORY	EXPLORATORY	EXPLORATORY
MM50	Portage Bay	EXPLORATORY	EXPLORATORY	EXPLORATORY
MM60	Outer Portage	EXPLORATORY	EXPLORATORY	EXPLORATORY
<i>SOUTH MAINLAND DISTRICT</i>				
SM10	Wide Bay	EXPLORATORY	EXPLORATORY	EXPLORATORY
SM20	Lower Shelikof	EXPLORATORY	EXPLORATORY	EXPLORATORY
MAINLAND DISTRICTS TOTAL		90	65	25
DISTRICT ALLOCATION PERCENTAGE			72.2%	27.8%
GRAND TOTAL		2,600	1,920	680
ALLOCATION PERCENTAGE ALL DISTRICTS			73.8%	26.2%

^a Sections which have had a change in their gear status from the 2002 season.

^b Previously closed sections that will be open to gillnetting in 2003.

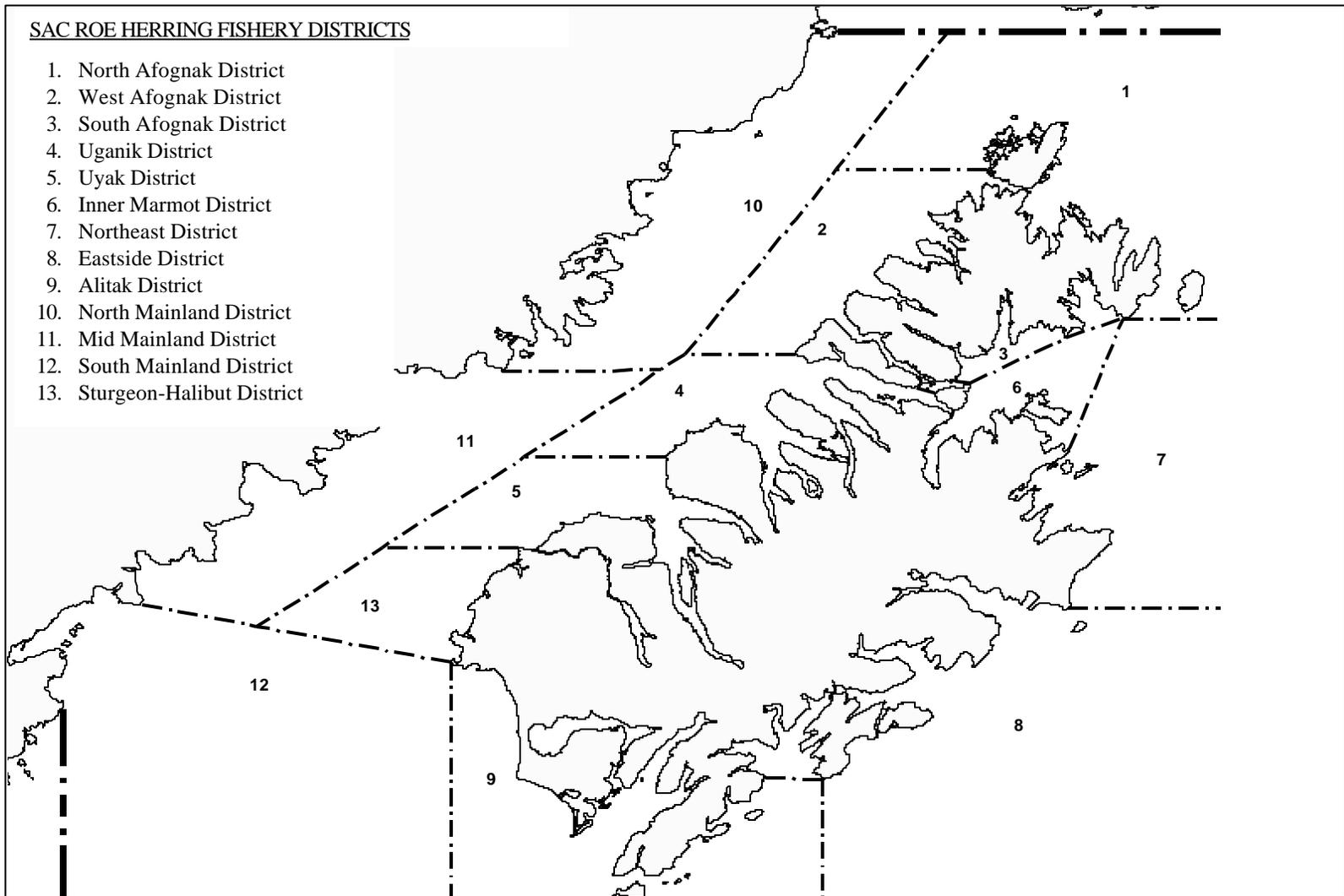


Figure 1. Map of the Kodiak Management Area illustrating the sac roe herring fishing districts.

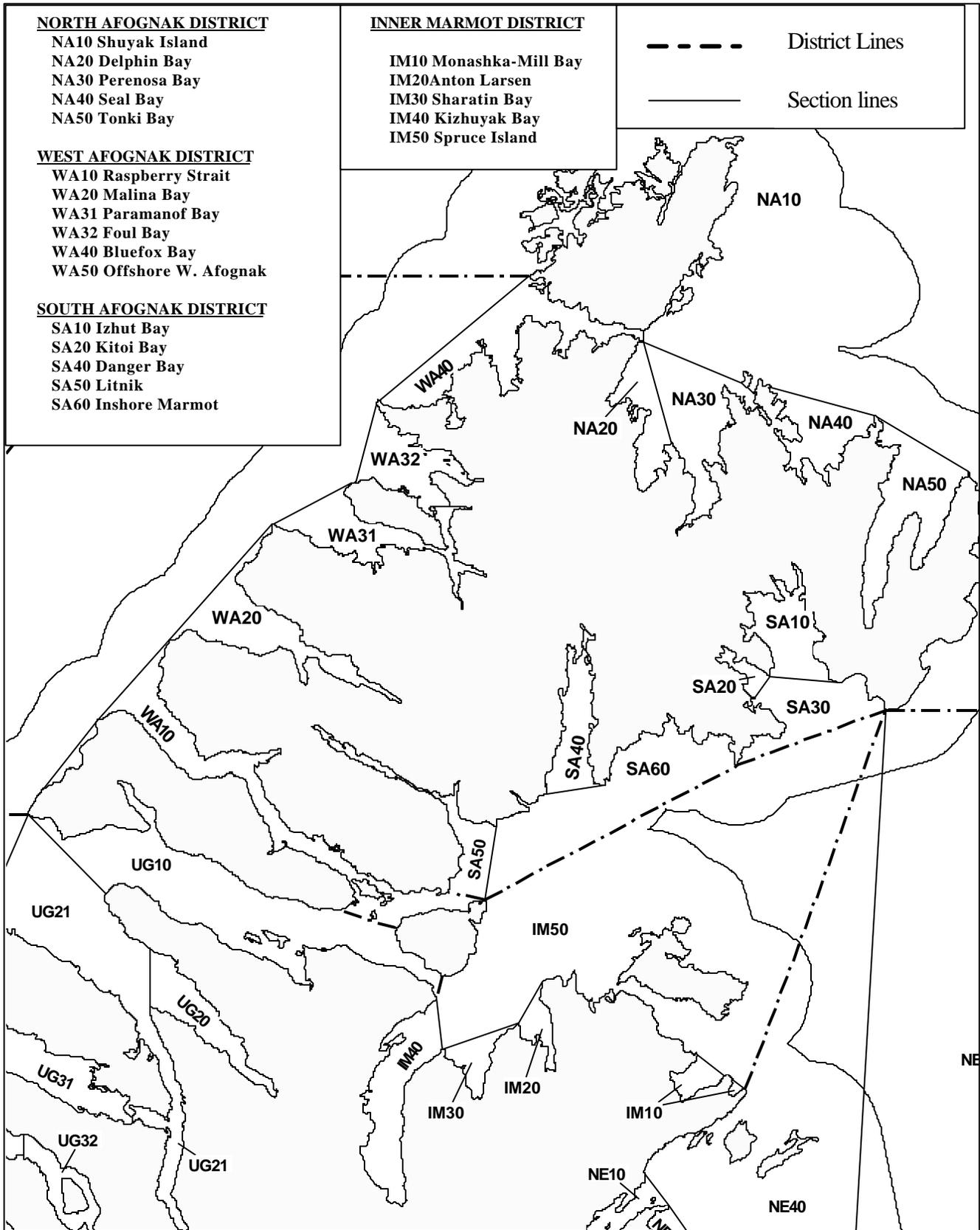


Figure 2. Map showing the North Afognak, West Afognak, South Afognak, and Inner Marmot Districts and Sections.

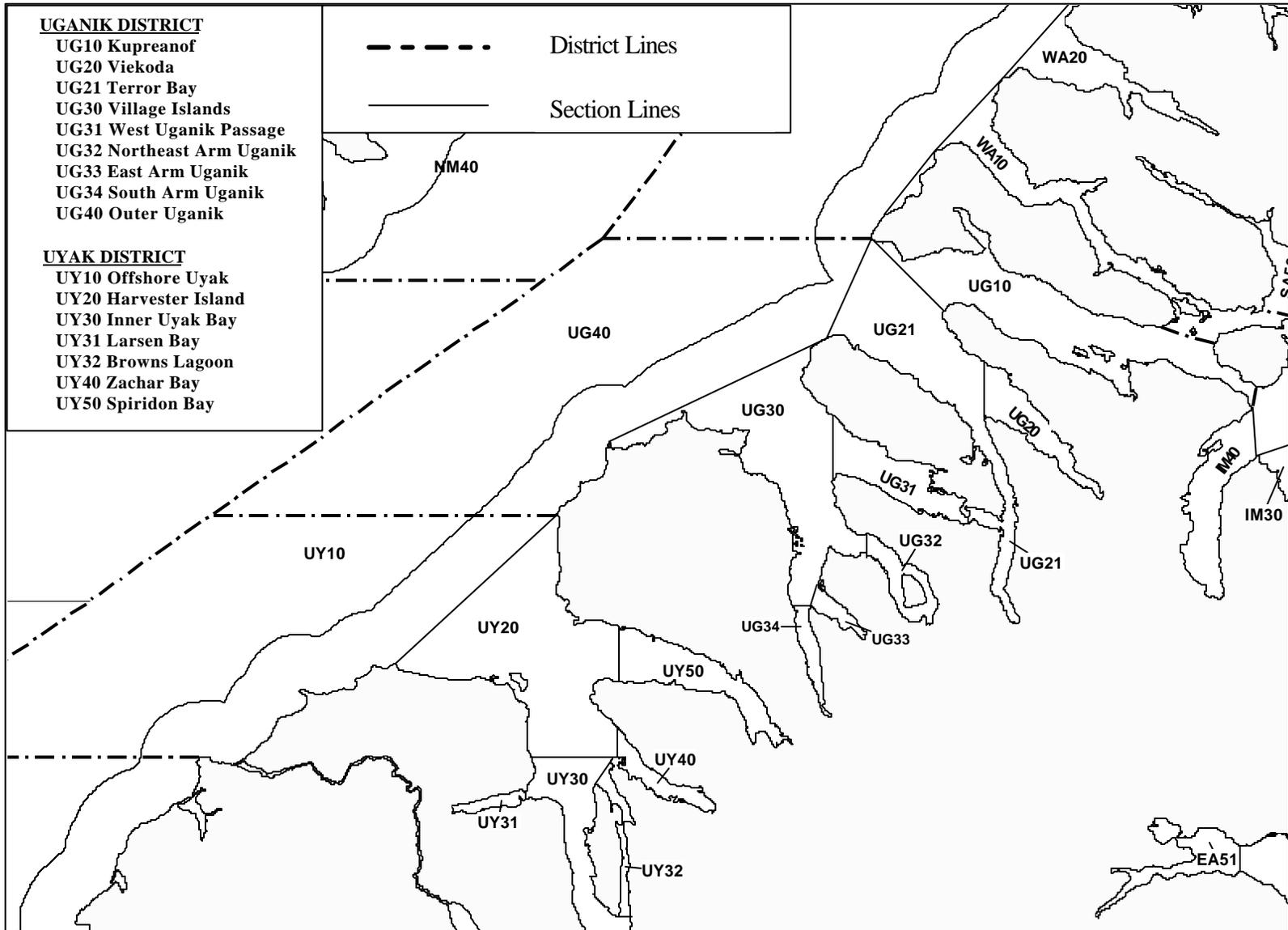


Figure 3. Map showing the Uganik and Uyak Districts and Sections.

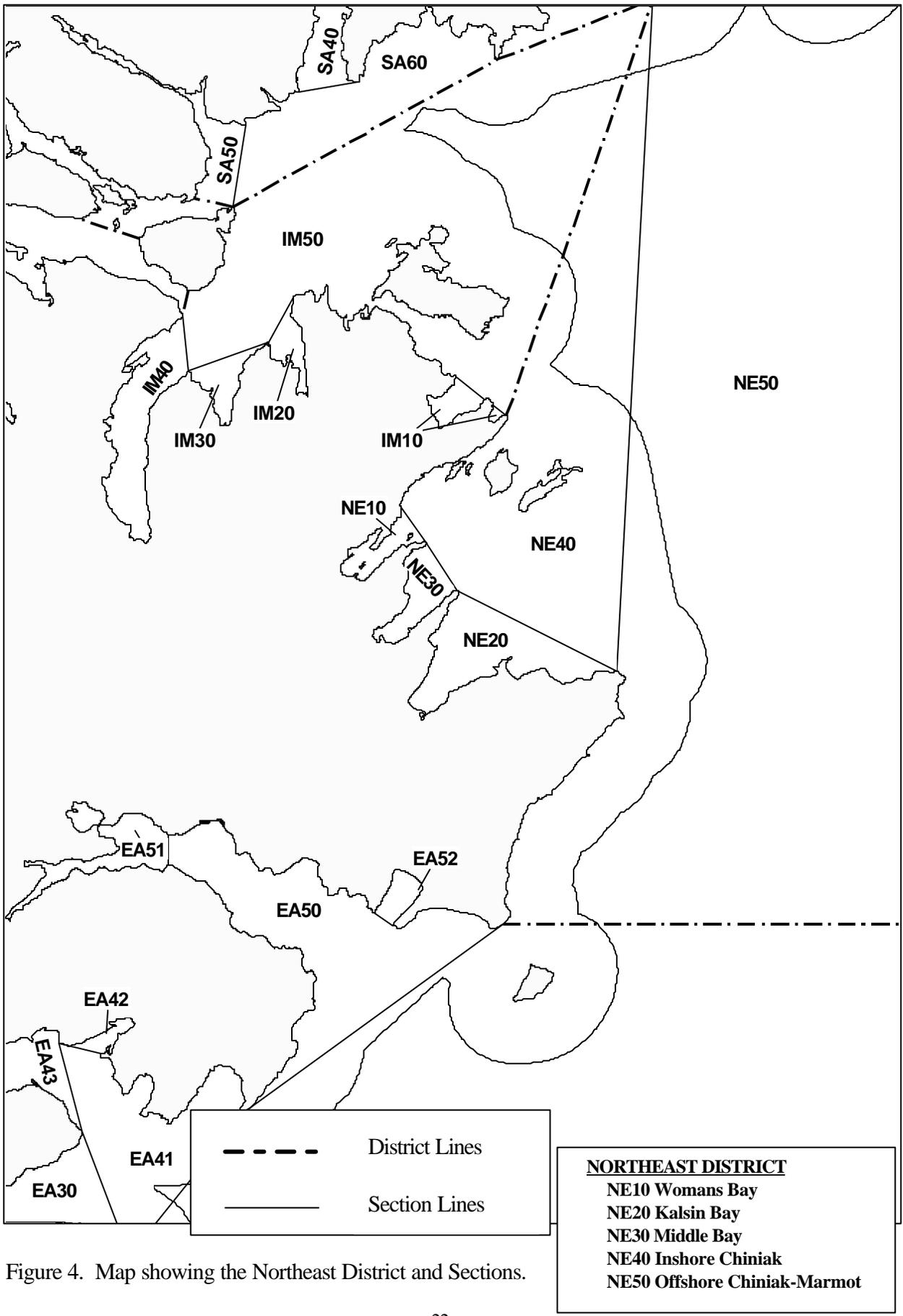


Figure 4. Map showing the Northeast District and Sections.

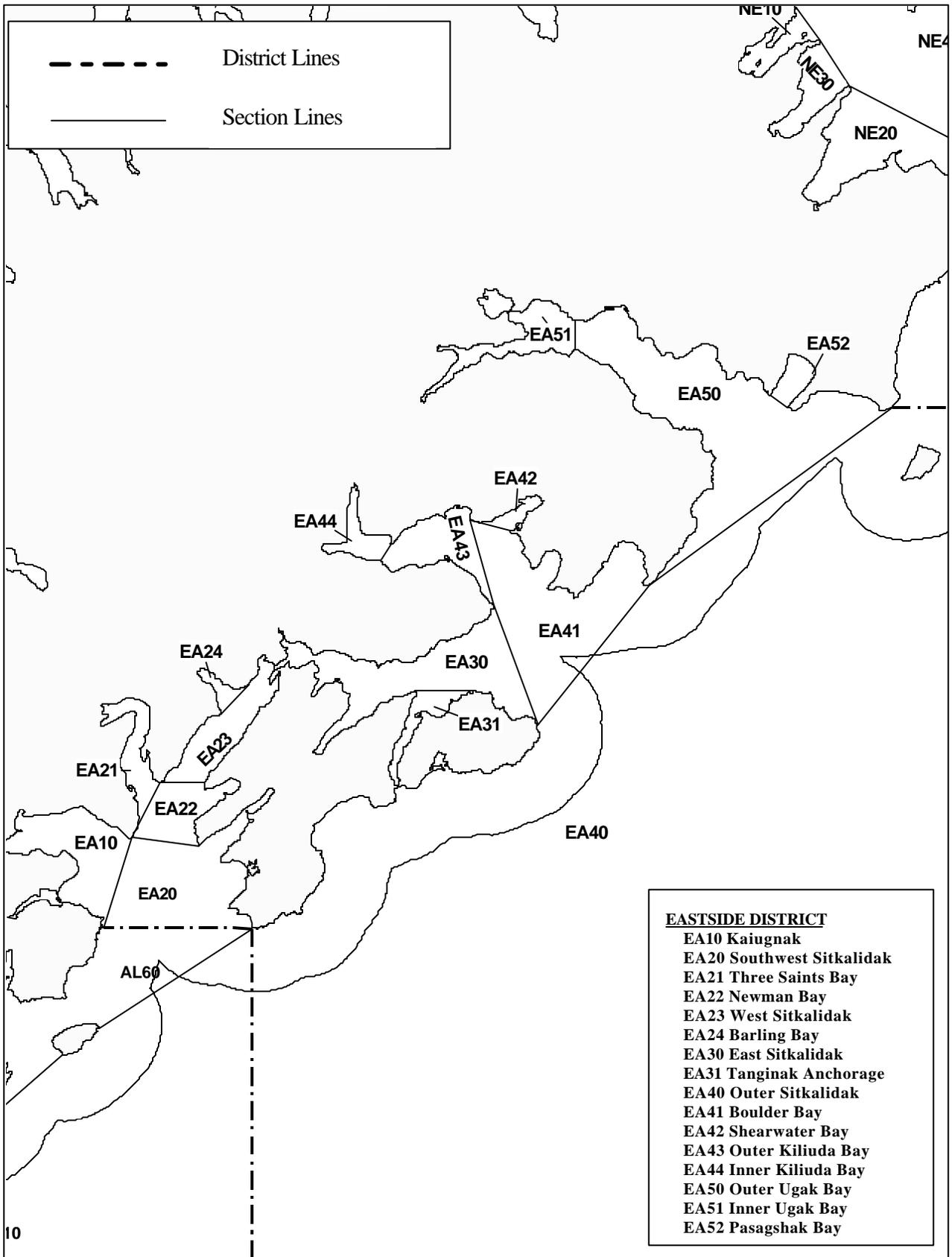


Figure 5. Map showing the Eastside Districts and Sections.

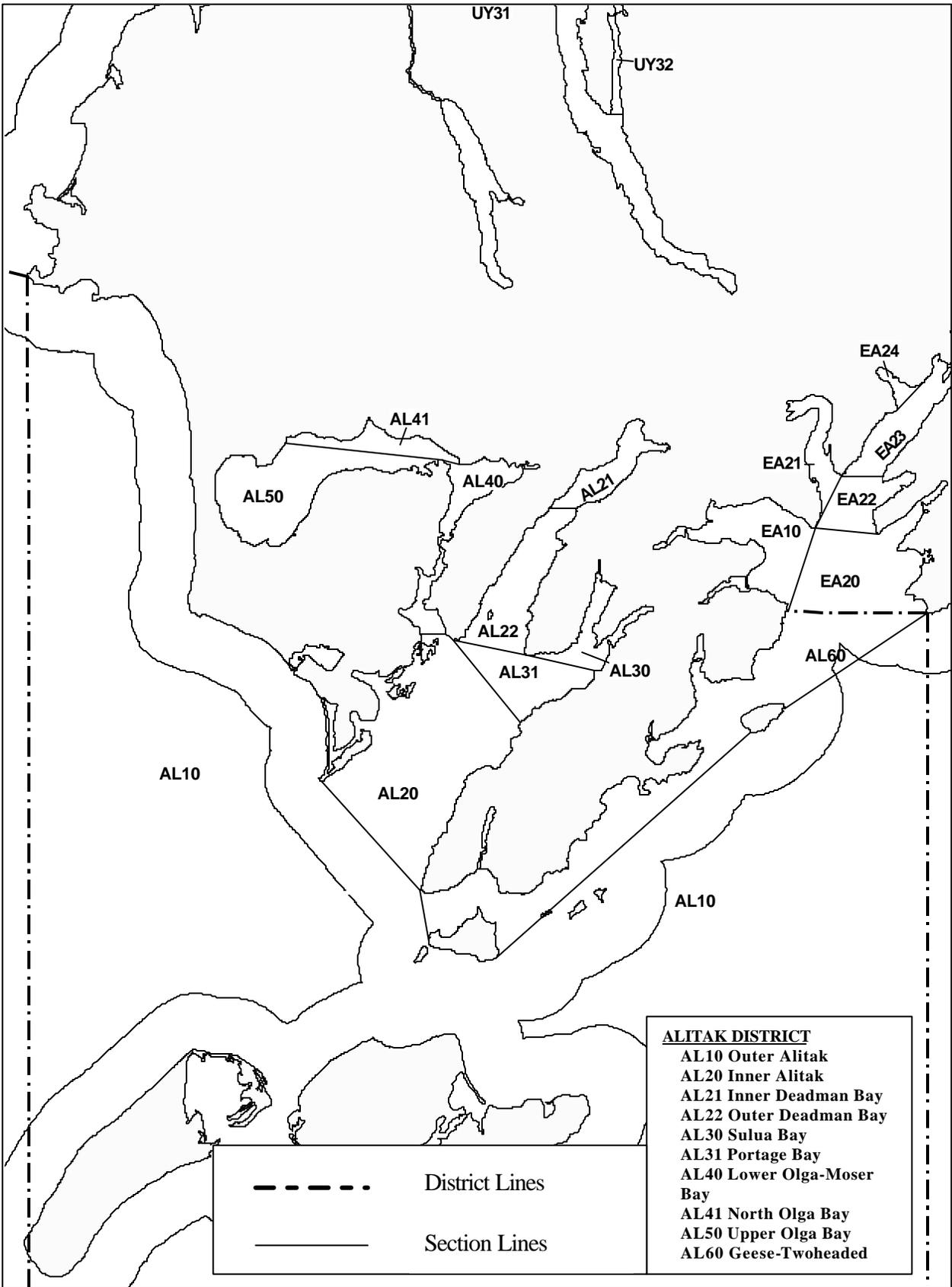


Figure 6. Map showing the Alitak Districts and Sections.

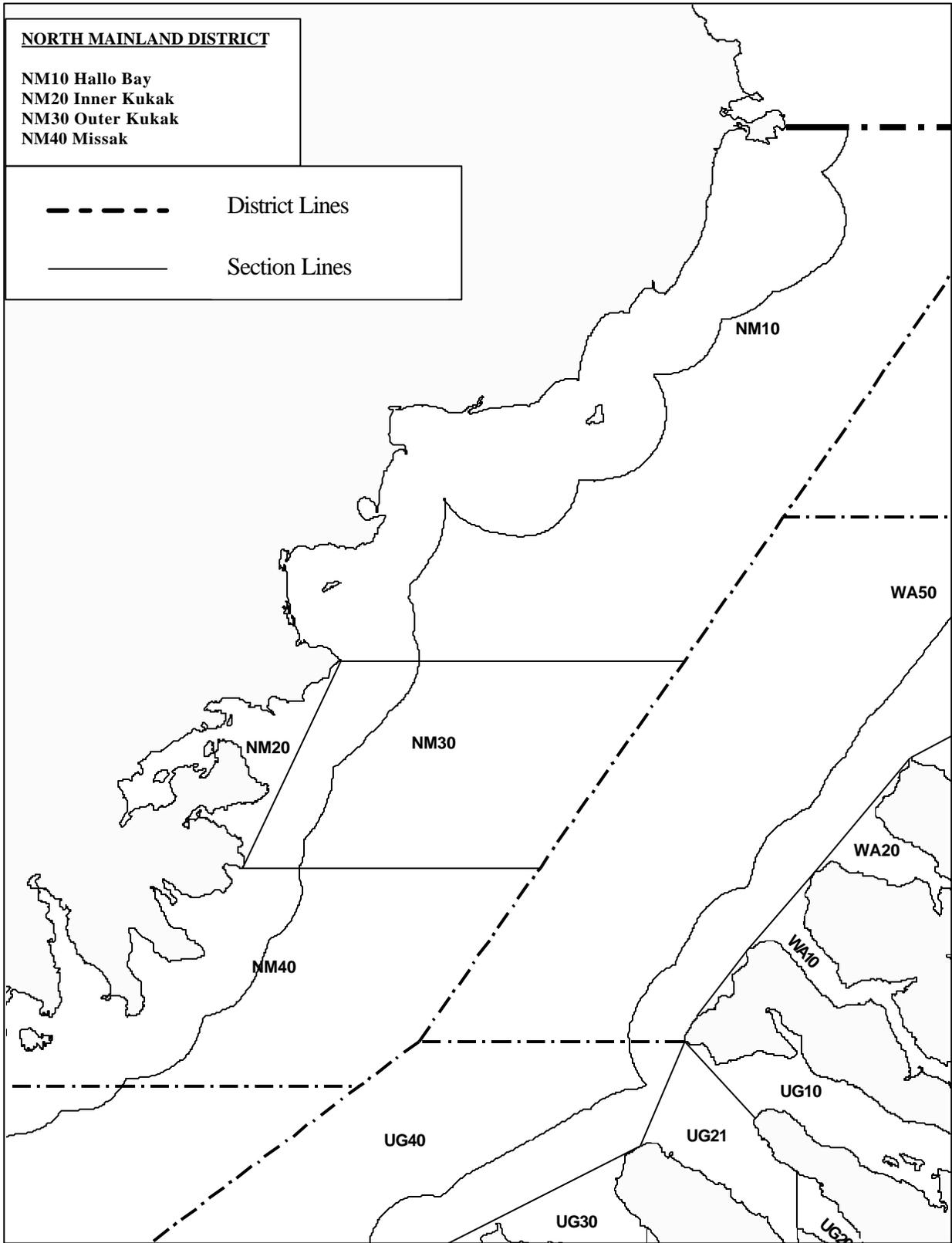


Figure 7. Map showing the North Mainland District and Sections.

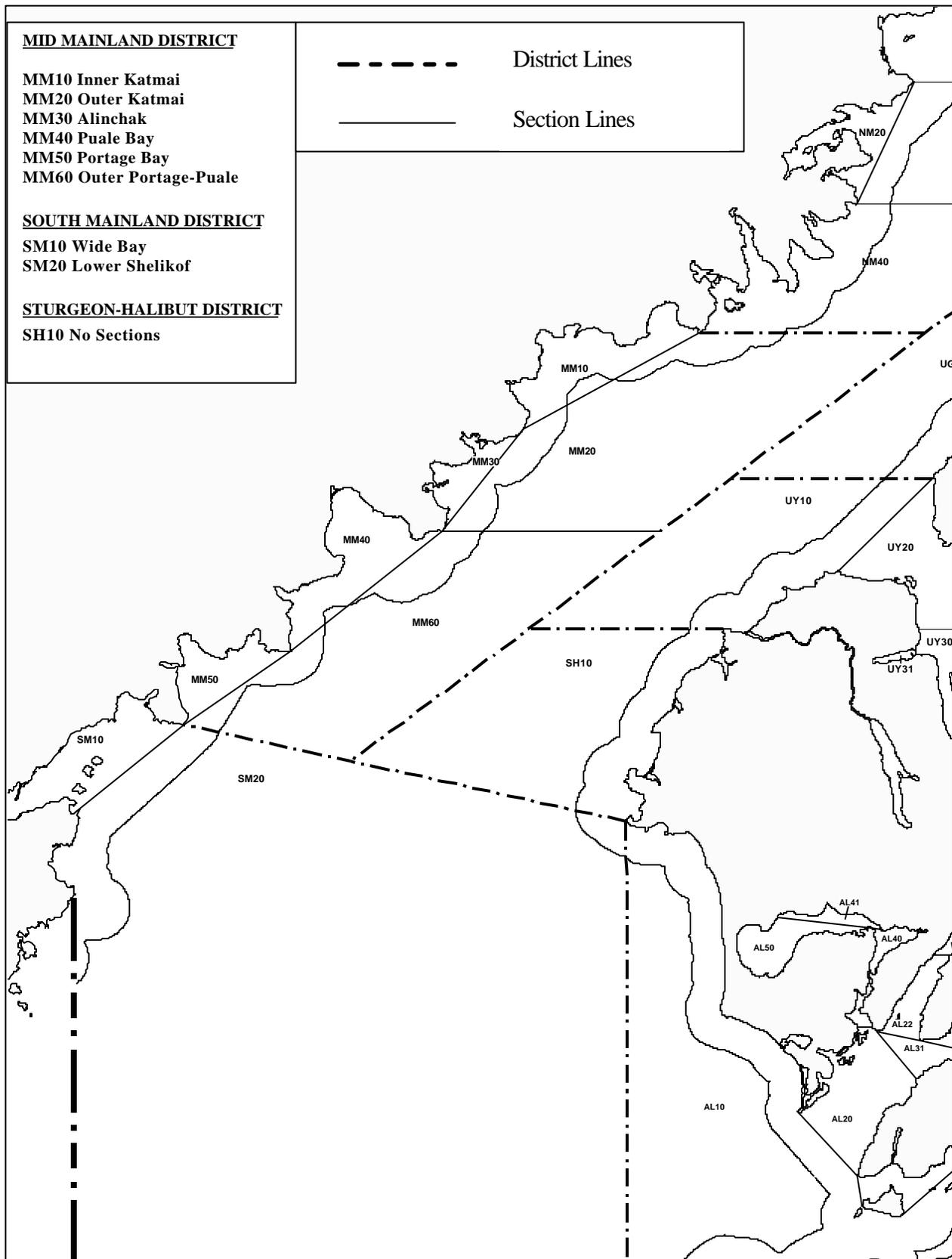


Figure 8. Map showing the Mid-Mainland, South Mainland, and Sturgeon Districts and Sections.

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