

SOUTHEAST ALASKA SAC ROE HERRING FISHERY

2004 MANAGEMENT PLAN



Prepared by

Southeast Alaska Region Staff

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TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES.....	iii
LIST OF FIGURES.....	iii
INTRODUCTION.....	1
REGULATIONS.....	1
Vessel Check-In, Check-Out, and Reporting Procedure.....	1
Reporting Procedures for Floating Fish Processors.....	2
ANNOUNCEMENT OF OPENINGS AND CLOSURES.....	2
MANAGEMENT STRATEGY.....	3
Sliding Scale Harvest Rate.....	4
Roe Quality.....	4
GILLNET FISHERIES.....	5
Revilla Channel.....	5
West Behm Canal.....	5
Seymour Canal.....	6
Hobart/Houghton.....	7
PURSE SEINE FISHERIES.....	8
Lynn Canal.....	8
West Behm Canal.....	8
Sitka Sound.....	9
LIST OF MANAGEMENT CONTACTS.....	11

LIST OF TABLES

<u>Table</u>	<u>Page</u>
Table 1. Southeast Alaska gillnet sac roe herring fisheries information summary, 1976–2003.	12
Table 2. Southeast Alaska purse seine sac roe herring fisheries information summary, 1976–2003.	14

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
Figure 1. Southeast Alaska sac roe herring areas and preliminary GHGs for 2004.....	16
Figure 2. Generalized harvest strategy for Southeast Alaska herring. The allowable percent annual harvest is plotted against the estimated biomass of mature herring expressed as a multiple of the established harvest threshold level.....	17
Figure 3. Harvest rate and formula for Sitka Sound under 20,000 ton minimum threshold level [5 AAC 27.160 (g)].	18
Figure 4. Open area for West Behm Canal pound fishery (Section 1-E and portions of Section 1-F). Hatched areas are waters closed to sac roe herring fishing.	19

INTRODUCTION

Southeast Alaska commercial herring fisheries occur during the winter when herring are harvested for use primarily as bait and also during the spring when herring are harvested for their roe. The roe harvest includes the traditional sac roe fisheries (set gillnet and purse seine) and, in recent years, spawn-on-kelp pound fisheries. This management plan provides an overview of the 2004 sac roe herring fisheries for Southeast Alaska including expected harvest levels and management strategy. Separate management plans for the northern and southern Southeast Alaska spawn-on-kelp pound fisheries will be available at local department area offices.

Southeast Alaska roe herring are commercially harvested by purse seine and set gillnet gear types, both of which are included in the limited entry system. There are currently five sac roe herring fishing areas in Southeast Alaska consisting of two exclusive purse seine and three exclusive gillnet areas (Figure 1). Starting in the spring of 2004, a new area, Section 1-E/Section 1-F (West Behm Canal) will be open on alternate years for set gillnet and purse seine gear when the threshold level is met. The set gillnet fishery is scheduled for the spring of 2004 and the first purse seine fishery will be in 2005, if the threshold level is reached.

Approximately 8,480 tons of herring were harvested in commercial sac roe herring fisheries conducted in Southeast Alaska during 2003. A harvest of approximately 13,100 tons is anticipated for the 2004 season.

REGULATIONS

Commercial herring fishing regulations are contained in the Commercial Herring Fishing Regulations booklet. Copies of the 2003-2004 edition may be obtained at any Department of Fish and Game office. The Sitka Sound Commercial Sac Roe Herring Fishery Management Plan adopted in January of 2002 is now included in this booklet [5 AAC 27.195]. All regulations adopted by the Alaska Board of Fisheries during the January 2003 meeting will be in effect during the 2004 sac roe fisheries. These regulations will include new alternating year gillnet and seine sac roe fisheries in the West Behm Canal area [5 AAC 27.197], and minor modifications of Buyer and Tender Reporting Requirements for Sac Roe [5 AAC 27.162]. Department staff listed at the conclusion of this plan is available to provide further details.

Vessel Check-In, Check-Out, and Reporting Procedure

Buyers or buyer's agents shall register all vessels employed in transporting and processing herring with the department prior to commencing with those activities and make daily reports of herring purchased from fishers as specified by a local representative of the department [5 AAC 27.162(a)]. The department requests that tenders and fishing vessels not previously registered through buyers or

buyer's agents, check-in and check-out of the fishing areas with department personnel located on the fishing grounds to facilitate timely and complete assessment of herring landings. Fish tickets must be provided to the CFEC permit holder at the time of delivery to the first buyer or buyer's agent [5 AAC 27.162(c)]. This means that there must be a separate fish ticket for each delivery to a tender before the tender leaves the fishing grounds to make a landing. At the request of the CFEC permit holder, on-the-grounds weight and roe content shall both be recorded on the fish ticket. Operators who will transport fish out of Alaska prior to processing must submit a fish ticket before departing the state [5 AAC 39.130(c)]. Fully completed fish tickets with updated accurate and final weights and roe percentages must be submitted to the department within 10 days after the termination of buying operations, unless otherwise specified by the department [5 AAC 27.162(a)(3)].

Reporting Procedures for Floating Fish Processors

Operators of floating fish processing vessels are required to report in person, by radio, or telephone, to the local department representative in the management area of intended operation before processing begins [5 AAC 39.130 (g)]. The report must include the location and date of intended operation.

ANNOUNCEMENT OF OPENINGS AND CLOSURES

Fishery openings and closures will be implemented via department emergency order. Announcements will be issued through normal news release channels and on the fishing grounds over VHF radio. The VHF radio frequency for receiving field announcements will be indicated on the fishing grounds. Harvesters should expect short notification of opening and closing times. This is necessary to provide fishing opportunities prior to major spawning and to maintain the harvest at desired levels.

The department will monitor herring in advance of the expected fishery opening dates. Fisheries will be placed on a two-hour notice prior to the first opening. During the Sitka fishery, the department will try to give the industry a 36-hour advance warning of a decision to place the fishery on two-hour notice. However, if spawning is either earlier or heavier than anticipated and waiting 36 hours could result in loss of fishing opportunity, this much advance notice will not be given. During the West Behm Canal and the Seymour Canal gillnet fisheries the department will provide the industry with a 12-hour advance notice of a decision to place the fishery on two-hour notice. The 12-hour notice helps limit the amount of time vessels must remain on the fishing grounds prior to the start of the fishery.

MANAGEMENT STRATEGY

The harvest strategy for Southeast Alaska herring sac roe fisheries is based on the availability of mature herring containing quality roe (at least 10% mature roe), total biomass, age structure, recruitment, growth characteristics, and past spawning success. Southeast Alaska herring generally reach maturity at a standard length (tip of the snout to the end of the hypural plate) of 185 mm (8 inches), a size achieved by some three-, and most four-year-old fish.

Herring populations are assessed annually to determine whether individual spawning stocks are above threshold and to determine the appropriate harvest rate (see Sliding Scale Harvest Rate on next page). As specified in 5 AAC 27.190 HERRING MANAGEMENT PLAN FOR STATISTICAL AREA A, harvest of a particular spawning stock is not allowed unless an assessment of the abundance and general condition of that spawning stock has been conducted and the estimated biomass is above the minimum spawning biomass threshold level. The threshold level is the herring biomass needed to meet minimum spawning and/or allocation requirements. The established threshold levels for the herring sac roe fishing areas are:

Fishing Area	Threshold Level
Seymour Canal	3,000 tons
Revilla Channel	6,000 tons
Lynn Canal	5,000 tons
Sitka Sound	20,000 tons
Hobart/Houghton	2,000 tons
West Behm Canal	6,000 tons

A variety of methods have been used to assess the status of herring populations in Southeast Alaska. Prior to 1970, herring abundance was assessed through visual estimates made from vessels using depth sounders and sonar immediately prior to spawning or on wintering aggregations. In addition, miles of spawn were documented with aerial or skiff surveys. A computer-assisted hydroacoustic survey method was developed in the early 1970s and used extensively during the late 1970s to the mid-1980s. Spawn deposition surveys were first used in 1976 and continue to be a key component of current assessment methods. The spawn deposition method combines diver estimates of herring egg deposition on the spawning grounds along with estimates of total area receiving spawn and average fecundity, to yield an estimate of spawning biomass. The estimates of spawning biomass from one year may be used as a basis to forecast and to set harvest quotas for individual spawning stocks for the following year. This method was used to establish a forecast for the Hobart/Houghton spawning stock.

Beginning in 1994, the department began using age-structured analysis (ASA) to forecast abundance for selected spawning stocks with sufficient historic stock information. The ASA method relies on a time series of herring population assessment data (e.g., spawning biomass as determined by egg deposition surveys and fecundity, age composition and weight-at-age from samples of spawning herring, catch age composition and weight-at-age, and weight-at-age from winter test sampling) to forecast herring biomass for those spawning stocks. This method applies

estimates of recruitment, growth, maturation, and natural mortality to an estimate of spawning escapement from one year to forecast biomass for the next year. This is an important development because gains in herring biomass due to recruitment and growth are often not equal to the loss of biomass due to natural mortality. The ASA method is currently used to forecast herring abundance for the Sitka, Revilla Channel, West Behm Canal, Seymour Canal, Craig/Klawock, and Tenakee Inlet fisheries.

Sliding Scale Harvest Rate

The allowable harvest is based on a graduated scale that allows for higher harvest rates as a herring population increases relative to the threshold level. This approach maintains annual harvest rates between 10 and 20% of the spawning stock in excess of established threshold levels. When the spawning stock biomass is at the minimum threshold level, a 10% harvest is allowed. The allowable harvest increases an additional 2% for every spawning stock biomass increase of an amount equal to the threshold level and reaches a maximum of 20% when the population is six-times the threshold level.

The percent harvest rate for any multiple of the threshold level from one to six can be estimated from Figure 2, or by performing the following calculation:

$$\text{Percent Harvest Rate} = 8 + 2 \left[\frac{\text{Spawning Population Size}}{\text{Threshold Level}} \right] \quad (1)$$

An exception to the harvest rate formula now applies to the Sitka Sound sac roe herring fishery based on Board of Fisheries action taken at the 1997 meeting in Sitka. For the Sitka fishery, the new harvest rate is calculated as follows using a 20,000-ton threshold (Figure 3):

$$\text{Percent Harvest Rate} = 2 + 8 \left[\frac{\text{Spawning Population Size}}{\text{Threshold Level}} \right] \quad (2)$$

Roe Quality

Sac roe herring fisheries are managed in compliance with regulation 5 AAC 27.059 MANAGEMENT GUIDELINES FOR COMMERCIAL HERRING SAC ROE FISHERIES. This regulation outlines ways the department can manage sac roe fisheries to enhance value. To determine the best time to fish, the department samples prespawning herring populations in cooperation with harvesters and trained industry technicians. All test-fishing activities must be authorized by department biologists on the fishing grounds.

GILLNET FISHERIES

There are three exclusive set gillnet sac roe fishing areas in Southeast Alaska: the Revilla Channel fishery in regulatory Section 1-F, the Seymour Canal fishery in Section 11-D, and the Hobart-Houghton fishery in District 10. During the 2003 Alaska Board of Fisheries meeting in Sitka the board adopted a new sac roe gillnet fishery for West Behm Canal. The new gillnet fishery will operate on alternate years with a purse seine sac roe fishery. The board specified that the gillnet fishery would be implemented first but could not begin until 2004. A summary of historical harvest and fishing time information for each fishery is shown in Table 1. Gillnetters are reminded that regulations require identification tags, issued by the department, to be placed on one buoy at each end of a herring set gillnet [5 AAC 27.131 (g)]

Revilla Channel

Set gillnet sac roe fisheries have occurred in the Revilla Channel area (Section 1-F) since 1976 (Table 1). Seasonal landings have ranged from a low of 171 tons in 1978 to a high of 3,250 tons in 1983. In 1990, and from 2000 through 2003 the minimum threshold level was not reached and no fishery was permitted. In 1999, a GHL of 870 tons was established. However, due to on-grounds concerns over the lack of herring located in state waters, the fishery was not opened and no herring were harvested.

In the spring of 2003, the department mapped approximately 4.5 nautical miles of spawn in state waters in the Kah Shakes/Cat Island area. The department conducted a limited dive survey of the area, however, there was insufficient spawn to forecast reaching the threshold level of 6,000 tons for the 2004 season. Therefore, no fishery will take place in 2004. The department will, however, continue to monitor the status of the Revilla Channel herring in 2004. Spawning will be mapped, samples will be taken for age class distribution, and dive surveys will be conducted to estimate the spawning biomass. The population estimate determined in 2004 will be used to set the harvest level for 2005.

West Behm Canal

The Alaska Board of Fisheries passed regulations in January 2003 to open the West Behm Canal area (Section 1-E and portions of Section 1-F, Figure 4) for sac roe herring fishing and also for bait pound operation. Elements of the commercial herring fishery plan includes: (1) annual, alternating fishing schedule between set gillnet and purse seine gear in years which the threshold level is met with the first fishery in 2004 being set gillnet; (2) a cooperative purse seine fishery in years when the purse seine fishing gear is allowed; (3) closed waters in the Clover Passage and Tongass Narrows area, and; (4) the establishment of a bait pound fishery which is allocated 10% of the GHL for the West Behm Canal spawning population (5 AAC 27.160)

The open fishing areas and the closed waters of Clover Passage and Tongass Narrows can be found in Figure 4 (5 AAC 27.110 and 5 AAC 27.150).

The ASA forecast of the mature spawning biomass for the West Behm Canal herring spawning population is 9,366 tons for 2004. Using the threshold level of 6,000 tons and the sliding scale harvest rate, this forecast allows a harvest rate of 11.1% of the population and an overall GHL level of 1,040 tons. Approximately 100 tons, or 10% of the GHL is allocated to the bait pound fishery. **Therefore, the GHL for the West Behm Canal sac roe fishery is 940 tons.** The forecast indicates that the spawning stock will consist primarily of age-4 herring.

Spawning dates in recent years have been from April 1 through April 15. The area of major spawn has included the shoreline from outer Helm Bay to Port Stewart, Betton Island, Clover Passage, Tongass Narrows, and along the Gravina Island shore from Vallenar Bay to Grant Cove.

This is the first year of a gillnet sac roe fishery in West Behm Canal in many years. Fishermen should familiarize themselves with the regulations that were established during the 2003 Board of Fisheries meeting in Sitka. These regulations can be found in the 2003-2004 Commercial Herring Fishing Regulation Book available at local Fish and Game offices. Particular attention should be paid to 5 AAC 27.100, 5 AAC 27.131, 5 AAC 27.150, 5 AAC 27.160 and 5 AAC 27.197.

Set gillnet buoy stickers must be obtained and placed on buoys prior to fishing. Identification stickers will be available free of charge from the Ketchikan Fish and Game office prior to the time the department's vessel is on the fishing grounds, thereafter, identification stickers can only be obtained from department staff on the department's vessel. If during the course of the fishery a buoy sticker is lost, a replacement sticker must be obtained from the department before fishing is resumed.

Buoy stickers issued for the West Behm Canal fishery will be valid for the Seymour Canal fishery. Fishermen must still register with the department upon reaching the Seymour Canal fishing area.

Legal gear for the West Behm Canal fishery is one 50-fathom net, with a minimum mesh size of 2 ¼ inches stretched mesh and a maximum depth of 120 meshes [5 AAC 27.131 (f)].

Regulations require a one-hour grace period for nets to be removed from the water following the announced closure time. No gillnet may be reset after the closure time. Additionally, the department has been given the authority to open the fishery for one hour or less without a grace period. An opening of this nature could occur if, after the initial opening, a small but manageable amount of herring is left on the GHL. The department will announce if a grace period will not be allowed due to an opening of one hour or less.

Seymour Canal

Set gillnet fisheries have occurred intermittently in Seymour Canal (Section 11-D) since the fishery was changed from a seine area to a gillnet area in 1980. Annual landings during years fished by

gillnets have ranged from a low of 302 tons in 1987 to a high of 1,518 tons in 2003.

The ASA forecast of the mature spawning biomass for the Seymour Canal herring stock is approximately 6,719 tons. Using the sliding scale harvest rate, this biomass allows a harvest rate of 12.5% of the population and a **GHL of 838 tons for the 2004** fishing season. The forecast indicates that the spawning stock will consist of primarily age-6 herring.

Opening dates for the Seymour Canal gillnet fishery have ranged from April 26 to May 16. Since 1980, spawning has started as early as April 19 and as late as May 15. Department personnel will begin to monitor the Seymour Canal area in mid-April. Initially, monitoring will be limited to aerial surveys. Depending on observed herring activity, vessels with department personnel will be on the fishing grounds by late April or early May.

Set gillnet buoy stickers must be obtained and placed on buoys prior to fishing. Identification stickers will be available free of charge from the Douglas, Ketchikan, and Petersburg Fish and Game offices prior to the time the department's vessel is on the fishing grounds; thereafter, identification stickers can only be obtained from the department's vessel. The stickers will only be issued to valid permit holders and proper picture identification will be required. If during the course of the fishery a buoy sticker is lost, a replacement sticker must be obtained from the department before fishing is resumed.

Buoy stickers issued for the West Behm Canal fishery will be valid for the Seymour Canal fishery. Fishermen must still register with the department upon reaching the Seymour Canal fishing area.

Legal gear for the Seymour Canal fishery is one 50-fathom net, with a minimum mesh size of 2 1/8 inches stretched mesh and a maximum depth of 120 meshes.

Regulations require a one-hour grace period for nets to be removed from the water following the announced closure time. No gillnet may be reset after the closure time. Additionally, the department has been given the authority to open the fishery for one hour or less without a grace period. An opening of this nature could occur if, after the initial opening, a small but manageable amount of herring is left on the GHL. The department will announce if a grace period will not be allowed due to an opening of one hour or less.

Hobart/Houghton

The Alaska Board of Fisheries adopted a regulation in January 1997 that allocates any unharvested portion of the guideline harvest level (GHL) for the Hobart/Houghton winter food and bait fishery to the sac roe gillnet fishery [5 AAC 27.160 (f)]. Sac roe harvests occurred in 1997 through 1999. In 2000, the GHL was harvested in the winter bait fishery (Table 1). No harvest occurred in 2001 through 2003. The forecast for the 2004 mature spawning biomass for the Hobart/Houghton herring spawning stock is 1,511 tons. This is below the minimum threshold level of 2,000 tons. Therefore, there will not be set gillnet sac roe or winter food and bait fisheries in 2004.

PURSE SEINE FISHERIES

There are two exclusive purse seine herring sac roe areas in Southeast Alaska: Lynn Canal and Sitka Sound. Commercial fishing will be allowed only in Sitka Sound during the 2004 season. A summary of harvest and fishing time information for each fishery is shown in Table 2. During the 2003 Alaska Board of Fisheries meeting in Sitka, the board adopted a new sac roe purse seine fishery for West Behm Canal. The new seine fishery will operate on alternate years with a gillnet sac roe fishery. The board specified that the gillnet fishery would be implemented first but could not begin until 2004 so the first year a sac roe seine fishery could be initiated in West Behm Canal is 2005.

Lynn Canal

The Lynn Canal herring sac roe fishing area encompasses regulatory Sections 15-B, 15-C, and that portion of Section 11-A north of the Shrine of St. Therese.

The Lynn Canal fishery has not been open since 1982. Aerial and on-the-grounds surveys conducted in the Lynn Canal fishing area during the spring of 2003 indicated that the population was below the spawning threshold level of 5,000 tons. Therefore, this fishery will not open in 2004.

West Behm Canal

The department will manage the West Behm Canal herring sac roe for set gillnet and purse seine fisheries on alternate years in which the threshold level is met, with the purse seine fishery starting in 2005 if the threshold level is met.

The department shall manage the purse seine fishery under the terms of a cooperative fishery management plan (CFMP). The CFMP must be accepted by all Southeastern Alaska sac roe purse seine CFEC permit holders. The plan will identify the number of purse seine vessels that will fish herring on behalf of the cooperative that season.

If a CFMP is not accepted to by all purse seine CFEC permit holders and the department by January 15, 2005, the commercial sac roe fishery may not be conducted for the year. If a purse seine fishery is not conducted, the set gillnet fishery will take place the next year that the threshold level is met.

The department will have a CFMP available for review for purse seine CFEC permit holders by the start of the 2004 Sitka sac roe fishery.

Sitka Sound

The Sitka Sound sac roe fishing area encompasses the waters of Section 13-B north of the latitude of Aspid Cape, excluding the waters of Whale and Necker bays.

The preliminary 2004 forecast of the mature spawning biomass for the Sitka Sound herring spawning stock was issued on November 5, 2003. The mature spawning biomass forecast for 2004 is at 54,468 tons. This estimate is the result of applying stock specific ASA model for the Sitka Sound herring population using time series of spawn deposition data, spawning age composition, and commercial age composition. The preliminary estimate of the 2004 spawning biomass provides for a harvest rate of 20.0% and a preliminary GHL of 11,294 tons.

Based on size-at-age data from trawl samples in Sitka Sound collected on January 17, 2004, the GHL for the 2004 sac roe herring fishery has been revised to a final GHL of 10,618 tons. The GHL is based on a biomass forecast of 53,088 tons and a 20% harvest rate.

The ASA forecasting model indicates the 2004 spawning population will consist of 9% age-3, 32% age-4, 18% age-5, 17% age-6, 10% age-7, and 14% age-8+ herring. Applying expected age structure and 2004 winter weight-at-age measurements to the population forecast in numbers of fish, yields an overall average weight of 121 grams.

Herring distribution and roe quality will be monitored prior to and during the fishing period. Monitoring methods for 2004 will include aerial surveys, hydroacoustic surveys, and test fishing. In 2004, the department will continue to coordinate the test boat program through a fisherman-coordinator who will assign daily test fishing boats requested by the department. Prior to making test sets, the identified test boats will contact the department biologists on the grounds to monitor set locations and to plan for transport of herring samples to a central location for analysis by industry technicians. The areas open to fishing will depend on the distribution of herring, the need to provide for a fishery that will harvest good quality herring, and the need to provide a reasonable opportunity for subsistence.

In order to help the department to ensure that a reasonable opportunity is provided for subsistence a Memorandum of Agreement (MOA) was signed by ADF&G and the Sitka Tribe of Alaska (STA) on November 4, 2002, and finalized by the Alaska Board of Fisheries on December 17, 2002. This agreement brings consideration of potential impacts of the commercial sac roe herring fishery on the subsistence herring fishery in Sitka Sound to the ADF&G fishery manager through an in-season consultation process. An in-season task force will provide recommendations concerning proposed management actions at a minimum prior to each announcement of a commercial opening after considering potential impacts on the subsistence fishery and the commercial fishery. The three task force members will include the in-season Tribal liaison from STA, a permit holder, and the Sitka Fish and Game Advisory Committee. The department will also consider any in-season recommendations from buyers or processing stakeholders, but no individual processing representative will be designated as a task force representative who may speak for other processors. Members would be available on short notice to review proposed decisions of the fishery manager. In the event of dissenting recommendations, the fishery manager would be the final arbiter after

having considered all input from the task force. During or following each season, the ADF&G Subsistence Division will work cooperatively with the Sitka Tribe of Alaska to determine the amount and quality of the subsistence harvest, and would indicate whether the amount necessary for subsistence had been successfully harvested, and therefore, whether a reasonable opportunity for subsistence had been provided.

The department is requesting registration information for all fishing boats, tenders, and processors prior to the fishery. Registration is greatly simplified if coordinated and provided by each processing company. Processing companies should contact the Sitka fish and game office for a registration form. In addition, each processor should update the Sitka fish and game office with expected daily (24-hour) processing capacity and/or exporting plans. Company affiliations and processing capacities will be considered confidential.

The department plans to hold the annual Southeast Alaska sac roe fisheries pre-season planning meeting through teleconference on February 25, 2004. Invited to participate in this meeting are all permit holders, all buyers from the 2003 season, three representatives of STA, personnel from both state and federal enforcement programs, and the appropriate department biologists. Planned discussions will consider the details of a harvesting approach for the 2004 season. Such discussions will consider the size of quota, freezing capacity, tending and export capacity, methods to maximize roe content and fishery exvessel value. Any consensus developed through the pre-season meeting will be incorporated into management of the 2004 fishery to the extent practical. A general pre-fishery meeting just prior to the fishery will be held in Sitka when the fishery is being placed on 2-hour notice.

In order to provide a reasonable opportunity for subsistence the department must consider whether it is necessary to distribute the harvest time and area in the commercial fishery. Mechanisms of consideration for distribution of commercial harvest may include the following: 1) considering recommendations from in-season task force members, 2) choosing dispersal of time and area by selecting appropriate in-season options, and 3) limiting harvest in the highest frequency spawning area along the Halibut Point Road shoreline in proportion to historical use patterns established by past commercial competitive fisheries (50–55% of the GHL). The general approach would be to act on opportunities for openings outside of the high frequency spawning area as they arise, yet recognize that fishing within this area is likely necessary in order to provide an opportunity for the commercial fishery to harvest and to reach the season's GHL.

During the pre-season planning meeting in 2003, a representative of NMFS indicated that the Magnuson-Stevens Fishery Conservation and Management Act would be enforced. No fishing vessels may deliver and no foreign vessels may receive fish outside of internal waters and the port of Sitka. For details contact NMFS at (907) 747-6940.

LIST OF MANAGEMENT CONTACTS

The following ADF&G, Division of Commercial Fisheries personnel may be contacted regarding this management plan:

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Copies of this management plan may also be found at the following web site:
<http://www.cf.adfg.state.ak.us/region1/finfish/herring/herrhom1.htm>

Table 1. Southeast Alaska gillnet sac roe herring fisheries information summary, 1976–2003.

Year	Seymour Canal ^a				Revilla Channel			
	Guideline Harvest Level (Tons)	Catch (Tons)	Date Two Hour Notice Effective	Opening Dates	Guideline Harvest Level (Tons)	Catch (Tons)	Date Two Hour Notice Effective	Opening Dates
1976	200	195		May 9	300	426	March 23	April 2
1977	500	485	May 4	May 9	800	820	March 29	April 1
1978	500	729	May 2	May 8	680	171	March 26	April 4
1979	250	269	May 3	May 3	585	528	March 28	March 29
1980	--	--	Fishery Not Open	--	1,100	1,140	March 25	March 25
1981	600	615	April 28	April 28	1,550	1,840	March 20	March 20
1982	--	--	Fishery Not Open	--	1,700	2,279	March 20	March 26
1983	--	--	Fishery Not Open	--	2,500	3,250	March 23	March 24
1984	375	518	April 20	April 26	2,100	2,182	March 20	March 29
1985	--	--	Fishery Not Open	--	2,300	2,161	March 28	March 29
1986	300	339	May 5	May 10	1,100	1,536	March 29	March 31
1987	419	302	May 1	May 5, 6	1,200	1,440	March 24	March 26, 27
1988	530	586	April 20	April 26-May 1	953	1,087	March 24	March 25
1989	332	547	April 21	April 28	647	592	March 20	March 20, 21
1990	312	359	April 21	April 28-29	--	--	--	--
1991	--	--	Fishery Not Open	--	680	660	March 28	April 8-11
1992	--	--	Fishery Not Open	--	1,200	1,256	April 1	April 3
1993	--	--	Fishery Not Open	--	717 ^b	737	March 31	April 10
1994	368	382	April 28	April 29	880 ^b	749	April 9	April 9,11
1995	316	319	April 30	May 14	630	626	April 11	April 12
1996	--	--	Fishery Not Open	--	871	605	April 8	April 10
1997	-	-	Fishery Not Open		912	1,137	April 6	April 6
1998	633	585	April 30	May 1-4	620	616	April 1	April 1, 2
1999	595	706	April 30	April 30	870	0	No Fishery	Fishery Not Opened
2000	346	394	May 3	May 5	0	0	No Fishery	Fishery Not Opened
2001	474	620	May 6	May 11-12	0	0	No Fishery	Fishery Not Opened
2002	1,096	1,066	May 12	May 16-17	0	0	No Fishery	Fishery Not Opened
2003	1,712	1,518	Apr 28	Apr 29-May 2	0	0	No Fishery	Fishery Not Opened

-continued-

Table 1. (page 2 of 2)

Year	Hobart-Houghton				West	Behm	Canal		
	Guideline Harvest Level ^d (Tons)	Catch (Tons)		Date Two Hour Notice Effective	Opening Dates	Guideline Harvest Level (Tons)	Catch (Tons)	Date Two Hour Notice Effective	Opening Dates
		Bait	Sac Roe		Bait/Sac Roe				
1977	0	40	0		October 1				
1978	0	0	0		Fishery Not Open				
1979	0	0	0		Fishery Not Open				
1980	0	0	0		Fishery Not Open				
1981	0	0	0		Fishery Not Open				
1982	0	0	0		Fishery Not Open				
1983	0	0	0		Fishery Not Open				
1984	0	0	0		Fishery Not Open				
1985	0	0	0		Fishery Not Open				
1986	0	0	0		Fishery Not Open				
1987	0	0	0		Fishery Not Open				
1988	0	0	0		Fishery Not Open				
1989	0	0	0		Fishery Not Open				
1990	0	0	0		Fishery Not Open				
1991	0	0	0		Fishery Not Open				
1992	200	0	0		January 13, 1992				
1993	500	0	0		January 12, 1993				
1994	230	140	0		October 17, 1993				
1995	250	229	0		October 1, 1994				
1996	700	230	0		October 15, 1995				
1997	550	100	442	April 19	October 1, 1996-April 28				
1998	260	0	351	April 19	October 1, 1997-April 20				
1999	436	0	506	April 25	October 14, 1998-April 26				
2000	418	432	0	No Fishery	December 1, 1999-Gillnet not opened				
2001	0	0	0	No Fishery	Fishery Not Opened				
2002	0	0	0	No Fishery	Fishery Not Opened				
2003	0	0	0	No Fishery	Fishery Not Opened	First fishery	Set for	2004 by Board	Of Fisheries

^a Seymour Canal was a purse seine fishing area prior to 1980.

^b Quota reduced by 150 tons as an allocation for the Annette Island sac roe harvest.

^c Hobart Bay was opened to Gillnet Sac Roe Fishing in 1997.

^d Gillnet quota is the portion left after the winter bait fishery is completed.

Table 2. Southeast Alaska purse seine sac roe herring fisheries information summary, 1976–2003.

Year	Juneau ^a -Lynn Canal				Sitka Sound			
	Guideline Harvest Level (Tons)	Catch (Tons)	Date 2-Hour Notice Was Effective	Opening Dates	Guideline Harvest Level (Tons)	Catch (Tons)	Date 2-Hour Notice Was Effective	Opening Dates
1976	750	432	Seine	April 26	780	800	April 10	April 16
		124	Gillnet	April 29				
1977	875	709	Seine	April 19	--	--	Fishery Not Open	--
		217	Gillnet	April 20				
1978	500	602	Seine	April 19	250	175	April 4	April 5
	200	346	Gillnet	April 21				
1979	--	--	Fishery Not Open	--	2,000	2,250	April 7	April 12
1980	600	975	Seine	April 13	4,000	4,385	April 4	April 4, 5
1981	725	761	Seine	April 17	2,700	3,506	March 23	March 24, 26
1982	375	551	Seine	April 30	3,000	4,363	March 26	March 30
1983	--	--	Fishery Not Open	--	5,500	5,463	March 23	March 26, 29
1984	--	--	Fishery Not Open	--	5,000	5,711	March 22	March 26, 27, 28
1985	--	--	Fishery Not Open	--	7,700	7,475	March 24	March 29, April 1, 5
1986	--	--	Fishery Not Open	--	5,029	5,443	March 28	April 2, 8
1987	--	--	Fishery Not Open	--	3,600	4,216	March 23	March 31
1988	--	--	Fishery Not Open	--	9,200	9,573	March 25	April 4 - 14
1989	--	--	Fishery Not Open	--	11,700	11,831	March 23	March 31 - April 8
1990	--	--	Fishery Not Open	--	4,146	3,804	April 4	April 5, 6
1991	--	--	Fishery Not Open	--	3,200	1,908	March 29	April 10 - April 13
1992	--	--	Fishery Not Open	--	3,356	5,368	March 30	April 6
1993	--	--	Fishery Not Open	--	9,691	10,186	March 26	March 27 - April 3
1994	--	--	Fishery Not Open	--	4,432	4,753	March 28	March 29, 31
1995	--	--	Fishery Not Open	--	2,609	2,908	March 23	March 25, 27
1996	--	--	Fishery Not Open	--	8,144	8,144	March 23	March 23, March 31-Apr. 9

-continued-

Table 2. (page 2 of 2)

Year	Juneau ^a -Lynn Canal				Sitka Sound			
	Guideline Harvest Level (Tons)	Catch (Tons)	Date 2-Hour Notice Was Effective	Opening Dates	Guideline Harvest Level (Tons)	Catch (Tons)	Date 2-Hour Notice Was Effective	Opening Dates
1997	--	--	Fishery Not Open	--	10,900	11,147	March 18	March 18-March 23
1998	--	--	Fishery Not Open	--	6,900	6,705	March 16	March 16, 18, 19
1999	--	--	Fishery Not Open	--	8,476	9,136	March 19	March 22, 24, 26-27
2000	--	--	Fishery Not Open	--	5,120	4,572	March 13	March 19, 22
2001	--	--	Fishery Not Open	--	10,597	12,034	March 15	March 22, 26, 27 March 27, 29, 31,
2002	--	--	Fishery Not Open	--	11,042	9,885	March 25	April 2, April 12-15
2003	--	--	Fishery Not Open	--	6,969	7,051	March 20	March 22, 23, 26

^a The Juneau fishery was both a gillnet and seine area prior to 1980.

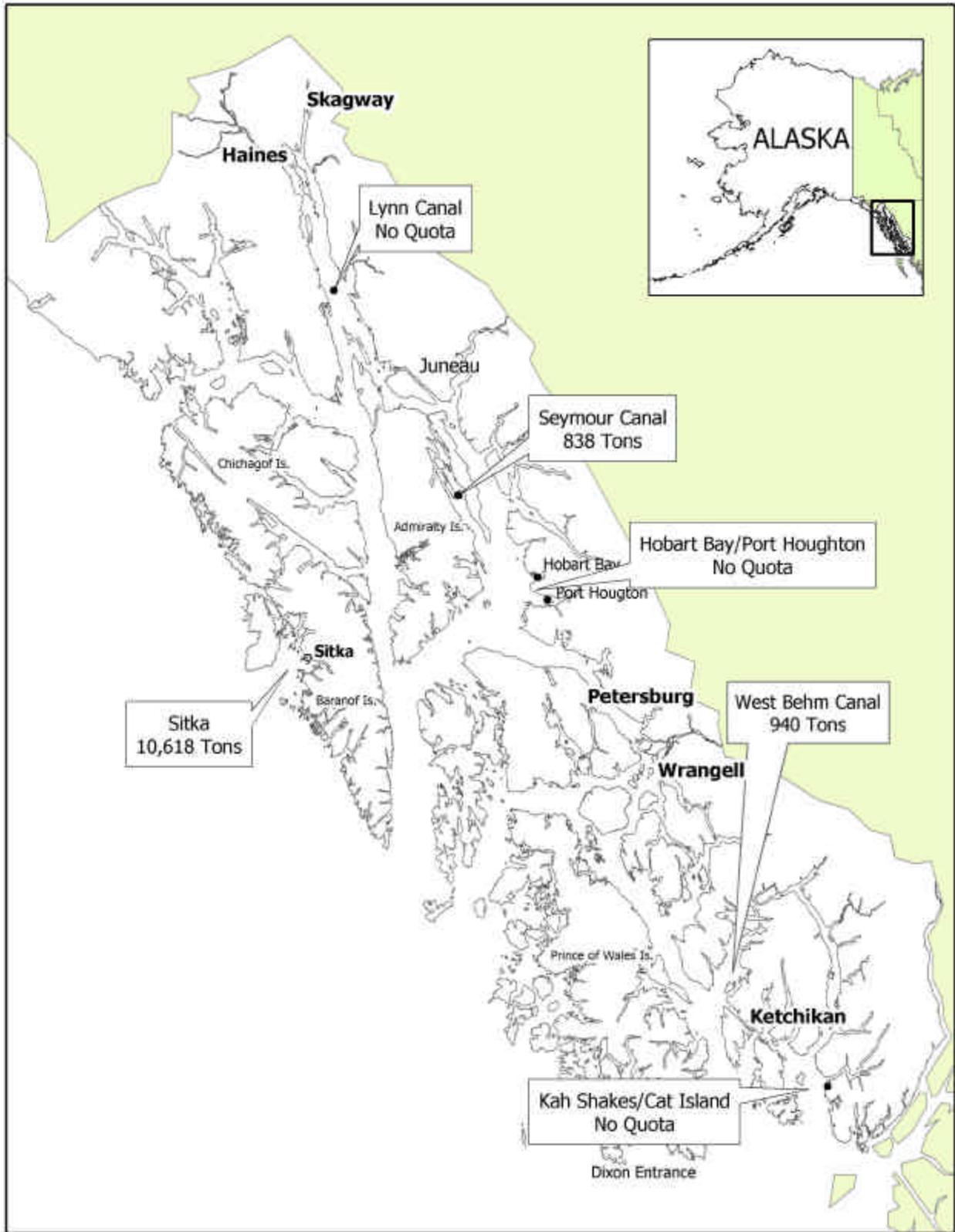


Figure 1. Southeast Alaska sac roe herring areas and preliminary GHLs for 2004.

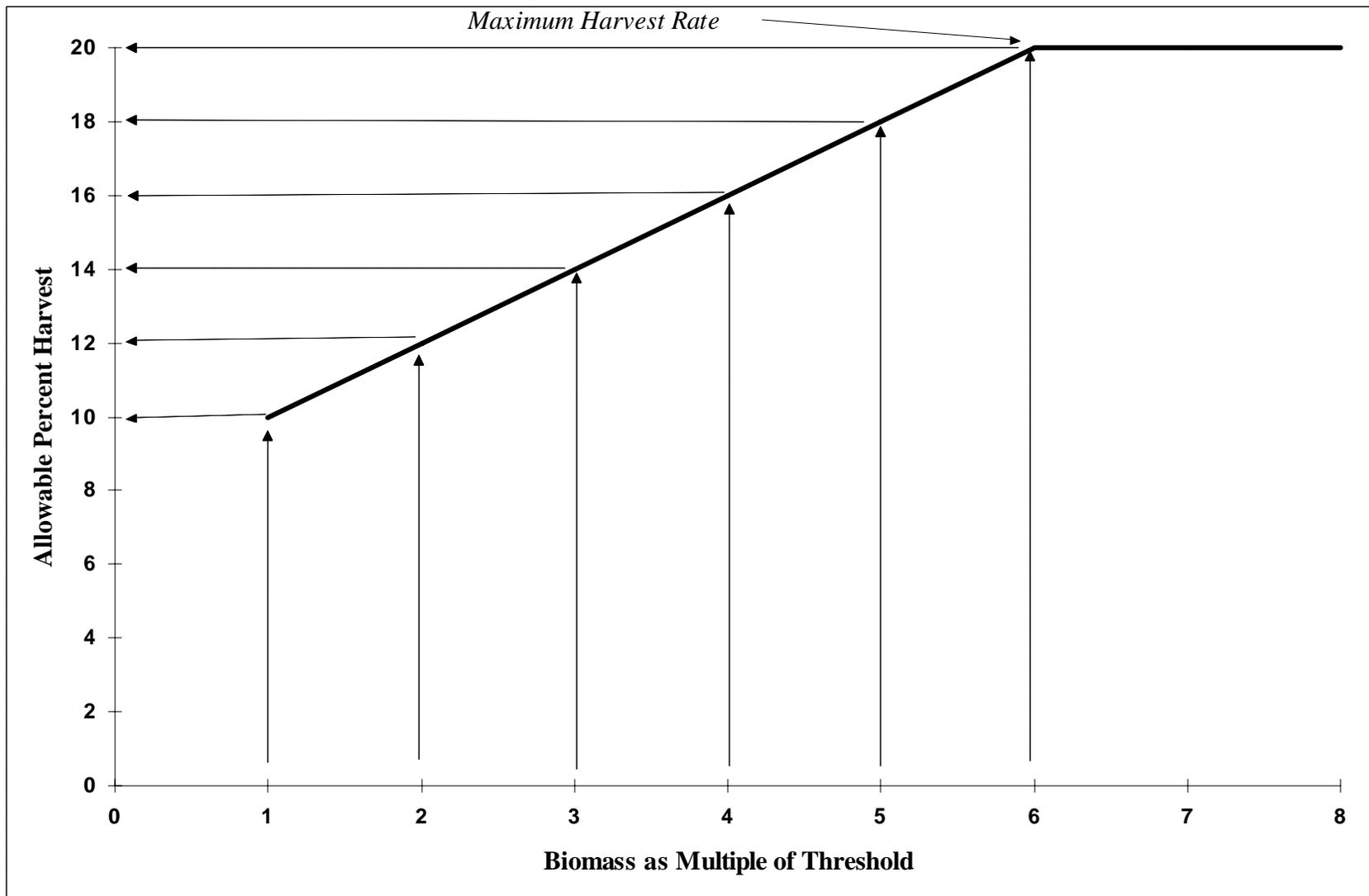


Figure 2. Generalized harvest strategy for Southeast Alaska herring. The allowable percent annual harvest is plotted against the estimated biomass of mature herring expressed as a multiple of the established harvest threshold level.

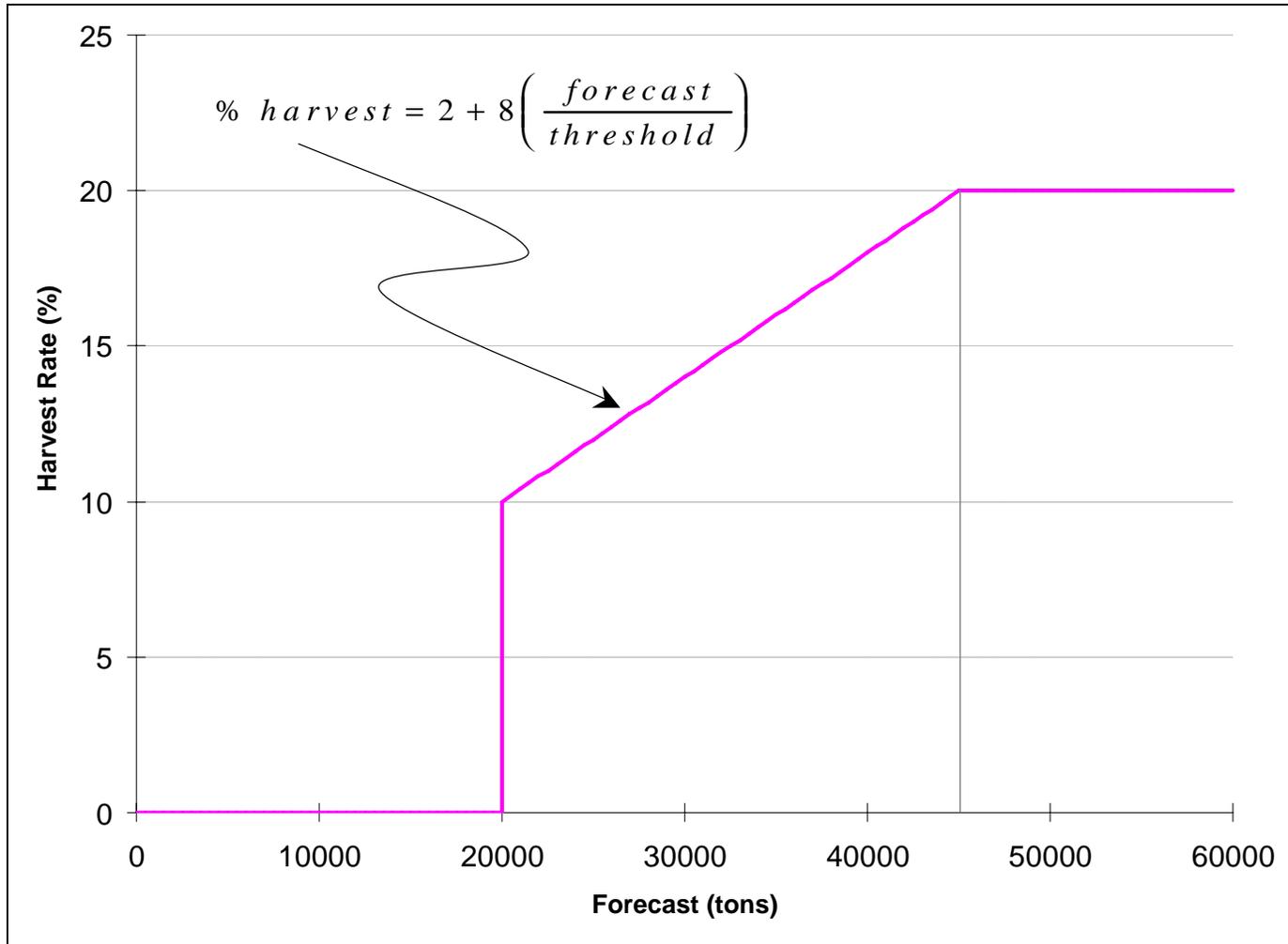


Figure 3. Harvest rate and formula for Sitka Sound under 20,000 ton minimum threshold level [5 AAC 27.160 (g)].

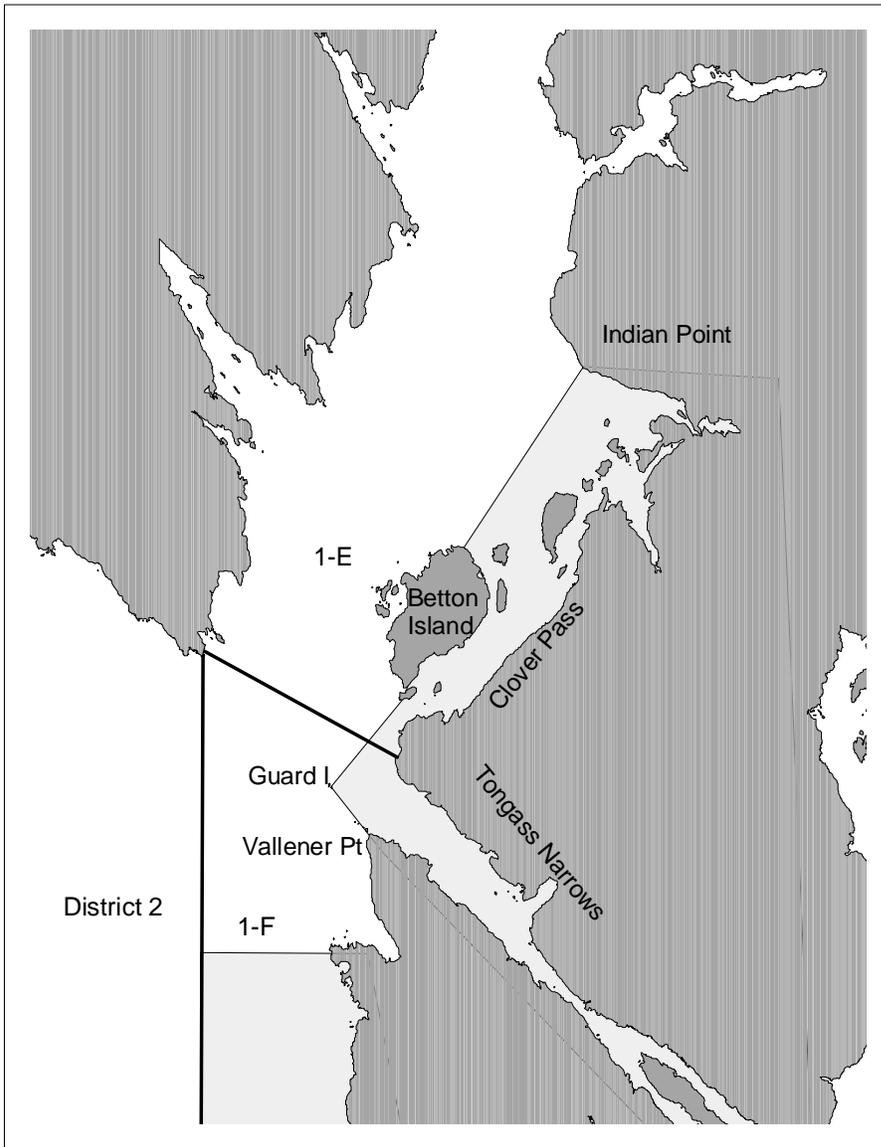


Figure 4. Open area for West Behm Canal pound fishery (Section 1-E and portions of Section 1-F). Hatched areas are waters closed to sac roe herring fishing.

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