

2025 Southeast Alaska Herring Sac Roe Fishery Management Plan

by

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Alaska Department of Fish and Game

Division of Commercial Fisheries



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Weights and measures (metric)		General		Mathematics, statistics	
centimeter	cm	Alaska Administrative Code AAC		<i>all standard mathematical</i>	
deciliter	dL	all commonly accepted		<i>signs, symbols and</i>	
gram	g	abbreviations	e.g., Mr., Mrs., AM, PM, etc.	<i>abbreviations</i>	
hectare	ha	all commonly accepted		alternate hypothesis	H _A
kilogram	kg			base of natural logarithm	<i>e</i>
kilometer	km	professional titles	e.g., Dr., Ph.D., R.N., etc.	catch per unit effort	CPUE
liter	L			coefficient of variation	CV
meter	m	at	@	common test statistics	(F, t, χ^2 , etc.)
milliliter	mL	compass directions:		confidence interval	CI
millimeter	mm	east	E	correlation coefficient	
Weights and measures (English)		north	N	(multiple)	R
		south	S	correlation coefficient	
		west	W	(simple)	r
	cubic feet per second	ft³/s	copyright	©	covariance
foot	ft	corporate suffixes:		degree (angular)	°
gallon	gal	Company	Co.	degrees of freedom	df
inch	in	Corporation	Corp.	expected value	<i>E</i>
mile	mi	Incorporated	Inc.	greater than	>
nautical mile	nmi	Limited	Ltd.	greater than or equal to	≥
ounce	oz	District of Columbia	D.C.	harvest per unit effort	HPUE
pound	lb	et alii (and others)	et al.	less than	<
quart	qt	et cetera (and so forth)	etc.	less than or equal to	≤
yard	yd	exempli gratia		logarithm (natural)	ln
Time and temperature		(for example)	e.g.	logarithm (base 10)	log
	day	Federal Information		logarithm (specify base)	log ₂ , etc.
	degrees Celsius	Code	FIC	minute (angular)	'
	degrees Fahrenheit	°F	id est (that is)	i.e.	not significant
degrees kelvin	K	latitude or longitude	lat or long	null hypothesis	H ₀
hour	h	monetary symbols		percent	%
minute	min	(U.S.)	\$, ¢	probability	P
second	s	months (tables and figures): first three		probability of a type I error	
Physics and chemistry		letters	Jan.,...,Dec	(rejection of the null hypothesis when true)	α
	all atomic symbols	registered trademark	®	probability of a type II error	
	alternating current	trademark	™	(acceptance of the null hypothesis when false)	β
	ampere	United States		second (angular)	"
	calorie	(adjective)	U.S.	standard deviation	SD
	direct current	United States of		standard error	SE
	hertz	America (noun)	USA	variance	
	horsepower	U.S.C.	United States	population	Var
	hydrogen ion activity	pH	Code	sample	var
	(negative log of)		U.S. state	use two-letter abbreviations	
parts per million	ppm		(e.g., AK, WA)		
parts per thousand	ppt, ‰				
volts	V				
watts	W				

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**2025 SOUTHEAST ALASKA HERRING SAC ROE FISHERY
MANAGEMENT PLAN**

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ABSTRACT

This report describes the Southeast Alaska herring sac roe fishery regulations, fishing areas, guideline harvest levels, and management intentions for 2025. Management plans for the herring sac roe purse seine and set gillnet fisheries are reviewed annually, including procedures for announcing fishery openings and closures, vessel registration, and harvest reporting requirements. A summary of herring stock status is presented by spawning area. Alaska Department of Fish and Game management contacts are listed at the conclusion of this report.

Keywords: Herring, sac roe, set gillnet, purse seine, management, guideline harvest levels, commercial herring, fishing regulations

INTRODUCTION

Southeast Alaska commercial herring fisheries occur during the winter, when herring are harvested for use primarily as bait, and during the spring, when herring are harvested for their roe. The roe harvest includes the traditional sac roe and pound spawn-on-kelp fisheries. This management plan provides an overview of the 2025 herring sac roe fisheries for Southeast Alaska including expected harvest levels and management strategy. A combined management plan for the northern and southern Southeast Alaska herring pound spawn-on-kelp fisheries is available as a separate publication at local department area offices and on the Alaska Department of Fish and Game (ADF&G or department) website.

Herring in Southeast Alaska are commercially harvested for sac roe by purse seine and set gillnet gear types, both of which are included in the limited entry system. There are currently 5 herring sac roe fishing areas in Southeast Alaska consisting of 1 purse seine area and 4 set gillnet areas. During the 2003 Alaska Board of Fisheries (BOF) Southeast and Yakutat Finfish Meeting, the board adopted a new herring sac roe fishery for West Behm Canal (Sections 1-E and 1-F) that was to operate on alternating years for purse seine and set gillnet gear. During the 2012 BOF Southeast and Yakutat Finfish meeting, the board changed the West Behm Canal herring sac roe fishery to be exclusively a set gillnet fishery. During the 2018 BOF Southeast and Yakutat Finfish and Shellfish Meeting, the BOF rescinded provisions allowing for the Lynn Canal purse seine fishery that had not opened since 1982. Herring sac roe fishing areas are shown in Figure 1.

During the 2024 Sitka Sound herring sac roe fishery 12,678 tons of herring were harvested; this was the only commercial herring sac roe harvest in Southeast Alaska in 2024. The 2025 herring sac roe harvest is anticipated to be significantly less than the 36,720 tons available for harvest and will probably be closer to the 2024 harvest.

REGULATIONS

Commercial herring fishing regulations are included in the ADF&G's *2024–2025 Statewide Commercial Herring Fishing Regulations* pamphlet. Copies of the pamphlet may be obtained at any department office. Management plans which apply to harvest in the herring sac roe fisheries include: *Management guidelines for commercial herring sac roe fisheries* (5 AAC 27.059), *Waters closed to herring fishing in Southeastern Alaska Area* (5 AAC 27.150), *Herring Management Plan for Southeastern Alaska Area* (5 AAC 27.190), *Sitka Sound commercial sac roe herring fishery* (5 AAC 27.195), and *Sections 1-E and 1-F commercial sac roe herring fishery* (5 AAC 27.197).

In addition to waters closed to commercial herring fishing in Sitka Sound under state regulations, the federal waters around Makhnati Island are closed to commercial herring fishing activity. Department staff may be contacted for further details regarding commercial or subsistence herring regulations.

VESSEL CHECK-IN, CHECK-OUT, AND REPORTING PROCEDURE

Buyers or buyer's agents must register all vessels employed in transporting and processing herring with the department prior to commencing those activities and must make daily reports of herring purchased from fishers as specified by a local representative of the department (5 AAC 27.162 [a]). The department requires 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 Commercial Fisheries Entry Commission (CFEC) permit holder at the time of delivery to the first buyer or buyer's agent (5 AAC 27.162 [c]). This means there must be a separate fish ticket for each delivery to a tender before the tender leaves the fishing grounds. At the request of the CFEC permit holder, on-the-grounds weight and estimated roe content shall both be recorded on the fish ticket. Operators who transport fish out of Alaska before processing must submit a fish ticket to the department 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 dates of intended operation.

ANNOUNCEMENT OF OPENINGS AND CLOSURES

Fishery openings and closures will be implemented through ADF&G emergency orders. Fishery announcements will be announced through a combination of VHF radio and the advisory announcement system. The VHF radio channel for receiving field announcements will be indicated on the fishing grounds. Harvesters should expect short notice of opening and closing times. Short notice is often necessary to provide fishing opportunities prior to major spawning and to maintain desired harvest levels.

The department will monitor herring distribution, abundance, and quality in advance of the expected fishery opening dates. Fisheries will be placed on short notice prior to the first opening. Once the fishery is placed on short notice, it can be opened any time, at the discretion of the department, with 1 to 2 hours' notice to industry. The department will try to give industry 36-hours' notice in advance of the fishery being placed on short notice. Announcement of the time that short notice goes into effect will be made by a department advisory announcement. However, if spawning is either earlier or heavier than anticipated, and waiting 36 hours could result in loss of fishing opportunity, notice will be less than 36 hours.

MANAGEMENT STRATEGY

The harvest strategy for Southeast Alaska herring sac roe fisheries is based on the forecast of spawning biomass, population age structure, recruitment, size-at-age, past spawning success, and the availability and distribution of quality herring (i.e., at least 10% mature roe and of sufficient average weight to meet predetermined industry requirements).

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* section on next page). As specified in 5 AAC 27.190. *Herring Management Plan for Southeastern Alaska Area*, 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 allocation requirements. The established threshold levels for the herring sac roe fishing areas are: Seymour Canal–3,000 tons; Revilla Channel–6,000 tons; Sitka Sound–25,000 tons; Hobart/Houghton–2,000 tons; and West Behm Canal– 6,000 tons. A variety of methods have been used to assess the status of herring populations in Southeast Alaska (Hebert 2024a). Before 1970, herring abundance was assessed through visual estimates made from vessels using depth sounders and sonar immediately prior to spawning or on wintering aggregations. The extent of herring spawn (measured as cumulative miles of unique shoreline with observed spawn) was documented by 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 conducted for Sitka Sound herring in 1976 and continue to be a key component of current assessment methods. The spawn deposition method combines calibrated diver estimates of herring egg deposition on the spawning grounds along with estimates of total area receiving spawn, average fecundity, average weight-at-age, and age composition to yield an estimate of spawning biomass. In the 1980s and early 1990s, estimates of spawning biomass from a given year were used as the forecast to set harvest quotas for individual spawning stocks for the following year.

Beginning in 1993, the department began using age-structured assessment (ASA) models to forecast abundance for selected spawning stocks with sufficient historical stock information. ASA models (also called statistical catch-at-age models) for Southeast Alaska herring stocks rely on a time series of estimated total egg deposition, spawner-age composition, catch-age composition, weight-at-age, and harvest. Estimates of fecundity are also included in the model. The models estimate recruitment, maturation, and natural mortality and apply them to an estimate of spawning biomass from a given year to forecast mature biomass for the following year. The ASA model was an important development because gains in herring biomass due to recruitment, growth, and maturity are often not equal to the loss of biomass due to natural mortality, as was assumed when using the prior year spawn deposition estimate for forecasting biomass. The ASA method is currently used to forecast herring biomass for the Sitka Sound sac roe fishery.

Beginning in 1995, the department began using a biomass accounting (BA) method to forecast abundance for stocks without sufficient historical stock information for ASA modeling. Spawn deposition estimates were obtained for these areas as an initial indication of the likelihood that the spawning biomass would be above the respective thresholds for each area. For those areas likely to be above their thresholds, BA is used to forecast biomass. The BA method uses the most recent year's spawn deposition estimate of eggs, the age composition of the spawning biomass, weight-at-age, and fecundity to project the following year's return of mature herring. It also uses survival and maturity-at-age estimated from ASA modeling of other stocks in the region. The median historical proportion of mature age-3 herring for each stock is used to forecast age-3 recruitment to the pre-fishery spawning biomass (i.e., mature biomass). The sac roe fishery areas for which the BA method would be used to forecast herring abundance include West Behm Canal (most recent forecast in 2015) and Hobart–Houghton (most recent forecast in 2016).

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 forecast for most spawning stocks if the forecasted biomass is greater than established threshold levels. When the spawning stock biomass is at the 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 6 times the threshold level.

The harvest rate percent for any multiple of the threshold level from 1 to 6 can be estimated from Figure 2, or by performing the following calculation:

$$\text{Harvest Rate Percentage} = 8 + 2 \left[\frac{\text{Forecast Spawning Biomass (tons)}}{\text{ThresholdLevel}} \right] \quad (1)$$

The exception to the harvest rate formula applies to the Sitka Sound herring sac roe fishery based on BOF actions taken at the 1997 and 2009 Southeast and Yakutat Finfish meetings. The minimum harvest rate for the Sitka Sound herring sac roe fishery is 12% when the forecast is at threshold, the maximum harvest rate reaches 20% at 1.8 times the threshold, and the minimum biomass threshold necessary to provide a commercial fishery is 25,000 tons (increased from 20,000 in 2009). For the Sitka Sound fishery, the harvest rate percentage is calculated using the following formula (Figure 3):

$$\text{Harvest Rate Percentage} = 2 + 8 \left[\frac{\text{Forecast Spawning biomass (tons)}}{20,000} \right] \quad (2)$$

ROE QUALITY

Herring sac roe fisheries are managed in compliance with regulation 5 AAC 27.059 *Management guidelines for commercial herring sac roe fisheries*. This regulation establishes guidelines that allow for the department to manage herring sac roe fisheries to enhance value. To determine the best time to fish, the department samples pre-spawning herring populations in cooperation with harvesters and trained industry technicians. All test setting activities must be authorized by department biologists.

GILLNET FISHERIES

There are 4 set gillnet herring sac roe fishing areas in Southeast Alaska: the Revilla Channel fishery in regulatory Section 1-F, the West Behm Canal fishery in Sections 1-E and 1-F, the Seymour Canal fishery in Section 11-D, and the Hobart–Houghton fishery in District 10. A summary of historical harvest and fishing time information for each fishery is shown in Tables 1 and 2.

REVILLA CHANNEL

Set gillnet herring sac roe fisheries have occurred in the Revilla Channel area (Section 1-F) in state managed waters from 1976 to 1998 (Table 1). Seasonal landings have ranged from a low of 171 tons in 1978 to a high of 3,113 tons in 1983. In 1999, a guideline harvest level (GHL) of 870 tons was established. However, due to inseason concern over the lack of herring located in state managed waters the fishery was not opened, and no herring were harvested in state waters. From 2000 through 2014 and from 2016 through 2021, the minimum threshold level was not reached in state managed waters, and a fishery was not permitted. In 2015, 11.9 nautical miles (nmi) of spawn were documented and a herring spawn deposition dive survey was conducted. The post-spawning

biomass was above the minimum threshold but, given that very few herring had been observed since 1998 with little biological information collected over that time frame, no formal forecast was completed, and no fishery was scheduled for 2016. Since 2015, herring spawn observed in Revilla Channel in state waters has been highly variable, ranging from 1.2 nmi in 2018 to 11.9 nmi in 2015.

In 2024, the department documented 9.1 nmi of herring spawn and a spawn deposition survey conducted, estimating a biomass with potential to exceed the threshold. However, a formal forecast was not completed due to variability in stock size in recent years and lack of a biomass estimate from the previous year.

In 2025, the department will monitor the Revilla Channel stock through the duration of historical spawn timing. If substantial spawn (typically at least 5 nmi) is documented and funding allows, the department may conduct a spawn deposition survey to further evaluate the biomass level.

WEST BEHM CANAL

In 2003, the BOF established a herring sac roe fishery in West Behm Canal (Sections 1-E and 1-F) that was to operate on alternating years for purse seine and set gillnet gear. In 2004, a fishery was announced but due to inseason concerns over the low abundance of herring observed in West Behm Canal, the fishery was not opened. From 2005 to 2010, the threshold was not met, and no fisheries occurred. A set gillnet fishery occurred in 2011 but was unsuccessful due to most spawning activity occurring in closed waters. In 2012, the threshold was met, and a fishery was set to occur, but due to inseason concern over low abundance of herring observed in the West Behm Canal area, the fishery did not open (Table 2). The spawning biomass estimated from a spawn deposition survey in 2012 was 2,134 tons. During the 2012 BOF Southeast and Yakutat Finfish meeting, the board changed the West Behm Canal herring sac roe fishery to be exclusively a set gillnet fishery. From 2013 through 2024, there has been insufficient herring spawn observed and spawn deposition surveys were not conducted.

No herring spawn was documented by ADF&G in 2023 in West Behm Canal; however, local pilot reports documented an early spawn event along the Cleveland Peninsula shoreline and approximately 3.0 nmi of eggs were observed on the beach on a subsequent skiff survey. A spawn deposition survey did not occur; therefore, a biomass forecast was not conducted for 2024. Due to budgetary constraints, the department did not monitor the West Behm Canal stock regularly in 2024 and has no plans to conduct daily surveys to monitor the stock in 2025.

SEYMOUR CANAL

Set gillnet fisheries have occurred intermittently in Seymour Canal (Section 11-D) since the fishery was changed from purse seine to set gillnet in 1980, however, the most recent fishery was in 2014. Annual landings during years fished by set gillnets have ranged from a low of 302 tons in 1987 to a high of 1,519 tons in 2003 (Table 1). The most recent forecasts produced for this spawning stock were for returns in 2015, 2016, and 2018. Forecasts for 2015 and 2018 spawning stocks were below the threshold level to prosecute fisheries and the 2016 forecast, while above threshold level, was made up of predominantly 4-year old fish which would be largely unavailable to gillnet gear and after consulting with industry it was decided to keep the fishery closed. From 2019 through 2024, there has been insufficient herring spawn observed and spawn deposition surveys were not conducted.

Approximately 1.5 nmi of spawn was observed in 2024 predominantly in the vicinity of Point Gambier with some minor spawning events farther north along the Big Bend shoreline. The major spawning dates were April 23–25 which is substantially earlier than the long-term average date of first spawn of May 3. The spring of 2024 marked the first time spawn was not observed along the Glass Peninsula shoreline in 50 years. A spawn deposition survey was not conducted as the spawn observed was limited in extent and duration, and therefore a forecast was not completed. The Seymour Canal set gillnet herring fishery will not be opened in 2025.

In 2025, the department will monitor the Seymour Canal herring stock through the duration of historical spawn timing. If enough spawn is documented and funding allows, the department may conduct a spawn deposition survey.

HOBART–HOUGHTON

In January 1997, the BOF adopted regulations that allocate unharvested GHL from the District 10 (Hobart–Houghton) winter food and bait fishery to the herring sac roe gillnet fishery (5 AAC 27.160 [f]). Since the inception of the herring sac roe fishery, harvests have occurred in 1997–1999, 2005, and 2008–2010. In 2000, the entire GHL was harvested during the winter food and bait fishery and no surplus GHL was available for the herring sac roe fishery (Table 2). Herring biomass estimates did not meet the minimum threshold to allow fisheries in 2001–2004, 2006, 2007, and 2011–2015. A spawn deposition survey has not been conducted in the Hobart–Houghton area since 2015 as spawn observed has been minimal.

In 2024, one aerial survey was conducted and ~0.5 nmi of spawn was documented in Port Houghton. A spawn deposition survey was not conducted as the spawn observed in 2024 was limited in extent and duration. Therefore, no biomass forecast was developed for 2025. Due to budgetary constraints, the department stopped actively monitoring Hobart–Houghton in 2024. The department will not monitor the Hobart–Houghton stock in 2025 but may conduct an aerial survey if significant spawn is reported.

PURSE SEINE FISHERIES

Until 2018, there were 2 exclusive purse seine herring sac roe areas in Southeast Alaska: Lynn Canal and Sitka Sound. During the January 2018 Southeast Alaska and Yakutat BOF meeting, the board rescinded provisions for the Lynn Canal purse seine fishery which had not been opened since 1982. Annual harvests and fishing time information for the Sitka Sound fishery are shown in Table 3.

SITKA SOUND

The Sitka Sound sac roe fishing area encompasses the waters of Section 13-B north of the latitude of Aspid Cape, and in Section 13-A south of the latitude of Point Kakul in Salisbury Sound. The GHL for the 2024 Sitka Sound herring sac roe fishery is 36,720 tons with a forecasted average weight of 122 grams, including all forecasted age classes (3–8+). The GHL is based on a 20% harvest rate of the ASA forecast of 183,599 tons of mature herring biomass. This forecast is a 9% decrease from the model estimate of the 2024 mature pre-fishery herring biomass of 202,134 tons. There was a notable decrease between the 2024 forecast of mature biomass (406,228 tons, derived from the 2024 forecast model) and the model-estimated mature pre-fishery herring biomass for 2024 (202,134 tons, derived from the 2025 forecast model). This decrease was due largely to a revised estimate of age-3 recruitment in 2023 compared to what was presented in the 2024 forecast

and an estimated decrease in survival for 2022–2024. The estimated 2023 age-3 recruitment decreased by 51% in the 2025 forecast model compared to the 2024 forecast model. The 2025 forecasted age composition (by numbers at age) for Sitka Sound is 7% age-3, 18% age-4, 43% age-5, 4% age-6, 5% age-7, and 23% age-8+.

Herring distribution and roe quality are monitored prior to and during fishing periods. Monitoring methods for 2025 will include aerial surveys, vessel sonar surveys, and test sets. In 2025, the department will coordinate with industry vessels to conduct test sets as necessary to determine the herring size and roe quality. Prior to making test sets, the identified test boats will contact department biologists who will monitor set locations and plan for transport of herring samples to a central location for analysis by industry technicians. The specific areas open to fishing will depend, in part, on the distribution of herring, the necessity to provide opportunity for subsistence harvesters, and the obligation to manage a fishery that will harvest good quality herring.

There is currently no agreement between the department and industry on the harvest strategy (i.e., competitive or noncompetitive fishery) for the 2025 fishery; however, it is likely that the fishery will maintain the noncompetitive structure of the past 4 seasons. Due to the high GHL and a limited market, only a portion of the GHL is expected to be harvested. Additionally, limitations on processing and tending capacity will require multiple openings to harvest enough herring for market needs. The total daily processing capacities for the 2025 season will not be determined until immediately prior to the fishery, though it is expected to be approximately 2,000 tons per day. Harvest levels targeted for individual openings may vary in consideration of inseason assessments of herring distribution and quality, progress of the spawn, changes in available processing and tendering capacity, and input from industry representatives.

In March 2025, the department will hold a public meeting prior to the fishery for reviewing the general guidelines and expectations, enforcement issues, and United States Coast Guard (USCG) safety concerns for the fishery. To allow for maximize public participation, this meeting will be held virtually. Details of this meeting will be announced through the department’s advisory announcement system.

In recent years, the USCG has been closely monitoring fishery openings for violations of *Rules of the Road* during the conduct of the fishery. For further information regarding conduct during the fishery, contact the USCG Marine Safety Detachment at (907) 966-5454.

Operators of foreign vessels wanting to participate in the Sitka Sound herring sac roe fishery are encouraged to contact the National Marine Fisheries Service at (907) 747-6940 for more details on activities restricted by the Magnuson-Stevens Fishery Conservation and Management Act.

Subsistence Opportunity

The department will continue to manage the commercial sac roe fishery consistent with 5 AAC 27.195 and will ensure that the basis of management decisions is appropriately documented. Regulation requires that the department distribute the commercial harvest by fishing time and area if it determines that doing so is necessary to ensure a reasonable opportunity for subsistence users to harvest the amount of herring spawn necessary for subsistence uses. Regulation requires that the department consider the quality and quantity of herring spawn on branches, kelp, and seaweed, and herring sac roe when making management decisions regarding the subsistence herring spawn and commercial sac roe fisheries in Sitka Sound.

The department implements 5 AAC 27.195 by a number of methods including: observing the closure of the most commonly utilized traditional subsistence fishing areas to commercial fishing; directing commercial openings farther away from the closed areas when deemed necessary; assessing the amount of herring biomass returning to Sitka Sound during the fishing season; sampling herring in season for size, sex, and maturity to direct the commercial fishery away from unmarketable fish; and implementing a more conservative harvest rate strategy in the commercial fishery. The department will continue to review and analyze whether these measures are adequate in providing for reasonable opportunity for subsistence users to harvest an amount of herring spawn necessary for subsistence, or if additional actions are warranted given the size and inseason distribution of the forecasted herring biomass. The department will document its decisions in a manner that —consistent with public records laws, regulations, departmental confidentiality, and privilege obligations— will permit third-party review.

Closed waters in Sitka Sound encompass approximately 16.5 square nmi and encompass the “core subsistence area” (Figure 4; Sill and Cunningham 2021). In 2012 in Sitka Sound, the BOF established a 10 square nmi area closed to the commercial herring sac roe fishery for the purpose of reducing conflict between commercial and subsistence users and to help ensure reasonable opportunity for subsistence users to secure their harvest. In 2018, the BOF expanded these closed waters by approximately 6.5 square nmi. If inseason surveys show that herring are abundant within or near the waters closed to the commercial sac roe fishery, the likelihood of herring spawning in the closed area is increased, and the department will take such data into consideration when making management decisions consistent with 5 AAC 27.195.

The conservative nature of the harvest rate strategy (i.e., combination of sliding scale harvest rate and threshold) ensures that a substantial portion of the spawning biomass of herring is left unharvested and increases the likelihood that subsistence harvesters have a reasonable opportunity to harvest quality herring spawn. Because the harvest rate is reduced the closer the herring biomass forecast is to the threshold, and the fishery is closed below threshold, more protection is given to the herring stock at lower abundance levels, which is expected to enhance or maximize subsistence harvesters’ reasonable opportunity when the herring stock size is smaller. The harvest rate strategy was first implemented in Sitka Sound in 1983. Specific harvest rate and threshold values were established in 1998 and revised in 2009 (Hebert 2024b). Sitka Sound’s harvest rate strategy has been considered conservative not only because an analysis determined that a fixed 20% harvest rate was sustainable at any stock level that is above a threshold based on 25% of estimated average unfished biomass (Zheng et al. 1993), but also because, as an extra precaution, it reduces the harvest rate on a sliding scale to 12% as the stock nears the threshold. The threshold, based on 25% of unfished biomass, was estimated to be 16,759 tons in 1998 (Carlile 1998). However, to address subsistence concerns, the BOF established a threshold of 20,000 tons. Due to additional concerns expressed by subsistence users, the board raised the threshold again in 2012 to 25,000 tons. Within this overarching harvest threshold and harvest level framework, the department will make time and area adjustments in the commercial fishery to maximize the quality of the herring, to avoid harvest beyond daily targets, and to prevent exceeding the established GHL.

At the 2025 BOF meeting, the department proposed and the BOF adopted a new harvest rate strategy with a 26,000-ton threshold based on 30% of an updated estimate of average unfished biomass (Roberts et al. 2024), a 10–15% sliding scale, and a maximum 15% harvest rate. This new harvest rate strategy will be in effect for the 2026 Sitka sac roe fishery. The department proposed the new harvest rate strategy based on recent research indicating that more precautionary harvest

rates are advisable to protect herring populations from falling to low biomass and low productivity states (DFO 2024, DFO 2023, DFO 2021). This new strategy is also precautionary, recognizing that harvest rate strategy evaluations have not been completed for Sitka Sound herring.

If the department determines that either a reasonable opportunity in the subsistence roe fishery will not be achieved through existing regulations or that commercial activity will not permit adequate quality and quantity of subsistence roe harvest, then the department will adjust fishing time and area for the commercial fishery so as to provide reasonable opportunity for the subsistence harvest of quality roe on branch, kelp, or seaweed. The department will meet these management directives, in part, by seeking out commercial harvest opportunities that are farthest from the waters closed to the commercial fishery—waters that encompass core subsistence fishing areas. For example, if multiple commercial harvest opportunities are identified, the department will prioritize commercial harvest opportunities farthest from the closed waters. Additionally, the department will implement discrete area closures in the vicinity of active herring spawn where it is evident there are subsistence roe on branch sets. The intent of these strategies is to reduce chances of disturbing herring schools located close to subsistence harvest areas, thus increasing the chances of herring spawning in those areas, and to increase the likelihood of quality subsistence harvests. The department will document its management decisions consistent with Alaska law, regulations, and department policies.

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TABLES AND FIGURES

Table 1.–Southeast Alaska gillnet herring sac roe fisheries information summary for Seymour Canal and Revilla Channel, 1976–2024.

Seymour Canal ^a					Revilla Channel ^c			
Year	GHL(tons)	Harvest(tons) ^b	Date 2-hour notice	Opening dates	GHL(tons)	Harvest (tons) ^d	Date 2-hour notice	Opening dates
1976	200	194	–	9-May	300	494	23-March	2-April
1977	500	485	4-May	9-May	800	776	29-March	1-April
1978	500	729	2-May	8-May	680	171	26-March	4-April
1979	250	269	3-May	3-May	585	524	28-March	29-March
1980	0	No Fishery	NA	NA	1,100	1,149	25-March	25-March
1981	600	615	28-April	28-April	1,550	1,871	20-March	20-March
1982	0	No Fishery	NA	NA	1,700	2,319	20-March	26-March
1983	0	No Fishery	NA	NA	2,500	3,113	23-March	24-March
1984	375	499	20-April	26-April	2,100	2,177	20-March	29-March
1985	0	No Fishery	NA	NA	2,300	2,159	28-March	29-March
1986	300	392	5-May	10-May	1,100	1,530	29-March	31-March
1987	419	302	1-May	5–6-May	1,200	1,452	24-March	26,27-March
1988	530	586	20-April	26-April–1-May	953	1,145	24-March	25-March
1989	332	541	21-April	28-April	647	595	20-March	20,21-March
1990	312	359	21-April	28–29-April	0	No Fishery	NA	NA
1991	0	No Fishery	NA	NA	680	660	28-March	8–11-April
1992	0	No Fishery	NA	NA	1,200	1,246	1-April	3-April
1993	0	No Fishery	NA	NA	717	737	31-March	10-April
1994	368	374	28-April	29-April	880	730	9-April	9,11-April
1995	316	319	30-April	14-May	630	610	11-April	12-April
1996	0	No Fishery	NA	NA	871	601	8-April	10-April
1997	0	No Fishery	NA	NA	912	1,159	6-April	6-April
1998	633	585	30-April	1–4-May	620	616	1-April	1-April
1999	595	706	30-April	30-April	870	0	NA	NA
2000	346	389	3-May	5-May	ND	No Fishery	NA	NA
2001	474	620	6-May	11–12-May	ND	No Fishery	NA	NA
2002	1,096	1,066	12-May	16–17-May	ND	No Fishery	NA	NA
2003	1,712	1,519	28-April	29-April–2-May	ND	No Fishery	NA	NA
2004	838	804	1-May	3-May	ND	No Fishery	NA	NA
2005	894	945	26-April	1-May	ND	No Fishery	NA	NA

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Table 1.–Page 2 of 2.

Seymour Canal ^a					Revilla Channel ^c			
Year	GHL(tons)	Harvest(tons) ^b	Date 2-hour notice	Opening dates	GHL (tons)	Harvest (tons) ^d	Date 2-hour notice	Opening dates
2006	1,508	1,187	28-Apr	4–7-May	ND	No Fishery	NA	NA
2007	1,292	1,219	8-May	13–14-May	ND	No Fishery	NA	NA
2008	1,205	1,208	6-May	10–11-May	ND	No Fishery	NA	NA
2009	1,471	866	29-Apr	30-April–2-May	ND	No Fishery	NA	NA
2010	657	710	24-Apr	24–25-April	ND	No Fishery	NA	NA
2011	835	Confidential	25-Apr	26-April	ND	No Fishery	NA	NA
2012	1,287	0	23-Apr	NA	ND	No Fishery	NA	NA
2013	1,014	649	6-May	8–11-May	ND	No Fishery	NA	NA
2014	772	Confidential	30-Apr	30-April–9-May	ND	No Fishery	NA	NA
2015	0	No Fishery	NA	NA	ND	No Fishery	NA	NA
2016	584	No Fishery	NA	NA	ND	No Fishery	NA	NA
2017	ND	No Fishery	NA	NA	ND	No Fishery	NA	NA
2018	ND	No Fishery	NA	NA	ND	No Fishery	NA	NA
2019	ND	No Fishery	NA	NA	ND	No Fishery	NA	NA
2020	ND	No Fishery	NA	NA	ND	No Fishery	NA	NA
2021	ND	No Fishery	NA	NA	ND	No Fishery	NA	NA
2022	ND	No Fishery	NA	NA	ND	No Fishery	NA	NA
2023	ND	No Fishery	NA	NA	ND	No Fishery	NA	NA
2024	ND	No Fishery	NA	NA	ND	No Fishery	NA	NA

Note: ND identifies where no data was available, and NA identifies where it was not applicable due to no fishery occurring.

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

^b Seymour Canal harvest includes all herring for sac roe including confiscated and test fishery catch.

^c Revilla Channel GHL reduced by 150 tons as an allocation for the Annette Island sac roe harvest in 1993 and 1994.

^d Revilla Channel harvest includes all herring for sac roe based on an Integrated Fisheries Database (IFDB) query March 2007.

Table 2.–Southeast Alaska gillnet herring sac roe fisheries information summary for Hobart–Houghton and West Behm Canal, 1977–2024.

Year	Hobart–Houghton					West Behm Canal			
	GHL (tons) ^a	Harvest (Tons) ^b		Date 2-hour notice effective	Opening dates	GHL (tons)	Harvest (tons)	Date 2- hour notice effective	Opening dates
		Bait	Roe						
1977	ND	40	NA	NA	1-Oct	–	–	–	–
1978	ND	No Fishery	–	NA	NA	–	–	–	–
1979	ND	No Fishery	–	NA	NA	–	–	–	–
1980	ND	No Fishery	–	NA	NA	–	–	–	–
1981	ND	No Fishery	–	NA	NA	–	–	–	–
1982	ND	No Fishery	–	NA	NA	–	–	–	–
1983	ND	No Fishery	–	NA	NA	–	–	–	–
1984	ND	No Fishery	–	NA	NA	–	–	–	–
1985	ND	No Fishery	–	NA	NA	–	–	–	–
1986	ND	No Fishery	–	NA	NA	–	–	–	–
1987	ND	No Fishery	–	NA	NA	–	–	–	–
1988	ND	No Fishery	–	NA	NA	–	–	–	–
1989	ND	No Fishery	–	NA	NA	–	–	–	–
1990	ND	No Fishery	–	NA	NA	–	–	–	–
1991	ND	No Fishery	–	NA	NA	–	–	–	–
1992	200	0	–	–	13-Jan, 92	–	–	–	–
1993	500	0	–	–	12-Jan, 93	–	–	–	–
1994	230	140	–	–	17-Oct, 93	–	–	–	–
1995	250	229	–	–	1-Oct, 94	–	–	–	–
1996	700	230	–	–	15-Oct, 95	–	–	–	–
1997	550	104	442	19-April	1-Oct, 96–28-Apr, 97	–	–	–	–
1998	260	0	351	19-April	1-Oct, 97–20-Apr, 98	–	–	–	–

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Table 2.–Page 2 of 2

Year	Hobart–Houghton					West Behm Canal			
	GHL (tons) ^a	Harvest (tons) ^b		Date 2-hour notice effective	Opening dates	GHL (tons)	Harvest (tons)	Date 2- hour notice effective	Opening dates
		Bait	Roe						
1999	436	0	506	25-April	14-Oct, 98–26-Apr, 99	–	–	–	–
2000	418	432	0	NA	19-Dec, 99–28-Feb, 00	–	–	–	–
2001	0	No Fishery	No Fishery	NA	NA	–	–	–	–
2002	0	No Fishery	No Fishery	NA	NA	–	–	–	–
2003	0	No Fishery	No Fishery	NA	NA	Fishery set for 2004 by Board of Fisheries			
2004	0	No Fishery	No Fishery	NA	NA	940	No Fishery	NA	NA
2005	223	0	204	24-April	24-April	0	No Fishery	NA	NA
2006	0	No Fishery	No Fishery	NA	NA	0	No Fishery	NA	NA
2007	0	No Fishery	No Fishery	NA	NA	0	No Fishery	NA	NA
2008	462	0	302	2-May	8–9-May	0	No Fishery	NA	NA
2009	376	0	341	22-April	2–3-May	ND	No Fishery	NA	NA
2010	345	0	302	22-April	23–24-April	0	No Fishery	NA	NA
2011	0	No Fishery	No Fishery	NA	NA	1,276	confidential	11-April	11–14-April
2012	0	No Fishery	No Fishery	NA	NA	758	No Fishery	5-April	No Fishery
2013	0	No Fishery	No Fishery	NA	NA	ND	No Fishery	NA	NA
2014	0	No Fishery	No Fishery	NA	NA	ND	No Fishery	NA	NA
2015	0	No Fishery	No Fishery	NA	NA	ND	No Fishery	NA	NA
2016	ND	No Fishery	No Fishery	NA	NA	ND	No Fishery	NA	NA
2017	ND	No Fishery	No Fishery	NA	NA	ND	No Fishery	NA	NA
2018	ND	No Fishery	No Fishery	NA	NA	ND	No Fishery	NA	NA
2019	ND	No Fishery	No Fishery	NA	NA	ND	No Fishery	NA	NA
2020	ND	No Fishery	No Fishery	NA	NA	ND	No Fishery	NA	NA
2021	ND	No Fishery	No Fishery	NA	NA	ND	No Fishery	NA	NA
2022	ND	No Fishery	No Fishery	NA	NA	ND	No Fishery	NA	NA
2023	ND	No Fishery	No Fishery	NA	NA	ND	No Fishery	NA	NA
2024	ND	No Fishery	No Fishery	NA	NA	ND	No Fishery	NA	NA

Note: En dashes indicate regulatory framework for a fishery had not been established or had been rescinded; ND identifies where no data was available, and NA identifies where it was not applicable due to a fishery not occurring.

^a Hobart–Houghton was opened to herring sac roe set gillnet fishing in 1997.

^b Hobart–Houghton gillnet quota is the portion of GHL left after the winter bait fishery is completed.

Table 3.—Sitka Sound purse seine herring sac roe fishery information summary, 1976–2024.

Year	GHL (tons)	Harvest (tons) ^a	Date of 2-hour notice	Opening dates	Year	GHL (tons)	Harvest (tons) ^a	Date of 2-hour notice	Opening dates
1976	780	800	10-Apr	16-Apr	2001	10,597	11,972	15-Mar	22, 26, 27-March
1977	0	NF	NA	NA	2002	11,042	9,788	25-Mar	27,29,31-March, 2,12–15-April
1978	250	234	4-Apr	5-Apr	2003	6,969	7,050	20-Mar	22, 23, 26-March
1979	2,800	2,255	7-Apr	12-Apr	2004	10,618	10,492	19-Mar	21, 25, 27-March
1980	4,000	4,445	4-Apr	4, 5-April	2005	11,192	11,366	20-Mar	23, 25, 27–29-March
1981	3,000	3,506	23-Mar	24, 26-March	2006	10,412	9,967	23-Mar	24, 26, 27, 29-March
1982	3,000	4,363	26-Mar	30-Mar	2007	11,904	11,571	24-Mar	26, 30-March, 1, 3-April
1983	5,500	5,450	23-Mar	26, 29-March	2008	14,723	14,386	24-Mar	25, 26, 31-March
1984	5,000	5,830	22-Mar	26–28-March	2009	14,508	14,776	22-Mar	22, 24, 28, 31-March, 1-April
1985	7,700	7,475	24-Mar	29-March, 1, 5-April	2010	18,293	17,602	19-Mar	24, 27, 30-March, 2-April
1986	5,029	5,442	28-Mar	2, 8-April	2011	19,490	19,419	28-Mar	31-March, 1,4,7,9-April
1987	3,600	4,216	23-Mar	31-Mar	2012	28,829	13,232	27-Mar	31-March, 2, 7-April
1988	9,200	9,390	25-Mar	4–14-April	2013	11,549	5,688	25-Mar	27, 28, 30-March, 3-April
1989	11,700	11,714	23-Mar	31-March–8-April	2014	16,333	16,957	20-Mar	20, 23, 26, 29-March
1990	4,150	3,804	4-Apr	5, 6-April	2015	8,712	8,756	18-Mar	18–25-March
1991	3,200	1,838	29-Mar	10–13-April	2016	14,941	9,769	17-Mar	17, 19, 23-March
1992	3,356	5,368	30-Mar	6-Apr	2017	14,649	13,923	17-Mar	19, 22, 25, 27, 28-March
1993	9,700	10,186	26-Mar	27-March– 3-April	2018 ^e	11,128	2,926	20-Mar	25, 26-March
1994	4,432	4,758	28-Mar	29, 31-March	2019	12,869	NF	15-Mar	NF
1995	2,609	2,908	23-Mar	25, 27-March	2020	25,824	NF	NA	NF
1996	8,144	8,144	23-Mar	23-March, 31-March–8-April	2021	33,304	15,578	20-Mar	27-March–9-April
1997	10,900	11,147	18-Mar	18–23-March	2022	45,164	25,090	22-Mar	26-March–2-April, 4–10-April
1998	6,900	6,638	16-Mar	16, 18, 19-March	2023	30,124	10,199	23-Mar	28–30-March, 1-April, 4–7-April
1999	8,476	9,218	19-Mar	22, 24, 26, 27-March	2024	81,246	12,678	20-Mar	22-March, 24-March–5-April
2000	5,120	4,630	13-Mar	19, 22-March					

Note: En dashes indicate regulatory framework for a fishery had not been established or had been rescinded; NF indicates no fishery, ND identifies where no data was available, and NA identifies where it was not applicable due to a fishery not occurring.

^a The Sitka harvest includes all herring for sac roe including confiscated catch.

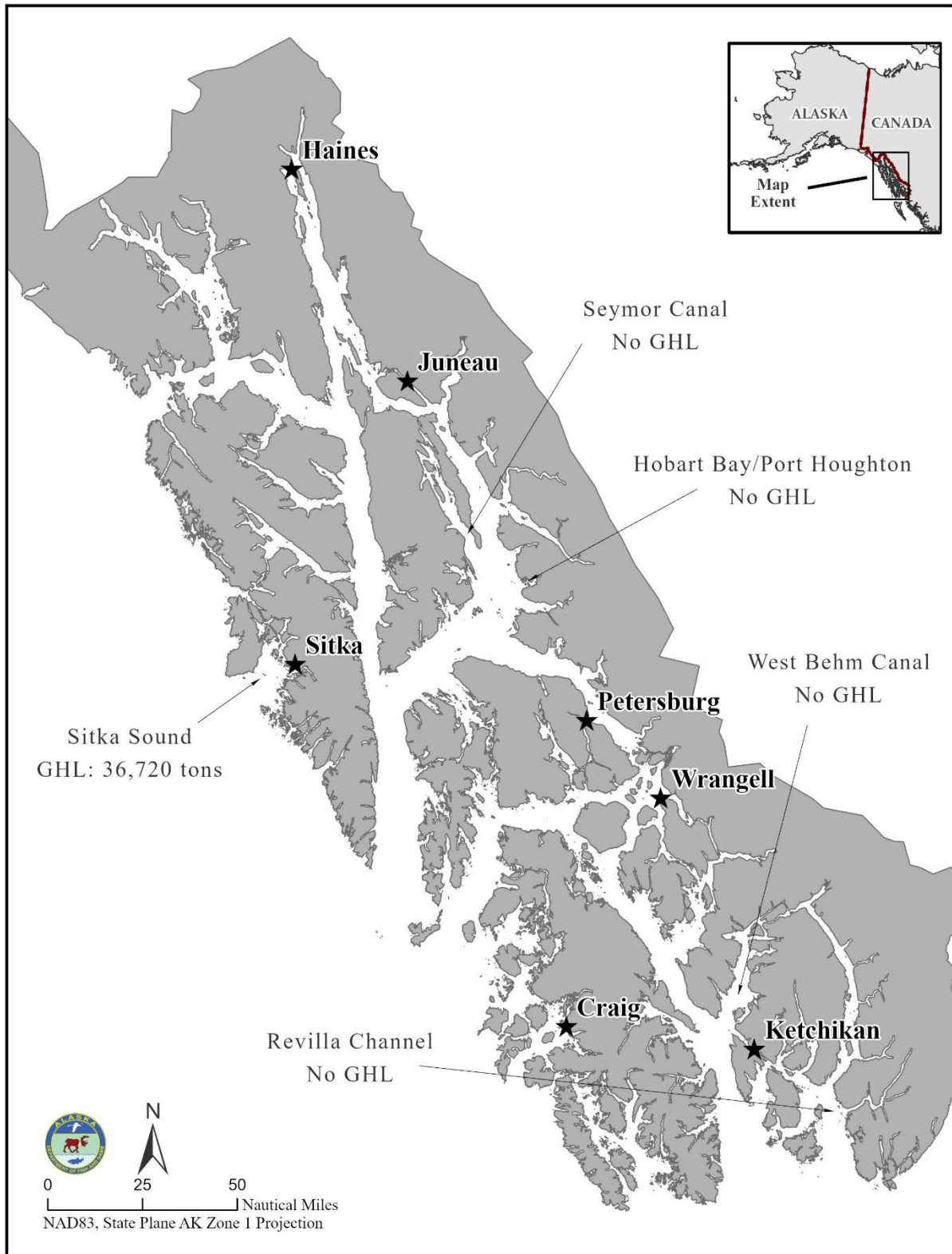


Figure 1.—Southeast Alaska sac roe herring areas and guideline harvest levels for 2025.

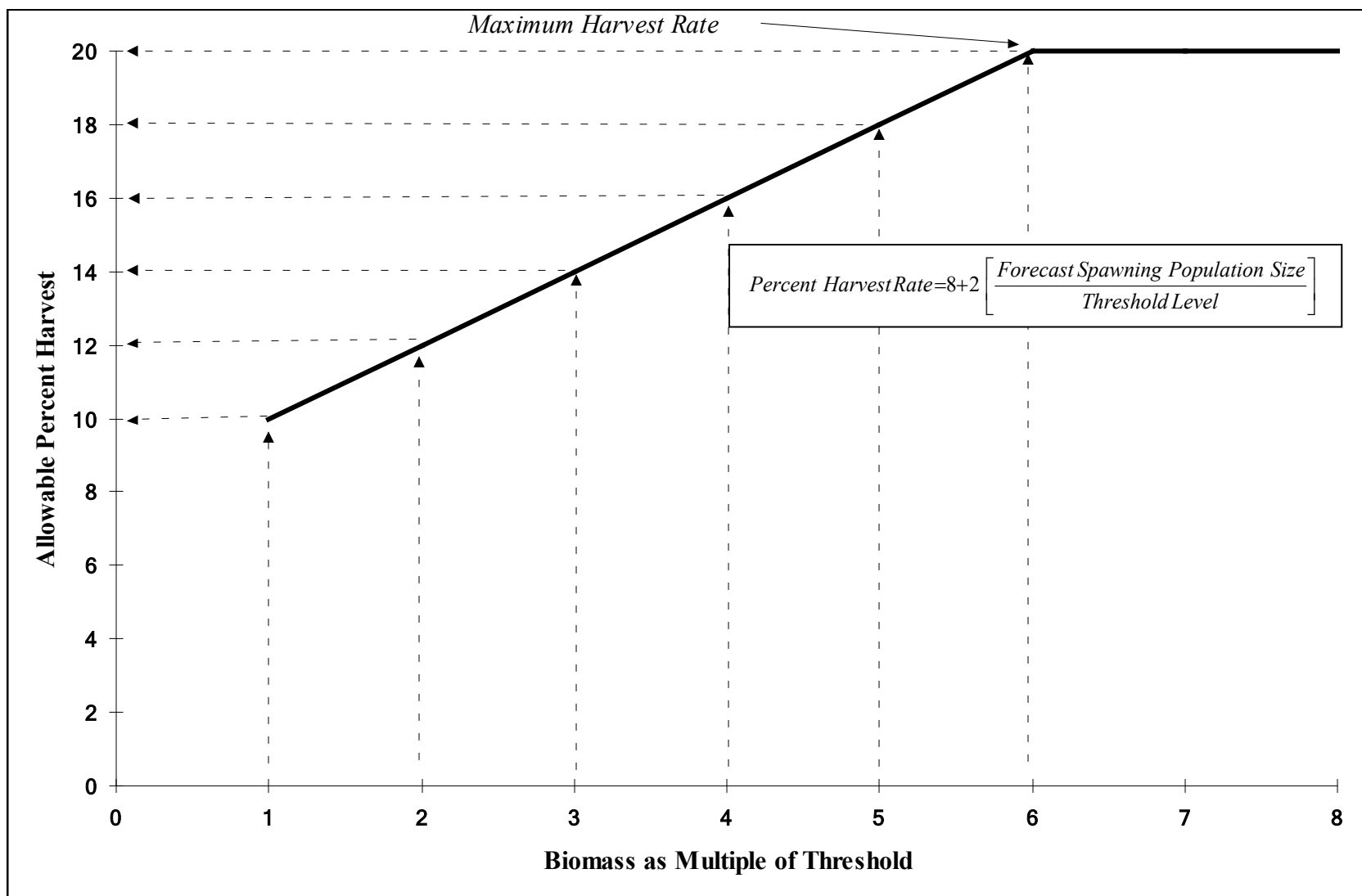


Figure 2.—Generalized harvest strategy for Southeast Alaska herring (excluding Sitka Sound). The allowable percent annual harvest is plotted against the estimated biomass of mature herring expressed as a multiple of the established harvest threshold level.

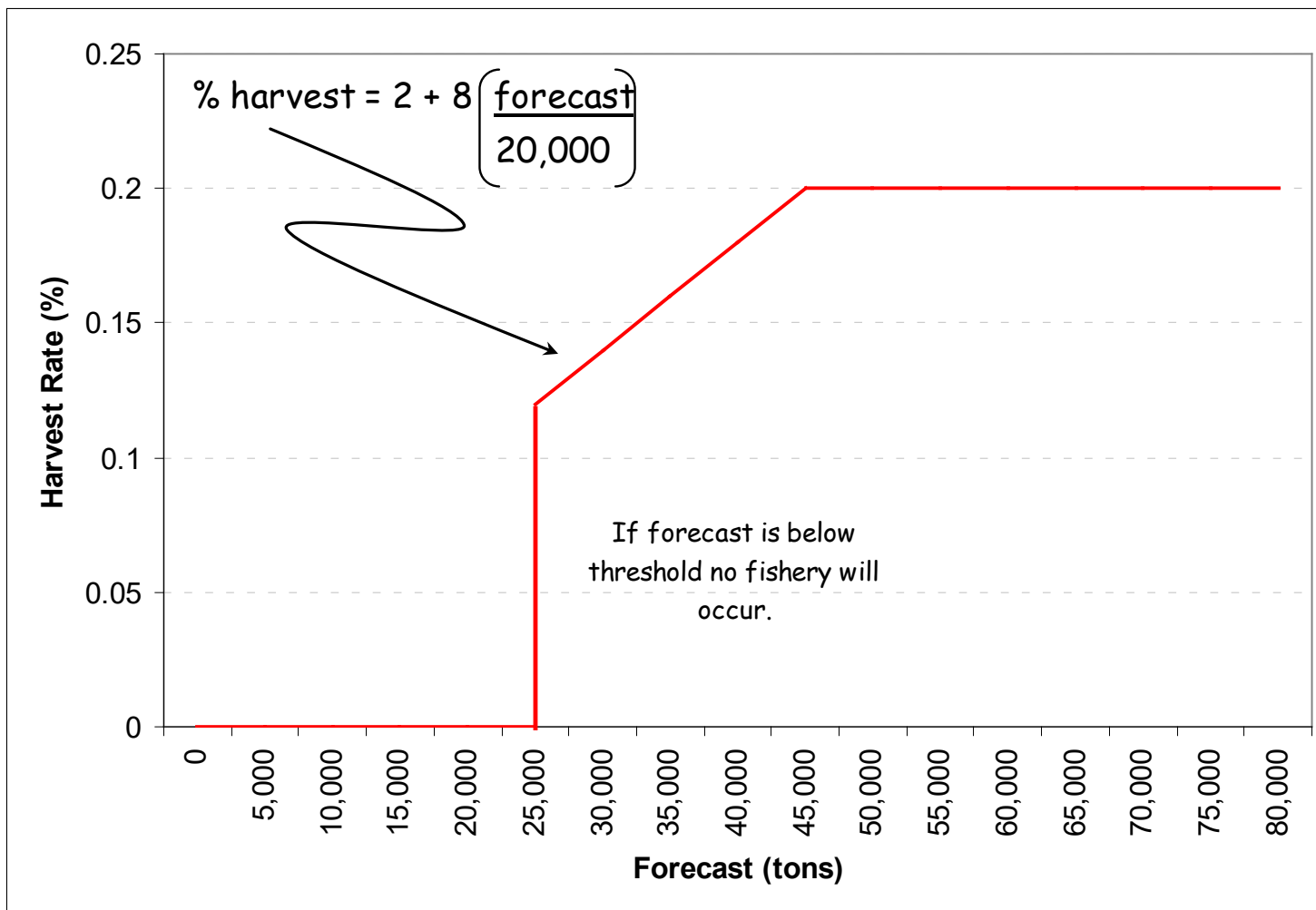


Figure 3.—Harvest rate and formula for Sitka Sound under 25,000-ton minimum threshold level (5 AAC 27.160 [g]).

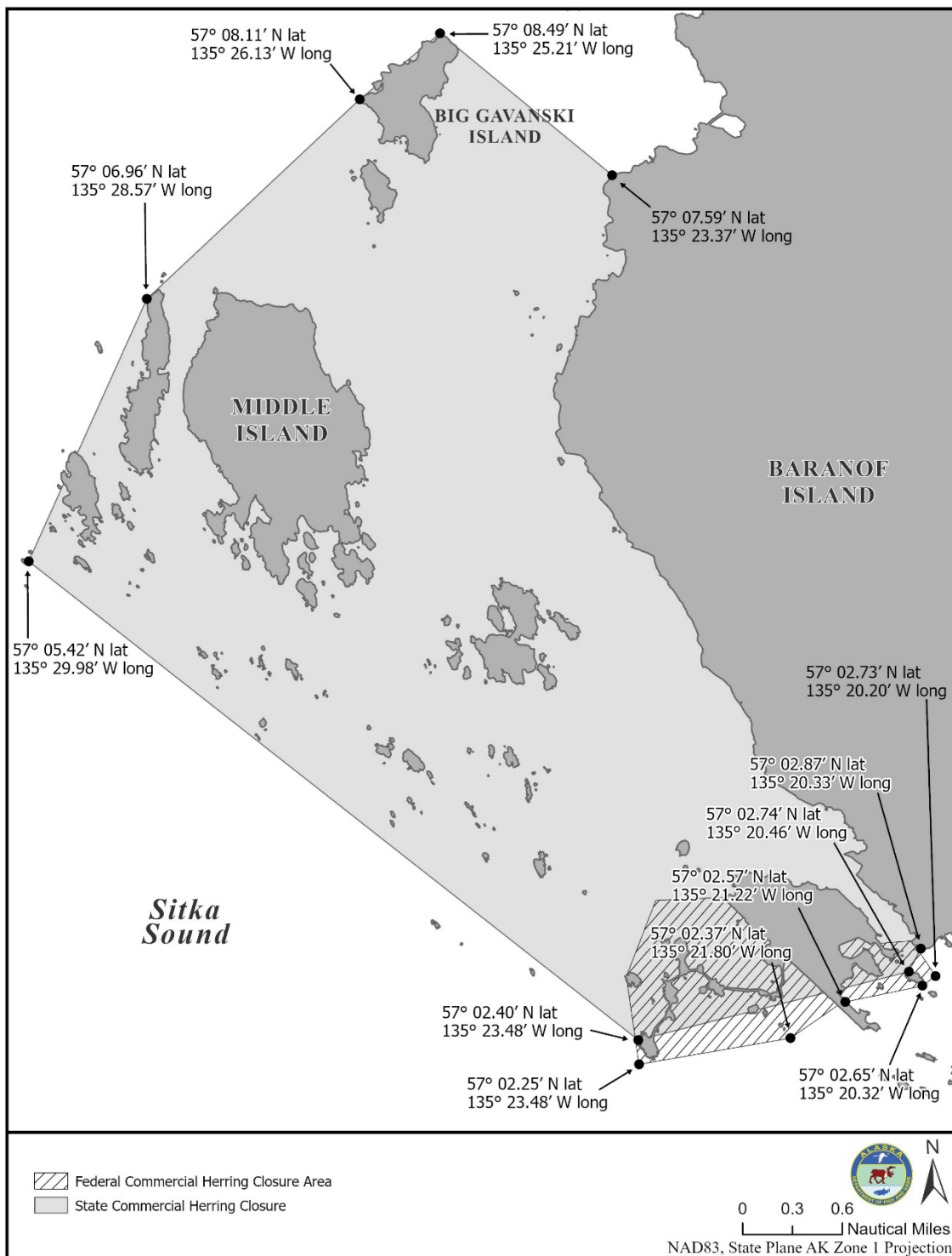


Figure 4.—Map showing area in Sitka Sound closed to commercial herring harvest.