SOUTHEAST ALASKA/YAKUTAT

ANNUAL HERRING RESEARCH REPORT,

1999/2000 SEASON

by

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TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ABSTRACT

Pacific herring, *Clupea pallasi*, support a number of commercial fisheries and is an important food fish in Southeast Alaska. During the 1999/2000 season winter bait fisheries occurred in Craig, Hobart Bay/Port Houghton, and Tenakee Inlet. Additionally, a gillnet sac roe fishery was conducted in Seymour Canal where harvests totaled 394 tons. There was no spring gillnet sac roe harvest from the Kah Shakes/Cat Island area in 2000 due to poor returns of spawning biomass. No gillnet sac roe harvest occurred in Hobart Bay/Port Houghton due to a complete harvest of the quota during the bait fishery. A seine sac roe harvest occurred in Sitka totaling 4,572 tons. Test fisheries occurred in Sitka Sound, West Behm Canal, and the Hobart Bay/Port Houghton areas. Spawn-on-kelp fisheries occurred in Craig and Hoonah Sound in 2000, although no harvest occurred in Craig. The total exvessel value of the region's commercial herring fisheries was estimated at over $3,296,754. Approximately 11,300 herring were sampled for age and growth analysis from the major stocks. Recruitment of the 1997 year class was substantial in many stocks, and for some stocks represented the dominant year class. In Sitka Sound, five- and six-year olds dominated the population. Spawn deposition surveys to compute spawning biomass were conducted on nine spawning stocks for a total escapement estimate of 87,017 tons for the stocks surveyed. A series of aerial and skiff spawning ground surveys conducted on those, and smaller stocks, documented a total of 158 nautical miles of beach receiving spawn in Southeast Alaska. Substrate-specific visual estimate correction factors for individual divers used in 2000 were the same as those from 1999 and ranged from 0.71 to 2.61.

INTRODUCTION

The Alaska Department of Fish and Game's herring research project was initiated in 1971 in response to greater demands on the resource by the commercial bait and developing sac roe fisheries. The goal of this project is to provide the biological data necessary for the scientific management of the region's herring stocks. Current program project objectives are to monitor spawning populations through age and growth analysis and spawn deposition studies on an annual basis. Project personnel conduct aerial and skiff surveys to document spawning activities and assist in the inseason management of the commercial fisheries throughout the region (Figure 1). Summaries of all herring commercial fisheries in Southeast Alaska for 1999/2000 are included (Table 1).

COMMERCIAL FISHERIES

Management Strategy

The following management plan was in place for the 1999 Southeast Alaska commercial herring fisheries. It was formalized at the January 1994 Board of Fisheries meeting.

5 AAC 27.190. HERRING MANAGEMENT PLAN FOR STATISTICAL AREA A. For the management of herring fisheries in Statistical Area A, the department:

(1) shall identify stocks of herring on a spawning area basis;
(2) shall establish minimum spawning biomass thresholds below which fishing will not be allowed;
(3) shall assess the abundance of mature herring for each stock before allowing fishing to occur;
(4) except as provided elsewhere, may allow a harvest of herring at an exploitation rate between 10 percent and 20 percent of the estimated spawning biomass when that biomass is above the minimum threshold level;
(5) may identify and consider sources of mortality in setting harvest guidelines;
(6) by emergency order, may modify fishing periods to minimize incidental mortalities during commercial fisheries.

A “threshold level” is the minimum herring biomass needed to ensure sustained yield and maintain biological productivity. Threshold levels have been established for each of the winter bait, sac roe, and spawn-on-kelp pound spawning stocks. Threshold levels are based on all available stock performance data and may be evaluated and revised over time. Current threshold levels vary from 1,000 to 20,000 tons for the major sac roe, winter bait, and pound fishery stocks.

Herring stocks with a spawning biomass of less than 2,000 tons, of which there are many, are not considered for harvesting in either the Southeast Alaska winter bait or sac roe fisheries. Under the current approach for setting seasonal harvest limits, herring stocks of 2,000 tons of adult fish would allow for an annual harvest of 200 tons of herring. The region's current management capability prevents successful management of the winter bait or sac roe fisheries for harvests of less than 200 tons. The exception is the Yakutat area, where the spawning threshold for a winter bait fishery is 1,000 tons.

Methods and Procedures

Age Structured Analysis

Beginning in 1994, the department modified the primary method of forecasting herring abundance for major spawning stocks in Southeast Alaska. Age Structured Analysis (ASA), which relies on a time series of herring population assessment data, was used to forecast herring biomass for those stocks with significant historical data. Age Structured Analysis uses field survey estimates of catch-at-age, fishery and cast net age composition, weight-at-age, spawn deposition, and fecundity at weight to yield model estimates of annual recruitment, maturity, fishery selectivity and natural mortality. In combination, these estimates account for inter-annual gains and losses in biomass and allow forecasting of probable biomass for the forthcoming year. This method was used to forecast the 2000 spawning biomass returns for Kah Shakes/Cat Island, Craig, Sitka Sound, and Seymour Canal.

Test Fisheries

A test fishery was conducted in January in the Sitka Sound area. The purpose of this test fishery was to improve the current ASA biomass forecast with updated information on age composition and weight-at-age for the Sitka herring population. Samples from winter 2000 trawl samples indicated that there had been a slight overall increase in the estimated weight, as compared to 1999 spring samples. Age structures of sampled fish revealed strong representation of five- and six-year-old age classes, compromising 67% of the age composition. Average weights ranged from 43 grams for age-2 fish, to 162 grams for age-8+ fish.

A second test fishery was conducted in Sitka Sound on March 22, 2000. The test fishery was designed to obtain funds to be used for management and research of the Sitka Sound herring stock. A total of 44.5 tons of herring was harvested for sac roe using purse seine gear. This was the first time sac roe test fishing was conducted in Sitka Sound to generate management funds.

A test fishery was conducted during April 29–30 on herring stocks in the Hobart Bay/Port Houghton area. The test fishery was designed to obtain funds to be used for management and research of stocks located throughout the Petersburg/Wrangell management area. A total of 30.6 tons of herring were harvested for sac roe.

A test fishery was also conducted in April in West Behm canal near Ketchikan. The primary purpose of this test fishery program is to obtain data on age structure, spawn timing, and abundance of the herring spawning population in the West Behm Canal area. Revenues generated from this test fish program will be used to defray costs for managing and assessing herring populations in the Ketchikan area. A total of 47 tons of herring were harvested for sac roe.

Sac Roe Fisheries

Commercial sac roe fisheries were conducted in the Sitka Sound and Seymour Canal areas during 2000 (Figure 2). Harvest in the commercial gillnet area totaled 394 tons from Seymour Canal. A commercial seine harvest occurred in the Sitka Sound area, where 4,572 tons of herring were harvested for sac roe (Table 1). There was no sac roe fishery in the Hobart Bay area due to complete harvest of the quota during the winter bait fishery. In that area, the sac roe guideline harvest level is determine by what remains unharvested after the bait fishery.

Winter Bait Fisheries

Winter food and bait fisheries were conducted near Craig, Hobart Bay/Port Houghton, and Tenakee Inlet (Figure 3). Herring were harvested from Tenakee Inlet, where 494 tons were taken. In the Hobart Bay area 432 tons were harvested. Due to fewer than three participants during the Craig fishery, harvest data is confidential.

Spawn-on-Kelp Pound Fisheries

A spawn-on-kelp fishery was intended in Craig during 2000, where 15% of the established quota is allocated to the spawn-on-kelp fisheries, while 85% was allocated to the winter food and bait commercial fisheries. There was no spawn-on-kelp harvest from Craig in 2000 due to timing of spawning and pound locations. A spawn-on-kelp fishery took place in Hoonah, where 36 tons of product were harvested (Figure 4).

Results and Discussion

Sac Roe Fisheries

<u>Sitka Sound</u>

Aerial spawning ground surveys commenced on March 9 and continued through April 19. The guideline harvest level (GHL) for the 2000 Sitka sac roe fishery was set at 5,120 tons, based on a mature spawning biomass forecast of 33,365 tons and a harvest rate of 15.3%. The biomass forecast was based on a population model for the Sitka Sound herring stock updated with weight-at-age information from a test fishery conducted by the department in Eastern Channel during January 2000. The fishery was opened to competitive harvest on March 19, 2000 and on March 22, 2000. The total harvest was 4,572 tons. Average roe percent was 9.9%. Processors paid a base price of approximately $500 per ton for sac roe herring, which produced an exvessel value of $2,286,000.

Hobart Bay-Port Houghton

Results from 1999 surveys of the Hobart Bay/Port Houghton area produced a forecast biomass of 3,602 tons. This resulted in an 11.6% harvest rate and a quota of 418 tons. The entire quota was taken during the bait fishery, leaving no quota available for sac roe harvest.

Seymour Canal

Results from 1999 surveys of the Seymour Canal area produced a forecast biomass of 3,373 tons. This resulted in an 10.2% harvest rate and a quota of 346 tons. The fishery was opened and closed on April 5, 2000. During the fishery 346 tons of herring were landed and 44 boats participated. Processors paid a price of approximately $550 a ton, giving the fishery an exvessel value of $216,920.

Winter Bait Fisheries

Craig

The Craig herring spawning biomass forecast of 6,013 tons allowed for a bait quota of 376 tons (60% of 626 ton total quota) for the traditional areas of Boca de Finas and Meares Passage. The fishery in the Craig area was open between December 1, 1999 and January 6, 1999. Due to fewer than three participants, harvest and value data is confidential.

Hobart Bay/Port Houghton

The Hobart Bay/Port Houghton winter food and bait fishery was opened on December 1, 1999 east of a line from Cape Fanshaw to Five Finger Light to McDonald Rock Buoy to Pt. League and closed by Emergency Order on December 6, 2000. The Port Houghton/Hobart Bay area spawning biomass forecast of 3,602 tons allowed for an 11.6% harvest rate producing a quota of 418 tons of herring. During the fishery, six vessels participated and 432 tons of herring were taken at a value of approximately $78,266.

Tenakee Inlet

The Tenakee Inlet winter food and bait fishery was opened on December 1, 1999 and closed on December 2, 1999. The Tenakee Inlet area spawning biomass forecast was 4,829 tons. The quota was set at 542 tons, a target exploitation rate of 11.2%. There was 494 tons of herring harvested, with an exvessel value of $128,000.

Spawn-on-Kelp Pound Fisheries

Craig

There are two spawn-on-kelp pound fisheries in Southeast Alaska, Craig and Hoonah Sound. The spawn-on-kelp fishery for the Craig area was initiated in the spring of 1992. Through spring of 1999, the harvest limit was established at 15% of the total guideline harvest level for the Craig stock, plus the unharvested portion of the bait quota. Due to new Board of Fisheries action, the Craig herring stock harvestable biomass was allocated as 60% bait fishery and 40% pound fishery, plus remaining bait quota. The forecasted biomass for 2000 was 6,013, with a pound fishery quota of 280 tons, which includes a 30-ton carry over from unharvested bait quota. On January 5, 2000, Craig herring pound application forms became available in ADF&G offices with a January 31, 2000 deadline. Allocations of blades of *Macrocystis* kelp were issued in the following manner: 70 blades for single permit closed pounds, 210 blades for multiple permit closed pounds, 700 blades for single permit open pounds, and 2,100 blades for multiple permit open pounds. No herring was allocated due to Board of Fish action. Effective 12:00, March 17, 2000 the department opened seining for the introduction of herring into the pounds. Participants were allowed to harvest herring between 05:00 and 17:00 each day until it closed at 19:00, May 1, 2000. Although the department extended the open seining period, due to location and timing of spawn, there was no product harvested during the Craig pound fishery in 2000.

Hoonah Sound

The spawning biomass forecast for Hoonah Sound was 2,683 and the fishery was opened in 2000. A guideline harvest level of 359 tons was established for the fishery. This was based on a 13.4% harvest rate of the projected 2000 mature spawning biomass. The spawn-on-kelp (SOK) harvest objective for 2000 was 29 tons (12.5 tons of herring per ton of spawn-on-kelp product). The total harvest of SOK in this year's fishery was 36 tons for an estimated total exvessel value of $587,568. Landings were made by 84 permit holders.

AGE AND GROWTH ANALYSIS

Methods and Procedures

Herring samples were collected during research surveys, aerial surveys, and the commercial fisheries from stocks located throughout Southeast Alaska (Figure 5). Collection gear varied with location, but included trawl gear, purse seines, cast nets, and gillnets. Cast nets were used when fish were in shallow water during spawning. Sampling was conducted on the spawning grounds and in pre-spawning areas. Herring sampled from the commercial fisheries were collected from individual fishers or tenders on the fishing grounds. The times and geographic locations of collection were recorded. The target collection goal is at least 420 fish from each commercial fishery and each spawning location. All samples were either processed fresh or frozen for examination and collection of scales in the laboratory.

After thawing in the laboratory, the standard length (mm) of each fish, (tip of snout to posterior margin of the hypural plate) was measured on a caliper measuring board. Fish were weighed on an electronic balance to the nearest whole gram.

A scale was removed from each fish for age analysis. The preferred location is on the left side, two rows above the lateral line, anterior to the dorsal fin or beneath the left pectoral fin. Scales were cleaned and dipped in a solution of 10% mucilage glue and water and placed unsculptured side down on glass slides. Aging was conducted using a dissecting microscope, varying the light source for optimum image of the annuli. Scale reading results were spot-checked by a second reader for age verification. The fish were assigned an anniversary date for each completed growing season. All samples were collected before growth resumed in the spring. For example, if a herring hatched in the spring of 1991 and was collected in the fall of 1992, two growing seasons had occurred (age 2). If the herring had been collected in the spring of 1993 before growth had resumed, it was also recorded as age 2.

In order to provide real-time age frequency analysis either prior to or during a commercial fishery, some sampling was conducted onboard department research vessels. This enabled department personnel to provide the commercial fishing fleet and processors with timely age, length, and weight information.

Results and Discussion

A total of 11,300 herring were aged, sexed, weighed, and measured for length. Samples were taken from Kah Shakes/Cat Island, West Behm, Hobart Bay/Port Houghton, Craig, Sitka Sound, Hoonah Sound, Seymour Canal, Tenakee Inlet, and Lynn Canal. Several spawning populations were characterized by relatively even distribution among age classes or no single dominant age class (Figure 6). These included Craig, Kah Shakes/Cat Island, West Behm Canal, Hoonah Sound, and Seymour Canal, where three through seven age classes were present and no extreme differences among age classes existed. This was not true for the Hobart Bay/Port Houghton, Tenakee Inlet, and Lynn Canal stocks, where at least one age class dominated the population. In Hobart Bay/Port Houghton, samples from the winter bait fishery suggested a very dominant age-3 component, however spring spawning cast net samples show a dominant age-7 component. Tenakee Inlet winter bait fishery (purse seine) samples and winter test fishery trawl samples both revealed dominant age-3 and age-7 herring. Trawl samples taken in Lynn Canal during January 2000 showed a dominant age-3 component, with strong representation of age-2 fish. This suggests good recruitment in the Lynn Canal stock. In Sitka Sound samples from winter trawl, spring purse seine and spring cast net all suggested strong five and six age classes, with good representation of age-3 fish. Summaries of age, weight, and length samples completed during 1999/2000 season are included in Appendix A.

SPAWN DEPOSITION SURVEYS

Methods and Procedures

The spawn deposition survey technique for estimating numbers of herring eggs by spawning area has been used in Southeast Alaska since 1976. The goal of the spawn deposition survey is to compute the total number of eggs within a defined spawning area. This estimate of total egg numbers is converted into a spawning population biomass estimate directly through use of an egg to biomass conversion factor or used as a key element in ASA.

A series of aerial and vessel surveys are conducted to document the occurrence of spawning activities at sites during the spring spawning period to document spawn timing and to provide an index of abundance in terms of the nautical miles of beach that received herring spawn. The presence of eggs on intertidal kelp, milt present in the water, herring schools, and bird and sea mammal activity are all important indicators of herring and spawn abundance.

The basic field sampling procedure entails two-person scuba teams swimming along line transects and recording visual estimates of the number of eggs within a square, 0.10 m^2 sampling frame placed on the bottom at a fixed five-meter distance along the transects. Because the frames (i.e. samples) are spaced equidistantly along transects, the record of the number of frames along a transect is also used to compute transect length. Along each transect, Diver 1 swims the specified inter-frame distance and places the frame on the bottom in a haphazard fashion (i.e. to minimize or avoid bias). Diver 2 then visually estimates the number of eggs within the frame boundary and records the number of eggs within the frame on a preprinted data form carried by Diver 2. Diver 2 records the sequential number of the sample along with data on depth, substrate, and vegetation type (Tables 2, 3). If time and conditions allow, Diver 1 also estimates the number of eggs for comparison with Diver 2's estimates and as a training exercise for Diver 1.

Starting points for transects in the control area are located randomly along the shore in areas where aerial or skiff surveys indicated probable spawn deposition. Transects are oriented perpendicular to the shoreline. Transects extend from the intertidal to either 15 meters of depth or until no further egg deposition is observed. Transects are extended above the waterline as far as egg deposition occurs. Dives are limited to 15 meters because deeper dives severely limit total bottom time for scuba divers and pose safety risks when done repetitively over several days. In addition, little if any herring egg deposition normally occurs deeper than 15 meters. The number of transects for any spawning site is estimated from previous surveys to achieve a statistical objective of producing an estimate of mean egg density with a standard error within +/- 20% of the mean. Practical considerations due to weather or vessel scheduling can result in a fewer number of transects.

Visual Estimate Correction

Since visual estimates, rather than actual counts, of eggs within the sampling frame are recorded, measurement error occurs. To minimize the influence of measurement error on final estimates of total egg deposition, diver-specific correction coefficients (*hi*) are used to adjust estimates of egg density. Correction coefficients are estimated by visually estimating the number of eggs within a sampling frame and then collecting all of the eggs within the frame for later enumeration. To collect the eggs, divers either remove them from the substrate (e.g., rock) or collect the vegetation (e.g., kelp) for later removal of the eggs.

Estimates of Total Egg Deposition

Total egg deposition for a particular spawning ground (t_i) is estimated as:

$$t_i = a_i \bar{d}_i, \tag{1}$$

where a_i is the estimated total area (m^2) on which eggs have been deposited and $\bar{d}_i$ is the estimated mean density of eggs (eggs/m^2) at spawning area *i*. The total area on which eggs have been deposited (a_i) is estimated as:

$$a_i = l_i \bar{w}_i, \tag{2}$$

where l_i is the total meters of shoreline receiving spawn (determined from aerial and skiff surveys) and wi is the mean length of transects conducted at spawning area *i*.

The mean density of eggs/m^2 at area i ($\bar{d}_i$) is estimated as:

$$\bar{d}_i = \left[\frac{\sum v_{hij} c_{hk}}{\sum m_{ji}} \right]^{-0.1}, \tag{3}$$

where v_{hij} is the visual estimate of egg numbers by diver *h*, at area *i*, quadrant *j*. The c_{hk} term refers to a diver-specific correction coefficient to adjust visual estimates made by diver *h* for substrate *k*, and m_{ji} is the number of quadrants visually estimated at area *i*. Divers visually estimate egg density within 0.1 m quadrants. The -0.1 exponent expands the mean density from a 0.1 m^2 to a 1.0 m^2 unit basis. Diver-specific correction factors (c_h) are estimated as:

$$c_h = \frac{\bar{k}_h}{\bar{v}_h}, \tag{4}$$

where $\bar{v}_h$ is the mean visual estimate of egg numbers for diver *h* and $\bar{k}_h$ is the mean laboratory count of egg samples collected from substrate specific quadrants visually estimated by diver *h*.

Spawning Biomass Estimation

The total number of eggs per spawning area is a key element used in forecasting herring spawning biomass. The estimate is calculated by an age and weight specific fecundity for the four ASA areas, or an overall egg to biomass calculation based on the fecundity to weight relationship from the closest ASA spawning stock. Based on fecundity sampling conducted during the spawn of 1996 (1998 for Sitka) the specific age to biomass relationships used for the non-ASA areas were:

$$b = \frac{t}{L * EggConversionFactor} \tag{5}$$

Where: b = estimated total spawning biomass,
L = egg loss correction factor (=0.9) that accounts for an estimated 10% egg mortality between the time eggs are deposited and spawn deposition surveys are conducted.
ECF = 91,654,735 eggs per ton Kah Shakes/Cat Island (West Behm, Ship Is., and Ernest Sound)
95,464,357 eggs per ton Craig
100,878,673 eggs per ton Seymour Canal (Farragut, Hobart/Houghton)
102,567,376 eggs per ton Sitka (Hoonah Sound, Tenakee Inlet)

Results and Discussion

Comprehensive spawning ground egg deposition surveys utilizing scuba were conducted in the Kah Shakes/Cat Island, West Behm Canal, Craig, Ernest Sound, Hobart Bay/Port Houghton, Seymour Canal, Sitka Sound, Tenakee Inlet, and Hoonah Sound areas in 2000. Length and width of spawn, egg density, and resultant escapements derived from egg to biomass conversions are summarized for these areas (Table 4). The first survey was initiated in Sitka Sound on April 4, and the last was completed in Seymour Canal on May 13. The surveys documented a total escapement for these areas of 87,017 tons. Maps of the spawning area, transect locations, and individual transect data are presented in Appendix B. Recorded logs of spawning activity from aerial and skiff surveys conducted between early March and late May, documenting spawning in each of the major spawning areas, are presented in Appendix C. Spawn locations, transect locations, and transect coordinates are presented in Appendix D. The total spawn for Southeast Alaska was 158 nautical miles.

Kah Shakes/Cat Island

In the Cat Island and Kah Shakes areas, 10.0 nautical miles of beach received herring spawn between April 1 and April 11. The Cat Island spawn survey was conducted April 16–17, 2000. Eighteen transects were selected at random in 2000. The average transect length (21 transects) was 74 meters with an average egg density of 42,589 eggs per square meter. The resultant escapement was 709 tons.

West Behm Canal

In West Behm Canal 16.4 nautical miles of spawn were recorded from April 6–12. See Appendix D for distribution of spawn. Sixteen randomly selected transects were completed during the spawn deposition survey during April 17–18. The average length was 51 meters with an average egg density of 186,844 eggs per square meter, resulting in an escapement of 3,192 tons.

Craig

Spawning was first documented on March 22 around Clam Island. Active spawning continued through April 9 and was centered around Fish Egg Island and Wadleigh Island. A total of 12.9 nautical miles of spawn were observed in 2000 for the Craig area. The spawn deposition survey had 19 transects with an average length of 129 meters, average density of 266,956 eggs per square meter and a 9,591 ton escapement.

Hobart Bay/Port Houghton

Active spawning began in Hobart Bay on April 28 and lasted through May 3. Spawn was recorded in Port Houghton on April 30 and ended on May 4. A total of 10.0 nautical miles of spawn were recorded for 2000. A total of 22 transects were completed May 11, with an average transect length of 60 meters, and an average density of 70,540 eggs per square meter. The estimate of escapement for the Hobart/Houghton area was 860 tons

Seymour Canal

Aerial surveys were initiated on April 19 with a small active spawn recorded on May 1 inside Shortfinger Cove. Spawning ended on May 9 and peak spawning occurred on May 6 in Rock Garden area. The spawn deposition survey was conducted on May 12-13, when 24 randomly selected transects were examined. This survey produced a 4,587 ton escapement (18.7 n miles, 102 meters transect length and 117,793 eggs per square meter density).

Tenakee Inlet

Aerial Surveys commenced in Tenakee Inlet on April 19, with spawn beginning on April 27 and ending May 3. Peak spawning occurred on April 27, when continuous spawning was recorded from Basket Bay to South Passage Point. A total of 13.8 nautical miles of spawn were recorded. Spawn deposition surveys were conducted during May 3,4 and 6 with the completion of 24 randomly selected transects. The average length was 100 meters with an average density of 340,618 eggs per square meter. The escapement was determined to be 9,149 tons.

Sitka

Aerial surveys began on March 9 in the Sitka area. On March 15, a spot spawn was recorded south of Sandy Beach. Major spawning began on March 24 with active spawn at Middle, Crow, Apple and Battery Islands and the Halibut Point Road system.. Spawning continued until April 13. The total spawn recorded was 54.5 nautical miles. The spawn deposition surveys were conducted on April 4-6. A total of 29 transects completed in the Sitka Sound area. The average length was 78 meters, average density was 640,518 eggs per square meter resulting in an escapement of 54,399 tons.

Hoonah Sound

A total of 13.0 nautical miles of herring spawn were recorded in Hoonah Sound in 2000. The spawn occurred during April 27-May 1, in the traditional areas of Emmons Island, Vixen Islands and the Chichagof shore between Fick Cove and Rodgers Point. Aerial surveys were conducted from April 5 to May 2 with spawn deposition surveys conducted on May 7. A total of 18 randomly selected transects were completed. The average transect length was 93 meters with a density of 146,019 eggs per square meter. The resultant escapement estimate was 3,635 tons.

Ernest Sound

Aerial Surveys commenced in Ernest Sound on April 4, with spawn beginning on April 8, peaking on April 11 and ending April 13. A total of 9.1 nautical miles of spawn were recorded. Spawn deposition surveys were conducted during April 25 with the completion of 14 randomly selected transects. The average length was 80 meters with an average density of 59,419 eggs per square meter. The escapement was determined to be 894 tons.

Lisianski Inlet

Aerial surveys of Lisianski Inlet and Lisianski Strait were conducted from April 10 to April 29. Total beach with spawn was 0.75 nautical miles. No spawn deposition survey was conducted in this area in 2000.

Lynn Canal

Aerial surveys of Lynn Canal and Auke Bay began on April 21 and ended May 17. Spawning began on May 4 when a spot spawn was observed near Mab Island. Most spawning occurred in and around Berners Bay. Active spawning dissipated until May 10. A total of 3.5 nautical miles of spawn were recorded in the area. Consequently, no spawn deposition survey was conducted in Lynn Canal in 2000.

Other Areas

Small amounts of herring spawn was noted in the following areas during aerial surveys of other areas during 2000 (Appendix C): Oliver Inlet, Kassan Bay, Farragut Bay, Port Camden and near mouth of Chickamin River. However, the total spawn of 6.5 nm for these areas was negligible compared to the total of 158 nm for all of Southeast Alaska.

DIVER VISUAL ESTIMATION CALIBRATION

Methods and Procedures

Samples of substrate with eggs were collected during the spawn deposition surveys for enumeration at the ADF&G Aging and Tag laboratory in Juneau to verify visual density estimates. The objective of this phase of the project is to determine a diver substrate-specific calibration factor that is used to adjust visual egg density estimates for individual divers each year.

A 0.1 square meter sample with vegetation and eggs is collected in small sample bags (approximately 2 liter capacity) during the spawn deposition surveys. These kelp and egg samples were transferred from the diver's bag to 4 liter (1 gallon) size, water-tight zip lock bags, salted (NaCl) and preserved in 100% salt brine solution. Detailed procedures for determining egg densities from collected samples are discussed in the 1993 Annual Report, RIR IJ93-19.

Results and Discussion

Although several calibration samples were collected during herring spawn surveys in 2000, the calibration factors resulting from the data were considerably higher than those of past years. After studying the sampling, laboratory and data analysis procedures used, we could not determine the cause of the elevated calibration factors and elected to instead use 1999 adjustments. Those correction ratios by diver and substrate for all samples taken 1982 through 1999 have total correction ratios that range from 0.71 to 2.61 (Table 5). The lack of individual diver effects is attributed to the training and experience of the divers. The correction ratios are used in the spawn deposition surveys to adjust the total visual estimates of each diver before summing the total eggs in the survey area.

Table 1. Summary of 1999/2000 season herring fisheries.

WINTER FOOD AND BAIT FISHERY

Opening	Closing	Area	District	Forecast 1997 (tons)	Target Exploitation Rate (%)	Quota (tons)	Harvest[a] (tons)	Ex-vessel value[a]
1-Dec-99	6-Dec-99	Craig	3/4	6,013	6.2	376	*	*
1-Dec-99	6-Dec-99	Hobart Bay/Port Houghton	10	3,602	11.6	418	432	$78,266
1-Dec-99	2-Dec-99	Tenakee Inlet	12	4,829	11.2	542	494	$128,000
Total				14,444		1,336	926	$206,266

SAC ROE FISHERY

Opening	Closing	Area	District	Gear	Forecast 1997 (tons)	Target Exploitation Rate (%)	Quota (tons)	Harvest (tons)	Roe % Fishery	Ex-vessel value
19-Mar-00	22-Mar-00	Sitka Sound	13	Seine	33,365	15.3	5,120	4,572	9.9	$2,286,000
5-May-00	5-May-00	Seymour Canal	11	Gillnet	3,373	10.2	346	394	--	$216,920
--	--	Hobart Bay/Port Houghton	10	Gillnet	3,602	--	0	0	--	$0
--	--	Kah Shakes/Cat Island	1	Gillnet	4277	0	0	0	--	$0
Total					40,340		5,466	4,966		$2,502,920

TEST FISHERIES

Opening	Closing	Area	District	Forecast 1997 (tons)	Target (tons)	Harvest (tons herring)	Ex-vessel value
22-Mar-00	22-Mar-00	Sitka Sound test fishery (sac roe)	13	43,602	50	44.5	$14,210
12-Apr-00	12-Apr-00	West Behm Canal	1	10,405	50	47	$30,000
29-Apr-00	30-Apr-00	Hobart Bay/Port Houghton	10	3,602	30	30.6	$20,655
Total				57,609	130	122.1	$64,865

SPAWN-ON-KELP FISHERY

Opening	Closing	Area	District	Gear	Forecast 1997 (tons)	Quota[b] (tons herring)	Harvest[c] (tons)	Ex-vessel value
17-Mar-00	1-May-00	Craig	3	Pound	6,013	280	0.0	$0
6-Apr-00	29-Apr-00	Hoonah Sound	13	Pound	2,683	359	36.0	$587,568
Total					8,696	639	36.0	$587,568

[a] Data considered confidential with fewer than three participants.

[b] For the Craig area, includes 30 ton carry-over from unharvested bait quota.

[c] Harvest represented in tons of spawn-on-kelp product.

Table 2. Key to vegetative substrate types used for herring spawn deposition survey.

Code	Expanded code	Species included	Latin names
AGM	Agarum	Sieve kelp	*Agarum clathratum*
ALA	Alaria	Ribbon kelps	*Alaria marginata, A. nana, A. fistulosa*
ELG	Eel grass	Eel grass, surfgrasses	*Zostera marina, Phyllospadix serrulatus, P. scouleri*
FIL	Filamentous algae	Sea hair	*Enteromorpha intestinalis*
FIR	Fir kelp	Black pine, Oregon pine (red algae)	*Neorhodomela larix, N.oregona*
FUC	Fucus	Rockweed	*Fucus gardneri*
HIR	Hair kelp	Witch's hair, stringy acid kelp	*Desmarestia aculeata, D. viridis*
LAM	Laminaria	split kelp, sugar kelp, suction-cup kelp	*Laminaria bongardiana, L. saccharina, L. yezoensis (when isolated and identifiable)*
LBK	Large Brown Kelps	Five-ribbed kelp, three-ribbed kelp, split kelp, sugar kelp, sea spatula, sieve kelp, ribbon kelp	*Costaria costata, Cymathere triplicata, Laminaria spp., Pleurophycus gardneri, Agarum, Alaria spp.*
MAC	Macrocystis	Small perennial kelp	*Macrocystis sp.*
NER	Nereocystis	Bull kelp	*Nereocystis leutkeana*
RED	Red algae	All red leafy algae (red ribbons, red blades, red sea cabbage, Turkish washcloth)	*Palmaria mollis, P. hecatensis, P. callophylloides, Dilsea californica, Neodilsea borealis, Mastocarpus papillatus, Turnerella mertensiana*
ULV	Ulva	Sea lettuce	*Ulva fenestrata, Ulvaria obscura*
COR	Coralline algae	Coral seaweeds (red algae)	*Bossiella, Corallina, Serraticardia*

Table 3. Key to bottom types used for herring spawn deposition survey.

Code	Expanded code	Definition
RCK	Bedrock	Various rocky substrates > 1 meter in diameter
BLD	Boulder	Substrate between 25 cm and 1 meter
CBL	Cobble	Substrate between 6 cm and 25 cm
GVL	Gravel	Substrate between 0.4 cm and 6 cm
SND	Sand	Clearly separate grains of < 0.4 cm
MUD	Mud	Soft, paste-like material
SIL	Silt	Fine organic dusting (very rarely used)
BAR	Barnacle	Area primarily covered with barnacles
SHL	Shell	Area primarily covered with whole or crushed shells
MUS	Mussels	Area primarily covered with mussels
WDY	Woody debris	Any submerged bark, logs, branches or root systems

Table 4. Southeast Alaska herring spawn deposition survey results, 2000.

Spawning Area	**Sitka Sound**						
Survey Dates	April 4-6, 2000						
Spawning Dates							
Nautical miles of spawn	54.5	Sum of eggs by diver	7,828	9,929	2,506	4,532	4,222
Number of transects	29	Count of quadrates by diver	139	94	60	94	66
Number of quadrate samples estimated	453						
Total number of eggs estimated (1,000s)	29,015						
Average length of transect (meters)	78.1						
Average number of eggs counted per transect	1,000.5						
Average quadrate density (1,000s/.1 meter)	64.05	(total eggs counted/total # of observations)					
Average number of eggs per square meter in survey	640,518						
Area of survey in square meters	7,839,899						
Total number of eggs in survey area	5,021,597,334,221						
Estimated biomass from eggs (tons)	48,959	(total number of eggs/fecundity constant 102,567,376)					
Estimated total spawning biomass in tons (10% mort)	**54,399**						
Note: Spawn includes 54.2 in Sitka Sound and .3 in Windy Passage							

Spawning Area	**Craig**						
Survey Dates	April 13-14, 2000						
Spawning Dates							
Nautical miles of spawn	12.9	Sum of eggs by diver	4,908	3,639	344	3,346	872
Number of transects	19	Count of quadrates by diver	104	155	38	97	97
Number of quadrate samples estimated	491						
Total number of eggs estimated (1,000s)	13,108						
Average length of transect (meters)	129.2						
Average number of eggs counted per transect	689.9						
Average quadrate density (1,000s/.1 meter)	26.70	(total eggs counted/total # of observations)					
Average number of eggs per square meter in survey	266,956						
Area of survey in square meters	3,086,943						
Total number of eggs in survey area	824,078,567,211						
Estimated biomass from eggs (tons)	8,632	(total number of eggs / 95,464,357 eggs per ton of spawners)					
Estimated total spawning biomass in tons (10% mort)	**9,591**						

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Table 4. (page 2 of 5)

Spawning Area	**Kah Shakes**							
Survey Dates	April 16-17, 2000							
Spawning Dates								
Nautical miles of spawn	10.0	Sum of eggs by diver	210	39	8	819	61	
Number of transects	18	Count of quadrates by diver	51	28	24	155	9	
Number of quadrate samples estimated	267							
Total number of eggs estimated (1,000s)	1,137							
Average length of transect (meters)	74.2							
Average number of eggs counted per transect	63.2							
Average quadrate density (1,000s/.1 meter)	4.26	(total eggs counted/total # of observations)						
Average number of eggs per square meter in survey	42,589							
Area of survey in square meters	1,373,567							
Total number of eggs in survey area	58,499,021,111							
Estimated biomass from eggs (tons)	638	(total number of eggs / 91,654,735 eggs per ton of spawners)						
Estimated total spawning biomass in tons (10% mort)	**709**							

Spawning Area	**West Behm Canal**							
Survey Dates	April 17-18, 2000							
Spawning Dates								
Nautical miles of spawn	16.4	Sum of eggs by diver	633	200	1,732	90	373	
Number of transects	16	Count of quadrates by diver	50	28	56	5	23	
Number of quadrate samples estimated	162							
Total number of eggs estimated (1,000s)	3,027							
Average length of transect (meters)	50.6							
Average number of eggs counted per transect	189.2							
Average quadrate density (1,000s/.1 meter)	18.68	(total eggs counted/total # of observations)						
Average number of eggs per square meter in survey	186,844							
Area of survey in square meters	1,537,623							
Total number of eggs in survey area	287,295,366,050							
Estimated biomass from eggs (tons)	2,873	(total number of eggs / 100,000,000 eggs per ton of spawners)						
Estimated total spawning biomass in tons (10% mort)	**3,192**							

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Table 4. (page 3 of 5)

Spawning Area	**Ernest Sound**							
Survey Dates	25-Apr-00							
Spawning Dates								
Nautical miles of spawn	9.1	Sum of eggs by diver	152	170	7	646	361	
Number of transects	14	Count of quadrates by diver	10	69	17	72	57	
Number of quadrate samples estimated	225							
Total number of eggs estimated (1,000s)	1,337							
Average length of transect (meters)	80.4							
Average number of eggs counted per transect	95.5							
Average quadrate density (1,000s/.1 meter)	5.94	(total eggs counted/total # of observations)						
Average number of eggs per square meter in survey	59,419							
Area of survey in square meters	1,354,275							
Total number of eggs in survey area	80,469,816,700							
Estimated biomass from eggs (tons)	805	(total number of eggs / 100,000,000 eggs per ton of spawners)						
Estimated total spawning biomass in tons (10% mort)	**894**							

Spawning Area	**Hoonah Sound**							
Survey Dates	07-May-00							
Spawning Dates	April 28, 29, 30							
Nautical miles of spawn	13.0	Sum of eggs by diver	592	1,376	769	940	1,214	
Number of transects	18	Count of quadrates by diver	72	81	40	76	66	
Number of quadrate samples estimated	335							
Total number of eggs estimated (1,000s)	4,892							
Average length of transect (meters)	93.1							
Average number of eggs counted per transect	271.8							
Average quadrate density (1,000s/.1 meter)	14.60	(total eggs counted/total # of observations)						
Average number of eggs per square meter in survey	146,019							
Area of survey in square meters	2,240,406							
Total number of eggs in survey area	327,140,675,333							
Estimated biomass from eggs (tons)	3,271	(total number of eggs / 100,000,000 eggs per ton of spawners)						
Estimated total spawning biomass in tons (10% mort)	**3,635**							

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Table 4. (page 4 of 5)

Spawning Area		**Tenakee Inlet**						
FIRST SPAWN SURVEY - Basket Bay to South Passage Point								
Survey Dates		May 3,4&6 2000						
Spawning Dates	April 27,28	First Spawn from Basket Bay to South Passage Point = 6.4 nmiles						
Nautical miles of spawn		6.4	Sum of eggs by diver	321	2,512	4,833	542	1,594
Number of transects		14	Count of quadrates by diver	27	108	101	51	65
Number of quadrate samples estimated		352						
Total number of eggs estimated (1,000s)		9,802.4						
Average length of transect (meters)		125.7						
Average number of eggs counted per transect		700.17						
Average quadrate density (1,000s/.1 meter)		28	(total eggs counted/total # of observations)					
Average number of eggs per square meter in survey		278,477						
Area of survey in square meters		1,490,066						
Total number of eggs in survey area		414,948,748,800						
Estimated biomass from eggs (tons)		4,149	(total number of eggs / 100,000,000 eggs per ton of spawners)					
Estimated total spawning biomass in tons (10% mort)		4,611						
SECOND SPAWN SURVEY - Peninsular Point to Basket Bay								
Spawning Dates	May 5&6	Second Spawn from Peninsular Point to Basket Bay = 7.4 nmiles						
Nautical miles of spawn		7.4	Sum of eggs by diver	204	2,867	2,035	181	673
Number of transects		10	Count of quadrates by diver	9	19	33	60	27
Number of quadrate samples estimated		148						
Total number of eggs estimated (1,000s)		5960.85						
Average length of transect (meters)		74						
Average number of eggs counted per transect		596.1						
Average quadrate density (1,000s/.1 meter)		40.3	(total eggs counted/total # of observations)					
Average number of eggs per square meter in survey		402,760.14						
Area of survey in square meters		1,014,155						
Total number of eggs in survey area		408,461,285,400						
Estimated biomass from eggs (tons)		4,085	(total number of eggs / 100,000,000 eggs per ton of spawners)					
Estimated total spawning biomass in tons (10% mort)		4,538						
TOTAL SPAWN DEPOSITION SURVEY OF TENAKEE SPAWN - Peninsular Point to South Passage Point								
First Spawn (north area)		**4,611**	**tons**					
Second Spawn (south area)		**4,538**	**tons**					
Total		**9,149**	**tons**					

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Table 4. (page 5 of 5)

Spawning Area	**Hobart Bay**						
Survey Dates	11-May-00						
Spawning Dates	first spawn=4/28; main spawn=5/1, 5/2; last spawn=5/4						
Nautical miles of spawn	10.0	Sum of eggs by diver	493	344	272	116	631
Number of transects	22	Count of quadrates by diver	62	73	59	24	45
Number of quadrate samples estimated	263						
Total number of eggs estimated (1,000s)	1,855						
Average length of transect (meters)	59.8						
Average number of eggs counted per transect	84.3						
Average quadrate density (1,000s/.1 meter)	7.05	(total eggs counted/total # of observations)					
Average number of eggs per square meter in survey	70,540						
Area of survey in square meters	1,106,991						
Total number of eggs in survey area	78,086,633,636						
Estimated biomass from eggs (tons)	774	(total number of eggs / 100,878,673 eggs per ton of spawners)					
Estimated total spawning biomass in tons (10% mort)	**860**						

Spawning Area	**Seymour Canal**						
Survey Dates	May 12 and 13, 2000						
Spawning Dates	first spawn=5/5; main spawn=5/6-9; last spawn=5/10						
Nautical miles of spawn	18.7	Sum of eggs by diver	2,184	693	789	1,049	1,057
Number of transects	24	Count of quadrates by diver	122	72	99	133	64
Number of quadrate samples estimated	490						
Total number of eggs estimated (1,000s)	5,772						
Average length of transect (meters)	102.1						
Average number of eggs counted per transect	240.5						
Average quadrate density (1,000s/.1 meter)	11.78	(total eggs counted/total # of observations)					
Average number of eggs per square meter in survey	117,793						
Area of survey in square meters	3,535,391						
Total number of eggs in survey area	416,443,787,375						
Estimated biomass from eggs (tons)	4,128	(total number of eggs / 100,878,673 eggs per ton of spawners)					
Estimated total spawning biomass in tons (10% mort)	**4,587**						

Table 5. Diver calibration ratios (lab:visual), 2000[a] based on data from 1982–1988 and 1993–1999.

	Substrate				
Estimator	Eel Grass	Fucus	Hair Kelp	Large Brown Kelp	Other[b]
Bergmann (WB)	0.77	1.24	1.20	0.89	1.10
Davidson (BD)	1.26	1.52	1.41	1.17	0.93
Doherty (PD)	1.29	1.00	1.21	1.20	1.31
Gordon (DG)	1.09	1.41	1.24	1.42	1.02
Hebert (KH)	1.94	1.46	1.03	1.12	1.09
Koeneman (TK)	0.77	0.71	0.95	0.98	0.97
Larson (RL)	1.09	1.08	1.28	1.12	1.09
Lynch (BL)	1.18	1.76	1.30	1.46	1.15
Muir (JM)	1.24	1.13	1.24	0.85	1.03
Pritchett (MP)	1.01	1.37	1.13	2.61	0.76
Walker (SW)	1.26	1.25	1.28	1.12	0.79

[a] Overall ratio weighted by the annual sample size.

[b] i.e. all other substrate types.

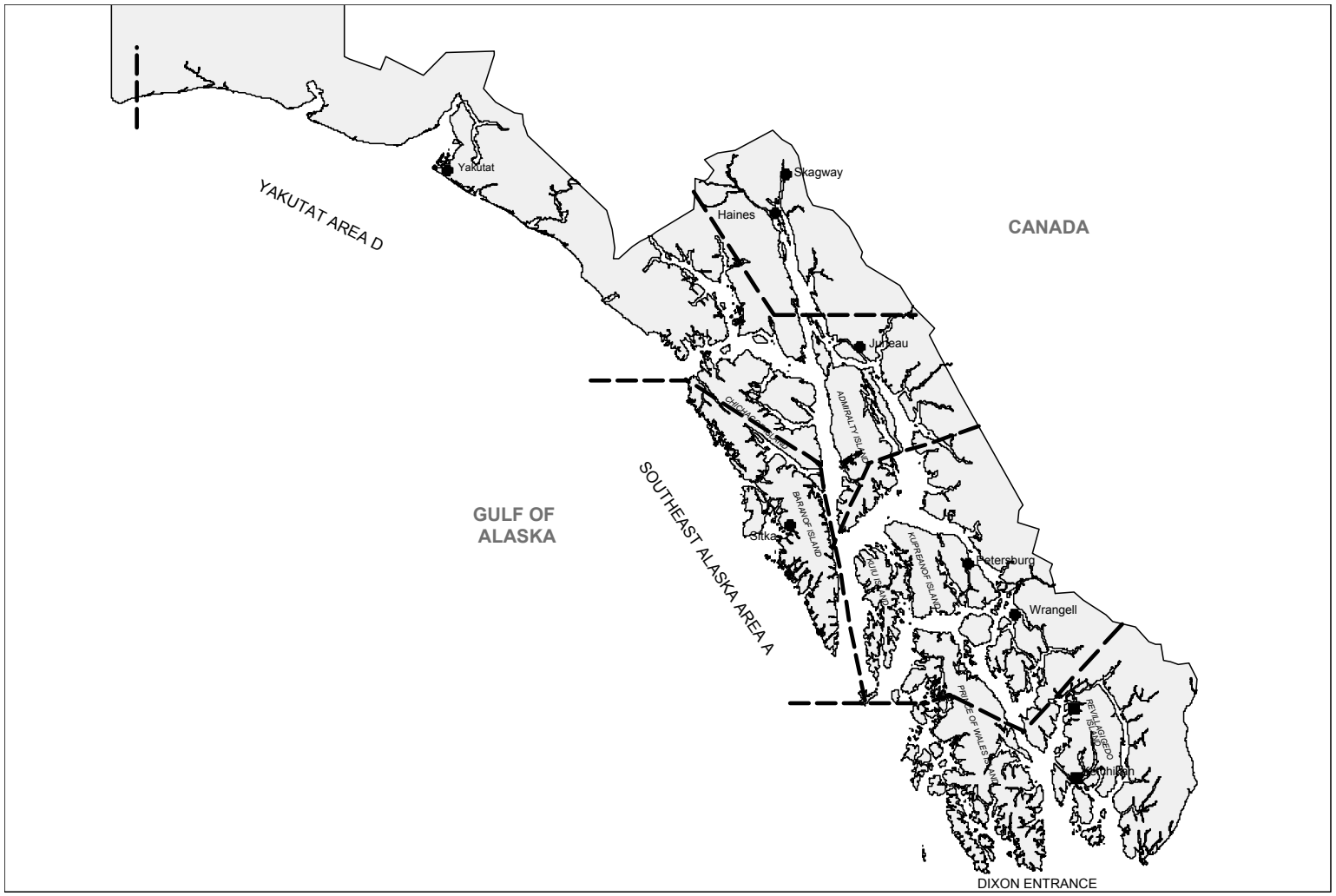

Figure 1. Southeast Alaska Region (Region 1) Herring Registration Areas (Southeast Alaska Area A and Yakutat Area D) and Management Area Boundaries.

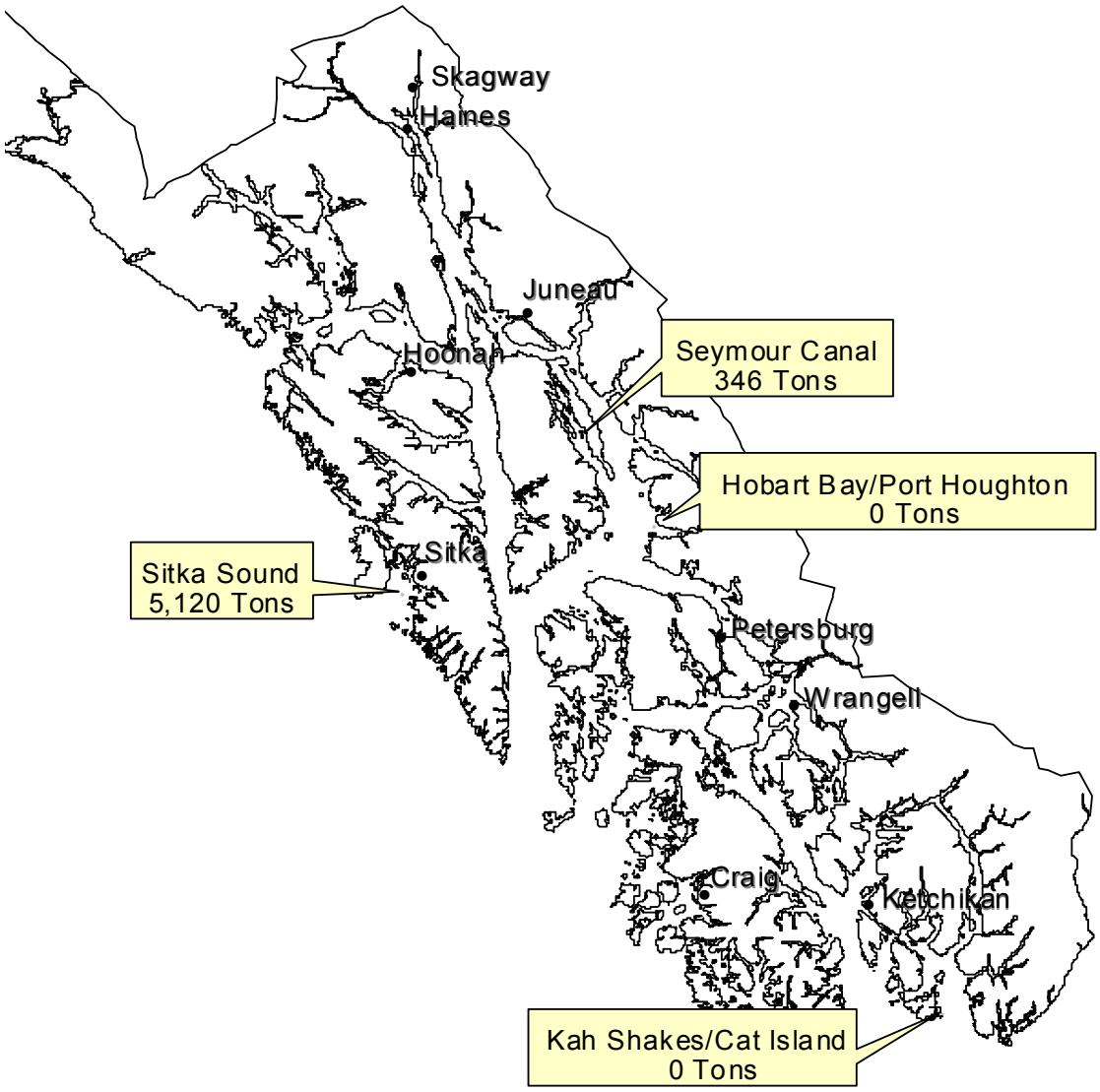

Figure 2. Sac roe areas quotas for 2000.

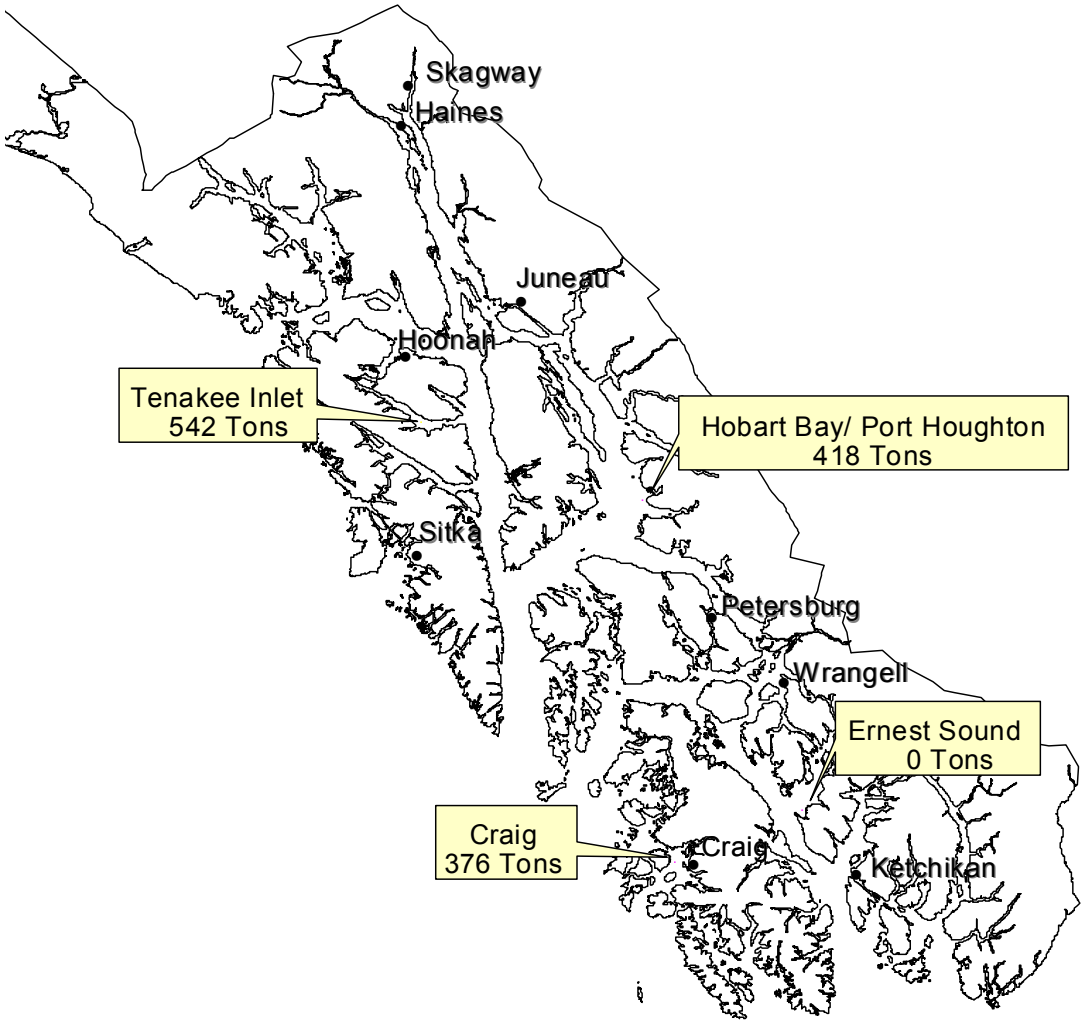

Figure 3. Food and bait fishing areas quotas for 2000.

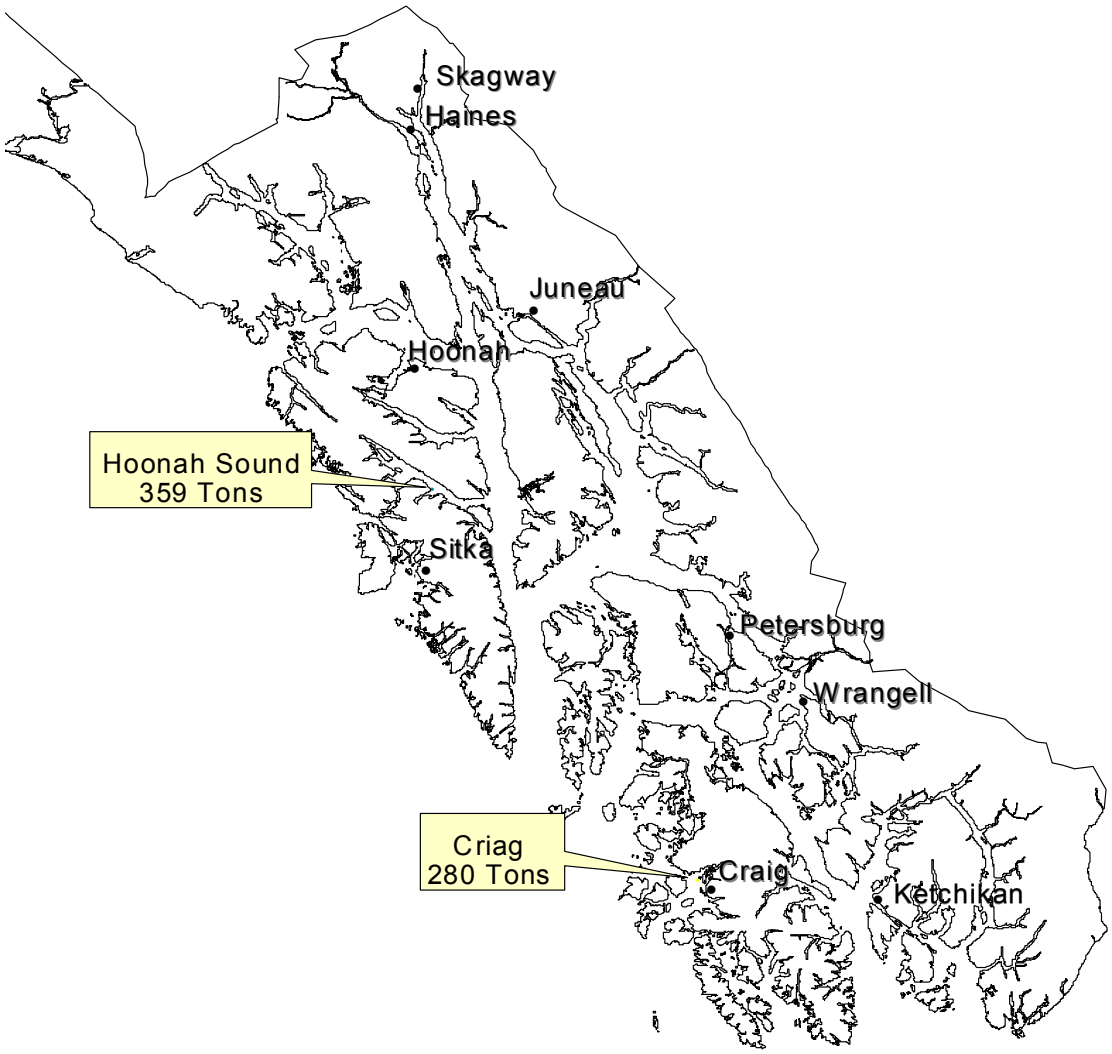

Figure 4. Spawn-on-kelp pound fishing area herring quotas for 2000.

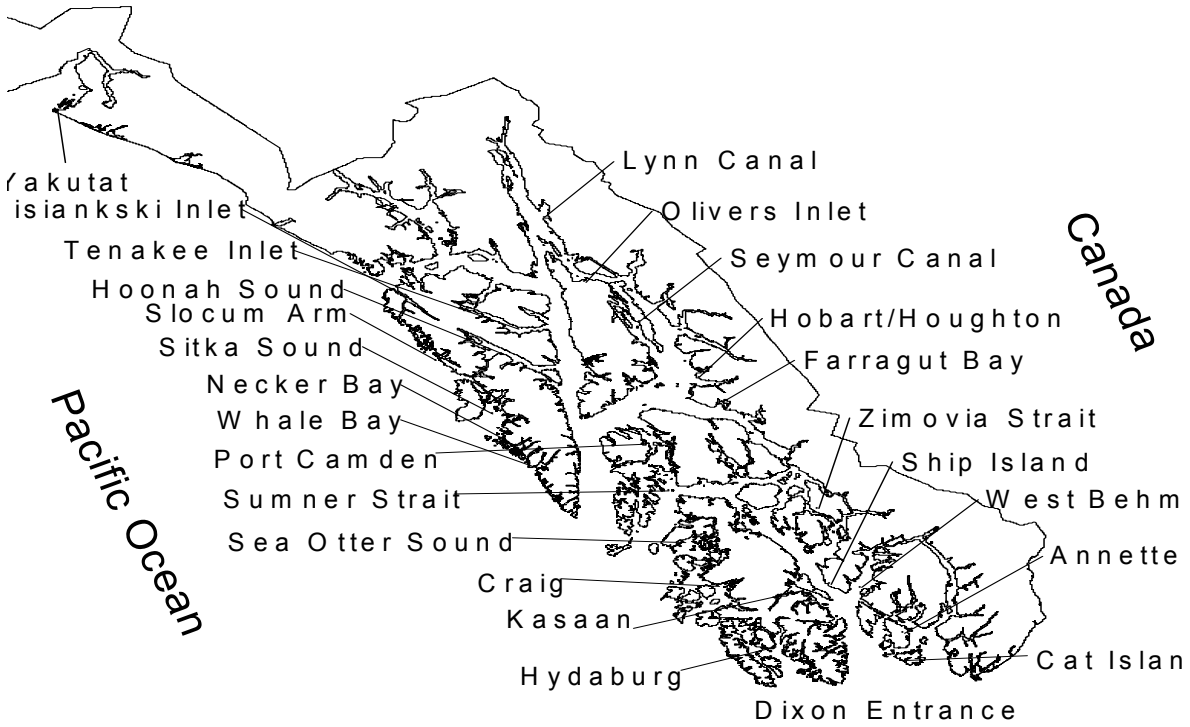

Figure 5. Major Southeast Alaska herring spawn stocks and AWL study areas, 1999.

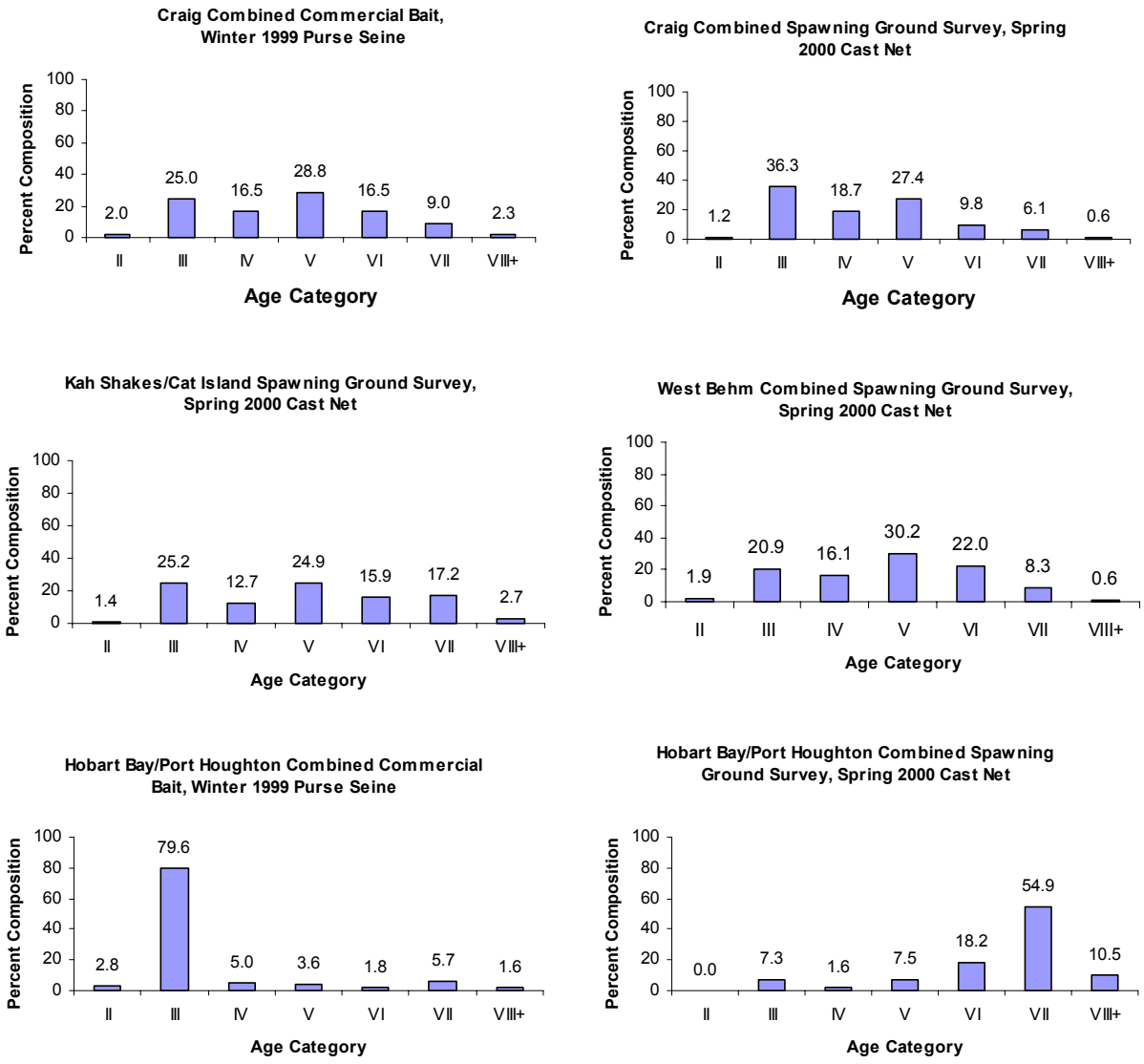

Figure 6. Summary of Southeast Alaska herring age compositions, 1999/2000 season.

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Figure 6. (page 2 of 3)

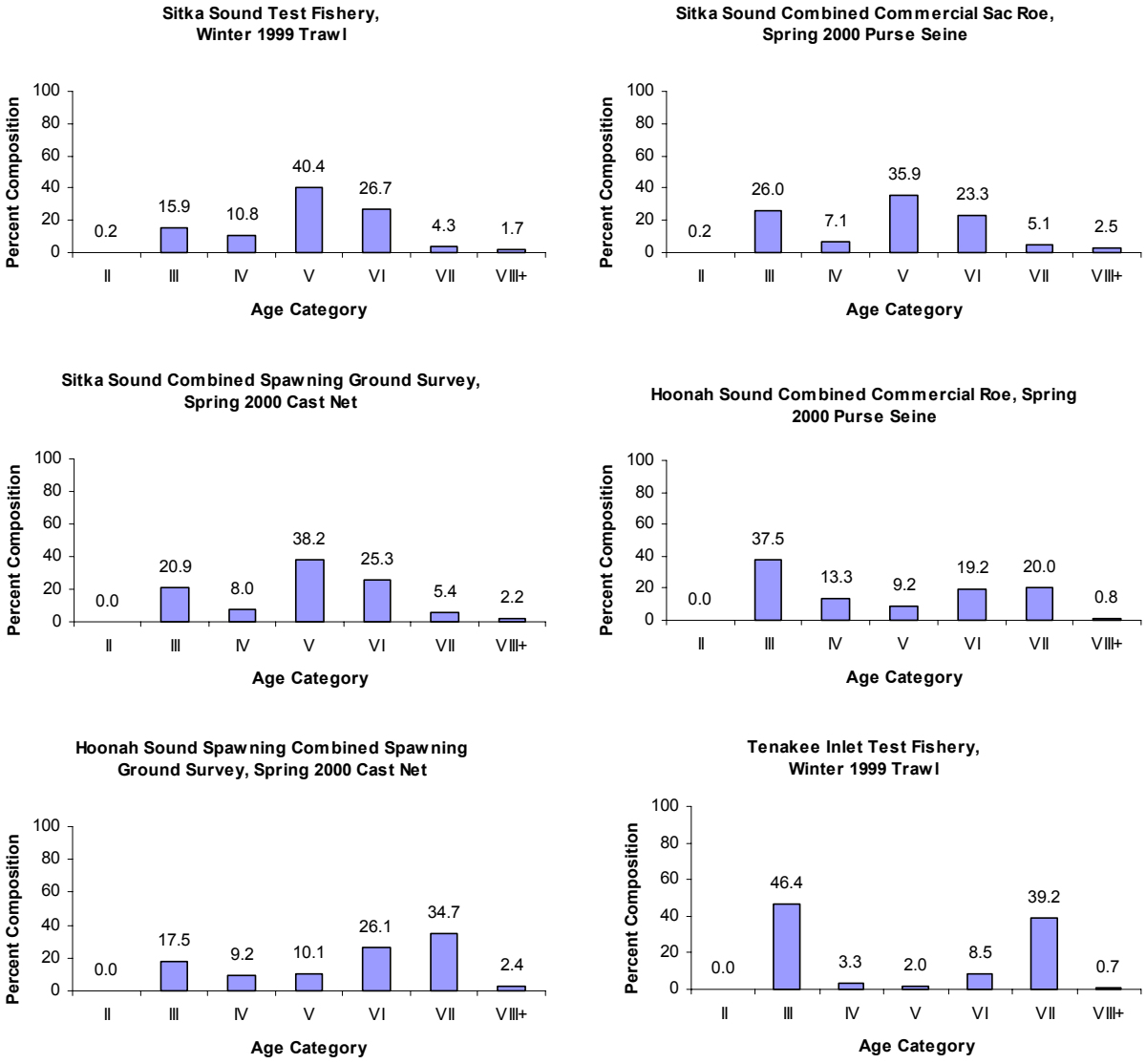

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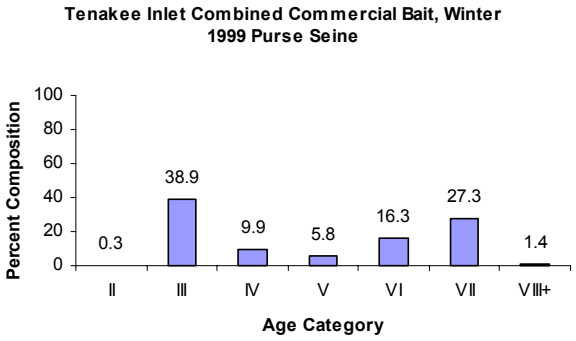
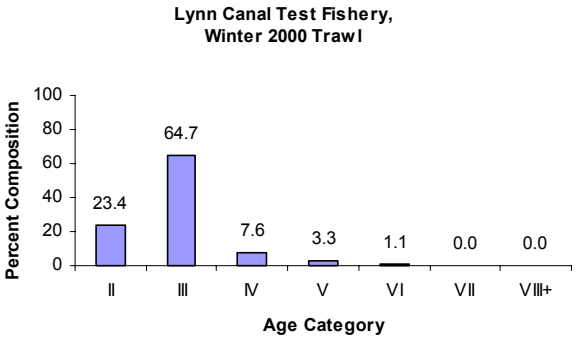
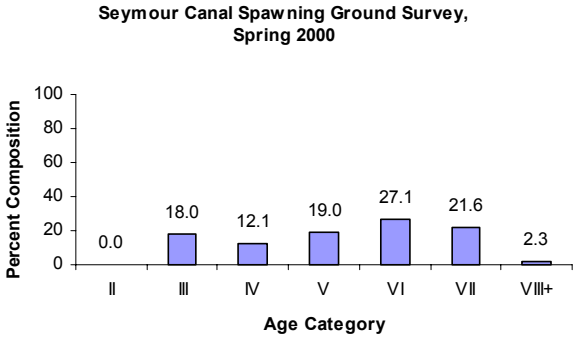
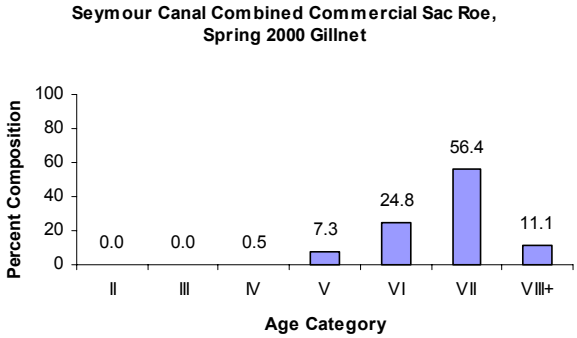
Figure 6. (page 3 of 3)









APPENDIX

Appendix A. Summarized age, length, weight and gender data for major spawning stocks in Southeast Alaska, 2000.

Area **Page**

Craig 2000								
Ulloa Channel Commercial Bait December 1, 1999 Seine F/V Janine Kathleen								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	127.00	168.05	173.35	190.66	195.78	206.38	214.50	183.99
Average Weight (g)	22.50	64.36	76.41	104.34	113.50	138.25	164.00	94.52
Count of Age Category	2.00	22.00	17.00	29.00	18.00	8.00	2.00	98.00
Percent Age Composition	0.02	0.22	0.17	0.30	0.18	0.08	0.02	1.00
Percent Female	0.00	0.36	0.53	0.28	0.44	0.50	0.50	0.39
Percent Male	0.00	0.64	0.47	0.72	0.56	0.50	0.50	0.59
Percent Unknown	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Craig Commercial Bait December 3, 1999 Seine *F/V Talia*								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	131.83	162.98	165.12	176.95	184.00	179.67	n/a	165.83
Average Weight (g)	28.50	61.24	62.62	78.29	90.71	87.33	n/a	65.06
Count of Age Category	6.00	63.00	26.00	21.00	7.00	3.00	n/a	126.00
Percent Age Composition	0.05	0.50	0.21	0.17	0.06	0.02	n/a	1.00
Percent Female	0.00	0.38	0.50	0.76	0.71	0.67	n/a	0.48
Percent Male	0.00	0.59	0.42	0.24	0.29	0.33	n/a	0.44
Percent Unknown	1.00	0.03	0.08	0.00	0.00	0.00	n/a	0.08
Craig Combined Commercial Bait December 1-5, 1999 Purse Seine								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	130.63	164.79	172.61	188.91	196.11	202.50	214.56	182.01
Average Weight (g)	27.00	62.92	74.98	100.90	116.41	129.75	156.00	92.05
Count of Age Category	8.00	100.00	66.00	115.00	66.00	36.00	9.00	400.00
Percent Age Composition	0.02	0.25	0.17	0.29	0.17	0.09	0.02	1.00
Percent Female	0.00	0.37	0.47	0.40	0.44	0.53	0.44	0.42
Percent Male	0.00	0.61	0.50	0.60	0.56	0.47	0.56	0.56
Percent Unknown	1.00	0.02	0.03	0.00	0.00	0.00	0.00	0.03
S.W. Fish Egg Island Spawning Ground Survey March 31, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	167.00	169.70	181.22	192.53	199.25	200.50	n/a	185.20
Average Weight (g)	60.00	69.00	88.00	104.68	119.67	118.00	n/a	94.17
Count of Age Category	1.00	20.00	18.00	19.00	12.00	6.00	n/a	76.00
Percent Age Composition	0.01	0.26	0.24	0.25	0.16	0.08	n/a	1.00
Percent Female	0.00	0.40	0.44	0.42	0.33	0.50	n/a	0.41
Percent Male	1.00	0.60	0.56	0.58	0.67	0.50	n/a	0.59

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Ballena Island Spawning Ground Survey April 1, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	170.50	172.71	176.83	190.05	197.00	209.50	n/a	180.14
Average Weight (g)	43.50	71.21	76.72	90.82	106.20	166.50	n/a	80.87
Count of Age Category	2.00	38.00	18.00	22.00	5.00	2.00	n/a	87.00
Percent Age Composition	0.02	0.44	0.21	0.25	0.06	0.02	n/a	1.00
Percent Female	0.50	0.42	0.44	0.14	0.20	0.50	n/a	0.34
Percent Male	0.50	0.58	0.56	0.86	0.80	0.50	n/a	0.66
Kah Shakes/Cat Island 2000								
Kirk Point Spawning Ground Survey April 3, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	143.33	161.03	178.44	190.29	204.10	200.86	n/a	177.78
Average Weight (g)	35.00	52.20	73.33	91.29	111.20	103.29	n/a	74.58
Count of Age Category	3.00	30.00	9.00	14.00	10.00	7.00	n/a	73.00
Percent Age Composition	0.04	0.41	0.12	0.19	0.14	0.10	n/a	1.00
Percent Female	0.00	0.60	0.56	0.57	0.60	0.29	n/a	0.53
Percent Male	1.00	0.37	0.44	0.36	0.40	0.71	n/a	0.44
Percent Unknown	0.00	0.03	0.00	0.07	0.00	0.00	n/a	0.03
S.E. Mary Island Spawning Ground Survey April 3, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	171.78	184.40	192.00	203.57	207.27	217.00	193.29
Average Weight (g)	n/a	57.44	76.80	85.44	106.71	110.00	125.00	89.33
Count of Age Category	n/a	9.00	5.00	9.00	7.00	11.00	1.00	42.00
Percent Age Composition	n/a	0.21	0.12	0.21	0.17	0.26	0.02	1.00
Percent Female	n/a	0.33	0.20	0.22	0.43	0.00	0.00	0.21
Percent Male	n/a	0.67	0.80	0.78	0.57	1.00	1.00	0.79
Village Island Spawning Ground Survey April 11, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	138.00	165.65	174.58	195.71	199.60	198.56	209.71	189.64
Average Weight (g)	28.00	51.88	61.08	85.24	92.33	96.76	109.86	81.69
Count of Age Category	1.00	17.00	12.00	21.00	15.00	25.00	7.00	98.00
Percent Age Composition	0.01	0.17	0.12	0.21	0.15	0.26	0.07	1.00
Percent Female	1.00	0.35	0.33	0.48	0.33	0.44	0.43	0.41
Percent Male	0.00	0.65	0.67	0.52	0.67	0.56	0.57	0.59
Kah Shakes/Cat Island Combined Spawning Ground Survey April 3-11, 2000 Cast Net								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	145.83	164.73	180.77	192.49	197.58	201.47	213.25	187.35
Average Weight (g)	37.00	53.63	70.86	84.94	94.94	102.13	119.92	81.58
Count of Age Category	6.00	89.00	44.00	96.00	66.00	76.00	12.00	389.00
Percent Age Composition	0.02	0.23	0.11	0.25	0.17	0.20	0.03	1.00
Percent Female	0.17	0.53	0.43	0.55	0.52	0.34	0.42	0.48
Percent Male	0.83	0.46	0.57	0.44	0.48	0.66	0.58	0.52
Percent Unknown	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01
Helm Bay Spawning Ground Survey April 10, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	146.00	162.22	177.80	191.70	203.00	200.00	204.00	186.88
Average Weight (g)	38.00	49.37	70.90	92.34	115.37	114.50	108.00	87.40
Count of Age Category	1.00	27.00	30.00	50.00	35.00	12.00	1.00	156.00
Percent Age Composition	0.01	0.17	0.19	0.32	0.22	0.08	0.01	1.00
Percent Female	1.00	0.26	0.50	0.50	0.46	0.50	1.00	0.46
Percent Male	0.00	0.74	0.50	0.50	0.54	0.50	0.00	0.54

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Survey Point Spawning Ground Survey April 10, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	141.50	159.75	171.20	188.42	195.43	203.38	n/a	183.18
Average Weight (g)	29.00	43.13	65.80	82.26	96.57	120.00	n/a	79.27
Count of Age Category	2.00	16.00	5.00	19.00	21.00	8.00	n/a	71.00
Percent Age Composition	0.03	0.23	0.07	0.27	0.30	0.11	n/a	1.00
Percent Female	0.00	0.06	0.40	0.53	0.29	0.38	n/a	0.31
Percent Male	1.00	0.94	0.60	0.47	0.71	0.63	n/a	0.69
Clover Pass Spawning Ground Survey April 12, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	138.50	166.21	178.00	188.19	195.56	192.40	n/a	181.23
Average Weight (g)	35.50	53.58	68.35	80.68	92.63	95.40	n/a	73.46
Count of Age Category	2.00	24.00	17.00	31.00	16.00	5.00	n/a	95.00
Percent Age Composition	0.02	0.25	0.18	0.33	0.17	0.05	n/a	1.00
Percent Female	0.00	0.25	0.29	0.42	0.38	0.40	n/a	0.34
Percent Male	1.00	0.75	0.71	0.58	0.63	0.60	n/a	0.66
Hobart Bay/Port Houghton 2000								
Port Houghton Commercial Bait December 4, 1999 Seine F/V Traci-C								
Age Category	2	3	4	5	6.00	7.00	8+	Total
Average Length (mm)	162.00	163.97	168.00	173.00	n/a	n/a	223.00	165.14
Average Weight (g)	56.50	59.00	61.00	78.33	n/a	n/a	156.00	61.05
Count of Age Category	2.00	67.00	1.00	3.00	n/a	n/a	1.00	74.00
Percent Age Composition	0.03	0.91	0.01	0.04	n/a	n/a	0.01	1.00
Percent Female	1.00	0.54	0.00	0.33	n/a	n/a	1.00	0.54
Percent Male	0.00	0.45	1.00	0.67	n/a	n/a	0.00	0.45
Percent Unknown	0.00	0.01	0.00	0.00	n/a	n/a	0.00	0.01
Port Houghton Commercial Bait December 5, 1999 Seine F/V Marathon								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	168.39	173.80	177.09	190.75	189.39	204.29	180.40
Average Weight (g)	n/a	64.28	68.80	82.00	99.50	105.11	128.71	86.32
Count of Age Category	n/a	36.00	5.00	11.00	8.00	28.00	7.00	95.00
Percent Age Composition	n/a	0.38	0.05	0.12	0.08	0.29	0.07	1.00
Percent Female	n/a	0.44	0.80	0.64	0.38	0.54	0.43	0.51
Percent Male	n/a	0.47	0.20	0.36	0.50	0.43	0.57	0.44
Percent Unknown	n/a	0.08	0.00	0.00	0.13	0.04	0.00	0.05
Hobart Bay Commercial Bait December 6, 1999 Seine *F/V Gace-C*								
Age Category	2	3	4	5	6.00	7.00	8+	Total
Average Length (mm)	157.33	161.29	161.57	180.00	n/a	n/a	n/a	161.41
Average Weight (g)	52.33	55.49	56.14	77.00	n/a	n/a	n/a	55.70
Count of Age Category	3.00	68.00	7.00	1.00	n/a	n/a	n/a	79.00
Percent Age Composition	0.04	0.86	0.09	0.01	n/a	n/a	n/a	1.00
Percent Female	0.67	0.47	0.71	0.00	n/a	n/a	n/a	0.49
Percent Male	0.33	0.47	0.29	1.00	n/a	n/a	n/a	0.46
Percent Unknown	0.00	0.06	0.00	0.00	n/a	n/a	n/a	0.05
Hobart Bay/Port Houghton Combined Commercial Bait December 4-6, 1999 Purse Seine								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	155.64	163.21	168.56	175.11	190.89	190.00	206.63	166.41
Average Weight (g)	49.71	58.55	65.68	77.61	97.56	105.52	132.13	63.90
Count of Age Category	14.00	402.00	25.00	18.00	9.00	29.00	8.00	505.00
Percent Age Composition	0.03	0.80	0.05	0.04	0.02	0.06	0.02	1.00
Percent Female	0.50	0.53	0.64	0.56	0.33	0.55	0.50	0.54
Percent Male	0.43	0.43	0.32	0.39	0.56	0.41	0.50	0.42
Percent Unknown	0.07	0.04	0.04	0.06	0.11	0.03	0.00	0.04

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South of Herring Lagoon Spawning Ground Survey April 30, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	166.00	179.00	189.25	202.70	203.98	213.46	199.83
Average Weight (g)	n/a	60.75	67.00	99.25	130.80	123.54	141.15	117.96
Count of Age Category	n/a	8.00	1.00	8.00	10.00	41.00	13.00	81.00
Percent Age Composition	n/a	0.10	0.01	0.10	0.12	0.51	0.16	1.00
Percent Female	n/a	0.38	0.00	0.50	0.60	0.54	0.62	0.53
Percent Male	n/a	0.63	1.00	0.50	0.40	0.46	0.38	0.47
Hobart Bay/Port Houghton Combined Spawning Ground Survey April 30, 2000 Cast Net								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	162.81	179.71	188.03	198.91	202.68	204.54	197.81
Average Weight (g)	n/a	58.13	70.00	87.79	105.29	114.04	121.24	106.45
Count of Age Category	n/a	32.00	7.00	33.00	80.00	241.00	46.00	439.00
Percent Age Composition	n/a	0.07	0.02	0.08	0.18	0.55	0.10	1.00
Percent Female	n/a	0.53	0.14	0.36	0.45	0.44	0.37	0.43
Percent Male	n/a	0.47	0.86	0.64	0.55	0.56	0.63	0.57
Sitka Sound Commercial Sac Roe March 19, 2000 Purse Seine Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	183.51	195.96	207.58	220.56	223.80	230.20	199.25
Average Weight (g)	n/a	80.10	100.24	122.63	151.84	163.80	176.80	109.17
Count of Age Category	n/a	122.00	25.00	92.00	45.00	5.00	5.00	294.00
Percent Age Composition	n/a	0.41	0.09	0.31	0.15	0.02	0.02	1.00
Percent Female	n/a	0.39	0.36	0.36	0.56	0.20	0.40	0.40
Percent Male	n/a	0.61	0.64	0.64	0.44	0.80	0.60	0.60
W. Kasiana Is. Sac Roe March 22, 2000 Purse Seine Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	191.20	195.00	212.54	223.13	224.57	235.25	215.32
Average Weight (g)	n/a	94.60	99.00	130.51	159.83	169.14	180.50	141.06
Count of Age Category	n/a	10.00	2.00	35.00	30.00	7.00	4.00	88.00
Percent Age Composition	n/a	0.11	0.02	0.40	0.34	0.08	0.05	1.00
Percent Female	n/a	0.60	0.50	0.40	0.60	0.71	0.00	0.50
Percent Male	n/a	0.40	0.50	0.57	0.40	0.29	1.00	0.49
Percent Unknown	n/a	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Sitka Sound Combined Commercial Sac Roe March 19&22, 2000 Purse Seine								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	138.00	184.78	198.22	210.33	220.72	225.73	234.19	206.49
Average Weight (g)	28.00	82.33	106.30	128.82	152.89	163.79	180.38	123.61
Count of Age Category	1.00	169.00	46.00	233.00	151.00	33.00	16.00	649.00
Percent Age Composition	0.00	0.26	0.07	0.36	0.23	0.05	0.02	1.00
Percent Female	0.00	0.43	0.43	0.45	0.50	0.42	0.44	0.45
Percent Male	0.00	0.56	0.57	0.55	0.50	0.58	0.56	0.54
Percent Unknown	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Harbor Pt. Spawning Ground Survey March 24, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	188.88	205.33	206.17	215.78	n/a	230.00	205.04
Average Weight (g)	n/a	84.75	112.67	114.67	134.44	n/a	144.00	113.26
Count of Age Category	n/a	8.00	3.00	6.00	9.00	n/a	1.00	27.00
Percent Age Composition	n/a	0.30	0.11	0.22	0.33	n/a	0.04	1.00
Percent Female	n/a	0.50	0.00	0.17	0.56	n/a	1.00	0.41
Percent Male	n/a	0.50	1.00	0.67	0.44	n/a	0.00	0.56
Percent Unknown	n/a	0.00	0.00	0.17	0.00	n/a	0.00	0.04

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Samsing Cove Spawning Ground Survey March 24, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	183.88	208.50	211.13	215.50	n/a	220.50	203.33
Average Weight (g)	n/a	77.75	125.00	114.25	124.00	n/a	125.50	105.54
Count of Age Category	n/a	8.00	2.00	8.00	4.00	n/a	2.00	24.00
Percent Age Composition	n/a	0.33	0.08	0.33	0.17	n/a	0.08	1.00
Percent Female	n/a	0.25	0.50	0.13	0.00	n/a	0.00	0.17
Percent Male	n/a	0.75	0.50	0.88	1.00	n/a	1.00	0.83
E. Shore Kasiana Is Spawning Ground Survey, March 25, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	183.25	200.00	213.89	218.50	229.00	n/a	212.07
Average Weight (g)	n/a	78.00	102.00	131.89	150.50	171.00	n/a	133.89
Count of Age Category	n/a	4.00	1.00	9.00	12.00	2.00	n/a	28.00
Percent Age Composition	n/a	0.14	0.04	0.32	0.43	0.07	n/a	1.00
Percent Female	n/a	0.00	0.00	0.33	0.42	1.00	n/a	0.36
Percent Male	n/a	1.00	1.00	0.67	0.58	0.00	n/a	0.64
Cedar Cove Spawning Ground Survey March 26, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	194.29	n/a	204.83	209.20	219.33	n/a	204.52
Average Weight (g)	n/a	93.29	n/a	111.83	118.00	144.67	n/a	111.81
Count of Age Category	n/a	7.00	n/a	12.00	5.00	3.00	n/a	27.00
Percent Age Composition	n/a	0.26	n/a	0.44	0.19	0.11	n/a	1.00
Percent Female	n/a	0.57	n/a	0.42	0.80	0.67	n/a	0.56
Percent Male	n/a	0.43	n/a	0.58	0.20	0.33	n/a	0.44
Lisianski Peninsula Spawning Ground Survey March 27, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	181.90	200.00	203.17	216.00	212.00	n/a	197.92
Average Weight (g)	n/a	73.50	110.67	111.17	132.00	115.00	n/a	101.58
Count of Age Category	n/a	10.00	3.00	6.00	6.00	1.00	n/a	26.00
Percent Age Composition	n/a	0.38	0.12	0.23	0.23	0.04	n/a	1.00
Percent Female	n/a	0.40	0.67	0.50	0.83	1.00	n/a	0.58
Percent Male	n/a	0.60	0.33	0.50	0.17	0.00	n/a	0.42
N. Side of Middle Is. Spawning Ground Survey March 28, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	180.67	203.33	200.13	220.00	213.50	n/a	203.64
Average Weight (g)	n/a	77.83	110.67	109.00	149.89	140.00	n/a	117.86
Count of Age Category	n/a	6.00	3.00	8.00	9.00	2.00	n/a	28.00
Percent Age Composition	n/a	0.21	0.11	0.29	0.32	0.07	n/a	1.00
Percent Female	n/a	0.33	0.67	0.38	0.56	0.50	n/a	0.46
Percent Male	n/a	0.67	0.33	0.63	0.44	0.50	n/a	0.54
Cannon Is. Spawning Ground Survey March 29, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	187.75	190.38	206.33	216.56	222.50	240.00	204.87
Average Weight (g)	n/a	82.50	91.25	122.83	141.78	156.50	166.00	118.40
Count of Age Category	n/a	4.00	8.00	6.00	9.00	2.00	1.00	30.00
Percent Age Composition	n/a	0.13	0.27	0.20	0.30	0.07	0.03	1.00
Percent Female	n/a	0.50	0.25	0.33	0.44	0.50	1.00	0.40
Percent Male	n/a	0.50	0.75	0.67	0.56	0.50	0.00	0.60

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Sitka Sound Combined Spawning Ground Survey March 24-29, 2000 Cast Net								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	185.22	199.45	207.65	217.81	222.55	231.89	206.20
Average Weight (g)	n/a	80.64	104.09	118.61	139.20	149.32	155.78	117.17
Count of Age Category	n/a	86.00	33.00	157.00	104.00	22.00	9.00	411.00
Percent Age Composition	n/a	0.21	0.08	0.38	0.25	0.05	0.02	1.00
Percent Female	n/a	0.35	0.33	0.34	0.44	0.55	0.33	0.38
Percent Male	n/a	0.64	0.67	0.65	0.56	0.45	0.67	0.62
Percent Unknown	n/a	0.01	0.00	0.01	0.00	0.00	0.00	0.01
Fick Cove #4 Spawning Ground Survey April 28, 2000 Cast Net In Fishery Post Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	184.00	182.00	199.90	202.78	200.76	211.33	198.86
Average Weight (g)	n/a	71.83	68.60	101.30	101.83	113.10	118.00	102.17
Count of Age Category	n/a	6.00	5.00	10.00	18.00	29.00	3.00	71.00
Percent Age Composition	n/a	0.55	0.45	0.91	1.64	2.64	0.27	6.45
Percent Female	n/a	0.50	0.40	0.60	0.28	0.24	0.33	0.34
Percent Male	n/a	0.50	0.60	0.40	0.72	0.76	0.67	0.66
S.E. Fick Cove #3 Spawning Ground Survey April 28, 2000 Castnet in fishery post spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	177.29	183.71	199.67	206.18	207.50	205.50	199.43
Average Weight (g)	n/a	65.94	76.14	94.42	107.32	111.27	105.00	97.88
Count of Age Category	n/a	17.00	7.00	12.00	34.00	30.00	2.00	102.00
Percent Age Composition	n/a	0.17	0.07	0.12	0.33	0.29	0.02	1.00
Percent Female	n/a	0.53	0.71	0.42	0.47	0.63	1.00	0.55
Percent Male	n/a	0.47	0.29	0.58	0.53	0.37	0.00	0.45
Appendix A.								
Hoonah Sound Combined Spawning Ground Survey March 29-April 28, 2000 Cast Net								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	178.58	183.10	199.91	205.70	205.51	216.13	198.47
Average Weight (g)	n/a	70.12	75.16	100.15	108.90	114.37	131.38	100.55
Count of Age Category	n/a	59.00	31.00	34.00	88.00	117.00	8.00	337.00
Percent Age Composition	n/a	0.18	0.09	0.10	0.26	0.35	0.02	1.00
Percent Female	n/a	0.56	0.29	0.44	0.53	0.52	0.50	0.50
Percent Male	n/a	0.44	0.71	0.56	0.47	0.48	0.50	0.50
Tenakee Inlet Commercial Bait December 1, 1999 Purse Seine Dockside								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	173.76	176.44	191.00	191.83	187.86	n/a	175.85
Average Weight (g)	n/a	70.59	74.67	99.00	100.00	96.43	n/a	74.12
Count of Age Category	n/a	98.00	18.00	1.00	6.00	7.00	n/a	130.00
Percent Age Composition	n/a	0.75	0.14	0.01	0.05	0.05	n/a	1.00
Percent Female	n/a	0.44	0.44	0.00	0.67	0.29	n/a	0.44
Percent Male	n/a	0.53	0.56	1.00	0.33	0.71	n/a	0.54
Percent Unknown	n/a	0.03	0.00	0.00	0.00	0.00	n/a	0.02
Tenakee Inlet Commercial Bait December 3, 1999 Purse Seine Dockside F/V Kupreanof								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	173.53	188.00	195.18	190.32	195.69	n/a	186.88
Average Weight (g)	n/a	68.84	91.50	103.45	100.45	113.00	n/a	93.82
Count of Age Category	n/a	32.00	4.00	11.00	22.00	29.00	n/a	98.00
Percent Age Composition	n/a	0.33	0.04	0.11	0.22	0.30	n/a	1.00
Percent Female	n/a	0.53	0.75	0.64	0.50	0.41	n/a	0.51
Percent Male	n/a	0.47	0.25	0.36	0.50	0.59	n/a	0.49

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Tenakee Inlet Combined Commercial Bait December 1-3, 2000 Purse Seine								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	146.00	172.73	175.59	187.50	188.64	191.57	n/a	178.29
Average Weight (g)	40.00	69.03	73.95	92.13	97.43	104.78	n/a	79.23
Count of Age Category	2.00	226.00	44.00	16.00	44.00	63.00	n/a	395.00
Percent Age Composition	0.01	0.57	0.11	0.04	0.11	0.16	n/a	1.00
Percent Female	0.50	0.42	0.41	0.50	0.48	0.40	n/a	0.42
Percent Male	0.50	0.55	0.55	0.44	0.52	0.60	n/a	0.55
Percent Unknown	0.00	0.03	0.05	0.06	0.00	0.00	n/a	0.03
Seymour Canal, 2000								
Seymour Canal Spawning Ground Survey May 5, 2000 Cast Net Pre-fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	166.25	176.84	182.22	188.13	189.19	194.73	182.09
Average Weight (g)	n/a	56.53	67.67	76.47	82.19	86.82	89.73	75.91
Count of Age Category	n/a	85.00	57.00	90.00	128.00	102.00	11.00	473.00
Percent Age Composition	n/a	0.18	0.12	0.19	0.27	0.22	0.02	1.00
Percent Female	n/a	0.49	0.40	0.47	0.50	0.46	0.55	0.47
Percent Male	n/a	0.51	0.60	0.53	0.50	0.54	0.45	0.53
Seymour Canal Sac Roe May 5, 2000 Gillnet Dockside #1 F/V Is. Dancer								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	n/a	n/a	205.50	206.08	206.22	209.57	206.62
Average Weight (g)	n/a	n/a	n/a	121.50	124.72	126.88	131.00	126.71
Count of Age Category	n/a	n/a	n/a	4.00	25.00	59.00	14.00	102.00
Percent Age Composition	n/a	n/a	n/a	0.04	0.25	0.58	0.14	1.00
Percent Female	n/a	n/a	n/a	0.50	0.68	0.68	0.79	0.69
Percent Male	n/a	n/a	n/a	0.50	0.32	0.32	0.21	0.31
Seymour Canal Sac Roe May 5, 2000 Gillnet Dockside F/V Logan T.								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	n/a	188.00	204.62	205.90	205.88	209.17	205.93
Average Weight (g)	n/a	n/a	95.00	113.23	117.47	120.29	128.83	119.49
Count of Age Category	n/a	n/a	1.00	13.00	30.00	68.00	12.00	124.00
Percent Age Composition	n/a	n/a	0.01	0.10	0.24	0.55	0.10	1.00
Percent Female	n/a	n/a	1.00	0.77	0.70	0.63	0.42	0.65
Percent Male	n/a	n/a	0.00	0.23	0.30	0.37	0.58	0.35
Lynn Canal 1999								
Outer Pt.- Stephens Passage Test Fishery November 22, 1999 Otter Trawl Pre-fishery								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	137.98	153.21	161.00	165.17	186.00	n/a	n/a	150.99
Average Weight (g)	34.30	49.02	58.57	62.00	89.50	n/a	n/a	47.17
Count of Age Category	43.00	119.00	14.00	6.00	2.00	n/a	n/a	184.00
Percent Age Composition	0.23	0.65	0.08	0.03	0.01	n/a	n/a	1.00
Percent Female	0.28	0.45	0.57	0.67	1.00	n/a	n/a	0.43
Percent Male	0.58	0.52	0.43	0.33	0.00	n/a	n/a	0.52
Percent Unknown	0.14	0.03	0.00	0.00	0.00	n/a	n/a	0.05
Ulloa Channel Commercial Bait December 2, 1999 Seine F/V Emily Nicole								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	172.75	183.29	193.03	198.00	200.75	211.50	193.51
Average Weight (g)	n/a	69.75	91.57	108.90	121.78	125.75	145.00	111.11
Count of Age Category	n/a	4.00	14.00	29.00	18.00	12.00	4.00	81.00
Percent Age Composition	n/a	0.05	0.17	0.36	0.22	0.15	0.05	1.00
Percent Female	n/a	0.25	0.29	0.31	0.28	0.33	0.50	0.31
Percent Male	n/a	0.75	0.71	0.69	0.72	0.67	0.50	0.69

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Ulloa Channel Commercial Bait December 5, 1999 Seine F/V Emily Nicole								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	165.73	176.22	191.17	198.57	207.00	218.67	191.63
Average Weight (g)	n/a	67.18	82.22	104.89	122.30	138.00	165.33	109.03
Count of Age Category	n/a	11.00	9.00	36.00	23.00	13.00	3.00	95.00
Percent Age Composition	n/a	0.12	0.09	0.38	0.24	0.14	0.03	1.00
Percent Female	n/a	0.36	0.56	0.36	0.48	0.69	0.33	0.45
Percent Male	n/a	0.64	0.44	0.64	0.52	0.31	0.67	0.55
Westside Fish Egg Island Spawning Ground Survey March 30, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	157.00	175.24	185.88	195.48	204.14	204.83	213.00	189.23
Average Weight (g)	53.00	73.71	89.00	110.90	124.57	128.83	152.00	99.06
Count of Age Category	1.00	21.00	8.00	21.00	7.00	6.00	1.00	65.00
Percent Age Composition	0.02	0.32	0.12	0.32	0.11	0.09	0.02	1.00
Percent Female	0.00	0.57	0.50	0.57	0.57	0.50	1.00	0.55
Percent Male	1.00	0.43	0.50	0.43	0.43	0.50	0.00	0.45
West Clam Island Spawning Ground Survey April 3, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	165.80	185.44	191.74	199.67	201.43	202.00	183.09
Average Weight (g)	n/a	62.16	82.44	89.32	117.17	112.29	109.00	83.45
Count of Age Category	n/a	25.00	9.00	19.00	6.00	7.00	1.00	67.00
Percent Age Composition	n/a	0.37	0.13	0.28	0.09	0.10	0.01	1.00
Percent Female	n/a	0.56	0.78	0.63	0.83	0.71	1.00	0.66
Percent Male	n/a	0.44	0.22	0.37	0.17	0.29	0.00	0.34
Craig Combined Spawning Ground Surveys March 30-April 4, 2000 Cast Net								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	166.25	169.28	180.17	193.03	199.41	202.90	207.50	182.99
Average Weight (g)	50.00	67.41	82.45	99.22	115.26	123.81	130.50	87.20
Count of Age Category	4.00	126.00	65.00	95.00	34.00	21.00	2.00	347.00
Percent Age Composition	0.01	0.36	0.19	0.27	0.10	0.06	0.01	1.00
Percent Female	0.25	0.46	0.52	0.44	0.44	0.57	1.00	0.47
Percent Male	0.75	0.54	0.48	0.56	0.56	0.43	0.00	0.53
N.W. Abbess Island Spawning Ground Survey April 4, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7.00	8+	Total
Average Length (mm)	n/a	161.23	175.83	196.50	194.25	n/a	n/a	176.63
Average Weight (g)	n/a	59.36	78.33	100.93	94.25	n/a	n/a	77.62
Count of Age Category	n/a	22.00	12.00	14.00	4.00	n/a	n/a	52.00
Percent Age Composition	n/a	0.42	0.23	0.27	0.08	n/a	n/a	1.00
Percent Female	n/a	0.36	0.58	0.50	0.25	n/a	n/a	0.44
Percent Male	n/a	0.64	0.42	0.50	0.75	n/a	n/a	0.56
Niquette Harbor Spawning Ground Survey April 11, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	141.00	162.18	187.00	192.92	194.88	202.83	229.00	189.98
Average Weight (g)	34.00	50.65	76.50	82.82	89.56	101.48	155.00	82.79
Count of Age Category	1.00	17.00	14.00	38.00	16.00	23.00	2.00	111.00
Percent Age Composition	0.01	0.15	0.13	0.34	0.14	0.21	0.02	1.00
Percent Female	0.00	0.65	0.43	0.61	0.38	0.30	1.00	0.50
Percent Male	1.00	0.35	0.57	0.39	0.63	0.70	0.00	0.50

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Village Island Spawning Ground Survey April 11, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	166.00	169.44	178.25	189.00	192.33	199.70	208.00	186.32
Average Weight (g)	55.00	59.19	67.50	83.57	88.28	107.60	117.50	82.18
Count of Age Category	1.00	16.00	4.00	14.00	18.00	10.00	2.00	65.00
Percent Age Composition	0.02	0.25	0.06	0.22	0.28	0.15	0.03	1.00
Percent Female	0.00	0.56	0.75	0.71	0.78	0.60	0.00	0.65
Percent Male	1.00	0.44	0.25	0.29	0.22	0.40	1.00	0.35
West Behm 2000								
Survey Point Spawning Ground Survey April 4, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	138.50	170.05	188.00	191.57	196.40	192.58	179.00	185.28
Average Weight (g)	28.50	64.10	88.33	97.29	102.47	98.08	78.50	87.01
Count of Age Category	2.00	20.00	9.00	21.00	15.00	12.00	2.00	81.00
Percent Age Composition	0.02	0.25	0.11	0.26	0.19	0.15	0.02	1.00
Percent Female	0.00	0.45	0.44	0.67	0.53	0.50	1.00	0.53
Percent Male	1.00	0.55	0.56	0.33	0.47	0.50	0.00	0.47
Raymon Cove Spawning Ground Survey April 10, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	170.25	173.80	197.12	207.83	200.00	n/a	190.90
Average Weight (g)	n/a	54.63	59.20	88.06	106.33	100.67	n/a	82.08
Count of Age Category	n/a	8.00	10.00	17.00	12.00	3.00	n/a	50.00
Percent Age Composition	n/a	0.16	0.20	0.34	0.24	0.06	n/a	1.00
Percent Female	n/a	0.38	0.30	0.35	0.08	0.67	n/a	0.30
Percent Male	n/a	0.63	0.70	0.65	0.92	0.33	n/a	0.70
Tongass Narrows Spawning Ground Survey April 10, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	137.33	164.73	176.57	193.57	202.24	206.75	n/a	184.93
Average Weight (g)	26.67	53.60	63.71	88.52	104.76	108.25	n/a	79.04
Count of Age Category	3.00	15.00	14.00	21.00	17.00	4.00	n/a	74.00
Percent Age Composition	0.04	0.20	0.19	0.28	0.23	0.05	n/a	1.00
Percent Female	0.00	0.27	0.21	0.43	0.47	1.00	n/a	0.38
Percent Male	1.00	0.73	0.79	0.57	0.53	0.00	n/a	0.62
West Behm Combined Spawning Ground Survey April 4-12, 2000 Cast Net								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	139.50	165.08	177.86	191.43	200.14	198.34	187.33	185.23
Average Weight (g)	30.40	53.02	69.38	88.55	104.67	107.34	88.33	82.06
Count of Age Category	10.00	110.00	85.00	159.00	116.00	44.00	3.00	527.00
Percent Age Composition	0.02	0.21	0.16	0.30	0.22	0.08	0.01	1.00
Percent Female	0.10	0.27	0.38	0.48	0.39	0.52	1.00	0.40
Percent Male	0.90	0.73	0.62	0.52	0.61	0.48	0.00	0.60
Port Houghton Commercial Bait December 5, 1999 Seine F/V Haida Chief								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	151.00	164.25	173.25	167.00	192.00	207.00	n/a	165.25
Average Weight (g)	53.00	60.33	76.25	64.00	82.00	117.00	n/a	61.77
Count of Age Category	1.00	88.00	4.00	1.00	1.00	1.00	n/a	96.00
Percent Age Composition	0.01	0.92	0.04	0.01	0.01	0.01	n/a	1.00
Percent Female	1.00	0.64	0.25	1.00	0.00	1.00	n/a	0.63
Percent Male	0.00	0.30	0.50	0.00	1.00	0.00	n/a	0.30
Percent Unknown	0.00	0.07	0.25	0.00	0.00	0.00	n/a	0.07

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Port Houghton Commercial Bait December 5, 1999 Seine F/V Pacific Sea								
Age Category	2	3	4	5	6.00	7.00	8+	Total
Average Length (mm)	143.67	161.46	165.80	169.00	n/a	n/a	n/a	161.28
Average Weight (g)	35.67	56.23	61.00	59.50	n/a	n/a	n/a	55.88
Count of Age Category	3.00	80.00	5.00	2.00	n/a	n/a	n/a	90.00
Percent Age Composition	0.03	0.89	0.06	0.02	n/a	n/a	n/a	1.00
Percent Female	0.00	0.53	0.80	0.50	n/a	n/a	n/a	0.52
Percent Male	0.67	0.45	0.20	0.00	n/a	n/a	n/a	0.43
Percent Unknown	0.33	0.03	0.00	0.50	n/a	n/a	n/a	0.04
Hobart Bay Commercial Bait December 6, 1999 Seine, F/V Jamboree								
Age Category	2	3	4	5.00	6.00	7.00	8+	Total
Average Length (mm)	160.20	162.25	174.67	n/a	n/a	n/a	n/a	162.63
Average Weight (g)	53.20	58.59	78.00	n/a	n/a	n/a	n/a	59.03
Count of Age Category	5.00	63.00	3.00	n/a	n/a	n/a	n/a	71.00
Percent Age Composition	0.07	0.89	0.04	n/a	n/a	n/a	n/a	1.00
Percent Female	0.40	0.52	0.67	n/a	n/a	n/a	n/a	0.52
Percent Male	0.60	0.48	0.33	n/a	n/a	n/a	n/a	0.48
Herring Lagoon Spawning Ground Survey April 30, 2000 Cast Net Pre-spawn								
Age Category	2	3	4.00	5	6	7	8+	Total
Average Length (mm)	n/a	169.25	n/a	189.00	194.58	200.42	198.92	197.19
Average Weight (g)	n/a	73.00	n/a	110.00	110.92	124.60	121.67	118.64
Count of Age Category	n/a	4.00	n/a	2.00	12.00	43.00	12.00	73.00
Percent Age Composition	n/a	0.05	n/a	0.03	0.16	0.59	0.16	1.00
Percent Female	n/a	0.75	n/a	1.00	0.42	0.49	0.17	0.45
Percent Male	n/a	0.25	n/a	0.00	0.58	0.51	0.83	0.55
Hobart Bay Spawning Ground Survey May 2, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	160.25	179.83	187.52	199.16	202.96	202.24	197.40
Average Weight (g)	n/a	54.10	70.50	81.87	99.72	108.66	108.67	100.05
Count of Age Category	n/a	20.00	6.00	23.00	58.00	157.00	21.00	285.00
Percent Age Composition	n/a	0.07	0.02	0.08	0.20	0.55	0.07	1.00
Percent Female	n/a	0.55	0.17	0.26	0.43	0.39	0.33	0.39
Percent Male	n/a	0.45	0.83	0.74	0.57	0.61	0.67	0.61
Sitka Sound 2000								
Media Test Set January 6, 2000 Otter Trawl Prefishery								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	158.00	183.62	191.76	205.55	213.59	222.78	216.57	203.54
Average Weight (g)	43.00	82.11	91.78	116.43	138.39	152.72	161.71	116.33
Count of Age Category	1.00	66.00	45.00	168.00	111.00	18.00	7.00	416.00
Percent Age Composition	0.00	0.16	0.11	0.40	0.27	0.04	0.02	1.00
Percent Female	0.00	0.48	0.38	0.45	0.43	0.28	0.29	0.43
Percent Male	1.00	0.52	0.62	0.55	0.57	0.72	0.71	0.57
Harbor Pt. Commercial Sac Roe March 22, 2000 Purse Seine Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	181.26	199.22	210.91	220.08	221.80	239.00	207.71
Average Weight (g)	n/a	78.11	111.44	130.79	152.68	151.60	201.67	127.48
Count of Age Category	n/a	19.00	9.00	33.00	25.00	5.00	3.00	94.00
Percent Age Composition	n/a	0.20	0.10	0.35	0.27	0.05	0.03	1.00
Percent Female	n/a	0.53	0.33	0.52	0.36	0.20	1.00	0.46
Percent Male	n/a	0.42	0.67	0.48	0.64	0.80	0.00	0.53
Percent Unknown	n/a	0.05	0.00	0.00	0.00	0.00	0.00	0.01

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Sitka Sound Sac Roe March 22, 2000 Purse Seine Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	138.00	193.56	203.60	212.47	219.75	228.06	234.50	213.65
Average Weight (g)	28.00	95.11	118.30	134.90	149.82	165.25	168.75	137.17
Count of Age Category	1.00	18.00	10.00	73.00	51.00	16.00	4.00	173.00
Percent Age Composition	0.01	0.10	0.06	0.42	0.29	0.09	0.02	1.00
Percent Female	0.00	0.50	0.70	0.55	0.47	0.44	0.50	0.51
Percent Male	0.00	0.50	0.30	0.45	0.53	0.56	0.50	0.48
Percent Unknown	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
E. Shore Middle Is. Spawning Ground Survey March 24, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	192.75	192.00	211.33	215.89	229.00	n/a	211.93
Average Weight (g)	n/a	100.50	84.00	129.92	133.67	162.25	n/a	129.90
Count of Age Category	n/a	4.00	1.00	12.00	9.00	4.00	n/a	30.00
Percent Age Composition	n/a	0.13	0.03	0.40	0.30	0.13	n/a	1.00
Percent Female	n/a	0.50	0.00	0.42	0.22	0.00	n/a	0.30
Percent Male	n/a	0.50	1.00	0.58	0.78	1.00	n/a	0.70
Katlian Bay Spawning Ground Survey March 24, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	183.50	192.00	209.78	223.11	228.33	251.00	215.64
Average Weight (g)	n/a	83.00	97.00	115.00	149.44	139.67	191.00	130.12
Count of Age Category	n/a	2.00	1.00	9.00	9.00	3.00	1.00	25.00
Percent Age Composition	n/a	0.08	0.04	0.36	0.36	0.12	0.04	1.00
Percent Female	n/a	0.50	0.00	0.22	0.67	1.00	1.00	0.52
Percent Male	n/a	0.50	1.00	0.78	0.33	0.00	0.00	0.48
Thompson Harbor Spawning Ground Survey March 24, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	179.11	193.00	200.40	219.71	221.00	232.00	200.00
Average Weight (g)	n/a	72.44	84.00	110.30	144.43	155.00	151.00	108.83
Count of Age Category	n/a	9.00	1.00	10.00	7.00	1.00	1.00	29.00
Percent Age Composition	n/a	0.31	0.03	0.34	0.24	0.03	0.03	1.00
Percent Female	n/a	0.22	0.00	0.30	0.57	1.00	0.00	0.34
Percent Male	n/a	0.78	1.00	0.70	0.43	0.00	1.00	0.66
S. Crow Is. Spawning Ground Survey March 25, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	184.00	196.50	205.13	215.00	214.00	n/a	200.85
Average Weight (g)	n/a	77.00	95.50	118.19	142.50	134.00	n/a	109.74
Count of Age Category	n/a	6.00	2.00	16.00	2.00	1.00	n/a	27.00
Percent Age Composition	n/a	0.22	0.07	0.59	0.07	0.04	n/a	1.00
Percent Female	n/a	0.17	0.00	0.38	0.50	0.00	n/a	0.30
Percent Male	n/a	0.67	1.00	0.56	0.50	1.00	n/a	0.63
Percent Unknown	n/a	0.17	0.00	0.06	0.00	0.00	n/a	0.07
W. Kasiana Is. Spawning Ground Survey March 26, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	187.75	n/a	210.06	220.25	n/a	226.00	208.76
Average Weight (g)	n/a	83.75	n/a	124.63	132.25	n/a	137.00	119.80
Count of Age Category	n/a	4.00	n/a	16.00	4.00	n/a	1.00	25.00
Percent Age Composition	n/a	0.16	n/a	0.64	0.16	n/a	0.04	1.00
Percent Female	n/a	0.25	n/a	0.38	0.00	n/a	0.00	0.28
Percent Male	n/a	0.75	n/a	0.63	1.00	n/a	1.00	0.72

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W. Crow Is. Spawning Ground Survey March 27, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	190.67	210.00	213.44	220.00	220.00	n/a	212.39
Average Weight (g)	n/a	84.33	128.50	130.88	133.80	158.00	n/a	128.18
Count of Age Category	n/a	3.00	2.00	16.00	5.00	2.00	n/a	28.00
Percent Age Composition	n/a	0.11	0.07	0.57	0.18	0.07	n/a	1.00
Percent Female	n/a	0.67	1.00	0.38	0.60	0.50	n/a	0.50
Percent Male	n/a	0.33	0.00	0.63	0.40	0.50	n/a	0.50
W. Middle Is. Spawning Ground Survey March 28, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3		5	6	7	8+	Total
Average Length (mm)	n/a	179.50	n/a	205.79	217.80	220.00	n/a	206.79
Average Weight (g)	n/a	76.25	n/a	109.93	134.20	128.00	n/a	114.28
Count of Age Category	n/a	4.00	n/a	14.00	10.00	1.00	n/a	29.00
Percent Age Composition	n/a	0.14	n/a	0.48	0.34	0.03	n/a	1.00
Percent Female	n/a	0.25	n/a	0.29	0.20	0.00	n/a	0.24
Percent Male	n/a	0.75	n/a	0.71	0.80	1.00	n/a	0.76
Sealing Harbor Is. March 29, 2000 Cast Net Post Fishery Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	186.43	204.33	207.44	219.25	n/a	233.50	205.07
Average Weight (g)	n/a	80.43	106.33	111.11	143.50	n/a	181.00	112.04
Count of Age Category	n/a	7.00	6.00	9.00	4.00	n/a	2.00	28.00
Percent Age Composition	n/a	0.25	0.21	0.32	0.14	n/a	0.07	1.00
Percent Female	n/a	0.29	0.33	0.33	0.00	n/a	0.00	0.25
Percent Male	n/a	0.71	0.67	0.67	1.00	n/a	1.00	0.75
Hoonah Sound 2000								
Ford Pihlman Spawning Ground Survey May 1, 2000 Herring Pound in Fishery active spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	176.42	182.56	194.82	196.13	202.50	223.00	188.31
Average Weight (g)	n/a	59.02	69.25	81.27	91.00	99.17	125.00	77.13
Count of Age Category	n/a	45.00	16.00	11.00	23.00	24.00	1.00	120.00
Percent Age Composition	n/a	0.38	0.13	0.09	0.19	0.20	0.01	1.00
Percent Female	n/a	0.02	0.00	0.00	0.13	0.08	0.00	0.05
Percent Male	n/a	0.98	1.00	1.00	0.87	0.92	1.00	0.95
E. Vixen Is. #2 April 2, 2000 Castnet in fishery post spawn survey								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	176.08	181.00	200.00	204.45	207.48	n/a	192.39
Average Weight (g)	n/a	67.92	74.11	106.25	114.09	121.95	n/a	95.01
Count of Age Category	n/a	25.00	9.00	8.00	11.00	21.00	n/a	74.00
Percent Age Composition	n/a	0.34	0.12	0.11	0.15	0.28	n/a	1.00
Percent Female	n/a	0.44	0.78	0.63	0.82	0.38	n/a	0.54
Percent Male	n/a	0.56	0.22	0.38	0.18	0.62	n/a	0.46
Rodgers Pt. Spawning Survey April 28, 2000 Castnet in fishery post spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	183.27	185.10	200.50	207.72	206.51	228.00	202.08
Average Weight (g)	n/a	80.64	78.70	102.25	113.84	113.57	162.33	106.87
Count of Age Category	n/a	11.00	10.00	4.00	25.00	37.00	3.00	90.00
Percent Age Composition	n/a	0.12	0.11	0.04	0.28	0.41	0.03	1.00
Percent Female	n/a	0.27	0.80	0.75	0.44	0.59	0.33	0.53
Percent Male	n/a	0.73	0.20	0.25	0.56	0.41	0.67	0.47

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Tenakee Inlet 2000								
Tenakee Inlet Test Fishery November 29, 1999 Otter Trawl Pre-fishery								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	177.07	187.80	193.33	195.15	200.45	195.00	188.56
Average Weight (g)	n/a	72.68	87.00	99.33	95.62	112.00	103.00	91.24
Count of Age Category	n/a	71.00	5.00	3.00	13.00	60.00	1.00	153.00
Percent Age Composition	n/a	0.46	0.03	0.02	0.08	0.39	0.01	1.00
Percent Female	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Percent Male	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Percent Unknown	n/a	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Tenakee Inlet Commercial Bait December 3, 1999 Purse Seine Dockside								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	172.04	176.00	163.50	188.17	188.87	n/a	176.26
Average Weight (g)	n/a	67.27	75.11	56.50	97.00	97.07	n/a	75.02
Count of Age Category	n/a	55.00	9.00	2.00	6.00	15.00	n/a	87.00
Percent Age Composition	n/a	0.63	0.10	0.02	0.07	0.17	n/a	1.00
Percent Female	n/a	0.31	0.44	0.00	0.17	0.33	n/a	0.31
Percent Male	n/a	0.67	0.44	0.50	0.83	0.67	n/a	0.66
Percent Unknown	n/a	0.02	0.11	0.50	0.00	0.00	n/a	0.03
Tenakee Inlet Commercial Bait December 3, 1999 Purse Seine Dockside F/V Grace C								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	146.00	170.59	170.31	167.50	183.30	187.17	n/a	173.93
Average Weight (g)	40.00	67.78	66.77	62.00	89.50	99.42	n/a	74.24
Count of Age Category	2.00	41.00	13.00	2.00	10.00	12.00	n/a	80.00
Percent Age Composition	0.03	0.51	0.16	0.03	0.13	0.15	n/a	1.00
Percent Female	0.50	0.41	0.23	0.50	0.50	0.50	n/a	0.41
Percent Male	0.50	0.51	0.69	0.50	0.50	0.50	n/a	0.54
Percent Unknown	0.00	0.07	0.08	0.00	0.00	0.00	n/a	0.05
Basket Bay Spawning Ground Survey April 28, 2000 Cast Net Active Spawn								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	174.44	179.62	197.48	199.18	204.29	207.20	195.95
Average Weight (g)	n/a	67.33	72.85	103.32	103.73	116.63	126.10	101.55
Count of Age Category	n/a	48.00	26.00	25.00	71.00	129.00	10.00	309.00
Percent Age Composition	n/a	0.16	0.08	0.08	0.23	0.42	0.03	1.00
Percent Female	n/a	0.42	0.50	0.32	0.49	0.53	0.40	0.48
Percent Male	n/a	0.58	0.50	0.68	0.51	0.47	0.60	0.52
Seymour Canal Sac Roe May 5, 2000 Gillnet Dockside #2 F/V Is. Dancer								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	n/a	n/a	198.56	202.20	204.28	205.82	203.41
Average Weight (g)	n/a	n/a	n/a	106.67	113.63	115.89	126.00	115.53
Count of Age Category	n/a	n/a	n/a	9.00	30.00	61.00	11.00	111.00
Percent Age Composition	n/a	n/a	n/a	0.08	0.27	0.55	0.10	1.00
Percent Female	n/a	n/a	n/a	0.33	0.43	0.57	0.55	0.51
Percent Male	n/a	n/a	n/a	0.67	0.57	0.43	0.45	0.49
Seymour Canal Sac Roe May 5, 2000 Gillnet Dockside F/V Jennifer Lee								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	n/a	192.00	200.80	204.95	201.92	206.10	202.92
Average Weight (g)	n/a	n/a	100.00	115.60	123.45	121.20	130.60	122.23
Count of Age Category	n/a	n/a	1.00	5.00	20.00	51.00	10.00	87.00
Percent Age Composition	n/a	n/a	0.01	0.06	0.23	0.59	0.11	1.00
Percent Female	n/a	n/a	1.00	0.40	0.70	0.61	1.00	0.67
Percent Male	n/a	n/a	0.00	0.60	0.30	0.39	0.00	0.33

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Seymour Canal Combined Commercial Sac Roe May 5, 2000 Gillnet								
Age Category	2	3	4	5	6	7	8+	Total
Average Length (mm)	n/a	n/a	190.00	202.35	204.70	204.71	207.85	204.82
Average Weight (g)	n/a	n/a	97.50	112.77	119.24	120.99	129.19	120.75
Count of Age Category	n/a	n/a	2.00	31.00	105.00	239.00	47.00	424.00
Percent Age Composition	n/a	n/a	0.00	0.07	0.25	0.56	0.11	1.00
Percent Female	n/a	n/a	1.00	0.55	0.62	0.62	0.68	0.63
Percent Male	n/a	n/a	0.00	0.45	0.38	0.38	0.32	0.38

Appendix B. Spawn deposition survey data.

Sitka Sound — April 4-6, 2000

Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	BL cor	RL cor	DG cor	MP cor	KH cor
1	1	BL		0	0				
1	2	BL		0	0				
1	3	BL	fir	0	0				
1	4	BL	fir	0	0				
1	5	BL	fir	0	0				
1	6	BL	elg	0	0				
1	7	BL	elg	0	0				
1	8	BL	wdy	0	0				
1	9	BL	wdy	0	0				
1	10	BL		0	0				
1	11	BL		0	0				
1	12	BL	hir	0	0				
1	13	BL	lam	1	1.45				
1	14	BL	lam	1	1.45				
1	15	BL		0	0				
1	16	BL	lam	2	2.9				
2	1	RL	fuc	40		43.2			
2	2	RL	fuc	15		16.2			
2	3	RL	fuc	100		108			
2	4	RL	red	90		98.1			
2	5	RL	red	200		218			
2	6	RL	lam	30		33.9			
2	7	RL	mac	600		654			
2	8	RL	lam	2		2.26			
2	9	RL	mac	1000		1090			
2	10	RL	lam	15		16.95			
2	11	RL		3		3.27			
2	12	RL	lam	2		2.26			
2	13	RL	lam	2		2.26			
2	14	RL		20		21.8			
2	15	RL	lam	1		1.13			
2	16	RL		0		0			
2	16	RL		0		0			
3	1	BL	fuc	60	105.6				
3	2	BL	lam	10	14.5				
3	3	BL	lam	0	0				
3	4	BL	elg	30	33.6				
3	5	BL	lam	0	0				
3	6	BL	elg	20	22.4				
3	7	BL	lam	0	0				
3	8	BL	lam	0	0				
3	9	BL		0	0				
3	10	BL		0	0				
3	11	BL	lam	0	0				
3	12	BL	lam	0	0				

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	BL cor	RL cor	DG cor	MP cor	KH cor
3	13	BL	lam	0	0				
3	14	BL	lam	0	0				
3	15	BL		0	0				
3	16	BL	lam	0	0				
3	17	BL		0	0				
3	18	BL		0	0				
4	1	KH	fuc	140					204.4
4	3	RL	fuc	25		27			
4	5	RL	lam	30		33.9			
4	7	RL	lam	0		0			
4	9	RL	lam	0		0			
5	1	DG	fuc	30			42.6		
5	2	DG	fuc	1			1.42		
5	3	DG	fuc	1			1.42		
5	4	DG	fuc	8			11.36		
5	5	DG		1			1.22		
5	6	DG	fir	50			61		
5	7	DG	elg	80			84.8		
5	8	DG	agm	40			56.8		
5	9	DG	lam	20			28.4		
5	10	DG	lam	1			1.42		
5	11	DG	agm	2			2.84		
5	12	DG	lam	0			0		
5	13	DG	lam	10			14.2		
5	14	DG	lam	35			49.7		
5	15	DG		0			0		
5	16	DG	lam	1			1.42		
5	17	DG	red	1			1.22		
5	18	DG	lam	25			35.5		
5	19	DG	lam	6			8.52		
5	20	DG		0			0		
5	21	DG	lam	40			56.8		
5	22	DG	lam	0			0		
5	23	DG		0			0		
5	24	DG		0			0		
5	25	DG		0			0		
5	26	DG	lam	10			14.2		
5	27	DG		0			0		
5	28	DG		0			0		
5	29	DG		0			0		
6	1	MP		0				0	
6	2	MP	fuc	0				0	
6	3	MP	cod	10				10.6	
6	4	MP		40				42.4	
6	5	MP	lam	60				63.6	
6	6	MP		10				10.6	
6	7	MP		4				4.24	

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	BL cor	RL cor	DG cor	MP cor	KH cor
6	8	MP		1				1.06	
6	9	MP		5				5.3	
6	10	MP		1				1.06	
6	11	MP		0				0	
6	12	MP		0				0	
6	13	MP		0				0	
6	14	MP	lam	20				21.2	
6	15	MP		1				1.06	
6	16	MP		0				0	
6	17	MP		0				0	
6	18	MP		0				0	
6	19	MP	agm	60				63.6	
6	20	MP	agm	15				15.9	
6	21	MP		0				0	
6	22	MP		0				0	
7	1	MP	fuc	10				14.2	
7	2	MP	fuc	350				497	
7	3	MP	fir	120				127.2	
7	4	MP	lam	200				212	
7	5	MP	lam	20				21.2	
7	6	MP	lam	10				10.6	
7	7	MP		0				0	
7	8	MP		0				0	
7	9	MP		0				0	
8	1	MP	fuc	40				56.8	
8	2	MP	fuc	260				369.2	
8	3	MP	lam	100				106	
8	4	MP	lam	120				127.2	
8	5	MP	lam	15				15.9	
8	6	MP	lam	20				21.2	
8	7	MP	lam	30				31.8	
8	8	MP	lam	3				3.18	
8	9	MP	lam	15				15.9	
8	10	MP		0				0	
8	11	MP		0				0	
9	1	RL	fuc	150		162			
9	3	KH	lam	140					138.6
9	5	KH	lam	80					79.2
9	7	KH	lam	25					24.75
9	9	KH	lam	125					123.8
9	11	KH	lam	110					108.9
9	13	KH	lam	175					173.3
9	15	KH	lam	8					7.92
9	17	KH		40					44
9	19	KH		8					8.8
10	1	BL	fir	15	17.4				
10	2	BL	fir	120	139.2				

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	BL cor	RL cor	DG cor	MP cor	KH cor
10	3	RL	lam	35		39.55			
10	4	RL	elg	100		101			
10	5	RL	lam	1		1.13			
10	6	RL		0		0			
10	7	RL		0		0			
11	1	DG	fuc	0			0		
11	2	DG	fuc	0			0		
11	3	DG	fuc	300			426		
11	4	DG	lam	150			213		
11	5	DG	red	140			170.8		
11	6	DG	fil	100			122		
11	7	DG	lam	120			170.4		
11	8	DG	fir	150			183		
11	9	DG	lam	50			71		
11	10	DG	agm	25			35.5		
11	11	DG	agm	80			113.6		
11	12	DG	agm	5			7.1		
11	13	DG	agm	5			7.1		
11	14	DG	agm	40			56.8		
11	15	DG	agm	100			142		
11	16	DG	agm	120			170.4		
11	17	DG		2			2.44		
11	18	DG		0			0		
12	1	MP		40				42.4	
12	2	MP	fuc	150				213	
12	3	MP		80				84.8	
12	4	MP	fir	180				190.8	
12	5	MP	fir	275				291.5	
12	6	MP	lbk	60				63.6	
12	7	MP	red	40				42.4	
12	8	MP	agm	50				53	
12	9	MP	agm	20				21.2	
12	10	MP	lam	50				53	
12	11	MP	lam	40				42.4	
12	12	MP	lam	30				31.8	
12	13	MP	lam	30				31.8	
12	14	MP	lam	25				26.5	
12	15	MP	lam	20				21.2	
12	16	MP	lam	10				10.6	
12	17	MP		0				0	
12	18	MP		0				0	
13	1	KH		0					0
13	2	KH	fuc	10					14.6
13	3	KH	fir	7					7.7
13	4	KH	elg	110					121
13	5	KH	elg	100					110
13	6	KH	elg	45					49.5

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	BL cor	RL cor	DG cor	MP cor	KH cor
13	7	KH	elg	100					110
13	8	KH	elg	90					99
13	9	KH	elg	80					88
13	10	KH	elg	90					99
13	11	KH	elg	70					77
13	12	KH	elg	90					99
13	13	KH	lam	4					3.96
13	14	KH	elg	25					27.5
13	15	KH	elg	120					132
14	1	MP		0				0	
14	2	MP	fuc	2				2.84	
14	3	MP	fuc	50				71	
14	4	MP	fuc	30				42.6	
14	5	MP	fir	40				42.4	
14	6	MP	hir	20				22.8	
14	7	MP	hir	700				798	
14	8	MP		0				0	
14	9	MP	hir	50				57	
14	10	MP		2				2.12	
14	11	MP	hir	150				171	
14	12	MP		1				1.06	
14	13	MP		5				5.3	
14	14	MP		2				2.12	
14	15	MP		0				0	
14	16	MP		0				0	
15	1	DG	fuc	0			0		
15	2	DG	cor	0			0		
15	3	DG	lam	30			42.6		
15	4	DG		25			30.5		
15	5	DG	red	3			3.66		
15	6	DG	hir	0			0		
15	7	DG	red	0			0		
15	8	DG	red	0			0		
15	9	DG	red	0			0		
16	1	KH	fuc	2					2.92
16	2	KH	red	250					275
16	3	KH	red	400					440
16	4	KH	hir	450					459
16	5	KH	lam	90					89.1
16	6	KH	lam	60					59.4
16	7	KH	lam	100					99
16	8	KH	red	65					71.5
16	9	KH	lam	90					89.1
16	10	KH	lam	150					148.5
16	11	KH	lam	50					49.5
16	12	KH	lam	20					19.8
16	13	KH	lam	1					0.99
16	14	KH	lam	15					14.85

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	BL cor	RL cor	DG cor	MP cor	KH cor
16	15	KH	lam	3					2.97
16	16	KH	lam	20					19.8
16	17	KH	lam	0					0
16	18	KH	lam	0					0
16	19	KH	lam	80					79.2
16	20	KH	lam	2					1.98
16	21	KH	lam	0					0
16	22	KH	lam	100					99
16	23	KH	lam	15					14.85
16	24	KH	lam	80					79.2
16	25	KH	lam	1					0.99
16	26	KH	lam	5					4.95
16	27	KH		5					5.5
16	28	KH		0					0
17	1	BL	fuc	0	0				
17	2	BL	fir	300	348				
17	3	BL	fir	250	290				
17	4	BL	hir	800	1064				
17	5	BL	hir	800	1064				
17	6	BL	lam	30	43.5				
17	7	BL	hir	400	532				
17	8	BL	lam	40	58				
17	9	BL	hir	15	19.95				
17	10	BL	hir	150	199.5				
17	11	BL	lam	3	4.35				
17	12	BL	lam	5	7.25				
17	13	BL	lam	30	43.5				
17	14	BL	hir	12	15.96				
17	15	BL	lam	5	7.25				
17	16	BL	hir	100	133				
17	17	BL		2	2.32				
17	18	BL	hir	25	33.25				
17	19	BL	lam	60	87				
17	20	BL	lam	80	116				
17	21	BL		1	1.16				
17	22	BL		0	0				
17	23	BL	hir	15	19.95				
17	24	BL	lam	1	1.45				
17	25	BL		0	0				
17	26	BL	lam	5	7.25				
17	27	BL		0	0				
17	28	BL	lam	40	58				
17	29	BL		40	46.4				
17	30	BL		40	46.4				
17	31	BL		2	2.32				
17	32	BL	lam	1	1.45				
17	33	BL	red	0	0				

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	BL cor	RL cor	DG cor	MP cor	KH cor
17	34	BL		0	0				
17	35	BL		40	46.4				
17	36	BL		30	34.8				
17	37	BL		5	5.8				
17	38	BL		0	0				
17	39	BL	lam	30	43.5				
17	40	BL	lam	10	14.5				
17	41	BL		0	0				
17	42	BL	lam	25	36.25				
17	43	BL	lam	60	87				
17	44	BL	lam	40	58				
17	45	BL	lam	25	36.25				
17	46	BL		0	0				
17	47	BL		0	0				
17	48	BL		0	0				
18	1	MP	red	10				10.6	
18	3	MP	lam	110				116.6	
18	5	MP	lam	5				5.3	
18	7	MP		0				0	
18	9	MP	red	10				10.6	
18	11	MP	lbk	3				3.18	
18	13	MP	lam	30				31.8	
18	15	MP	lam	8				8.48	
18	17	MP		0				0	
18	19	MP		0				0	
18	21	MP	lam	0				0	
19	1	BL	fuc	0	0				
19	2	BL	fir	100	116				
19	3	BL		1	1.16				
19	4	BL	agm	2	2.9				
19	5	BL	agm	25	36.25				
19	6	BL	agm	25	36.25				
19	7	BL	agm	10	14.5				
19	8	BL		0	0				
19	9	BL		0	0				
20	1	BL		40	46.4				
20	2	BL		2	2.32				
20	3	BL	fuc	320	563.2				
20	4	BL	elg	100	112				
20	5	BL	elg	150	168				
20	6	BL	elg	40	44.8				
20	7	BL	elg	160	179.2				
20	8	BL	elg	80	89.6				
20	9	BL	elg	200	224				
20	10	BL	elg	150	168				
20	11	BL	elg	200	224				
20	12	BL	elg	200	224				
20	13	BL	elg	100	112				

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	BL cor	RL cor	DG cor	MP cor	KH cor
20	14	BL		0	0				
20	15	BL	elg	5	5.6				
20	16	BL		0	0				
20	17	BL		0	0				
20	18	BL		0	0				
20	19	BL		0	0				
20	20	BL		0	0				
20	21	BL		0	0				
20	22	BL		0	0				
21	1	MP	fuc	15				21.3	
21	2	MP	fuc	10				14.2	
21	3	KH	lam	90					89.1
21	4	KH	lam	25					24.75
21	5	KH	lam	5					4.95
21	6	KH	lam	15					14.85
21	7	KH	lam	1					0.99
21	8	KH	lam	0					0
21	9	KH	lam	0					0
21	10	KH	lam	0					0
22	1	BL	fuc	0	0				
22	2	BL		0	0				
22	3	BL	agm	20	29				
22	4	BL		0	0				
22	5	BL	agm	7	10.15				
22	6	BL	agm	70	101.5				
22	7	BL	lam	25	36.25				
22	8	BL		0	0				
23	1	MP	fuc	1				1.42	
23	2	MP		0				0	
23	3	MP		0				0	
23	4	MP		0				0	
23	5	MP		0				0	
24	1	RL	fuc	0		0			
24	2	RL	fil	100		109			
24	3	RL	ala	20		22.6			
24	4	RL	ala	120		135.6			
24	5	RL	agm	15		16.95			
24	6	RL	red	0		0			
24	7	RL	lam	60		67.8			
24	8	RL	lam	10		11.3			
24	9	RL	red	0		0			
24	10	RL	lam	20		22.6			
24	11	RL	agm	2		2.26			
24	12	RL	agm	1		1.13			
24	13	RL	agm	50		56.5			
24	14	RL	lam	15		16.95			
24	15	RL	lam	7		7.91			

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	BL cor	RL cor	DG cor	MP cor	KH cor
24	16	RL	lam	1		1.13			
24	17	RL		0		0			
25	1	BL		0	0				
25	2	BL	mac	0	0				
25	3	BL	lam	0	0				
25	4	BL	lam	0	0				
25	5	BL	lam	0	0				
25	6	BL	lam	10	14.5				
25	7	BL	lam	20	29				
25	8	BL	lam	2	2.9				
25	9	BL		0	0				
25	10	BL		0	0				
25	11	BL	lam	40	58				
25	12	BL	lam	60	87				
25	13	BL	lam	30	43.5				
25	14	BL	lam	5	7.25				
25	15	BL	lam	2	2.9				
25	16	BL		70	81.2				
26	1	RL	fuc	40		43.2			
26	2	RL		0		0			
26	3	KH	fuc	5					7.3
26	4	KH	elg	1					1.1
26	5	KH	elg	0					0
26	6	KH		0					0
26	7	KH		0					0
27	1	DG	fuc	40			56.8		
27	2	DG		5			6.1		
27	3	DG		0			0		
27	4	DG	lam	0			0		
28	1	RL		1		1.09			
28	2	RL		1		1.09			
28	3	RL		2		2.18			
28	4	RL		3		3.27			
28	5	RL	elg	100		101			
28	6	RL	elg	350		353.5			
28	7	RL	elg	100		101			
28	8	RL	elg	500		505			
28	9	RL	elg	90		90.9			
28	10	RL	elg	700		707			
28	11	RL	fir	300		327			
28	12	RL	lam	250		282.5			
28	13	RL	lam	200		226			
28	14	RL	lam	50		56.5			
28	15	RL	elg	120		121.2			
28	16	RL	elg	400		404			
28	17	RL	elg	300		303			
28	18	RL	elg	350		353.5			

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	BL cor	RL cor	DG cor	MP cor	KH cor
28	19	RL	elg	350		353.5			
28	20	RL	elg	225		227.25			
28	21	RL		0		0			
28	22	RL	elg	3		3.03			
28	23	RL		0		0			
28	24	RL		0		0			
28	25	RL		0		0			
28	26	RL		0		0			
29	1	RL	fuc	1		1.08			
29	2	RL	fir	120		130.8			
29	3	RL	cor	60		65.4			
29	4	RL	elg	550		555.5			
29	5	RL	cor	150		163.5			
29	6	RL	hir	200		260			
29	7	RL		400		436			
29	8	RL	lam	10		11.3			
29	9	RL	lam	10		11.3			
29	10	RL	lam	20		22.6			
29	11	RL	lam	40		45.2			
29	12	RL	lam	40		45.2			
29	13	RL	lam	100		113			
29	14	RL	lam	60		67.8			
29	15	RL	lam	100		113			
29	16	RL	lam	80		90.4			
29	17	RL	lam	15		16.95			
29	18	RL	agm	50		56.5			
29	19	RL	cor	5		5.45			
29	20	RL	red	1		1.09			
29	21	RL	red	1		1.09			
29	22	RL	red	1		1.09			

Craig — April 13-14, 2000

Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	PD cor	RL cor	SW	MP cor	KH cor
1	1	SW	fil	10			9.3		
1	2	SW	fir	20			18.6		
1	3	SW	mac	30			27.9		
1	4	SW	mac	20			18.6		
1	5	SW	agm	10			11.4		
1	6	SW		0			0		
1	7	SW	red	2			1.86		
1	8	SW	mac	3			2.79		
1	9	SW		0			0		
1	10	SW	mac	2			1.86		
1	11	SW	fil	0			0		
1	12	SW	agm	0			0		
1	13	SW	fil	0			0		
1	14	SW		0			0		

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	PD cor	RL cor	SW	MP cor	KH cor
1	15	SW		0			0		
1	16	SW		0			0		
1	17	SW	lam	0			0		
1	18	SW		0			0		
2	1	KH		50					55
2	2	KH	mac	5					5.5
2	3	KH	cor	10					11
2	4	KH	cor	2					2.2
2	5	KH	fil	15					16.5
2	6	KH	red	10					11
2	7	KH	red	45					49.5
2	8	KH	mac	5					5.5
2	9	KH	mac	20					22
2	10	KH	agm	40					39.6
2	11	KH	agm	10					9.9
2	12	KH	agm	15					14.85
2	13	KH	mac	2					2.2
2	14	KH	mac	25					27.5
2	15	KH	mac	150					165
2	16	KH	lam	0					0
2	17	KH	agm	1					0.99
2	18	KH	agm	1					0.99
2	19	KH	lam	0					0
2	20	KH	mac	1					1.1
2	21	KH	mac	0					0
2	22	KH	agm	1					0.99
2	23	KH	agm	0					0
2	24	KH	lam	0					0
2	25	KH	lam	0					0
3	1	SW	elg	0			0		
3	2	SW	lam	5			5.7		
3	3	SW	mac	15			13.95		
3	4	SW	lam	2			2.28		
3	5	SW	red	10			9.3		
3	6	SW	lam	2			2.28		
3	7	SW	red	0			0		
3	8	SW	red	0			0		
3	9	SW	red	0			0		
3	10	SW	agm	0			0		
3	11	SW	red	0			0		
4	1	KH	ulv	0					0
4	2	KH	cor	8					8.8
4	3	KH	cor	10					11
4	4	KH	mac	20					22
4	5	KH	mac	3					3.3
4	6	KH	red	20					22

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	PD cor	RL cor	SW	MP cor	KH cor
4	7	KH	cor	0					0
4	8	KH	red	15					16.5
4	9	KH	agm	30					29.7
4	10	KH	mac	80					88
4	11	KH	agm	10					9.9
4	12	KH	fil	0					0
4	13	KH	agm	0					0
4	14	KH	agm	0					0
4	15	KH		0					0
4	16	KH	agm	0					0
4	17	KH	agm	0					0
4	18	KH	agm	4					3.96
4	19	KH	agm	0					0
4	20	KH	agm	1					0.99
4	21	KH	agm	0					0
4	22	KH	agm	0					0
4	23	KH	agm	0					0
4	24	KH	elg	0					0
4	25	KH	lam	2					1.98
5	1	MP	fil	40				42.4	
5	2	MP	fil	50				53	
5	3	MP	fil	30				31.8	
5	4	MP	fil	10				10.6	
5	5	MP	fil	15				15.9	
5	6	MP	fil	5				5.3	
5	7	MP	cor	100				106	
5	8	MP	cor	50				53	
5	9	MP	cor	50				53	
5	10	MP	cor	50				53	
5	11	MP	cor	60				63.6	
5	12	MP	cor	70				74.2	
5	13	MP	cor	50				53	
5	14	MP	cor	60				63.6	
5	15	MP	cor	50				53	
5	16	MP	cor	80				84.8	
5	17	MP	cor	40				42.4	
5	18	MP	cor	150				159	
5	19	MP	cor	100				106	
5	20	MP	cor	20				21.2	
5	21	MP	lam	40				42.4	
5	22	MP	elg	5				4.45	
5	23	MP	elg	2				1.78	
5	24	MP	elg	3				2.67	
5	25	MP	elg	5				4.45	
5	26	MP	elg	2				1.78	
5	27	MP	elg	2				1.78	

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	PD cor	RL cor	SW	MP cor	KH cor
5	28	MP	elg	5				4.45	
5	29	MP	elg	2				1.78	
5	30	MP	elg	0				0	
5	31	MP	elg	2				1.78	
5	32	MP	elg	5				4.45	
5	33	MP	elg	10				8.9	
5	34	MP	lam	10				10.6	
5	35	MP	lam	5				5.3	
5	36	MP	elg	5				4.45	
5	37	MP	elg	1				0.89	
5	38	MP	lam	0				0	
5	39	MP	red	30				31.8	
5	40	MP	agm	40				42.4	
5	41	MP	red	30				31.8	
5	42	MP	agm	30				31.8	
5	43	MP	agm	80				84.8	
5	44	MP	red	30				31.8	
5	45	MP	lam	40				42.4	
5	46	MP	lam	30				31.8	
5	47	MP	fil	250				265	
5	48	MP	lam	100				106	
5	49	MP	fil	20				21.2	
5	50	MP	lam	70				74.2	
5	51	MP	lam	30				31.8	
6	1	MP	fuc	15				21.3	
6	2	MP	elg	80				71.2	
6	3	MP	elg	20				17.8	
6	4	MP	elg	80				71.2	
6	5	MP	elg	50				44.5	
6	6	RL	elg	70		70.7			
6	7	RL	elg	40		40.4			
6	8	RL	fir	60		65.4			
6	9	RL	fir	200		218			
6	10	RL	fir	25		27.25			
6	11	RL	elg	50		50.5			
6	12	RL	lam	5		5.65			
6	13	RL	elg	50		50.5			
6	14	RL	elg	60		60.6			
6	15	RL	elg	2		2.02			
6	16	RL	elg	2		2.02			
6	17	RL	elg	50		50.5			
6	18	RL	elg	0		0			
6	19	RL	elg	0		0			
6	20	RL	elg	0		0			
6	21	RL		0		0			
7	1	RL	fuc	20		21.6			

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	PD cor	RL cor	SW	MP cor	KH cor
7	2	RL	fuc	50		54			
7	3	RL	fir	35		38.15			
7	4	RL	fir	90		98.1			
7	5	RL	fir	80		87.2			
7	6	RL	elg	160		161.6			
7	7	RL	elg	120		121.2			
7	8	RL	elg	20		20.2			
7	9	PD	fir	10	13.4				
7	10	PD	hir	50	63.5				
7	11	PD	hir	10	12.7				
7	12	PD	elg	15	18.9				
7	13	PD	elg	15	18.9				
7	14	PD	elg	5	6.3				
7	15	PD	elg	25	31.5				
7	16	PD	elg	15	18.9				
7	17	PD	elg	5	6.3				
7	18	PD	elg	30	37.8				
7	19	PD	elg	5	6.3				
7	20	PD	fir	40	53.6				
7	21	PD	elg	5	6.3				
7	22	PD	fir	20	26.8				
7	23	PD	elg	2	2.52				
7	24	PD	fir	60	80.4				
7	25	PD	elg	1	1.26				
7	26	PD	elg	5	6.3				
7	27	PD	fir	3	4.02				
7	28	PD	fir	15	20.1				
7	29	PD	fir	20	26.8				
7	30	PD	fir	2	2.68				
7	31	PD	lam	8	9.6				
7	32	PD	fir	10	13.4				
7	33	PD	fir	40	53.6				
7	34	PD	fir	2	2.68				
7	35	PD	lam	0	0				
7	36	PD	fir	1	1.34				
7	37	PD	lam	0	0				
7	38	PD	fir	1	1.34				
7	39	PD	red	0	0				
7	40	PD		0	0				
7	41	PD	cos	0	0				
7	42	PD	cor	0	0				
8	1	RL		0		0			
8	2	RL	fuc	0		0			
8	3	RL		0		0			
8	4	RL	red	0		0			
8	5	RL	red	2		2.18			

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	PD cor	RL cor	SW	MP cor	KH cor
8	6	RL	red	60		65.4			
8	7	RL	red	1		1.09			
8	8	RL	elg	1		1.01			
8	9	RL	elg	0		0			
9	1	MP	fuc	1				1.42	
9	2	MP	elg	2				1.78	
9	3	MP	fil	2				2.12	
9	4	MP	fir	5				5.3	
9	5	MP	fir	30				31.8	
9	6	MP	fir	1				1.06	
9	7	MP	elg	100				89	
9	8	MP	elg	150				133.5	
9	9	MP	elg	50				44.5	
9	10	MP	elg	0				0	
9	11	MP	elg	0				0	
9	12	MP	elg	0				0	
9	13	MP	hir	0				0	
10	1	RL		0		0			
10	2	RL	fuc	0		0			
10	3	RL	fil	0		0			
10	4	RL	elg	0		0			
10	5	RL	ulv	0		0			
10	6	RL	fir	0		0			
10	7	RL	red	0		0			
10	8	RL	red	0		0			
10	9	RL	fir	20		21.8			
10	10	RL	elg	8		8.08			
10	11	RL	fir	2		2.18			
10	12	RL	fir	0		0			
10	13	RL	fir	20		21.8			
10	14	RL	fir	60		65.4			
10	15	RL	fir	35		38.15			
10	16	RL	elg	120		121.2			
10	17	RL	lam	3		3.39			
10	18	RL	elg	30		30.3			
10	19	RL	elg	80		80.8			
10	20	RL	elg	40		40.4			
10	21	RL	red	1		1.09			
10	22	RL	elg	60		60.6			
10	23	RL	elg	40		40.4			
10	24	RL	elg	60		60.6			
10	25	RL	elg	15		15.15			
10	26	RL	elg	10		10.1			
10	27	RL	lam	1		1.13			
10	28	RL	elg	10		10.1			
10	29	RL	elg	1		1.01			

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	PD cor	RL cor	SW	MP cor	KH cor
10	30	RL	red	0		0			
10	31	RL	agm	0		0			
10	32	RL	elg	0		0			
10	33	RL	lam	0		0			
10	34	RL	lam	0		0			
10	35	RL	hir	1		1.3			
10	36	RL	red	1		1.09			
10	37	RL	lam	0		0			
10	38	RL	lam	0		0			
10	39	RL	lam	0		0			
10	40	RL	lam	0		0			
10	41	RL	mac	80		87.2			
10	42	RL	red	5		5.45			
10	43	RL	hir	1		1.3			
10	44	RL	lam	1		1.13			
10	45	RL	lam	0		0			
10	46	RL	red	0		0			
10	47	RL	lam	2		2.26			
10	48	RL	lam	5		5.65			
10	49	RL	lam	2		2.26			
10	50	RL	red	3		3.27			
10	51	RL	lam	1		1.13			
10	52	RL	lam	15		16.95			
10	53	RL	lam	40		45.2			
10	54	RL	lam	20		22.6			
10	55	RL	lam	40		45.2			
10	56	RL	mac	200		218			
10	57	RL	lam	80		90.4			
10	58	RL	lam	5		5.65			
10	59	RL	lam	20		22.6			
10	60	RL	red	20		21.8			
10	61	RL	mac	140		152.6			
10	62	RL	lam	30		33.9			
10	63	RL	agm	40		45.2			
10	64	RL	lam	15		16.95			
10	65	RL	red	7		7.63			
10	66	RL	red	4		4.36			
10	67	RL	red	1		1.09			
10	68	RL	lam	0		0			
10	69	RL	hir	25		32.5			
10	70	RL	hir	10		13			
10	71	RL	lam	20		22.6			
10	72	RL	lam	10		11.3			
10	73	RL	lam	10		11.3			
10	74	RL	lam	5		5.65			
10	75	RL	lam	10		11.3			

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	PD cor	RL cor	SW	MP cor	KH cor
10	76	RL	lam	1		1.13			
10	77	RL	lam	15		16.95			
10	78	RL	lam	0		0			
10	79	RL	agm	0		0			
11	1	PD	ulv	0	0				
11	2	PD	ulv	0	0				
11	3	PD	ulv	0	0				
11	4	PD	ulv	0	0				
11	5	PD	ulv	0	0				
11	6	PD	elg	0	0				
11	7	PD	ulv	0	0				
11	8	PD	elg	0	0				
11	9	PD		0	0				
11	10	PD	fuc	0	0				
11	11	PD	elg	170	214.2				
11	12	PD	elg	30	37.8				
11	13	PD	hir	1	1.27				
11	14	PD	elg	35	44.1				
11	15	PD	elg	70	88.2				
11	16	PD	cor	25	33.5				
11	17	PD	agm	5	6				
11	18	PD	mac	70	93.8				
11	19	PD	mac	600	804				
11	20	PD	agm	10	12				
11	21	PD	agm	25	30				
11	22	PD	lam	5	6				
11	23	PD		0	0				
11	24	PD		0	0				
12	1	PD		0	0				
12	2	PD		0	0				
12	3	PD		0	0				
12	4	PD	red	0	0				
12	5	PD		0	0				
12	6	PD		0	0				
12	7	PD	fuc	0	0				
12	8	PD		0	0				
12	9	PD	red	8	10.72				
12	10	PD	elg	100	126				
12	11	PD	red	7	9.38				
12	12	PD	elg	90	113.4				
12	13	PD	elg	110	138.6				
12	14	PD	elg	120	151.2				
12	15	PD	elg	130	163.8				
12	16	PD	red	60	80.4				
12	17	PD	elg	15	18.9				
12	18	PD	elg	10	12.6				

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	PD cor	RL cor	SW	MP cor	KH cor
12	19	PD	mac	30	40.2				
12	20	PD	mac	40	53.6				
12	21	PD	mac	5	6.7				
12	22	PD	red	20	26.8				
12	23	PD	mac	290	388.6				
12	24	PD	mac	110	147.4				
12	25	PD	mac	180	241.2				
12	26	PD	mac	280	375.2				
12	27	PD	mac	60	80.4				
12	28	PD	mac	200	268				
12	29	PD	lam	10	12				
12	30	PD	agm	2	2.4				
12	31	PD	mac	360	482.4				
12	33	PD	lam	20	24				
12	34	PD		0	0				
12	35	PD	agm	7	8.4				
12	36	PD	agm	0	0				
12	37	PD	lam	0	0				
12	38	PD	lam	0	0				
12	39	PD	lam	0	0				
12	40	PD	lam	0	0				
13	1	RL	elg	5		5.05			
13	2	RL	elg	10		10.1			
13	3	RL	elg	5		5.05			
13	4	RL	fil	1		1.09			
13	5	RL	elg	25		25.25			
13	6	RL	elg	30		30.3			
13	7	RL	elg	50		50.5			
13	8	MP	elg	50				44.5	
13	9	MP	fir	1				1.06	
13	10	MP	fir	200				212	
13	11	MP	lam	1				1.06	
13	12	MP	lam	1				1.06	
13	13	MP	elg	5				4.45	
13	14	MP	lam	2				2.12	
13	15	MP	lam	50				53	
13	16	MP	elg	30				26.7	
13	17	MP	elg	0				0	
13	18	MP	lam	15				15.9	
13	19	MP	mac	100				106	
13	20	MP	lam	2				2.12	
13	21	MP	elg	0				0	
13	22	MP	fil	5				5.3	
13	23	MP	elg	3				2.67	
13	24	MP	fil	3				3.18	
13	25	MP	elg	0				0	

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	PD cor	RL cor	SW	MP cor	KH cor
13	26	MP	fil	3				3.18	
13	27	MP		0				0	
13	28	MP	lam	1				1.06	
13	29	MP	lam	1				1.06	
13	30	MP	mac	225				238.5	
13	31	MP	fil	0				0	
13	32	MP	elg	0				0	
13	33	MP	lam	10				10.6	
13	34	MP	hir	0				0	
13	35	MP	lam	0				0	
14	1	RL		0		0			
14	2	RL	elg	0		0			
14	3	RL		0		0			
14	4	RL	elg	1		1.01			
14	5	RL	elg	15		15.15			
14	6	RL	elg	2		2.02			
14	7	RL	elg	1		1.01			
14	8	RL	elg	2		2.02			
14	9	RL	elg	1		1.01			
14	10	RL	elg	1		1.01			
14	11	RL	elg	0		0			
14	12	RL	lam	1		1.13			
14	13	RL	elg	55		55.55			
14	14	RL	elg	40		40.4			
14	15	RL	elg	70		70.7			
14	16	RL	elg	80		80.8			
14	17	RL	elg	1		1.01			
14	18	RL	elg	0		0			
14	19	RL	elg	50		50.5			
14	20	RL	elg	40		40.4			
14	21	RL	elg	40		40.4			
14	22	RL	elg	40		40.4			
14	23	RL	elg	35		35.35			
14	24	RL	lam	30		33.9			
14	25	RL	elg	20		20.2			
14	26	RL	elg	15		15.15			
14	27	RL	elg	5		5.05			
14	28	RL	elg	10		10.1			
14	29	RL	elg	10		10.1			
14	30	RL	elg	0		0			
14	31	RL	elg	0		0			
14	32	RL	elg	0		0			
14	33	RL	elg	0		0			
14	34	RL	hir	0		0			
14	35	RL	elg	0		0			
14	36	RL	elg	0		0			

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	PD cor	RL cor	SW	MP cor	KH cor
15	1	KH	fil	0					0
15	2	KH	elg	30					33
15	3	KH	mac	40					44
15	4	KH	elg	35					38.5
15	5	KH	mac	25					27.5
15	6	KH	elg	2					2.2
15	7	KH	elg	10					11
15	8	KH	mac	5					5.5
15	9	KH	mac	7					7.7
15	10	KH	hir	0					0
15	11	KH	lam	0					0
15	12	KH	mac	0					0
15	13	KH	mac	5					5.5
15	14	KH	mac	7					7.7
15	15	KH	mac	5					5.5
15	16	KH	lam	1					0.99
15	17	KH	lam	0					0
15	18	KH	lam	0					0
15	19	KH	agm	0					0
16	1	PD	fir	0	0				
16	2	PD	elg	5	6.3				
16	3	PD	elg	1	1.26				
16	4	PD	lam	0	0				
16	5	PD	agm	0	0				
16	6	PD		0	0				
16	7	PD		0	0				
17	1	KH	fuc	1					1.46
17	2	KH	elg	1					1.1
17	3	KH	fir	1					1.1
17	4	KH	fir	2					2.2
17	5	KH	cor	1					1.1
17	6	KH	fil	0					0
17	7	KH	fil	0					0
17	8	KH	fil	0					0
17	9	KH	mac	5					5.5
17	10	KH	mac	0					0
17	11	KH	elg	0					0
17	12	KH	elg	0					0
17	13	KH	elg	0					0
17	14	KH	elg	0					0
18	1	KH	fuc	0					0
18	2	KH	fuc	0					0
18	3	KH	lam	1					0.99
18	4	KH	fir	0					0
18	5	KH	elg	0					0
18	6	KH	cor	0					0

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Transect no	Observation No	Diver #1	Vegetation type	Diver #1 eye	PD cor	RL cor	SW	MP cor	KH cor
18	7	KH	lam	3					2.97
18	8	KH	agm	5					4.95
18	9	KH	lam	2					1.98
18	10	KH	lam	0					0
18	11	KH	lam	0					0
18	12	KH	lam	0					0
18	13	KH	lam	0					0
18	14	KH	lam	0					0
19	1	SW		0			0		
19	2	SW		0			0		
19	3	SW	ulv	0			0		
19	4	SW	elg	120			145.2		
19	5	SW	elg	30			36.3		
19	6	SW	elg	25			30.25		
19	7	SW	elg	5			6.05		
19	8	SW	elg	0			0		
19	9	SW		0			0		

Kah Shakes-Cat Island — April 16, 2000

Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW	MP cor	KH cor
1	1	RL		0		0			
1	2	RL	hir	0		0			
1	3	RL		0		0			
1	4	RL		0		0			
2	1	PD	fuc	0	0				
2	2	PD	red	10	13.4				
2	3	PD	lam	0	0				
2	4	PD		0	0				
2	5	PD		0	0				
3	1	KH	fuc	2					2.92
3	2	KH	fir	30					33
3	3	KH	lam	25					24.75
3	4	KH		0					0
3	5	KH		0					0
4	1	MP	fuc	20				28.4	
4	2	MP	fir	30				31.8	
4	3	MP	ulv	60				63.6	
4	4	MP	red	3				3.18	
4	5	MP	agm	70				74.2	
4	6	MP	lgm	5				5.3	
4	7	MP	agm	15				15.9	
4	8	MP	lam	0				0	
4	9	MP	fil	0				0	
4	10	MP	agm	1				1.06	

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW	MP cor	KH cor
4	11	MP		0				0	
5	1	MP	fuc	0				0	
5	2	MP	fir	0				0	
5	3	MP	fil	1				1.06	
5	4	MP	fil	0				0	
5	5	MP	ulv	1				1.06	
5	6	MP	ulv	0				0	
5	7	MP	ulv	0				0	
5	8	MP	red	1				1.06	
5	9	MP	ulv	0				0	
5	10	MP	fil	10				10.6	
5	11	MP		0				0	
5	12	MP		0				0	
5	13	MP	elg	10				8.9	
5	14	MP	elg	15				13.35	
5	15	MP	elg	40				35.6	
5	16	MP	lam	2				2.12	
5	17	MP	elg	0				0	
5	18	MP		0				0	
6	1	SW	fuc	0			0		
6	2	SW	fuc	0			0		
6	3	SW	fir	0			0		
6	4	SW	lam	0			0		
6	5	SW		0			0		
6	6	SW		0			0		
7	1	PD		0	0				
7	2	PD	fir	80	107.2				
7	3	PD	lam	30	36				
7	4	PD	hir	1	1.27				
7	5	PD	hir	25	31.75				
7	6	PD	lam	10	12				
7	7	PD	lam	1	1.2				
7	8	PD	agm	2	2.4				
7	9	PD		0	0				
7	10	PD	agm	0	0				
8	1	RL	fuc	0		0			
8	2	RL	fuc	0		0			
8	3	RL	fuc	1		1.08			
8	4	RL	fuc	10		10.8			
8	5	RL	fil	2		2.18			
8	6	RL	fil	0		0			
8	7	RL	fil	0		0			
8	8	RL	lam	0		0			
8	9	RL	lam	20		22.6			
8	10	RL		0		0			

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW	MP cor	KH cor
8	11	RL	lam	0		0			
8	12	RL	lam	1		1.13			
8	13	RL		0		0			
9	1	PD	fuc	0	0				
9	2	PD	fuc	0	0				
9	3	PD	fuc	0	0				
9	4	PD	fuc	0	0				
9	5	PD	fil	0	0				
9	6	PD	ulv	0	0				
9	7	PD	red	0	0				
9	8	PD	ulv	0	0				
9	9	PD	ulv	0	0				
9	10	PD	fuc	0	0				
10	1	SW	fuc	0			0		
10	2	SW	fuc	0			0		
10	3	SW	fil	0			0		
10	4	SW	fil	0			0		
10	5	SW	lam	0			0		
10	6	SW	lam	0			0		
10	7	SW	lam	0			0		
11	1	RL		0		0			
11	2	RL	fuc	0		0			
11	3	RL	red	0		0			
11	4	RL	red	0		0			
11	5	RL	red	0		0			
11	6	RL	ulv	0		0			
11	7	RL	red	0		0			
11	8	RL	agm	1		1.13			
11	9	RL	agm	0		0			
11	10	RL	agm	0		0			
11	11	RL	lam	0		0			
12	1	MP	fuc	0				0	
12	2	MP	fil	0				0	
12	3	MP	fil	0				0	
12	4	MP		0				0	
12	5	MP		0				0	
12	6	MP	red	0				0	
12	7	MP		0				0	
12	8	MP	red	0				0	
12	9	MP	ulv	0				0	
12	10	MP	fir	0				0	
12	11	MP	fir	0				0	
12	12	MP	hir	0				0	
12	12	MP	fir	0				0	
12	13	MP	hir	0				0	

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW	MP cor	KH cor
12	14	MP	fir	0				0	
12	15	MP	hir	0				0	
12	16	MP	fir	0				0	
12	17	MP	hir	0				0	
12	18	MP	fir	0				0	
12	19	MP	hir	0				0	
12	20	MP	fir	0				0	
12	21	MP	hir	0				0	
12	22	MP	hir	2				2.28	
12	23	MP	fil	1				1.06	
12	24	MP	hir	1				1.14	
12	25	MP	fuc	1				1.42	
12	26	MP	fuc	1				1.42	
12	27	MP	hir	2				2.28	
12	28	MP	elg	1				0.89	
12	29	MP	elg	2				1.78	
12	30	MP	hir	1				1.14	
12	31	MP	hir	1				1.14	
12	32	MP	hir	3				3.42	
12	33	MP	hir	5				5.7	
12	34	MP	hir	10				11.4	
12	35	MP	hir	5				5.7	
12	36	MP	lam	20				21.2	
12	37	MP	agm	10				10.6	
12	38	MP	lam	5				5.3	
12	39	MP	hir	1				1.14	
12	40	MP	hir	3				3.42	
12	41	MP	hir	5				5.7	
12	42	MP	lam	5				5.3	
12	43	MP	red	0				0	
12	44	MP	red	20				21.2	
12	45	MP	red	50				53	
12	46	MP	red	80				84.8	
12	47	MP	lam	1				1.06	
12	48	MP	red	60				63.6	
12	49	MP	lbk	30				31.8	
12	50	MP	red	0				0	
12	51	MP	red	0				0	
12	52	MP	lbk	1				1.06	
12	53	MP	fil	0				0	
12	54	MP	lbk	0				0	
12	55	MP	lbk	0				0	
13	1	PD	fuc	0	0				
13	2	PD	fir	1	1.34				
13	3	PD	lam	0	0				

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW	MP cor	KH cor
13	4	PD	cos	0	0				
13	5	PD	hir	2	2.54				
13	6	PD	lam	0	0				
13	7	PD	red	1	1.34				
13	8	PD	cym	0	0				
13	9	PD	cym	0	0				
13	10	PD	agm	0	0				
14	1	PD	fuc	0	0				
14	2	PD	fuc	0	0				
14	3	PD		0	0				
14	4	PD		0	0				
14	5	PD		0	0				
14	6	PD	fil	0	0				
14	7	PD		0	0				
14	8	PD	fil	0	0				
14	9	PD	red	0	0				
14	10	PD	cos	0	0				
15	1	SW	fuc	0			0		
15	2	SW	fil	1			0.93		
15	3	SW	lbk	1			1.14		
15	4	SW	lbk	0			0		
15	5	SW	lbk	0			0		
15	6	SW		0			0		
15	7	SW	lbk	2			2.28		
15	8	SW	fil	0			0		
15	9	SW	elg	3			3.63		
15	10	SW	elg	0			0		
15	11	SW	elg	0			0		
16	1	MP	fuc	1				1.42	
16	2	MP	fil	3				3.18	
16	3	MP	fuc	5				7.1	
16	4	MP	fuc	15				21.3	
16	5	MP	elg	0				0	
16	6	MP	elg	2				1.78	
16	7	MP	elg	1				0.89	
16	8	MP	hir	0				0	
16	9	MP		0				0	
16	10	MP		0				0	
16	11	MP		0				0	
16	12	MP	elg	2				1.78	
16	13	MP		0				0	
16	14	MP		0				0	
16	15	MP		0				0	
16	16	MP		0				0	
16	17	MP	elg	0				0	

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW	MP cor	KH cor
16	18	MP		0				0	
16	19	MP	elg	1				0.89	
16	20	MP	elg	0				0	
16	21	MP	hir	3				3.42	
16	22	MP	hir	2				2.28	
16	23	MP	lam	2				2.12	
16	24	MP	fil	2				2.12	
16	25	MP	fil	1				1.06	
16	26	MP	fil	0				0	
16	27	MP	fil	1				1.06	
16	28	MP	lam	1				1.06	
16	29	MP	lam	0				0	
16	30	MP	fil	3				3.18	
16	31	MP	fil	5				5.3	
16	32	MP	elg	20				17.8	
16	33	MP	elg	10				8.9	
16	34	MP	red	15				15.9	
16	35	MP	red	3				3.18	
16	36	MP	elg	10				8.9	
16	37	MP	elg	1				0.89	
16	38	MP	elg	1				0.89	
16	39	MP	fir	2				2.12	
16	40	MP	hir	0				0	
16	41	MP	elg	1				0.89	
16	42	MP	elg	2				1.78	
16	43	MP	fir	4				4.24	
16	44	MP	elg	1				0.89	
16	45	MP	elg	2				1.78	
16	46	MP	elg	3				2.67	
16	47	MP	elg	3				2.67	
16	48	MP	elg	1				0.89	
16	49	MP	cor	5				5.3	
16	50	MP	lam	1				1.06	
16	51	MP	red	10				10.6	
16	52	MP	elg	2				1.78	
16	53	MP	lam	1				1.06	
16	54	MP	elg	0				0	
16	55	MP	red	1				1.06	
16	56	MP	red	0				0	
16	57	MP	elg	1				0.89	
16	58	MP	red	0				0	
16	59	MP	lam	2				2.12	
16	60	MP	lam	3				3.18	
16	61	MP	lam	5				5.3	
16	62	MP	lam	5				5.3	

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW	MP cor	KH cor
16	63	MP	hir	0				0	
16	64	MP	lam	0				0	
16	65	MP	lam	0				0	
16	66	MP	lam	0				0	
16	67	MP	lam	0				0	
16	68	MP	lam	0				0	
16	69	MP	hir	0				0	
16	70	MP	lam	0				0	
17	1	PD	fil	0	0				
17	2	PD	fil	0	0				
17	3	PD	fil	0	0				
17	4	PD	fil	0	0				
17	5	PD		0	0				
17	6	PD		0	0				
18	1	KH		0					0
18	2	KH	lam	0					0
18	3	KH	cos	0					0
18	4	KH		0					0

West Behm Canal — April 17-18, 2000

Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW	MP cor	KH cor
1	1	RL	fuc	0		0			
1	2	RL	fuc	0		0			
1	3	RL	fuc	0		0			
1	4	RL		0		0			
1	5	RL	fuc	0		0			
1	6	RL	fuc	0		0			
1	7	RL	fuc	0		0			
1	8	RL		0		0			
1	9	RL	fir	0		0			
1	10	RL	elg	0		0			
1	11	RL	elg	0		0			
1	12	RL	lam	0		0			
1	13	RL	lam	0		0			
1	14	RL	lam	0		0			
1	15	RL	lam	0		0			
2	1	SW	fuc	5			6.15		
2	2	SW	fuc	50			61.5		
2	3	SW	fir	45			41.85		
2	4	SW	fir	120			111.6		
2	5	SW		5			4.65		
2	6	SW	lam	0			0		
2	7	SW		0			0		

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW	MP cor	KH cor
3	1	PD	fuc	0	0				
3	2	PD	fuc	0	0				
3	3	PD	fuc	0	0				
3	4	PD	fuc	40	40				
3	5	PD	fir	70	93.8				
3	6	PD	cor	5	6.7				
3	7	PD	hir	0	0				
3	8	PD	fil	0	0				
3	9	PD	agm	0	0				
4	1	SW		0			0		
4	2	SW	fuc	5			6.15		
4	3	SW	fil	35			32.55		
4	4	SW	elg	50			60.5		
4	5	SW	lam	20			22.8		
4	6	SW	lam	0			0		
4	7	SW	lam	1			1.14		
4	8	SW	hir	3			3.84		
4	9	SW	agm	10			11.4		
4	10	SW	agm	0			0		
4	11	SW		0			0		
5	1	SW	fuc	0			0		
5	2	SW		0			0		
5	3	SW	fuc	0			0		
5	4	SW	red	0			0		
5	5	SW	fir	0			0		
5	6	SW	elg	0			0		
5	7	SW	lam	0			0		
5	8	SW	lam	0			0		
5	9	SW		0			0		
6	1	RL	fuc	0		0			
6	2	RL	fuc	20		21.6			
6	3	RL	fir	50		54.5			
6	4	RL	lam	60		67.8			
6	5	RL	lam	5		5.65			
6	6	RL	agm	1		1.13			
6	7	RL	agm	5		5.65			
6	8	RL		0		0			
7	1	KH	fuc	1					1.46
7	2	KH	fir	25					27.5
7	3	KH	fil	1					1.1
7	4	KH	hir	300					306
7	5	KH	lam	3					2.97
7	6	KH		0					0
7	7	KH	los	1					1.1
7	8	KH		0					0

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW	MP cor	KH cor
8	1	PD	fuc	1	1				
8	2	PD		0	0				
8	3	PD	fuc	15	15				
8	4	PD		0	0				
8	5	PD	fuc	10	10				
8	6	PD		0	0				
8	7	PD	fuc	55	55				
8	8	PD	fuc	10	10				
8	9	PD	fuc	1	1				
8	10	PD		0	0				
8	11	PD		0	0				
8	12	PD		0	0				
8	13	PD	ulv	0	0				
8	14	PD	ala	0	0				
8	15	PD	ala	0	0				
8	16	PD	lam	10	12				
8	17	PD	elg	40	50.4				
8	18	PD	hir	120	152.4				
8	19	PD	elg	25	31.5				
8	20	PD	lam	15	18				
8	21	PD	elg	10	12.6				
8	22	PD		0	0				
8	23	PD		0	0				
8	24	PD		0	0				
8	25	PD	red	0	0				
8	26	PD	red	0	0				
8	27	PD	red	0	0				
8	28	PD	ala	3	3.6				
8	29	PD	ala	0	0				
8	30	PD	lam	5	6				
8	31	PD		0	0				
8	32	PD		0	0				
8	33	PD	red	0	0				
8	34	PD	elg	2	2.52				
8	35	PD		0	0				
9	1	MP	fuc	2				2.84	
9	2	MP	fuc	10				14.2	
9	3	MP	fuc	40				56.8	
9	4	MP	fil	15				15.9	
9	5	MP		0				0	
10	1	KH	fuc	0					0
10	2	KH		1					1.1
10	3	KH		3					3.3
10	4	KH	hir	1					1.02
10	5	KH	lam	15					14.85
10	6	KH	lam	2					1.98

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW	MP cor	KH cor
10	7	KH		0					0
10	8	KH		0					0
11	1	SW	fuc	0			0		
11	2	SW		20			18.6		
11	3	SW		5			4.65		
11	4	SW	fuc	30			36.9		
11	5	SW	red	10			9.3		
11	6	SW	lam	80			91.2		
11	7	SW	lam	60			68.4		
11	8	SW	lam	2			2.28		
11	9	SW		0			0		
12	1	SW	fuc	80			98.4		
12	2	SW	fuc	75			92.25		
12	3	SW		2			1.86		
12	4	SW	fir	90			83.7		
12	5	SW	fir	80			74.4		
12	6	SW	fir	70			65.1		
12	7	SW	fir	120			111.6		
12	8	SW	fir	160			148.8		
12	9	SW	fir	90			83.7		
12	10	SW	lam	2			2.28		
12	11	SW	agm	0			0		
12	12	SW		0			0		
13	1	KH	fir	0					0
13	2	KH		0					0
13	3	KH		0					0
13	4	KH	red	8					8.8
13	5	KH	fil	2					2.2
13	6	KH		0					0
13	7	KH		0					0
14	1	PD	fil	1	1.34				
14	2	PD	fir	80	107.2				
14	3	PD	fir	1	1.34				
14	4	PD	elg	1	1.26				
14	5	PD	elg	0	0				
14	6	PD		0	0				
15	1	RL	fuc	0		0			
15	2	RL	fuc	35		37.8			
15	3	RL	fuc	5		5.4			
15	4	RL		0		0			
15	5	RL		0		0			
16	1	SW	fuc	7			8.61		
16	2	SW	fuc	0			0		
16	3	SW	fuc	0			0		
16	4	SW	fuc	80			98.4		

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW	MP cor	KH cor
16	5	SW	fuc	40			49.2		
16	6	SW	elg	100			121		
16	7	SW	elg	80			96.8		
16	8	SW		0			0		

Ernest Sound — April 25, 2000

Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW cor	BL cor	WB cor
1	1	BL	fuc	5				8.8	
1	2	BL	fir	15				17.4	
1	3	BL	lam	5				7.25	
1	4	BL	agm	0				0	
1	5	BL	agm	0				0	
1	6	BL		0				0	
2	1	RL		0		0			
2	2	RL		0		0			
2	3	RL	fuc	0		0			
2	4	RL	fir	0		0			
2	5	RL	fir	0		0			
2	6	RL	fir	0		0			
2	7	RL	fir	0		0			
2	8	RL	fuc	0		0			
2	9	RL	fuc	0		0			
2	10	RL	fuc	0		0			
2	11	RL	fuc	0		0			
2	12	RL	fuc	0		0			
2	13	RL	fir	0		0			
2	14	RL	fir	0		0			
2	15	RL	fir	2		2.18			
2	16	RL	fir	15		16.35			
2	17	RL	lam	0		0			
2	18	RL	lam	1		1.13			
2	19	RL	agm	1		1.13			
2	20	RL	lam	0		0			
2	21	RL	agm	0		0			
2	22	RL	lam	0		0			
2	23	RL	lam	0		0			
2	24	RL		0		0			
3	1	WB	fuc	5					6.2
3	2	WB	fuc	1					1.24
3	3	WB	fuc	5					6.2
3	4	WB	Fir	3					3.27
3	5	WB	fir	1					1.09
3	6	WB	fir	5					5.45

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW cor	BL cor	WB cor
3	7	WB	cym	0					0
3	8	WB	elg	0					0
3	9	WB	elg	0					0
3	10	WB		0					0
3	11	WB		0					0
3	12	WB	fuc	0					0
4	1	RL	fuc	0		0			
4	2	RL	fuc	0		0			
4	3	RL	fuc	0		0			
4	4	WB	Fir	1					1.09
4	5	WB	Fir	1					1.09
4	6	WB	Fir	60					65.4
4	7	WB	Fir	30					32.7
4	8	WB	fuc	60					74.4
4	9	WB	elg	2					1.54
4	10	WB	elg	0					0
4	11	WB	elg	0					0
4	12	WB	elg	0					0
5	1	WB	fuc	45					55.8
5	2	WB	fuc	5					6.2
5	3	WB	fuc	6					7.44
5	4	RL		0		0			
5	5	RL	fuc	1		1.08			
5	6	RL	fil	1		1.09			
5	7	RL	fil	0		0			
5	8	RL	fil	1		1.09			
5	9	RL	fir	1		1.09			
5	10	RL	elg	1		1.01			
5	11	RL	elg	1		1.01			
5	12	RL	elg	0		0			
5	13	RL	lam	2		2.26			
5	14	RL	elg	1		1.01			
5	15	RL	elg	3		3.03			
5	16	RL	elg	0		0			
5	17	RL		0		0			
5	18	RL		0		0			
6	1	RL	fuc	0		0			
6	2	RL		0		0			
6	3	RL	fuc	0		0			
6	4	RL		0		0			
6	5	RL		0		0			
6	6	RL		0		0			
6	7	RL		0		0			
6	8	RL	ulv	0		0			
6	9	RL	ulv	0		0			

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW cor	BL cor	WB cor
6	10	RL	ulv	0		0			
6	11	RL	ulv	0		0			
6	12	RL	ulv	0		0			
6	13	RL	elg	0		0			
6	14	RL	elg	0		0			
6	15	RL	elg	0		0			
6	16	RL	elg	0		0			
6	17	RL	elg	0		0			
6	18	RL		0		0			
6	19	RL		0		0			
7	1	BL	fuc	40				70.4	
7	2	BL	fuc	2				3.52	
7	3	BL		0				0	
7	4	BL		1				1.16	
7	5	BL	fuc	2				3.52	
7	6	BL	elg	0				0	
7	7	BL	elg	0				0	
7	8	BL	elg	0				0	
7	9	BL	elg	0				0	
7	10	BL	elg	0				0	
7	11	BL	elg	0				0	
7	12	BL	elg	0				0	
7	13	BL	elg	0				0	
7	14	BL	elg	0				0	
7	15	BL	elg	0				0	
7	16	BL	elg	0				0	
7	17	BL	elg	0				0	
7	18	BL	elg	0				0	
7	19	BL	elg	0				0	
7	20	BL	elg	0				0	
7	21	BL	elg	0				0	
7	22	BL	elg	0				0	
7	23	BL	elg	0				0	
7	24	BL	elg	0				0	
7	25	BL		0				0	
8	1	BL	fuc	2				3.52	
8	2	BL	fuc	2				3.52	
8	3	SW		0			0		
8	4	SW		0			0		
8	5	SW		0			0		
8	6	SW		0			0		
8	7	SW		0			0		
8	8	SW		0			0		
8	9	SW		0			0		
8	10	SW	fil	0			0		

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW cor	BL cor	WB cor
8	11	SW	Red	0			0		
8	12	SW	elg	1			1.21		
8	13	SW	elg	1			1.21		
8	14	SW	elg	1			1.21		
8	15	SW	elg	2			2.42		
8	16	SW	elg	1			1.21		
8	17	SW	elg	0			0		
8	18	SW	elg	0			0		
8	19	SW		0			0		
9	1	BL	fuc	20				35.2	
9	2	BL	fil	5				5.8	
9	3	BL	Fuc	10				17.6	
9	4	BL	fuc	1				1.76	
9	5	BL	fil	0				0	
9	6	BL		0				0	
9	7	BL	fir	1				1.16	
9	8	BL	fir	5				5.8	
9	9	BL	fir	2				2.32	
9	10	BL	fuc	8				14.08	
9	11	BL	elg	45				50.4	
9	12	BL	elg	10				11.2	
9	13	BL	elg	1				1.12	
9	14	BL	elg	1				1.12	
9	15	BL	elg	2				2.24	
9	16	BL	elg	0				0	
9	17	BL		0				0	
9	18	BL		0				0	
9	19	BL		0				0	
9	20	BL		0				0	
10	1	WB		0					0
10	2	WB		0					0
10	3	WB		0					0
10	4	WB		0					0
10	5	WB		0					0
10	6	WB		0					0
10	7	WB		0					0
10	8	WB		0					0
10	9	WB		0					0
10	10	WB		0					0
10	11	WB		0					0
10	12	WB		0					0
10	13	WB		0					0
10	14	WB		0					0
10	15	WB		0					0
10	16	WB		0					0

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW cor	BL cor	WB cor
10	17	WB	elg	0					0
10	18	WB	elg	0					0
10	19	WB	elg	0					0
10	20	WB	elg	0					0
11	1	BL	fuc	20				35.2	
11	2	BL	fir	10				11.6	
11	3	BL		0				0	
11	4	BL	fuc	40				70.4	
11	5	BL	fuc	40				70.4	
11	6	BL	lam	15				21.75	
11	7	BL	lam	20				29	
11	8	BL	lam	25				36.25	
11	9	BL	lam	2				2.9	
11	10	BL	lam	20				29	
11	11	BL	lam	40				58	
11	12	BL	lam	2				2.9	
11	13	BL	agm	2				2.9	
11	14	BL		0				0	
11	15	BL	agm	2				2.9	
11	16	BL		0				0	
11	17	BL	agm	3				4.35	
11	18	BL		0				0	
11	19	BL	agm	0				0	
12	1	RL	fuc	50		54			
12	2	RL	fuc	30		32.4			
12	3	RL	fir	45		49.05			
12	4	RL	lam	0		0			
12	5	RL	lam	1		1.13			
12	6	RL	agm	0		0			
12	7	RL	agm	0		0			
12	8	RL		0		0			
13	1	PD	fuc	10	10				
13	2	PD	fir	0	0				
13	3	PD	fir	100	134				
13	4	PD	lam	5	6				
13	5	PD	lam	2	2.4				
13	6	PD	lam	0	0				
13	7	PD	elg	0	0				
13	8	PD	elg	0	0				
13	9	PD	elg	0	0				
13	10	PD	lam	0	0				
14	1	WB	fuc	0					0
14	2	WB	fuc	0					0
14	3	WB	fuc	0					0
14	4	WB	fir	0					0

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	PD cor	RL cor	SW cor	BL cor	WB cor
14	5	WB	fuc	2					2.48
14	6	WB	fir	60					65.4
14	7	WB	red	0					0
14	8	WB	lam	0					0
14	9	WB	agm	0					0
14	10	WB	hir	20					23.8
14	11	WB	elg	0					0
14	12	WB	fil	0					0
14	13	WB		0					0

Tenakee Inlet — May 3, 4, 6, 2000

Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
1	1	WB		0					0
1	2	WB	lam	30					26.7
1	3	WB	fir	140					152.6
1	4	WB	lam	250					222.5
1	5	WB		0					0
1	6	WB	lam	50					44.5
1	7	WB	lam	50					44.5
1	8	WB	lam	15					13.35
1	9	WB	lam	60					53.4
1	10	WB	lam	60					53.4
1	11	WB	lam	0					0
1	12	WB	lam	0					0
1	13	WB	lam	0					0
2	1	RL	fuc	0		0			
2	2	RL	ulv	0		0			
2	3	RL	ala	80		90.4			
2	4	RL	cos	5		5.65			
2	5	RL	lam	0		0			
2	6	RL	lam	0		0			
2	7	RL	lam	5		5.65			
2	8	RL	agm	10		11.3			
2	9	RL	hir	150		195			
2	10	RL		0		0			
2	11	RL	lam	2		2.26			
2	12	RL	hir	15		19.5			
2	13	RL	hir	1		1.3			
2	14	RL	hir	0		0			
2	15	RL	hir	0		0			
2	16	RL	lam	0		0			
2	17	RL	lam	0		0			
3	1	WB	fuc	0					0

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
3	2	WB		0					0
3	3	WB	fir	0					0
3	4	WB	ala	0					0
3	5	WB		0					0
3	6	WB	lam	0					0
3	7	WB	lam	0					0
3	8	WB	agm	0					0
4	1	KH	fuc	0				0	
4	2	KH	fuc	0				0	
4	3	KH	fuc	0				0	
4	4	KH		0				0	
4	5	KH	lam	10				9.9	
4	6	KH	lam	15				14.85	
4	7	KH	lam	25				24.75	
4	8	KH	agm	2				1.98	
4	9	KH	lam	0				0	
4	10	KH	hir	0				0	
4	11	KH	lam	0				0	
5	1	WB		1					1.09
5	2	WB		0					0
5	3	WB		0					0
5	4	WB		0					0
5	5	WB		0					0
5	6	WB		0					0
5	7	WB		0					0
5	8	WB		0					0
5	9	WB	ala	15					13.35
5	10	WB	lam	25					22.25
5	11	WB	lam	30					26.7
5	12	WB	red	25					27.25
5	13	WB	fir	40					43.6
5	14	WB	lam	55					48.95
5	15	WB	lam	50					44.5
5	16	WB	lam	70					62.3
5	17	WB	hir	80					95.2
5	18	WB	hir	120					142.8
5	19	WB	cym	3					2.67
5	20	WB	lam	1					0.89
5	21	WB	lam	12					10.68
5	22	WB	lam	1					0.89
5	23	WB	lam	0					0
5	24	WB		0					0
5	25	WB		0					0
5	26	WB		0					0
6	1	RL		0		0			

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
6	2	RL		0		0			
6	3	RL	fuc	0		0			
6	4	RL	fuc	0		0			
6	5	RL	fuc	0		0			
6	6	RL		0		0			
6	7	RL		0		0			
6	8	RL		0		0			
6	9	RL	red	10		10.9			
6	10	RL	fuc	5		5.4			
6	11	RL		0		0			
6	12	RL		0		0			
6	13	RL		0		0			
6	14	RL		0		0			
6	15	RL		0		0			
6	16	RL		0		0			
6	17	RL		0		0			
6	18	RL		0		0			
6	19	RL		0		0			
6	20	RL		0		0			
6	21	RL		0		0			
6	22	RL	ala	0		0			
6	23	RL		0		0			
6	24	RL		0		0			
6	25	RL		0		0			
6	26	RL	ala	150		169.5			
6	27	RL	cym	20		22.6			
6	28	RL	hir	60		78			
6	29	RL	lam	5		5.65			
6	30	RL	lam	3		3.39			
6	31	RL	agm	90		101.7			
6	32	RL	lam	70		79.1			
6	33	RL	agm	100		113			
6	34	RL	agm	1		1.13			
6	35	RL	hir	0		0			
6	36	RL	lam	0		0			
7	1	MP	fir	0			0		
7	2	MP	fir	2			2.12		
7	3	MP	fuc	0			0		
7	4	MP	fir	80			84.8		
7	5	MP	fuc	5			7.1		
7	6	MP	fuc	0			0		
7	7	MP	ulv	0			0		
7	8	MP		2			2.12		
7	9	MP		0			0		
7	10	MP		1			1.06		
7	11	MP		1			1.06		

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
7	12	MP		3			3.18		
7	13	MP	fuc	1			1.42		
7	14	MP	fuc	0			0		
7	15	MP	fuc	0			0		
7	16	MP		0			0		
7	17	MP		0			0		
7	18	MP	fuc	0			0		
7	19	MP	fuc	5			7.1		
7	20	MP	fuc	0			0		
7	21	MP		0			0		
7	22	MP		0			0		
7	23	MP	fuc	0			0		
7	24	MP	fuc	0			0		
7	25	MP	fuc	0			0		
7	26	MP		0			0		
7	27	MP		0			0		
7	28	MP	fuc	0			0		
7	29	MP		0			0		
7	30	MP		0			0		
7	31	MP		0			0		
7	32	MP		2			2.12		
7	33	MP		0			0		
7	34	MP		0			0		
7	35	MP		0			0		
7	36	MP		5			5.3		
7	37	MP	ala	50			53		
7	38	MP		100			106		
7	39	MP	ala	250			265		
7	40	MP	lam	80			84.8		
7	41	MP	lam	40			42.4		
7	42	MP	ala	60			63.6		
7	43	MP	hir	900			1026		
7	44	MP	hir	100			114		
7	45	MP	ala	80			84.8		
7	46	MP	lam	40			42.4		
7	47	MP	hir	250			285		
7	48	MP	hir	120			136.8		
7	49	MP		2			2.12		
7	50	MP	lam	10			10.6		
7	51	MP	lam	25			26.5		
7	52	MP	agm	20			21.2		
7	53	MP	ala	20			21.2		
7	54	MP	agm	60			63.6		
7	55	MP	agm	40			42.4		
7	56	MP	agm	120			127.2		

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
7	57	MP	agm	60			63.6		
7	58	MP	hir	250			285		
7	59	MP	agm	40			42.4		
7	60	MP	agm	55			58.3		
7	61	MP	lam	5			5.3		
7	62	MP	agm	10			10.6		
7	63	MP	lam	5			5.3		
7	64	MP	agm	3			3.18		
7	65	MP	lam	0			0		
7	66	MP		0			0		
7	67	MP	agm	0			0		
7	68	MP	lam	0			0		
8	1	RL	fuc	0		0			
8	2	RL	fuc	0		0			
8	3	RL	fuc	0		0			
8	4	RL	red	0		0			
8	5	RL		0		0			
8	6	RL	red	0		0			
8	7	RL	red	1		1.09			
8	8	RL	lam	2		2.26			
8	9	RL	fir	40		43.6			
8	10	RL	cor	10		10.9			
8	11	RL	fil	20		21.8			
8	12	RL	ala	60		67.8			
8	13	RL	agm	15		16.95			
8	14	RL		5		5.45			
8	15	RL	lam	2		2.26			
8	16	RL	lam	1		1.13			
8	17	RL	hir	45		58.5			
8	18	RL	agm	25		28.25			
8	19	RL	hir	50		65			
8	20	RL	hir	70		91			
8	21	RL	hir	200		260			
8	22	RL	hir	40		52			
8	23	RL	agm	50		56.5			
8	24	RL	agm	15		16.95			
8	25	RL	fil	20		21.8			
8	26	RL	agm	55		62.15			
8	27	RL	hir	40		52			
8	28	RL	hir	80		104			
8	29	RL	hir	30		39			
8	30	RL	hir	20		26			
8	31	RL	agm	3		3.39			
8	32	RL	hir	3		3.9			
8	33	RL	fil	0		0			
8	34	RL	fil	0		0			

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
9	1	MP	ulv	1			1.06		
9	2	MP		0			0		
9	3	MP	ulv	3			3.18		
9	4	MP	ulv	5			5.3		
9	5	MP	fuc	0			0		
9	6	MP		1			1.06		
9	7	MP	hir	1			1.14		
9	8	MP		30			31.8		
9	9	MP	fuc	200			284		
9	10	MP	fir	400			424		
9	11	MP	fir	200			212		
9	12	MP	hir	50			57		
9	13	MP	hir	60			68.4		
9	14	WB	lam	160					142.4
9	15	WB		7					7.63
9	16	WB	lam	10					8.9
9	17	WB	lam	5					4.45
9	18	WB	lam	20					17.8
9	19	WB		2					2.18
9	20	WB	lam	1					0.89
9	21	WB	lam	1					0.89
9	22	WB	lam	0					0
9	23	WB		0					0
10	1	WB	fuc	8					9.92
10	2	WB	red	0					0
10	3	WB	red	1					1.09
10	4	WB	fuc	3					3.72
10	5	WB		10					10.9
10	6	WB	lbk	60					53.4
10	7	WB	fir	80					87.2
10	8	WB	cym	100					89
10	9	DG	cym	30	42.6				
10	10	DG	cym	15	21.3				
10	11	DG	cym	30	42.6				
10	12	DG	cos	15	21.3				
10	13	DG	hir	35	43.4				
10	14	DG	cym	10	14.2				
10	15	DG	hir	20	24.8				
10	16	DG	cym	6	8.52				
10	17	DG	cym	7	9.94				
10	18	DG	cym	6	8.52				
10	19	DG	hir	15	18.6				
10	20	DG	lam	1	1.42				
10	21	DG	lam	2	2.84				
10	22	DG		0	0				
10	23	DG	cym	0	0				

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
10	24	DG	cym	2	2.84				
10	25	DG	lam	1	1.42				
10	26	DG	lam	1	1.42				
10	27	DG	hir	5	6.2				
10	28	DG	lam	0	0				
10	29	DG	hir	10	12.4				
10	30	DG	hir	1	1.24				
10	31	DG	hir	0	0				
11	1	DG	fir	0	0				
11	2	DG	fuc	25	35.5				
11	3	DG		0	0				
11	4	DG		0	0				
11	5	MP	fuc	3			4.26		
11	6	MP	ala	50			53		
11	7	MP	fir	80			84.8		
11	8	MP	cor	15			15.9		
11	9	MP	hir	20			22.8		
11	10	MP	lam	15			15.9		
11	11	MP	lam	20			21.2		
11	12	MP	lam	5			5.3		
11	13	MP	hir	10			11.4		
11	14	MP	cym	2			2.12		
11	15	MP	agm	10			10.6		
11	16	MP	agm	10			10.6		
11	17	MP	agm	25			26.5		
11	18	MP	hir	180			205.2		
11	19	MP		1			1.06		
11	20	MP	agm	40			42.4		
11	21	MP	agm	1			1.06		
11	22	MP		0			0		
11	23	MP	lam	0			0		
11	24	MP		0			0		
12	1	KH		0				0	
12	2	KH		1				1.1	
12	3	KH		0				0	
12	4	KH	red	100				110	
12	5	KH	red	90				99	
12	6	KH	fil	30				33	
12	7	KH	red	25				27.5	
12	8	KH	lam	35				34.65	
12	9	KH	lam	10				9.9	
12	10	KH	lam	1				0.99	
12	11	KH	lam	75				74.25	
12	12	KH	agm	25				24.75	
12	13	KH	agm	20				19.8	
12	14	KH	lam	1				0.99	

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
12	15	KH	lam	0				0	
12	16	KH	hir	0				0	
12	17	KH	cym	0				0	
12	18	KH		0				0	
12	19	KH	hir	1				1.02	
12	20	KH	lam	0				0	
12	21	KH	hir	1				1.02	
12	22	KH	lam	0				0	
12	23	KH	hir	3				3.06	
12	24	KH		0				0	
12	25	KH	lam	0				0	
12	26	KH		0				0	
12	27	KH		0				0	
13	1	KH	fuc	10				14.6	
13	2	KH	fil	0				0	
13	3	KH	fil	8				8.8	
13	4	KH	lam	15				14.85	
13	5	KH	agm	0				0	
13	6	KH	agm	1				0.99	
13	7	KH	cym	0				0	
13	8	KH	lam	0				0	
13	9	KH	lam	1				0.99	
13	10	KH	agm	1				0.99	
13	11	KH	hir	8				8.16	
13	12	KH		0				0	
13	13	KH		0				0	
14	1	RL		0		0			
14	2	RL		1		1.09			
14	3	RL	red	35		38.15			
14	4	RL	hir	50		65			
14	5	RL	hir	40		52			
14	6	RL	lam	15		16.95			
14	7	RL	lam	5		5.65			
14	8	RL	lam	1		1.13			
14	9	RL	lam	0		0			
14	10	RL	lam	3		3.39			
14	11	RL	lam	80		90.4			
14	12	RL	lam	25		28.25			
14	13	RL	lam	10		11.3			
14	14	RL	lam	100		113			
14	15	RL	lam	25		28.25			
14	16	RL	ala	20		22.6			
14	17	RL		0		0			
14	18	RL	fil	0		0			
14	19	RL		0		0			
14	20	RL		0		0			

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
14	21	RL		0		0			
15	1	KH	fuc	0				0	
15	2	KH	fuc	0				0	
15	3	KH		0				0	
15	4	KH	fuc	0				0	
15	5	KH	lam	0				0	
15	6	KH	lam	0				0	
15	7	KH	agm	0				0	
15	8	KH	agm	0				0	
16	1	MP		0			0		
16	2	MP		0			0		
16	3	MP		0			0		
16	4	MP		0			0		
16	5	MP		0			0		
16	6	MP	red	0			0		
16	7	MP	ala	0			0		
16	8	MP	ala	0			0		
16	9	MP	ulv	0			0		
16	10	MP	lam	1			1.06		
16	11	MP	hir	200			228		
16	12	MP	hir	250			285		
16	13	MP	hir	180			205.2		
16	14	MP	hir	200			228		
16	15	MP	hir	150			171		
16	16	MP	hir	50			57		
16	17	MP	hir	30			34.2		
16	18	MP	hir	250			285		
16	19	MP	hir	40			45.6		
16	20	MP	hir	250			285		
16	21	MP	lam	5			5.3		
16	22	MP	agm	25			26.5		
16	23	MP	agm	2			2.12		
16	24	MP	agm	0			0		
17	1	KH		0				0	
17	2	KH		0				0	
17	3	KH		0				0	
17	4	KH		0				0	
17	5	KH		0				0	
17	6	KH		0				0	
17	7	KH	ulv	0				0	
17	8	KH	fuc	60				87.6	
17	9	KH	fuc	30				43.8	
17	10	KH	fir	1				1.1	
17	11	KH		0				0	
17	12	KH		0				0	
17	13	KH	ulv	0				0	

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
17	14	KH	ulv	0				0	
17	15	KH	ulv	0				0	
17	16	KH		0				0	
17	17	KH	ulv	0				0	
17	18	KH	ulv	0				0	
17	19	KH	ulv	0				0	
17	20	KH	ulv	0				0	
17	21	KH		0				0	
17	22	KH		0				0	
17	23	KH	lam	1				0.99	
17	24	KH	lam	15				14.85	
17	25	KH	lam	3				2.97	
17	26	KH	fir	2				2.2	
17	27	KH	lam	5				4.95	
17	28	KH	lam	2				1.98	
17	29	KH		0				0	
17	30	KH	lam	1				0.99	
17	31	KH	lam	2				1.98	
17	32	KH	lam	2				1.98	
17	33	KH	hir	2				2.04	
17	34	KH	hir	2				2.04	
17	35	KH	lam	2				1.98	
17	36	KH	lam	0				0	
17	37	KH	lam	0				0	
17	38	KH		0				0	
18	1	RL		0		0			
18	2	RL	cor	0		0			
18	3	RL	lam	2		2.26			
18	4	RL	hir	300		390			
18	5	RL	hir	200		260			
18	6	RL	lam	25		28.25			
18	7	RL	lam	20		22.6			
18	8	RL	lam	1		1.13			
18	9	RL	lam	0		0			
18	10	RL	lam	0		0			
19	1	WB		0					0
19	2	WB		0					0
19	3	WB	red	0					0
19	4	WB	cor	0					0
19	5	WB	Ala	0					0
19	6	WB	Ala	15					13.35
19	7	WB	cos	6					5.34
19	8	WB	hir	80					95.2
19	9	WB	Lam	1					0.89
19	10	WB	Lam	0					0
19	11	WB	Agm	0					0

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
19	12	WB	Agm	0					0
20	1	KH		0				0	
20	2	KH		0				0	
20	3	KH	ala	0				0	
20	4	KH	ala	0				0	
20	5	KH		0				0	
20	6	KH		0				0	
20	7	KH		0				0	
20	8	KH		0				0	
20	9	KH	fil	0				0	
20	10	KH	agm	1				0.99	
20	11	KH	agm	3				2.97	
20	12	KH	agm	1				0.99	
20	13	KH	agm	5				4.95	
20	14	KH	agm	0				0	
21	1	WB		0					0
21	2	WB		0					0
21	3	WB	ulv	2					2.18
21	4	WB	ala	25					22.25
21	5	WB	cym	30					26.7
21	6	WB	cym	45					40.05
21	7	WB	lam	40					35.6
21	8	WB	lam	7					6.23
21	9	WB	cym	35					31.15
21	10	WB	cym	20					17.8
21	11	WB	hir	240					285.6
21	12	WB	hir	70					83.3
21	13	WB	cos	7					6.23
21	14	WB	agm	1					0.89
21	15	WB	agm	0					0
22	1	DG		0	0				
22	2	DG		0	0				
22	3	DG		0	0				
22	4	DG		0	0				
22	5	DG	agm	50	71				
22	6	DG	agm	80	113.6				
22	7	DG	lam	6	8.52				
22	8	DG	agm	8	11.36				
22	9	DG	lam	0	0				
23	1	MP		0			0		
23	2	MP	ala	1			1.06		
23	3	MP	ala	15			15.9		
23	4	MP		0			0		
23	5	MP		0			0		
23	6	MP	agm	60			63.6		
23	7	MP	agm	50			53		

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
23	8	MP	agm	40			42.4		
23	9	MP		0			0		
24	1	RL		0		0			
24	2	RL	ala	0		0			
24	3	RL	hir	400		520			
24	4	RL	hir	500		650			
24	5	RL	hir	400		520			
24	6	RL	hir	350		455			
24	7	RL	agm	15		16.95			
24	8	RL	agm	1		1.13			
24	9	RL	lam	0		0			

Hoonah Sound — May 7, 2000

Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
1	1	KH		0				0	
1	2	KH		0				0	
1	3	KH		0				0	
1	4	KH		0				0	
1	5	KH	fil	1				1.1	
1	6	KH	fuc	80				116.8	
1	7	KH	elg	50				55	
1	8	KH	ala	15				14.85	
1	9	KH	ala	2				1.98	
1	10	KH	ala	15				14.85	
1	11	KH	lam	10				9.9	
1	12	KH	lam	1				0.99	
1	13	KH		0				0	
1	14	KH		0				0	
1	15	KH	lam	0				0	
1	16	KH		0				0	
1	17	KH		0				0	
1	18	KH		0				0	
1	19	KH		0				0	
1	20	KH		0				0	
1	21	KH	lam	0				0	
1	22	KH		0				0	
1	23	KH		0				0	
1	24	KH		0				0	
1	25	KH		0				0	
1	26	KH		0				0	
2	1	DG		0	0				
2	2	DG	fuc	0	0				
2	3	DG	red	1	1.22				
2	4	DG		0	0				

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
2	5	DG		0	0				
2	6	DG		0	0				
2	7	DG	elg	30	31.8				
2	8	DG	elg	45	47.7				
2	9	DG	elg	25	26.5				
2	10	DG	red	1	1.22				
2	11	DG	elg	5	5.3				
2	12	DG		0	0				
2	13	DG		0	0				
3	1	RL		0		0			
3	2	RL		10		10.9			
3	3	RL	fuc	1		1.08			
3	4	RL	ulv	0		0			
3	5	RL	fil	1		1.09			
3	6	RL		0		0			
3	7	RL		0		0			
3	8	RL		0		0			
3	9	RL		0		0			
3	10	RL		0		0			
3	11	RL	fil	0		0			
3	12	RL	ala	1		1.13			
3	13	RL	ala	0		0			
3	14	RL	ala	0		0			
3	15	RL	ala	0		0			
3	16	RL		0		0			
3	17	RL	red	0		0			
3	18	RL	lam	10		11.3			
3	19	RL	agm	12		13.56			
3	20	RL	hir	15		19.5			
3	21	RL	lam	100		113			
3	22	RL	lam	120		135.6			
3	23	RL	lam	150		169.5			
3	24	RL	lam	60		67.8			
3	25	RL	lam	125		141.25			
3	26	RL	lam	25		28.25			
3	27	RL	lam	80		90.4			
3	28	RL	lam	4		4.52			
3	29	RL	lam	0		0			
3	30	RL		0		0			
4	1	RL		0		0			
4	2	RL	fuc	0		0			
4	3	RL	fuc	0		0			
4	4	RL		0		0			
4	5	RL	fuc	30		32.4			
4	6	RL		0		0			
4	7	RL	fuc	0		0			

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
4	8	RL		0		0			
4	9	RL	fuc	0		0			
4	10	RL	fuc	20		21.6			
4	11	RL	fuc	140		151.2			
4	12	RL	fir	25		27.25			
4	13	RL	lam	40		45.2			
4	14	RL	fir	50		54.5			
4	15	RL	red	20		21.8			
4	16	RL	lam	55		62.15			
4	17	RL	lam	35		39.55			
4	18	RL	lam	10		11.3			
4	19	RL	red	3		3.27			
4	20	RL	lam	1		1.13			
4	21	RL	lam	1		1.13			
4	22	RL	lam	1		1.13			
4	23	RL	lam	1		1.13			
4	24	RL	lam	1		1.13			
4	25	RL	lam	5		5.65			
4	26	RL	lam	1		1.13			
4	27	RL	lam	1		1.13			
4	28	RL	cym	0		0			
4	29	RL		0		0			
5	1	DG	fuc	0	0				
5	2	DG	fuc	0	0				
5	3	DG	fuc	0	0				
5	4	DG	fuc	0	0				
5	5	DG		0	0				
5	6	DG		0	0				
5	7	DG	elg	35	37.1				
5	8	DG	elg	12	12.72				
5	9	DG	red	1	1.22				
5	10	DG	elg	30	31.8				
5	11	DG	elg	3	3.18				
5	12	DG	elg	0	0				
5	13	DG	lam	5	7.1				
5	14	DG	lam	7	9.94				
5	15	DG		0	0				
5	16	DG		0	0				
6	1	KH		0				0	
6	2	KH		0				0	
6	3	KH	red	0				0	
6	4	KH		0				0	
6	5	KH		0				0	
6	6	KH	red	0				0	
6	7	KH	lam	0				0	
6	8	KH		0				0	

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
6	9	KH		0				0	
7	1	KH	fuc	0				0	
7	2	KH	fuc	0				0	
7	3	KH	lam	0				0	
7	4	KH	lam	1				0.99	
7	5	KH	cym	0				0	
7	6	KH	elg	50				55	
7	7	KH	elg	50				55	
7	8	KH		0				0	
7	9	KH	lam	1				0.99	
7	10	KH	lam	0				0	
7	11	KH		0				0	
7	12	KH	lam	0				0	
7	13	KH	lam	0				0	
8	1	KH	fuc	60				87.6	
8	2	KH		0				0	
8	3	KH	fuc	0				0	
9	1	KH	fuc	5				7.3	
9	2	KH		1				1.1	
9	3	KH		0				0	
9	4	KH	fil	15				16.5	
9	5	KH	fil	5				5.5	
9	6	KH	fil	4				4.4	
9	7	KH	fir	3				3.3	
9	8	KH	red	20				22	
9	9	KH	fil	0				0	
9	10	KH	fil	0				0	
9	11	KH	ulv	2				2.2	
9	12	KH	fir	80				88	
9	13	KH	lam	50				49.5	
9	14	KH	lam	25				24.75	
9	15	KH	lam	45				44.55	
9	16	KH	lam	40				39.6	
9	17	KH	lam	2				1.98	
9	18	KH	lam	0				0	
9	19	KH	lam	0				0	
9	20	KH		0				0	
9	21	KH		0				0	
10	1	WB	fuc	3					3.72
10	2	WB	fuc	20					24.8
10	3	WB	fuc	55					68.2
10	4	WB		0					0
10	5	WB		0					0
10	6	WB		0					0
10	7	WB		0					0
10	8	WB		0					0

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
10	9	WB		0					0
10	10	WB		1					1.09
10	11	WB	elg	0					0
10	12	WB	elg	1					0.77
10	13	WB	elg	40					30.8
10	14	WB	elg	25					19.25
10	15	WB	elg	60					46.2
10	16	WB	elg	80					61.6
10	17	WB	elg	100					77
10	18	WB	elg	80					61.6
10	19	MP		0			0		
11	1	MP	fuc	8			11.36		
11	2	MP	fuc	0			0		
11	3	MP		0			0		
11	4	MP		0			0		
11	5	MP	fuc	0			0		
11	6	MP	fuc	0			0		
11	7	MP	fuc	25			35.5		
11	8	MP	fuc	5			7.1		
11	9	MP	fuc	8			11.36		
11	10	MP	fuc	10			14.2		
11	11	MP	fuc	40			56.8		
11	12	MP		0			0		
11	13	MP	fuc	30			42.6		
11	14	MP	ulv	2			2.12		
11	15	MP	fuc	20			28.4		
11	16	MP	fuc	50			71		
11	17	MP	fil	25			26.5		
11	18	MP	lam	50			53		
11	19	MP	elg	15			13.35		
11	20	MP	elg	8			7.12		
11	21	WB	elg	25					19.25
11	22	WB	elg	5					3.85
11	23	WB	elg	20					15.4
11	24	WB	elg	2					1.54
11	25	WB		0					0
11	26	WB		0					0
12	1	WB		0					0
12	2	WB		0					0
12	3	WB		0					0
12	4	WB	fuc	5					6.2
12	5	WB	fil	1					1.09
12	6	WB		0					0
12	7	WB		1					1.09
12	8	WB	elg	35					26.95
12	9	WB	elg	100					77

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
12	10	WB	elg	35					26.95
12	11	WB	elg	80					61.6
12	12	WB	elg	70					53.9
12	13	WB	elg	50					38.5
12	14	WB	elg	0					0
12	15	WB		0					0
12	16	WB		0					0
13	1	WB		0					0
13	2	WB	fuc	3					3.72
13	3	MP		0			0		
13	4	MP	elg	3			2.67		
13	5	MP		0			0		
13	6	MP		0			0		
13	7	MP		0			0		
13	8	MP		0			0		
13	9	MP		0			0		
13	10	MP		0			0		
13	11	MP		0			0		
14	1	DG		0	0				
14	2	DG	fuc	5	7.1				
14	3	DG	fuc	6	8.52				
14	4	DG	fuc	5	7.1				
14	5	DG	fuc	20	28.4				
14	6	DG	fuc	8	11.36				
14	7	DG	fir	3	3.66				
14	8	DG	fir	5	6.1				
14	9	DG	ala	0	0				
14	10	DG	lam	0	0				
14	11	DG		0	0				
14	12	DG	fir	0	0				
14	13	DG	hir	0	0				
14	14	DG	lam	0	0				
14	15	DG		0	0				
14	16	DG	lam	0	0				
15	1	RL	fil	0		0			
15	2	RL	fil	0		0			
15	3	RL	fuc	20		21.6			
15	4	RL	fil	0		0			
15	5	RL	fir	25		27.25			
15	6	RL		0		0			
15	7	RL		0		0			
15	8	RL	fil	3		3.27			
15	9	RL	fuc	5		5.4			
15	10	RL	fir	2		2.18			
15	11	RL	fuc	1		1.08			
15	12	RL	fuc	0		0			

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
15	13	RL	fuc	0		0			
15	14	RL	fuc	0		0			
15	15	RL	fuc	3		3.24			
15	16	RL	fil	5		5.45			
15	17	RL	fil	10		10.9			
15	18	RL	fil	0		0			
15	19	RL	fil	0		0			
15	20	RL	fuc	2		2.16			
15	21	RL	fil	1		1.09			
15	22	RL	fil	0		0			
15	23	WB		0					0
15	24	WB	lam	4					3.56
15	25	WB	lam	12					10.68
15	26	WB	lam	10					8.9
15	27	WB	lam	40					35.6
15	28	WB	lam	15					13.35
15	29	WB	lam	10					8.9
15	30	WB	lam	15					13.35
15	31	WB	lam	15					13.35
15	32	WB	hir	25					29.75
15	33	WB	hir	90					107.1
15	34	WB	lam	15					13.35
15	35	WB	hir	25					29.75
15	36	WB	hir	160					190.4
15	37	WB	lam	1					0.89
15	38	WB	fir	3					3.27
15	39	WB	lam	0					0
15	40	WB		0					0
15	41	WB		0					0
15	42	WB		0					0
16	1	WB	fil	0					0
16	2	WB	fil	0					0
16	3	WB	lam	0					0
16	4	WB	lam	0					0
16	5	MP	lam	0			0		
16	6	MP	lam	0			0		
16	7	MP	lam	8			8.48		
16	8	MP	hir	5			5.7		
16	9	MP	hir	150			171		
16	10	MP	hir	175			199.5		
16	11	MP	hir	1			1.14		
16	12	MP	lam	0			0		
16	13	MP	lam	0			0		
16	14	MP		0			0		
17	1	DG	fir	4	4.88				
17	2	DG	ulv	1	1.22				

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	DG cor	RL cor	MP cor	KH cor	WB cor
17	3	DG	fir	0	0				
17	4	DG		0	0				
17	5	DG	fir	3	3.66				
17	6	DG		0	0				
17	7	DG	fuc	1	1.42				
17	8	DG	hir	35	43.4				
17	9	DG	lam	1	1.42				
17	10	DG		0	0				
17	11	DG		0	0				
17	12	DG		0	0				
17	13	DG	lam	10	14.2				
17	14	DG		0	0				
17	15	DG	lam	10	14.2				
17	16	DG	lam	5	7.1				
17	17	DG	lam	30	42.6				
17	18	DG	lam	40	56.8				
17	19	DG	lam	50	71				
17	20	DG	lam	12	17.04				
17	21	DG	lam	5	7.1				
17	22	DG	lam	0	0				
17	23	DG		0	0				
18	1	KH	fuc	15				21.9	
18	2	KH	fuc	0				0	
18	3	KH	elg	85				93.5	
18	4	KH	elg	90				99	
18	5	DG	elg	15	15.9				
18	6	DG	elg	1	1.06				
18	7	DG	lam	0	0				
18	8	DG		0	0				

Hobart Bay-Port Houghton Survey — May 11, 2000

Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL	RL cor	MP cor	KH cor	WB cor
1	1	BL		0	0				
1	2	BL	lam	0	0				
1	3	BL	lam	0	0				
1	4	BL		0	0				
2	1	KH	fuc	0				0	
2	2	KH		0				0	
2	3	KH		0				0	
2	4	KH		1				1.1	
2	5	KH	fuc	30				43.8	
2	6	KH	ala	3				2.97	
2	7	KH	lam	1				0.99	
2	8	KH	lam	0				0	

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL	RL cor	MP cor	KH cor	WB cor
2	9	KH	lam	0				0	
3	1	MP	fuc	0			0		
3	2	MP	fuc	0			0		
3	3	MP	lam	0			0		
3	4	MP	lam	0			0		
3	5	MP	lam	0			0		
3	6	MP	lam	0			0		
3	7	MP	agm	0			0		
3	8	MP	agm	0			0		
4	1	WB	fuc	10					12.4
4	2	WB	fil	15					16.35
4	3	WB	lam	0					0
5	1	MP	fuc	40			56.8		
5	2	MP		0			0		
5	3	MP	lam	0			0		
5	4	MP	agm	0			0		
6	1	RL	fuc	10		10.8			
6	2	RL	lam	45		50.85			
6	3	RL	lam	125		141.25			
6	4	RL		0		0			
6	5	RL	lam	0		0			
7	1	BL	fuc	60	105.6				
7	2	BL	fuc	65	114.4				
7	3	BL		0	0				
7	4	BL		0	0				
8	1	KH		0				0	
8	2	KH		20				22	
8	3	KH		0				0	
8	4	KH		0				0	
9	1	MP		0			0		
9	2	MP	fuc	0			0		
9	3	MP	ulv	0			0		
9	4	MP		0			0		
9	5	MP	elg	0			0		
9	6	MP	elg	5			4.45		
9	7	MP	elg	5			4.45		
9	8	MP	elg	2			1.78		
9	9	MP	elg	8			7.12		
9	10	MP	elg	4			3.56		
9	11	MP	elg	1			0.89		
9	12	MP	elg	0			0		
9	13	MP	lam	0			0		
9	14	MP	lam	0			0		
9	15	MP	agm	0			0		
10	1	RL		0		0			
10	2	RL		0		0			

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL	RL cor	MP cor	KH cor	WB cor
10	3	RL	fir	0		0			
10	4	RL	fuc	0		0			
10	5	RL	fuc	0		0			
10	6	RL		0		0			
10	7	RL		0		0			
10	8	RL		0		0			
10	9	RL		0		0			
10	10	RL	red	0		0			
10	11	RL	red	0		0			
10	12	RL		0		0			
10	13	RL	ala	0		0			
10	14	RL	ulv	0		0			
10	15	RL	ala	0		0			
10	16	RL		0		0			
10	17	RL	lam	4		4.52			
10	18	RL	lam	1		1.13			
10	19	RL	ulv	0		0			
10	20	RL	lam	1		1.13			
10	21	RL	lam	0		0			
10	22	RL		0		0			
10	23	RL		0		0			
10	24	RL		0		0			
10	25	RL		0		0			
11	1	MP	fuc	50			71		
11	2	MP	fuc	40			56.8		
11	3	MP		0			0		
11	4	MP		0			0		
11	5	MP		1			1.06		
11	6	MP		0			0		
11	7	MP		0			0		
11	8	MP	ala	2			2.12		
11	9	MP	red	0			0		
11	10	MP	ala	0			0		
11	11	MP	ala	0			0		
11	12	MP	lam	0			0		
11	13	MP	lam	2			2.12		
11	14	MP	agm	3			3.18		
11	15	MP	lam	1			1.06		
11	16	MP	lam	4			4.24		
11	17	MP		0			0		
11	18	MP	lam	0			0		
12	1	WB	fuc	0					0
12	2	WB	fuc	0					0
12	3	WB		0					0
12	4	WB		0					0
12	5	WB		0					0

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL	RL cor	MP cor	KH cor	WB cor
12	6	WB	red	0					0
12	7	WB	fil	0					0
12	8	WB	fir	0					0
12	9	WB	lam	20					17.8
12	10	WB	lam	5					4.45
12	11	WB	agm	9					8.01
12	12	WB	agm	10					8.9
12	13	WB	lam	0					0
13	1	BL	ala	10	14.6				
13	2	BL	lam	2	2.92				
13	3	BL		0	0				
13	4	BL	fil	0	0				
13	5	BL	agm	0	0				
13	6	BL	lam	0	0				
13	7	BL	fil	0	0				
14	1	WB	fuc	60					74.4
14	2	WB	fuc	120					148.8
14	3	WB		40					43.6
14	4	KH	ala	0				0	
14	5	KH	lam	1				0.99	
14	6	KH	agm	2				1.98	
14	7	KH	agm	0				0	
14	8	KH	lam	0				0	
14	9	KH		0				0	
15	1	BL	fuc	10	17.6				
15	2	BL	fuc	8	14.08				
15	3	BL		0	0				
15	4	BL	fil	2	2.3				
15	5	BL	fil	0	0				
15	6	BL	red	1	1.15				
15	7	BL	ulv	0	0				
15	8	BL	lam	0	0				
15	9	BL	lam	0	0				
15	10	BL	hir	0	0				
15	11	BL	lam	10	14.6				
15	12	BL	hir	15	19.5				
15	13	BL	hir	80	104				
15	14	BL	lam	2	2.92				
15	15	BL	lam	1	1.46				
15	16	BL	lam	5	7.3				
15	17	BL	lam	10	14.6				
15	18	BL	lam	4	5.84				
15	19	BL	lam	0	0				
15	20	BL	lam	0	0				
15	21	BL	lam	4	5.84				
15	22	BL		0	0				

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL	RL cor	MP cor	KH cor	WB cor
15	23	BL		0	0				
16	1	RL	fuc	0		0			
16	2	RL	fuc	0		0			
16	3	RL	elg	0		0			
16	4	RL	elg	0		0			
16	5	RL	elg	1		1.01			
16	6	RL	elg	1		1.01			
16	7	RL		0		0			
16	8	RL	elg	0		0			
16	9	RL		0		0			
16	10	RL	elg	1		1.01			
16	11	RL	elg	1		1.01			
16	12	RL	elg	1		1.01			
16	13	RL	elg	1		1.01			
16	14	RL	lam	0		0			
16	15	RL	ala	1		1.13			
16	16	RL	lam	1		1.13			
16	17	RL	hir	1		1.3			
16	18	RL	fir	1		1.09			
16	19	RL	lam	1		1.13			
16	20	RL	lam	10		11.3			
16	21	RL	lam	0		0			
16	22	RL	lam	0		0			
16	23	RL	agm	0		0			
16	24	RL	lam	0		0			
16	25	RL	lam	0		0			
16	26	RL	hir	0		0			
17	1	MP	ala	0			0		
17	2	MP	ala	1			1.06		
17	3	MP	ala	2			2.12		
17	4	MP		0			0		
17	5	MP	agm	40			42.4		
17	6	MP	lam	5			5.3		
17	7	MP		0			0		
17	8	MP		0			0		
17	9	MP	lam	0			0		
17	10	MP	hir	0			0		
17	11	MP	hir	0			0		
17	12	MP	lam	0			0		
17	13	MP		0			0		
17	14	MP	hir	0			0		
18	1	RL		0		0			
18	2	RL		25		27.25			
18	3	RL		15		16.35			
18	4	RL		10		10.9			
18	5	RL		20		21.8			

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL	RL cor	MP cor	KH cor	WB cor
18	6	RL		4		4.36			
18	7	RL	fuc	8		8.64			
18	8	RL	fuc	5		5.4			
18	9	RL	fir	3		3.27			
18	10	RL	fir	9		9.81			
18	11	RL	fir	3		3.27			
18	12	WB	ala	3					2.67
18	13	WB	lam	10					8.9
18	14	WB	lam	10					8.9
18	15	WB	lam	1					0.89
18	16	WB	lam	7					6.23
18	17	WB	lam	5					4.45
18	18	WB	lam	2					1.78
18	19	WB	lam	5					4.45
18	20	WB	hir	20					23.8
18	21	WB	lam	3					2.67
18	22	WB	lam	30					26.7
18	23	WB	lam	7					6.23
18	24	WB	ala	0					0
18	25	WB	ala	0					0
18	26	WB	ala	1					0.89
18	27	WB	lam	12					10.68
18	28	WB	lam	8					7.12
18	29	WB	lam	3					2.67
18	30	WB	lam	0					0
18	31	WB	cym	0					0
19	1	BL		0	0				
19	2	BL	ala	1	1.46				
19	3	BL	lam	15	21.9				
19	4	BL	cym	1	1.46				
19	5	BL	cym	0	0				
19	6	BL	lam	1	1.46				
19	7	BL	lam	2	2.92				
19	8	BL	lam	0	0				
19	9	BL	lam	1	1.46				
19	10	BL	lam	0	0				
19	11	BL	lam	0	0				
19	12	BL	lam	0	0				
19	13	BL	lam	0	0				
19	14	BL	agm	0	0				
20	1	RL		0		0			
20	2	RL		0		0			
20	3	RL	fuc	0		0			
20	4	RL	fuc	0		0			
20	5	RL	fuc	0		0			

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL	RL cor	MP cor	KH cor	WB cor
20	6	RL		0		0			
21	1	BL	fir	1	1.15				
21	2	BL	fil	1	1.15				
21	3	BL	lam	2	2.92				
21	4	BL	agm	3	4.38				
21	5	BL	lam	1	1.46				
21	6	BL	agm	2	2.92				
21	7	BL	agm	0	0				
21	8	BL	lam	0	0				
21	9	BL		0	0				
21	10	BL		0	0				
22	1	WB	fuc	15					18.6
22	2	WB	fuc	40					49.6
22	3	WB	fuc	0					0
22	4	WB	fir	60					65.4
22	5	WB	fir	40					43.6
22	6	KH	fir	35				38.5	
22	7	KH	lam	1				0.99	
22	8	KH	fir	2				2.2	
22	9	KH	agm	0				0	
22	10	KH	lam	0				0	
22	11	WB	lam	0					0

Hobart Bay-Port Houghton — May 12-13, 2000

Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL cor	RL cor	MP cor	KH cor	WB cor
1	1	KH		0				0	
1	2	KH	fuc	0				0	
1	3	KH	fuc	0				0	
1	4	KH	fil	0				0	
1	5	KH	fuc	0				0	
1	6	KH	fuc	0				0	
1	7	KH	fir	0				0	
1	8	KH		0				0	
1	9	KH		0				0	
1	10	KH	agm	1				0.99	
1	11	KH	agm	20				19.8	
1	12	KH	agm	8				7.92	
1	13	KH	agm	10				9.9	
1	14	KH	agm	1				0.99	
1	15	KH	agm	10				9.9	
1	16	KH	agm	0				0	
1	17	KH	agm	0				0	
2	1	KH	fil	0				0	
2	2	KH	lam	40				39.6	
2	3	KH	lam	5				4.95	

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL cor	RL cor	MP cor	KH cor	WB cor
2	4	KH	agm	0				0	
2	5	KH	agm	0				0	
3	1	WB		0					0
3	2	WB		5					5.45
3	3	WB	fuc	40					49.6
3	4	WB	fuc	2					2.48
3	5	WB	fuc	1					1.24
3	6	WB	fuc	20					24.8
3	7	WB	lam	2					1.78
3	8	WB		0					0
3	9	WB	lam	1					0.89
3	10	WB	lam	1					0.89
3	11	WB	lam	0					0
3	12	WB		0					0
4	1	BL	fuc	0	0				
4	2	BL		0	0				
4	3	BL	fuc	0	0				
4	4	BL		0	0				
4	5	BL		0	0				
4	6	BL	fuc	0	0				
4	7	BL	fir	5	5.75				
4	8	BL	fuc	0	0				
4	9	BL	fuc	0	0				
4	10	BL	fuc	0	0				
4	11	BL	fuc	0	0				
4	12	BL	ulv	0	0				
4	13	BL	red	0	0				
4	14	BL	fir	0	0				
4	15	BL	fir	0	0				
4	16	BL	lam	0	0				
4	17	BL	lam	0	0				
4	18	BL	agm	0	0				
5	1	RL		0		0			
5	2	RL		0		0			
5	3	RL		0		0			
5	4	RL	ala	0		0			
5	5	RL	ala	2		2.26			
5	6	RL	ala	0		0			
5	7	RL	lam	1		1.13			
5	8	RL	lam	0		0			
5	9	RL		0		0			
5	10	RL		0		0			
5	11	RL		0		0			
5	12	RL		0		0			
6	1	WB		0					0
6	2	WB		0					0

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL cor	RL cor	MP cor	KH cor	WB cor
6	3	WB		0					0
6	4	WB	fuc	0					0
6	5	WB	fuc	0					0
6	6	WB		0					0
6	7	WB		0					0
7	1	BL	fuc	0	0				
7	2	BL	fuc	0	0				
7	3	BL	fir	0	0				
7	4	BL		0	0				
7	5	BL	fuc	0	0				
7	6	BL	red	0	0				
7	7	BL	lam	1	1.46				
7	8	BL	fil	50	57.5				
7	9	BL	lam	60	87.6				
7	10	BL	agm	3	4.38				
7	11	BL	lam	0	0				
7	12	BL	agm	0	0				
8	1	RL	fuc	0		0			
8	2	RL	fir	0		0			
8	3	RL		0		0			
8	4	RL	fuc	0		0			
8	5	RL	fil	0		0			
8	6	RL		0		0			
8	7	RL		0		0			
8	8	RL	fuc	0		0			
8	9	RL		0		0			
8	10	RL	fuc	0		0			
8	11	RL	fuc	0		0			
8	12	RL	fil	0		0			
8	13	RL		0		0			
8	14	RL		0		0			
8	15	RL		0		0			
8	16	RL		0		0			
8	17	RL	ulv	0		0			
8	18	RL	ulv	0		0			
8	19	RL	ulv	0		0			
8	20	RL	ulv	0		0			
8	21	RL		0		0			
8	22	RL		0		0			
8	23	RL	fuc	0		0			
8	24	RL	fil	0		0			
8	25	RL	lam	80		90.4			
8	26	RL	lam	110		124.3			
8	27	RL	lam	35		39.55			
8	28	RL	agm	0		0			
8	29	RL	agm	0		0			

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL cor	RL cor	MP cor	KH cor	WB cor
8	30	RL	lam	0		0			
9	1	BL		0	0				
9	2	BL		0	0				
9	3	BL		0	0				
10	1	BL	fuc	25	44				
10	2	BL	fir	60	69				
10	3	BL	lbk	0	0				
10	4	BL	lam	0	0				
10	5	BL	lam	1	1.46				
10	6	BL	lam	30	43.8				
10	7	BL	hir	5	6.5				
10	8	BL	hir	40	52				
10	9	BL	lam	50	73				
10	10	BL	lam	10	14.6				
10	11	BL	lam	7	10.22				
10	12	BL	hir	80	104				
10	13	BL	lam	2	2.92				
10	14	BL	lam	0	0				
10	15	BL	lam	0	0				
10	16	BL		0	0				
10	17	BL		0	0				
11	1	BL	fuc	70	123.2				
11	2	BL	fuc	30	52.8				
11	3	BL	fuc	80	140.8				
11	4	BL	fuc	30	52.8				
11	5	BL	fir	80	92				
11	6	KH	lam	80				79.2	
11	7	KH	lam	1				0.99	
11	8	KH	hir	50				51	
11	9	KH	fil	20				22	
11	10	KH	hir	8				8.16	
11	11	KH	lam	1				0.99	
11	12	KH	lam	0				0	
11	13	KH	hir	0				0	
11	14	KH	lam	0				0	
11	15	KH	lam	0				0	
12	1	MP	fuc	30			42.6		
12	2	MP	fil	0			0		
12	3	MP	lam	0			0		
12	4	MP	lam	0			0		
12	5	MP	lam	0			0		
12	6	MP	lam	0			0		
12	7	MP	lam	0			0		
12	8	MP	lam	0			0		
12	9	MP	lam	0			0		
12	10	MP	lam	0			0		

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL cor	RL cor	MP cor	KH cor	WB cor
12	11	MP	lam	0			0		
12	12	MP		0			0		
13	1	MP	fuc	60			85.2		
13	2	MP	fuc	50			71		
13	3	MP	fil	60			63.6		
13	4	MP		0			0		
13	5	MP	fuc	25			35.5		
13	6	MP	fuc	20			28.4		
13	7	MP	fuc	20			28.4		
13	8	MP	fuc	0			0		
13	9	MP	fil	0			0		
13	10	MP	fuc	40			56.8		
13	11	MP	ala	50			53		
13	12	BL	red	60	69				
13	13	BL	lam	50	73				
13	14	BL	lam	50	73				
13	15	BL	lam	30	43.8				
13	16	BL	agm	1	1.46				
13	17	BL	hir	80	104				
13	18	BL	lam	25	36.5				
13	19	BL	lam	30	43.8				
13	20	BL	lam	15	21.9				
13	21	BL	lam	0	0				
13	22	BL		0	0				
13	23	BL	hir	30	39				
13	24	BL		0	0				
13	25	BL	lam	1	1.46				
13	26	BL		0	0				
13	27	BL		0	0				
14	1	MP	fuc	10			14.2		
14	2	MP		1			1.06		
14	3	MP	fuc	35			49.7		
14	4	MP	fuc	10			14.2		
14	5	MP	fuc	40			56.8		
14	6	MP	fuc	10			14.2		
14	7	MP	fuc	2			2.84		
14	8	MP		1			1.06		
14	9	MP	fir	45			47.7		
14	10	MP		0			0		
14	11	MP	ulv	1			1.06		
14	12	MP	fir	25			26.5		
14	13	BL	fil	5	5.75				
14	14	BL	fil	20	23				
14	15	BL	elg	20	23.6				
14	16	BL	uvl	0	0				
14	17	BL		0	0				

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL cor	RL cor	MP cor	KH cor	WB cor
14	18	BL	elg	1	1.18				
14	19	BL		0	0				
14	20	BL		0	0				
14	21	BL		0	0				
14	22	BL	elg	0	0				
14	23	BL	elg	0	0				
14	24	BL	elg	1	1.18				
14	25	BL	elg	2	2.36				
14	26	BL		0	0				
14	27	BL		0	0				
14	28	BL	elg	15	17.7				
14	29	BL	elg	15	17.7				
14	30	BL	elg	5	5.9				
14	31	BL	elg	10	11.8				
14	32	BL	elg	10	11.8				
14	33	BL	elg	10	11.8				
14	34	BL	elg	15	17.7				
14	35	BL	elg	20	23.6				
14	36	BL	hir	250	325				
14	37	BL		0	0				
14	38	BL		0	0				
14	39	BL		0	0				
14	40	BL		0	0				
14	41	BL		0	0				
14	42	BL		0	0				
14	43	BL		0	0				
14	44	BL		0	0				
15	1	KH		0				0	
15	2	KH		0				0	
15	3	KH	fil	0				0	
15	4	KH	fuc	0				0	
15	5	KH		0				0	
15	6	KH	fuc	0				0	
15	7	KH		0				0	
15	8	KH	lam	0				0	
15	9	KH	ulv	0				0	
15	10	KH	ulv	0				0	
15	11	KH	ulv	0				0	
15	12	KH	fuc	110				160.6	
15	13	KH	fuc	100				146	
15	14	KH	fir	15				16.5	
15	15	KH	fir	25				27.5	
15	16	KH	fir	10				11	
15	17	KH	ulv	1				1.1	
15	18	KH	lam	4				3.96	

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL cor	RL cor	MP cor	KH cor	WB cor
15	19	KH	ala	90				89.1	
15	20	KH	ala	10				9.9	
15	21	KH	ala	45				44.55	
15	22	KH	ala	25				24.75	
15	23	KH	fir	40				44	
15	24	KH	hir	1				1.02	
15	25	KH	agm	4				3.96	
15	26	KH	lam	3				2.97	
15	27	KH	lam	3				2.97	
15	28	KH	lam	2				1.98	
15	29	KH	lam	1				0.99	
15	30	KH	hir	3				3.06	
15	31	KH	lam	2				1.98	
15	32	KH	lam	5				4.95	
15	33	KH	hir	20				20.4	
15	34	KH		0				0	
15	35	KH	lam	1				0.99	
15	36	KH	lam	0				0	
15	37	KH	agm	8				7.92	
15	38	KH	agm	8				7.92	
15	39	KH		0				0	
15	40	KH	hir	20				20.4	
15	41	KH		0				0	
15	42	KH		0				0	
15	43	KH		0				0	
15	44	KH		0				0	
15	45	KH		0				0	
15	46	KH		0				0	
16	1	RL		0		0			
16	2	RL	fuc	1		1.08			
16	3	RL	fuc	0		0			
16	4	RL		0		0			
16	5	RL	fir	0		0			
16	6	RL	fuc	0		0			
16	7	RL	fir	0		0			
16	8	RL	fuc	0		0			
16	9	RL	fuc	0		0			
16	10	RL		0		0			
16	11	WB		0					0
16	12	WB		0					0
16	13	WB	Fuc	2					2.48
16	14	WB		0					0
16	15	WB	lam	2					1.78
16	16	WB	Fuc	0					0
16	17	WB	fuc	0					0
16	18	WB	fuc	0					0

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL cor	RL cor	MP cor	KH cor	WB cor
16	19	WB	ulv	7					7.63
16	20	WB	fil	1					1.09
16	21	WB	fir	4					4.36
16	22	WB	fir	2					2.18
16	23	WB	fir	5					5.45
16	24	WB	fir	1					1.09
16	25	WB	fir	0					0
16	26	WB		0					0
16	27	WB	lam	0					0
16	28	WB	fir	50					54.5
16	29	WB	fir	30					32.7
16	30	WB	lam	25					22.25
16	31	WB	fir	15					16.35
16	32	WB	fir	40					43.6
16	33	WB	lam	80					71.2
16	34	WB	lam	40					35.6
16	35	WB	lam	35					31.15
16	36	WB	fir	100					109
16	37	WB	fir	80					87.2
16	38	WB	lam	100					89
16	39	WB	lam	50					44.5
16	40	WB	lam	40					35.6
16	41	WB	lam	80					71.2
16	42	WB	lam	60					53.4
16	43	WB	lam	50					44.5
16	44	WB	lam	20					17.8
16	45	WB	lam	25					22.25
16	46	WB	lam	12					10.68
16	47	WB	lam	5					4.45
16	48	WB	hir	30					35.7
16	49	WB	hir	3					3.57
16	50	WB	lam	3					2.67
16	51	WB	lam	1					0.89
16	52	WB	hir	3					3.57
16	53	WB	lam	0					0
16	54	WB	lam	0					0
16	55	WB	lam	0					0
17	1	KH		0				0	
17	2	KH		0				0	
17	3	KH		0				0	
17	4	KH		0				0	
17	5	KH		0				0	
17	6	KH		0				0	
17	7	KH		0				0	
17	8	KH		0				0	
17	9	KH		0				0	

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL cor	RL cor	MP cor	KH cor	WB cor
17	10	KH		0				0	
17	11	KH		0				0	
17	12	KH		0				0	
17	13	KH		0				0	
17	14	KH		0				0	
17	15	KH		0				0	
17	16	KH		0				0	
17	17	KH		0				0	
17	18	KH		0				0	
17	19	KH		0				0	
17	20	KH		0				0	
17	21	KH		0				0	
17	22	KH		0				0	
17	23	KH		0				0	
17	24	KH		0				0	
17	25	KH		0				0	
17	26	KH		0				0	
17	27	KH		0				0	
17	28	KH		0				0	
17	29	KH		0				0	
17	30	KH		0				0	
17	31	KH		0				0	
17	32	KH		0				0	
17	33	KH		0				0	
17	34	KH		0				0	
17	35	KH		0				0	
17	36	KH		0				0	
17	37	KH		0				0	
17	38	KH		0				0	
17	39	KH		0				0	
18	1	RL		0		0			
18	2	RL		0		0			
18	3	RL		0		0			
18	4	RL	fuc	20		21.6			
18	5	RL	fuc	180		194.4			
18	6	RL	fuc	50		54			
18	7	RL	ulv	35		38.15			
18	8	RL	ala	10		11.3			
18	9	RL	lam	30		33.9			
18	10	RL	lam	35		39.55			
18	11	RL	hir	1		1.3			
18	12	RL	hir	25		32.5			
18	13	RL	hir	5		6.5			
18	14	RL	lam	1		1.13			
18	15	RL	lam	0		0			
18	16	RL	lam	0		0			

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL cor	RL cor	MP cor	KH cor	WB cor
18	17	RL	lam	0		0			
18	18	RL	lam	0		0			
18	19	RL	lam	0		0			
18	20	RL	lam	0		0			
19	1	MP		0			0		
19	2	MP		0			0		
19	3	MP		0			0		
19	4	MP	fuc	0			0		
19	5	MP	fuc	0			0		
19	6	MP	fuc	0			0		
19	7	MP		0			0		
19	8	MP	fuc	0			0		
19	9	MP		0			0		
19	10	MP	fuc	35			49.7		
19	11	MP		0			0		
19	12	MP	fuc	8			11.36		
19	13	MP	ulv	0			0		
19	14	MP	ulv	0			0		
19	15	MP	ala	0			0		
19	16	MP		0			0		
19	17	MP	cos	0			0		
19	18	MP	cos	0			0		
19	19	MP	lam	0			0		
19	20	MP	lam	0			0		
19	21	MP	fil	3			3.18		
19	22	MP	hir	0			0		
19	23	MP	lam	0			0		
19	24	MP	fil	0			0		
19	25	MP	fil	0			0		
19	26	MP		0			0		
20	1	BL		0	0				
20	2	BL	fir	0	0				
20	3	BL	fuc	0	0				
20	4	BL		0	0				
20	5	BL		0	0				
20	6	BL	ulv	0	0				
20	7	BL	fuc	0	0				
20	8	BL	fil	0	0				
20	9	BL	ulv	2	2.3				
20	10	BL	ala	25	36.5				
20	11	BL	fuc	50	88				
20	12	BL	ala	0	0				
20	13	BL	ala	5	7.3				
20	14	BL	ala	1	1.46				
20	15	BL	lam	1	1.46				
20	16	BL	lam	0	0				

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL cor	RL cor	MP cor	KH cor	WB cor
20	17	BL	lam	0	0				
20	18	BL	lam	0	0				
20	19	BL	lam	0	0				
21	1	MP		0			0		
21	2	MP		0			0		
21	3	MP		0			0		
21	4	MP		0			0		
21	5	MP		0			0		
21	6	MP		0			0		
21	7	MP		0			0		
21	8	MP		0			0		
21	9	MP	elg	0			0		
21	10	MP	lam	0			0		
21	11	MP	lam	0			0		
21	12	MP	hir	5			5.7		
21	13	MP	hir	3			3.42		
21	14	MP	hir	5			5.7		
21	15	MP	fil	1			1.06		
21	16	MP	hir	3			3.42		
21	17	MP	lam	0			0		
21	18	MP		0			0		
21	19	MP	lam	0			0		
21	20	MP	hir	0			0		
21	21	MP		0			0		
21	22	MP	lam	0			0		
21	23	MP	lam	0			0		
21	24	MP		0			0		
21	25	MP	lam	0			0		
22	1	MP		0			0		
22	2	MP		0			0		
22	3	MP		0			0		
22	4	MP	fuc	0			0		
22	5	MP	fil	8			8.48		
22	6	MP	red	1			1.06		
22	7	MP	lam	2			2.12		
22	8	MP	lam	0			0		
22	9	MP		0			0		
22	10	MP	lam	0			0		
23	1	KH		0				0	
23	2	KH	fuc	0				0	
23	3	KH		0				0	
23	4	KH	red	0				0	
23	5	KH	ulv	0				0	
23	6	KH	ulv	0				0	
23	7	KH	ulv	0				0	
23	8	KH	ulv	0				0	

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Transect no	Observation No	Estimator	Vegetation type	Visual Estimate	BL cor	RL cor	MP cor	KH cor	WB cor
23	9	KH	ulv	0				0	
23	10	KH	ulv	0				0	
23	11	KH	hir	5				5.1	
23	12	KH	hir	50				51	
23	13	KH	hir	75				76.5	
23	14	KH	hir	0				0	
23	15	KH		0				0	
23	16	KH	hir	0				0	
24	1	MP		0			0		
24	2	MP		0			0		
24	3	MP		0			0		

Appendix C. Aerial and skiff herring spawn surveys in Southeast, Alaska, 2000.

Note: Days when active spawn are observed have "spawn" bolded.

Kah Shakes/Cat Island

March 28 Sea Lions in Kwain Bay on Eastern Annette Island. Sea lions west of Mary Island.

April 1 20 Sea lions outside of Kwain Bay. ½ mile of **spawn** on Edge Point.

April 2 1 mile of **spawn** east of Edge Point. Sea Lions north of Crab Bay. Fish west of Edge Point.

April 3 135 sea lions near Crab Bay on Annette Island. Small amounts of **spawn** west of Edge Point, east of Edge Point, and on the eastern shore of Mary Island. Sea lions east of Cat Island and east of Edge Point. ¾ miles of **spawn** north of Kirk Point. Several schools of herring north of Kirk Point.

April 4 ¾ mile of **spawn** on the southwest Mary Island. 2 miles of **spawn** from Kirk Point to the Islands west of Kah Shakes Cove. Annette Island is fishing north of Crab Bay with 65 boats.

April 5 ¼ mile of intense **spawn** on Davidson Point on the southwest point of Annette Island. 1 mile of **spawn** on Davidson Point with several schools of fish seen in Tamgas Harbor. Sea lions west of Edge Point. Spot **spawn** outside of Kah Shakes Cove.

April 6 Spot **spawn** on northwest side of Mary Island. Herring seen north of Cat Island.

April 8 Small spot **spawn** on north side of Mary Island, and a small spot on southwest side of Mary Island. 2-3 miles of **spawn** on southwest side of Annette Island from Grey Point to Canoe Cove.

April 10 Small spot **spawn** on north side of Village Island. ½ mile of **spawn** on west side of Cat Island. 1 mile of **spawn** all around Hotspur Island in five spots with the best **spawn** on the northwest end.

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April 11 Small **spawn** on the south side of Hotspur Island. ½ mile of **spawn** on east shore of Niquette Harbor on northern Duke Island. Small **spawn** just west of Niquette Harbor. ½ mile of **spawn** on north side of Dog Island. Small **spawn** on south side of Double Island. ½ mile of **spawn** on southwest side of Cat Island. Small **spawn** north of Crab Bay on Annette Island.

April 12 Small **spawn** on west side of Dog Island. Small **spawn** in Crab Bay on Annette Island.

West Behm Canal

April 6 ½ mile of **spawn** inside of Pond Reef.

April 7 ½ mile of **spawn** inside of Pond Reef. 30 sea lions south of Point Higgins.

April 9 1 ½ mile of **spawn** from Helm Point to Point Francis. 1 mile of **spawn** from Point Higgins to Whipple Creek.

April 10 3 miles of **Spawn** from Whipple Creek to Survey Point. 1 mile of **spawn** around Helm Point.

April 11 3.5 miles of **spawn** from the north shore of Helm Bay to north of Raymond Cove. 2 miles of **spawn** on entire shore of Vallenar Bay. 1 mile of **spawn** from Rosa Reef to Vallenar Point including the west side of Vallenar Point Islands. **Spawn** on Danger Islands, all around mud Bay, Totem Bight, Pond Reef, south of Whipple Creek, and 2 miles of **spawn** from Point Higgins to Knudson Cove.

April 12 ½ mile of **spawn** north of Refuge Cove and on the Islands west of Refuge Cove. Small **spawn** east of Vallenar Point. 2 miles of **spawn** from Point Higgins to Knudson Cove. Sea Lions south of Trunk Island. 1 mile of **spawn** from Point Francis south. 1 ½ miles of **spawn** all around Mountain Point.

Craig

March 22 Spot **spawn** south of Clam Island.

March 23 Light **spawn** on north side of Clam Island.

March 30 ¾ miles of **spawn** on Southwest side and west side of Fish Egg Island. Herring on southwest side of Fish Egg Island. 70 sea lions on north west side of Fish Egg Island.

March 31 1.5 miles of **spawn** on west side of Fish Egg Island.

April 4 ½ mile of **spawn** around the Ballena Islands. **Spawn** beginning at Fish Egg Reef and covering the south side, west side and north side of Fish Egg Island, including off shore reefs. **Spawn** around Cole Island. Small **spawn** inside Port Bagial.

April 2 Spot **spawn** on northwest shore of Clam Island. ½ mile of **spawn** around Ballena Islands. ¼ mile of **spawn** on south shore of Fish Egg Island. 1/2 mile of **spawn** on west side of Fish Egg Island. Spot **spawn** in Crab Bay.

April 3 ½ mile of **spawn** around the Ballena Islands. Small amounts of **spawn** on west side of Fish Egg Island. Small spots of **spawn** in Crab Bay. Small **spawn** at Entrance Point. ¼ mile of **spawn** around Clam Island. 25 sea lions around Entrance Point.

April 4 1 mile of **spawn** on west side of Abbess Island. ¾ mile of **spawn** on south cove of Wadleigh Island. ½ mile of **spawn** south of Craig. **Spawn** in Crab Bay. ½ mile of **spawn** on east side of Fish Egg Island.

April 5 Spot **spawn** on west side of Abbess Island. 24 sea lions around Abbess Island. 30-40 sea lions around Clam Island.

April 8 1 mile of **Spawn** on east side of Fish Egg Island from Cole Island to Fish Egg Reef.

April 9 Small **spawn** on reef west of Cape Suspiro. ½ mile of **spawn** in south Crab Bay. ½ mile of **spawn** on the south side of Craig.

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Kasaan

April 10 2 miles of **spawn** along Kasaan shoreline and ¾ miles of **spawn** on Sandy Point.

Chickamin River

March 19 ¾ mile of **spawn** on the northwest mouth of Chickamin River.

Sitka

March 9 9:15-10:55. Fair skies with light winds. No herring or spawn seen. Over 400 sea lions were seen in the area west of Crow Island south to Chaichei Island with the highest concentration near Chaichei Island. Also, two whales off of Chaichei Island. The area inside Middle Island along the Halibut Point Road system was quiet as was south of the O'Connell Bridge. There were 10 sea lions at Viskari Rocks and another 13 off of Inner Point. We also surveyed three haul-out rocks west and south of Biorka Island and counted 710 sea lions.

March 10 11:10-12:00. Partly cloudy with light winds. No spawn seen, however, many large schools of herring were seen along Halibut Point Road from Sandy Beach to the mouth of Katlian Bay. Large numbers of sea lions east of the Siginaka Islands and along the Lisianski Peninsula shore to Dog Point. Far fewer sea lions off Chaichei but scattered groups remain in the area as well as two whales. Nothing seen in Hayward, Promisla Bay or Eastern Bay.

March 11 8:20-9:50. High broken overcast and light winds. No herring or spawn seen. Sea lions and whales are well distributed around northern Sitka Sound and concentrations of sea lions were seen along the Halibut Point shoreline, Lisianski Peninsula, Siginaka Islands, Gavanski Islands, Hayward Strait, and Middle and Crow Islands. Large number of birds were seen in the channel east of Kasiana Island.

March 12 9:15-10:25. Overcast with light winds. No herring or spawn seen. Sea lion are more concentrated around Middle, Crow and Kasiana Islands and around the Halibut Point area. A total of 620 sea lions counted in the northern Sitka Sound. One whale was seen north of Middle Island, 2 whales were north of Kasiana Island, and two whales west of Chaichei Island.

March 13 10:00-11:00. Breezy with broken clouds. No spawn seen. A mud "stir" caused by schooling herring was seen in Whiting Harbor. The greatest concentration of sea lions was west and south of Middle Island, outside Crow Island and around Chaichei Island. Sea lions also scattered along the east side of Middle Island, around Kasiana Island, the Gavanski Islands and along the Halibut Point Road system. Very few sea lions in the extreme north of the Sitka Sound with only 11 seen east of the Siginaka Islands and 5 in the Eastern Bay/Promisla Bay/Hayward Strait areas. Quiet to the south of Sitka with 10 sea lions off Kayak Island.

March 14 14:35-15:35. 20-knot winds and broken clouds. No herring or spawn seen. High concentration of sea lions continues west of Crow Island, Gagarin Island, and Chaichei Island totaling 190. Two whales west of Crow Island. 20 sea lions rafted off Halibut Point, 20 sea lions off of Whiting Harbor, 45 sea lions near Eastern Point, 8 sea lions off Lisianski Point, and 4 sea lions inside the mouth of Katlian Bay. South of Sitka, 6 sea lions off Indian River flat.

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March 15 8:55-9:30. Overcast and windy conditions. A spot **spawn** was seen just south of Sandy Beach. Sea lions were scattered around Middle Island with higher concentrations on the south side of the Island. 40 sea lions in south Crow Pass and another 30 sea lions on the north side of Crow Pass. 60 sea lions on the west side of Crow and Gagarin Islands. 80 sea lions were seen in the area from Whiting Harbor to the breakwater to Kasiana Island. South of town not surveyed due to winds.

March 16 9:20-10:30. Rainy with sleet and high winds. No spawn. Some large herring schools were seen in Cedar Cove but no herring were seen elsewhere. Sea lions along the Halibut Point shoreline were in small groups close to the beach and fairly active. Increased bird activity from the breakwater to Halibut Point. Large groups of sea lions were observed west of Gagarin Island, south of Chaichei Island, southwest of Kasiana Island, and outside Whiting harbor. The R/V Sundance observed numerous large schools of herring from Sandy Beach to Harbor Point.

March 17 9:25-10:25. Cloudy with rain. Several fairly large herring schools observed at Indian River flat, Jamestwon Bay, Harris Island, and Thimbleberry Bay. Quiet in Aleutkina Bay, Silver Bay and Eastern Channel. 30 sea lions on the west side of Kasiana Island, 30 off Whiting Harbor, and 15 near Halibut Point. 15:55-16:30. Cloudy with rain. No spawn. Herring schools seen off Sandy Beach, one in Cedar Cove, one off Indian River flat, one in Jamestown Bay and one in Thimbleberry Bay. Sea Lions scattered around Kasiana Island and off Halibut Point.

March 18 9:10-10:20. Broken clouds and light winds. No spawn. Schools seen south of the bridge near the runway, and east of Galankin Island and off Katz Island. The greatest sea lion concentration was north of Whale Island in the Middle Channel area. Things generally quiet to the north with some sea lions at Chaichei Island and Halibut Point.

March 19 9:15-10:00. Broken clouds. 0.4 nautical miles of **spawn** on road system inside Old Sitka Rocks. Large school of herring off Halibut Point. **Fishery 13:15-14:00 north of Old Sitka Rocks - 3,336 tons were harvested.**

March 20 9:20-10:45. Foggy but clearing. **Spawn** in Pirates Cove (0.4 nm) and at Old Sitka Rocks (0.5 nm). Two schools off Samsing Cove, several schools in Crescent Bay, schools east of the runway, 2 large schools in Sitka Channel, and a large school off Halibut Point. Two Whales in south Crow Pass. Nothing seen in Redoubt Bay.

March 21 9:30-10:25. Pirates Cove and Three Entrance Bay both had active **spawn** totally 1.9 nm, and Halibut Point had 2.0 nm of active **spawn**. A large school of herring was seen in Samsing Cove and a school was just south of the bridge. To the north a large amount of herring were seen leading the beach on the east side of Middle Island and several large schools were seen near Kasiana Island. A large school of herring was also seen inside the breakwater.

March 22 8:30-9:30. Active **spawn** in Samsing Cove, Pirates Cove, Three Entrance Bay for a total of 3.1 nm south of Sitka. Active **spawn** on Halibut Point, north Kasiana Island, and south Middle Island for a total of 3.0 nm on the north side of Sitka. Schools of herring were seen at Galankin Island, inside the breakwater, Sandy Beach, Kasiana Island, south Middle Island, Crow Pass, northeast Middle Island, Harbor Point, and Katlian Bay. **Fishery 13:30-13:45 – 1,600 tons harvested.**

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March 23 10:00-11:20. **Spawn** continuing to expand with Samsing Cove, Pirates Cove, and Three Entrance Bay with active **spawn** totaling 4.6 nm. On the north side Halibut Point Road, Katlian Bay, southeast Middle Island, Kasiana Island, and Gagarin Island with active **spawn** totaling 5.6 nm for an overall total of 10.2 nm.

March 24 9:15-10:05. **Spawn** diminishing on the south side with weakened **spawn** continuing in Pirates Cove and Samsing Cove, and no spawn in Three Entrance Bay. On the north side **spawn** continuing to expand on the Halibut Point Road system, in Katlian Bay, south Middle Island and south Crow Island. Total active **spawn** 11.7 nm.

March 25 8:10-8:55. Active **spawn** diminishing along Halibut Point Road but expanding in Katlian Bay, on Kasiana Island, Middle Island, Crow Island, and Gagarin Island. New **spawn** at Apple Island. Weak **spawn** continues in Samsing and Pirates Cove. Total active **spawn** 14.1 nm.

March 26 9:00-9:50. Cloudy and windy. No spawn on the south side. **Spawn** continuing to expand Katlian Bay, Middle Island, Crow Island, Gagarin Island, Kasiana Island, Whiting Harbor, and Apple Islands. No spawn along Halibut Point Road except inside the breakwater near the New Thompson Harbor. Total active **spawn** 13.9 nm.

March 27 9:05-10:00. Poor visibility due to snow and wind. Was not able to fly all of Katlian Bay or Cedar Cove. New **spawn** at Long Island in Mertz Cove. **Spawn** continuing at Whiting Harbor, Battery Island, Middle Island, Crow Island, Gagarin Island, Kasiana Island, Apple Island, Katlian Bay, west shore of Lisianski Peninsula, and Cedar Cove for 20.0 nm of active **spawn**.

March 28 9:30-10:50. Flew south to Windy Pass. Observed 8 sea lions in Windy Pass, 12 sea lions at Dorothy Narrows, and 20 sea lions at Taigud Islands. **Spawn** continuing in Mertz Cove. **Spawn** expanded in Sitka Channel harbor and in Whiting Harbor. Middle Island , Crow Island, Gagarin Island, and Kasiana Island continue to have large amounts of active **spawn**. Two spots on Big Gavanski Island. **Spawn** diminished in Katlian Bay. Total active **spawn** 17.2 nm.

March 29 9:05-9:50. **Spawn** expanded in Crescent Bay from Sealing Harbor to Cannon Island. Long Island **spawn** expanded out of Mertz Cove. Whiting Harbor **spawn** expanded. **Spawn** diminished on the north side but continuing on Middle, Crow, Gagarin, and Kasiana Islands, as well as in Katlian Bay. New **spawn** at Chaichei Island, Parker Islands and the Gavanski Islands. Total active **spawn** 19.9 nm.

March 30 9:10-10:15. South of town **spawn** continuing in Crescent Bay with expansion into Jamestown Bay. Active **spawning** continues at Long Island. North of town, Katlian Bay continues to have **spawn** but weakening. Middle Island, Crow Island, Gagarin Island, Chaichei Island, and Apple Island continue to have active **spawn**. Active **spawn** at Dog Point. Total active **spawn** 12.7 nm.

March 31 14:25-15:30. **Spawning** diminishing on the north side with active **spawn** continuing on south Middle Island, Gagarin Island, Chaichei Island, and Whiting Harbor. On the south side active **spawn** in Crescent Bay, Jamestown Bay and in Mertz Cove, Long Island. Total active **spawn** 6.8 nm.

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April 1 9:10-9:45. Surveyed Sitka Sound and south to Windy Pass. A few sea lions in the Windy Pass area. Small weak **spawns** continuing on south Middle Island and Gagarin Island on the north and on the south **spawn** in the cove on the southeast side of the runway. All of Jamestown Bay from Cannon Island to Harris Island has active **spawn**. A very weak **spawn** in Mertz Cove. No predator concentration to suggest any additional major **spawning** events. Total active **spawn** 3.4 nm.

April 2 8:30-9:15. Surveyed Redoubt Bay to Salisbury Sound. No **spawn** on the north side of Sitka Sound. A small **spawn** on the breakwater of Crescent Harbor and **spawn** continues in the cove to the southeast of the runway. No spawn at Mertz Cove. Nothing seen in Redoubt Bay. In Salisbury Sound, 8 sea lions in St. John Baptist Bay and 5 sea lions in Whitestone Narrows.

April 5 9:15-10:35 (30 minutes Sitka Sound/50 minutes Hoonah Sound). Surveyed Sitka Sound south to Taigud Islands and north to Salisbury Sound. No herring or spawn seen. 60 sea lions seen in Nakwasina Sound and 17 sea lions in Salisbury Sound.

April 10 14:20-16:30 (30 minutes Sitka Sound/60 minutes Hoonah Sound/40 minutes Lisianski Inlet). Quiet in Sitka Sound. Six sea lions at the mouth of Nakwasina Sound.

April 11 9:10-10:00. (25 minutes Sitka Sound/25 minutes Necker and Whale Bay). Surveyed south of town only. 15 sea lions at the mouth of Deep Inlet. 10 sea lions in Windy Pass. No herring or spawn seen.

April 12 9:15-11:30 (30 minutes Sitka Sound/60 minutes Hoonah Sound/45 minutes Lisianski Inlet). Local pilot reported two small **spawns** along the Redoubt Bay shoreline near Road Island late afternoon of April 11. No spawn seen during this flight and no aggregation of predators to indicate any significant spawning event. 30 sea lions as well as one school of herring at the mouth of Deep Inlet.

April 13 13:45-14:15. Surveyed Windy Pass area based on local pilot report of active **spawning** in Windy Pass north of Sevenfathom Bay. One small spot of **spawn** going in a cove north of Sevenfathom Bay and a possible spot in Dorothy Narrows.

April 19 Skiff survey of Windy Pass. 0.3 nm of deposition to the north of Sevenfathom Bay.

Hoonah

April 5 9:15-10:35 (30 minutes Sitka Sound/50 minutes Hoonah Sound). Sunny and calm. In Hoonah Sound no herring or spawn seen. Very few sea lions noted in the Hoonah Sound area during this survey. There were 5 sea lions west of Emmons Island and 15 sea lions in Rose Channel.

April 10 14:20-16:30 (30 minutes Sitka Sound/65 minutes Hoonah Sound/35 minutes Lisianski Inlet). High overcast and calm. No herring or spawn seen. There were 25 sea lions scattered around Emmons Island, 25 sea lions to the north of Vixen Island, 45 sea lions scattered around the area from Vixen Island to Fick Cove to White Cliff Point, and 23 sea lions along the north shore from Broad Creek to Finger River. A total of 124 sea lions counted in Hoonah Sound

April 12 9:15-11:30 (30 minutes Sitka Sound/70 minutes Hoonah Sound/35 minutes Lisianski Inlet). Sunny and calm. No herring or spawn seen. A few sea lions scattered along the north shore from False Island to Finger River. 15 sea lions off White Cliff Point, one whale and 50 sea lions offshore White Cliff Point, 25 sea lions scattered around the Emmons/Vixen Islands area and 5 off of Fick Cove. Two whales out near Ford Rock.

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April 14 9:15-11:10 (80 minutes Hoonah Sound/35 minutes Lisianski Inlet). Sunny and calm No herring or spawn seen. Two whales at the mouth of Ushk Bay, 20 sea lions south Emmons Island, and 45 sea lions off Finger River. Smaller groups of sea lions scattered throughout the area from False Island up into Hoonah Sound. No major change from yesterday.

April 16 13:35-15:20 (70 minutes Hoonah Sound/35 minutes Lisianski Inlet). No herring or spawn seen. Sea lion count is increasing but distributed much the same as the previous survey. Scattered small groups of sea lions from False Island to Finger River. 90 sea lions in two groups rafted off Finger River. A total of 100 sea lions were seen around Vixen/Emmons Islands including 50 off Emmons Point, 30 along the northeast shore of Emmons Island, and the rest scattered in smaller groups

April 18 9:30-11:15. Survey conditions poor due to low ceiling (600-700'). No herring or spawn seen. No big changes from the last survey except the large number of sea lions off Finger River last survey was gone and not accounted for. The greatest concentration of sea lions was off Rodgers Point (30), and the southern side of Emmons Island (50). Small groups of sea lions were scattered around the area. A group of 8 sea lions and one whale were seen offshore near Ford Rock.

April 20 8:30-9:25. Very windy with 45 knot gusts in Peril Strait/Hoonah Sound. No spawn or herring seen. No sea lion counts due to winds.

April 22 8:30-10:50 (60 minutes Hoonah Sound/30 minutes Lisianski Inlet). Scattered clouds with light winds. No herring or spawn seen. Over 70 sea lions were actively feeding offshore the east side of Emmons Island. Smaller groups of sea lions were scattered throughout the Emmons/Vixen Islands area. There were 26 sea lions scattered around the mouth of Patterson Bay and small groups of sea lions along the Chichagof shore from Patterson Bay to Rodgers Point. Very few sea lions seen along the north shore from False Island up into the North Arm

April 23 8:00-9:55 (80 minutes Hoonah Sound/35 minutes Lisianski Inlet) No herring or spawn seen. 50 sea lions off the southeast side of Emmons Island, 2 whales at the mouth of Ushk Bay. Small groups of sea lions from Rodgers Point to Fick Cove and 12 sea lions off Finger River.

April 25 11:35-12:50 (55 minutes Hoonah Sound/20 minutes Lisianski Inlet). No spawn seen. Schools of herring seen at Oly Creek (100 tons), Broad Creek (50 tons), White Cliff (70 tons), Vixen to Fick Cove (100 tons), and in Ushk Bay (50 tons). Sea lions scattered throughout the area with the highest concentration in the Emmons/Vixen Islands area. Three whales feeding off Hoggatt Reef.

April 26 9:15-10:40. Windy conditions. No spawn seen. Schools of herring seen along the west shore of Emmons Island. 40 sea lions off Emmons Point, 10 sea lions off White Cliff and 10 sea lions off West Broad Creek.

April 27 9:20-11:30. Overcast and calm. Large herring school toward the head of Rodman Bay. 1.9 nm of active **spawn** inside north shore of Rodman Bay to Peschani Point. Herring school at Oly Creek, 15 sea lions at Broad Creek, 15 sea lions at West Broad Creek, 20 sea lions off Finger River with a good school of herring leading the beach. Several schools of herring along the north shore of the North Arm and in the Half Tide Neck basin. 25 sea lions off Fick Cove and a large school of herring southeast of Fick Cove. 75 sea lions in the Rodger Point area and 3 herring schools in Ushk Bay.

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April 28 10:15-11:45. Major **spawning** beginning in Hoonah Sound with 1.2 mile active **spawn** at Point Elizabeth, 2.7 nm from Rodgers Point to Fick Cove, 1.1 nm on Vixen Island, and 0.6 nm on Emmons Island for a total of 5.6 nm. 40 sea lions in small groups from False Island to Finger River as well as scattered small schools of herring becoming more concentrated closer to Finger River. 3 schools north shore of North Arm, 1 school mid-Moser Island in North Arm, 1 school off Pederson Point, and 1 school off White Cliff. 160 sea lions in the Fick Cove/Vixen/Emmons area.

April 29 9:05-10:40 – plus 45 minutes travel time (35 minutes for Lisianski Inlet). Active **spawn** – Point Elizabeth 0.3 nm, West Broad Creek 0.9 nm, Finger River 0.3 nm, Emmons Island 1.4 nm, Vixen island 1.0 nm, Rodgers Point to Fick Cove 2.9 nm for a total of 6.8 nm of active **spawn**. 140 sea lions in the Emmons/Vixen/Fick Cove area and 20 sea lions off Finger River.

April 30 10:30-11:20 – plus 45 minutes travel time. No spawn except for a diffuse spot on north Emmons Island. Sea lions all around Emmons and Vixen Islands.

May 1 15:15-16:00 – plus 45 minutes travel time. Weak **spawns** at White Cliff Point and east of Finger River for a total of 0.3 nm.

May 2 10:10-10:45 – plus 45 minutes travel time. No spawn or herring seen. Last flight of the season.

Lisianski

April 10 14:20-16:30 (30 minutes Sitka Sound/65 minutes Hoonah Sound/35 minutes Lisianski Inlet). High overcast and calm. No spawn seen. One 500+ ton herring school as well as several smaller herring schools were seen near Phonograph Creek. A few sea lions scattered around the Inlet.

April 12 9:15-11:30 (30 minutes Sitka Sound/70 minutes Hoonah Sound/35 minutes Lisianski Inlet). Sunny and calm. there was a possible school of herring off Phonograph Creek. There were 11 sea lions off Phonograph Creek, 15 sea lions west of Pelican, 7 sea lions off Steelhead Creek, 10 sea lions east of Junction Island, 10 sea lions north of Miner Island, and 8 sea lions at Basalt Knob.

April 14 9:15-11:10 (80 minutes Hoonah Sound/35 minutes Lisianski Inlet). Sunny and calm. 8-10 herring schools near shore just north of Phonograph Creek. Small groups of sea lions widely scattered throughout the Inlet.

April 16 13:35-15:20 (70 minutes Hoonah Sound/35 minutes Lisianski Inlet). No spawn seen. Two herring schools were seen on the beach just to the north of Phonograph Creek with a few sea lions nearby. A large aggregation of gulls were seen offshore at Sunnyside.

April 22 8:30-10:50 (60 minutes Hoonah Sound/30 minutes Lisianski Inlet). Scattered clouds with light winds. There was 300 yards of active **spawn** between Mite Head and Miner Island. Very few sea lions seen in Lisianski Inlet. No other herring seen.

April 23 8:00-9:55 (80 minutes Hoonah Sound/35 minutes Lisianski Inlet). 0.7 nm of active **spawn** between Miner Island and Mite Head. A few sea lions in Lisianski Inlet. No other herring seen.

April 25 11:35-12:50 (55 minutes Hoonah Sound/20 minutes Lisianski Inlet. A spot of active **spawn** just to the south of the previous **spawn**. No other herring or spawn seen. A few sea lions in Lisianski Inlet.

April 29 9:05-10:40 – plus 45 minutes travel time (35 minutes for Lisianski Inlet). Surveyed to Mite Cove. Spot **spawn** on breakwater at Pelican.

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Lynn Canal

Total miles of spawn: 3.5 Nautical Miles
Spawning dates: 5/4 and 5/10
Peak spawning: 5/10
Escapement biomass: N/A

April 21 61Z w/ McGregor. 11:00 am. Incoming tide with SE winds at 20 mph. Brown water from algal bloom north of Amalga. 80 sea lions seen at the haulout on Benjamin I. 3 small balls of herring seen inside Tee Harbor.

April 27 61Z w/ McGregor. 12:15 pm. Overcast skies with wind speed variable to 25 mph. Brown water. Major sea lion concentrations at mouth of Berners River, presumably following eulachon. 30 seal lions were seen at the haulout on Benjamin I. 2 whales were seen off the Mab I. Shoreline. No herring or spawn seen.

April 29 61Z w/ McGregor. 10:30 am. High tide. Overcast skies. Brown water from algal bloom. 6 sea lions spotted in Berners Bay; 45 seen at the haulout on Benjamin I. No eulachon seen in the rivers. No herring or spawn seen.

May 2 61Z. 10:30 am. 20 sea lions were seen in Berners Bay. 9 schools of herring seen in waters around Sawmill Creek. There were 40 sea lions at the haulout on Benjamin I.

May 4 61Z. Low tide. Winds calm. 8 sea lions in Berners Bay, 6 near Mab I. A trace of **spawn** was seen inside of Mab I. There were 40 sea lions at the haulout on Benjamin I.

May 5 61Z. Mid-tide. Winds calm. Sea lions scattered. No herring seen, no whales seen. There was a small spot **spawn** near the Shrine of St Terese. There were 40 sea lions at the haulout on Benjamin I.

May 7 61Z w/ McGregor. Noon. 7 schools of herring seen near Eagle Beach to Gull I. No new spawn seen, however, 1/3 mile of old **spawn** was verified on the beach inside Mab I. There were 60 sea lions at the haulout on Benjamin I.

May 8 McGregor w/ Ward Air 185. No fish seen in Lynn Canal. Birds on old **spawn** inside Bridget Cove. Whale working off the beaches at both Pt. Bridget and Sawmill Cr. Note **spawn** in Coot Cove in Funter Bay.

May 9 Farrington w/ Tal Air 206. 1:30 pm, 1.5 hrs after low tide. Sunny with excellent visibility. One herring ball seen near Pearl Harbor. A diffuse **spawn** was seen in Sawmill Cove.

May 10 McGregor w/ Tal Air 206. 1:00 pm. Low tide. Large herring schools in Auke Bay from Battleship I to ferry terminal. 3 miles of active **spawn** in Berners Bay along the eastern shoreline from cabin to Sawmill reef.

May 11 McGregor and Farrington in work skiff. 11:00 am. Skiff survey showed a slight increase from yesterday in shoreline covered w/ **spawn**. Egg coverage is a narrow band (4 – 5 feet) starting near +2 ft tide extending below minus tide line. The band is fairly continuous from near the USFS cabin to Sawmill reef, with a couple notable absences. Dive surveys to determine spawn deposition were not conducted because the spawning biomass is obviously below the threshold level. 61Z. noon. 2 schools seen in Auke Bay harbor, 1 school near Waydelich Cr., 3 near ferry terminal. No fish or spawn seen.

May 12 61Z. 1 big school in Auke Bay harbor, 2 small schools outside of harbor, 2 schools near Gitkov dock, and 2 schools near ferry terminal. No fish above Auke Bay.

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May 15 61Z w/ McGregor. 11:00 am. High tide. Excellent visibility. No spawn seen. 6 schools of herring seen inside Auke Bay. Birds were lining the beach near Bridget Cove. No sea lions were on the haulout.
May 17 61Z. 2 big schools of herring inside Auke Bay. Small clam spawn near Lena Cove. Final survey.

Seymour Canal

Total miles of spawn: 18.7 Nautical Miles
Spawning dates: 5/1 – 5/9
Peak spawning: 5/6
Escapement biomass: 4,587 tons

April 19 61Z w/ McGregor. 9:30 am. 1 hour after extreme low tide. Overcast and breezy with whitecaps on the water. Fair amount of predators present: 195 sea lions and 3 whales distributed from Pt Hugh to Faust I. No herring, no spawn seen.
April 21 61Z w/ McGregor. 9:00 am. Low tide. Overcast with SE winds 15 – 20 mph. Slight increase in numbers of predators – now 210 sea lions and 3 whales from Pt Hugh to Faust I. The whales are in the north from #9 Rock to Faust. There are also 40 sea lions along the Big Bend shoreline. No herring, no spawn seen.
April 22 61Z. 12:00 noon. Calm winds and partly cloudy. Sea lions total 325. 3 whales seen. No herring, no spawn seen.
April 24 61Z w/ McGregor. 10:30 am. Low tide. Overcast and showery. Winds E at 10-15 mph. Visibility good. 245 sea lions and 5 whales seen. The whales are well offshore from Sorethumb to Rock Garden. Rafts of birds were present from north of Dorn Island. No herring, no spawn seen.
April 25 61Z w/ Farrington. 1 hour before low tide. Mostly sunny with high overcast. Whitecaps on the water surface. Only 94 sea lions, and 5 whales seen – probably due to poor visibility. No herring, no spawn seen.
April 27 61Z w/ McGregor. 10:15 am. High tide. Overcast with winds westerly at 20 mph. Good visibility. 3 schools of herring inside Winning Cove. Fewer predators – 70 sea lions and 3 whales. Fewer predators to the south than in previous surveys.
April 28 61Z w/ Farrington. 10:15 am. Partly sunny. 1.5 hours after high tide, with calm water surface. 4 schools inside Winning Cove. One school was at the mouth, getting ready to spawn. 285 sea lions and 1 whale seen. 199 of the sea lions were seen to the South.
April 29 61Z w/ McGregor. 8:30 am. 2 hours before high tide. Low clouds and rain, with winds SE at 20. Visibility only fair. 1 school of herring inside Winning cove. 6 whales seen from Sorefinger to Pt Hugh. Only 127 sea lions seen, probably due to poor visibility.
April 30 61Z w/ McGregor. 2:00 pm. Mid-tide. Low clouds and rain, with SE winds at 15 mph. Good visibility. 6 whales north of Rock Garden. Little predator activity from Blackjack to Pt Hugh. No herring, no spawn seen.
May 1 61Z w/ Farrington. 9:45 am. Mid-tide, rising. Low clouds and sprinkles. Whitecaps on the water. A total of 7 whales and 78 sea lions were seen. **Spawn** was seen on reef inside Shortfinger Cove. 61Z w/ McGregor. 3:30 pm. Mid tide, ebbing. Numerous herring schools inside and outside Winning Cove, and multiple schools on the beach inside Shortfinger Cove. 4 spot **spawn** areas inside and immediately north of Shortfinger Cove. 10:15 pm. McGregor and Farrington depart for Seymour aboard R/V Medeia.

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May 2 61Z w/ McGregor. 8:00 am. More **spawn** in same area as yesterday. Approximately 2 miles of herring lining beaches from the west side of the Glass Peninsula opposite Dorn Island north to Winning Cove. 15V. am. Doug Reamer (PFI) estimates 1000 tons leading the beach.
61Z w/ McGregor. 6:10 pm. Low tide and good visibility. Spot **spawn** inside Shortfinger Cove. Multiple herring schools on the beach inside Shortfinger Cove, and extending on the beaches south as far as #9 Rock.
Announced that the Seymour Canal fishery would be placed on 2-hour notice effective 6 a.m., Wednesday, May 3.

May 3 Workskiff w/ McGregor and Farrington. 6:00 am. Herring schools have all left the beaches for deeper waters. Metered 3 schools in the waters around Shortfinger Point. Approximately 300 yards of light **spawn** noted along shoreline in north side of Shortfinger Cove during walk of beach. No herring seen, no active spawn seen. Whale activity is intense in the Shortfinger/Dorn I vicinity .61Z w/ McGregor. 9:00 am. Rain and SE winds to 25 mph. Visibility fair. The activity is much reduced, with only few schools present. Most fish have left the beaches at Shortfinger Cove and south. No spawn seen. 91D w/ Lynch. 12:00 noon & McGregor 1:20 pm. With the high tide, a few schools were coming into shore inside and outside Shortfinger to approximately 1-mile south. No spawn seen. 61Z w/ McGregor. 6:30 pm. 3 small schools near the beach on the south of Shortfinger Pt. No spawn seen.

May 4 Workskiff w/ McGregor and Farrington. 5:30 am. No spawn seen and no herring on the beach. Herring metered inside Shortfinger Cove and off the south end of Dorn I. Whale activity is intense between Shortfinger Cove and Dorn Island. No spawn seen. R/V Medeia. 8:00 am. Hydroacoustic survey shows a large biomass in 40 fm of water in the trench between Dorn I and Shortfinger Cove. 91D w/ McGregor. 1:00 pm. Spot **spawn** developing on the outside of Winning Cove. There are schools leading the beaches from inside Shortfinger Cove south to #9 Rock, also most of the way around Dorn I. No fish seen below Sorefinger Pt. 91D w/ Farrington. 3:00 pm. Spot **spawn** outside Winning Cove. Fish lining the beaches from inside Shortfinger Cove to Sorefinger Cove, and most of Dorn I. 61Z w/ McGregor. 6:10 pm. **Spawn** continues off Winning Cove. Schools are in the shallows and expanding to the south. First schools seen inside Sorefinger Cove.

May 5 Workskiff w/ McGregor, Bachman, and Andrews. 5:00 am. Approximately 1.5 miles of new, active **spawn** from above #9 Rock to just south of Sorefinger Cove. **2 bucket cast net sample taken in spawn.** At 7:45 a.m. it was announced that the fishery would open effective at 9:45 a.m. **Additional 2 buckets of cast net samples** were obtained in several areas near Sorefinger Cove for AWL samples. 61Z w/ McGregor. 9:00 am. **Spawn** is spreading south, just starting in Sorethumb and Rock Garden. Schools are lining the beach all the way to Pt Hugh, although discontinuous. Several spot **spawns** are starting below Pleasant Bay. Thin bands of fish lining shore in many places along this shoreline. Also, schools are along the

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south shore inside Mole Harbor. 61Z w/ McGregor. 3:30 pm. Survey during the ongoing fishery. Active **spawn** north of Cypress Rock to opposite of Dorn I. Schools stretch along shoreline from the Rockgarden to Pt. Hugh. The fishery was closed at 5 p.m., with all nets out of the water by 6 p.m. On-the-grounds catch estimates indicated approximately 378 tons of herring were taken by 44 boats and an average roe percentage of 12.5%. Final fish ticket tabulations indicated a catch of 394 tons. 4 buckets of catch samples (2 boats each sample) taken from tenders on the grounds at the end of the fishery. The test fishery started within 1 hour of the end of the commercial fishery and was completed early the next morning. 3 boats, using 6 nets, participated in the test fishery.

May 6 61Z w/ McGregor. 9:45 am. Medeia left grounds about 6 a.m. 61Z picked up McGregor for aerial survey .Good visibility. **Spawn** has expanded considerably, including the Rockgarden area, Twin Islands, and in areas from the District 10/11 boundary to Pt. Hugh. **Spawning** peaked today with a total active **spawn** of approximately 10 miles.

May 7 61Z w/ McGregor. 10:00 am. Low tide. Excellent visibility in clear skies with no wind. **Spawn** ongoing discontinuously from opposite Faust I to the just north of the Swimming Pool and then within about 1 mile of Pt. Hugh.

May 8 61Z w/ McGregor. 12:00 noon. Low tide. Overcast but calm winds. Excellent visibility. The only active **spawn** on the eastern shore was at Swimming Pool. On the western shore, there was approx. 2 miles of active **spawn** inside and to the south of Pleasant Bay.

May 9 61Z w/ Farrington. 12:45 pm. 1hr after low tide. Sunny with excellent visibility. There was a small **spawn** on the reef on the north entrance to Pleasant Bay. No herring seen.

May 11 61Z. No herring or spawn seen.

May 12 61Z w/ McGregor. Dive transects underway from R/V Sundance. No fish or spawn seen from air, however one mile of previous additional spawn was mapped on the skiff survey.

Oliver Inlet

Total miles of spawn: 2.1 Nautical Miles
Spawning dates: 5/1 – 5/5
Peak spawning: 5/1
Escapement: N/A

April 19 61Z w/ McGregor. 10:00 am. 1.5 hours after low tide. Visibility fair with SE wind to 15 mph. No herring, spawn, or birds seen.

April 21 61Z w/ McGregor. 8:45 am. Low tide. Good visibility. No herring or spawn seen.

April 24 61Z w/ McGregor. 10:20 am. 1 hour before low tide. Overcast with showers, but good visibility. No herring or spawn seen.

April 25 61Z w/ Farrington. 11:10 am. 1 hour before low tide. Sunny with some high overcast. 1 small ball of herring at the head of the inlet. No spawn seen.

April 27 61Z w/ McGregor. 10:15 am. High tide. 3 small balls of herring inside the cove. Nothing outside the inlet. No spawn seen.

April 28 61Z w/ Farrington. 10:00 am. 1 hour after high tide. Partly sunny and calm winds. No herring or spawn seen.

April 29 61Z w/ McGregor. 8:15 am. 2 hours before high tide. Brown water outside the inlet, good visibility inside the inlet. 2 herring schools seen near the head of the inlet. No spawn seen.

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April 30 61Z w/ McGregor. 1:45 pm. Mid-tide, ebbing. Low clouds and rain. Visibility good inside the inlet, but poor outside the inlet. 6 balls of herring were seen near the head of the inlet. No spawn seen.

May 1 61Z w/ Farrington. 9:30 am. Mid-tide. Overcast with sprinkles. 24 sea lions seen. Herring **spawning** in the rapids inside the inlet, and outside on the reef to the NW and shoreline to the east. 3 balls of herring inside to the head of the inlet. 61Z w/ McGregor. 3:15 pm. Mid-tide, ebbing. **Spawn** has increased since morning survey. Birds on the morning **spawn**. 15 herring schools inside the inlet**. 1 bucket cast net sample taken** in diffuse **spawn** at outlet of Oliver Inlet.

May 2 61Z w/ McGregor. No herring or spawn seen.

May 3 61Z w/ McGregor. No herring or spawn seen.

May 4 61Z w/ McGregor. No herring or spawn seen.

May 5 61Z w/ Kelley. Active **spawn** outside on the reef to the NW, and also some **spawn** inside towards the head of the inlet.

May 7 61Z w/ McGregor. 10:00 am. Low tide –3.3 ft. Excellent visibility. No herring or spawn seen.

May 8 61Z w/ McGregor. 11:55 am. Low tide. Excellent visibility. Birds on old **spawn** on reef. No herring or spawn seen.

May 11 61Z. No herring or spawn seen.

May 12 61Z w/ McGregor. No herring or spawn seen.

Tenakee

Total miles of spawn: 13.8 Nautical Miles
Spawning dates: 4/27– 5/3
Peak spawning: 4/27
Escapement: 9,149 tons

April 19 61Z w/ McGregor. 8:30 am. Low tide –2ft. 20 knot winds from SE. Fair amount of predator activity – 70 sea lions and some seagulls – from Crab Bay to Corner Bay. There was intense predator activity on the Chatham shoreline. There were 140 sea lions and 1 whale for the several miles of beach south of South Passage Pt. Also, gulls lined several hundred yards of the beach at Don's Creek, possibly marking an old **spawn**. No herring or active spawn seen.

April 21 61Z w/ McGregor. 10:00 am. 30 minutes prior to low tide. No herring or spawn seen. Most predators have moved back into Tenakee Inlet. Activity centered around Kadashan – 6 whales and 35 sea lions – and around South Passage Pt – 120 sea lions and 3 whales. Birds are still lining the same stretch of Chatham beach.

April 24 61Z w/ McGregor. Cloudy with gusty E winds at 10- 20 mph. All predator activity is between Corner Bay Pt and just outside South Passage Pt. Birds lining the beach on what appears to be old **spawn** just W of Trap Bay. No herring or spawn seen.

April 25 61Z w/ Farrington. Low tide. Sunny with a high overcast. Saw 105 sea lions and 7 whales. No herring or spawn seen.

April 27 61Z w/ McGregor. 11:15 am. Outgoing tide. Overcast with wind from the N at 15-20 mph. Fair visibility. Active **spawn** from about 1 mile north of Basket Bay to 1 mile south of South Passage Pt. Few predators and no herring seen inside Tenakee Inlet.

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April 28 61Z w/ McGregor. 3:30 pm. Low tide. Approximately 3.5 miles of **spawn** along Chatham shoreline, with a slight extension of the **spawn** toward Basket Bay Pt. **A 2-bucket cast net sample of herring** was taken in **spawn** approximately 0.5 miles north of Basket Bay Pt. Sea lions and whales are all outside. Few predators and no herring seen inside Tenakee Inlet, but there was gull activity from Corner Bay to Crab Bay.

April 29 61Z w/ McGregor. 9:30 am. High tide. Low clouds and rain. No mammal activity seen inside Tenakee Inlet. 8 whales near Basket Bay. No herring or spawn seen.

April 30 61Z w/ McGregor. 3:00 pm. Mostly cloudy with SE winds at 15-20. No herring or spawn seen. Good numbers of predators, including 6 whales, remain along the Chatham shoreline. A few more predators inside Tenakee, including 2 whales near Crab Bay.

May 1 61Z w/ Farrington. 1 hour before high tide. 1500 ft ceiling with rain. 67 sea lions and 9 whales seen. No herring or spawn seen.

May 2 61Z w/ McGregor. 9:30 am. Mid-tide. No herring or spawn seen.

May 3 R/V Sundance. Dive survey. Active **spawn** noted by Dave Gordon along Chatham shoreline between basket Bay and Penisular Point during flight from Sitka to meet the Sundance.

May 5 61Z and McGregor. 11 am. Active **spawn** continuing along approximately 1 mile of Chatham shoreline between Basket Bay and Peninsular Point.

Port Frederick

Total miles of spawn: None seen.
Spawning dates: N/A
Peak spawning: N/A
Escapement: N/A

April 24 61Z w/ McGregor. Very quiet. 4 whales. No herring or spawn seen.

April 29 61Z w/ McGregor. Low clouds and rain. Good visibility. 3 whales. No herring or spawn seen.

May 5 61Z. 4 small schools near beach south of Burnt Pt.

May 15 61Z w/ McGregor. 9:50 am. Low tide. Excellent visibility. Greater than 50 balls of herring seen in upper bay. Several large balls were near Humpback Cr. No fish lining beaches, nor spawn seen. Birds lined the beach at Christ Pt, but no eggs were found during foot survey of shoreline.

Taku Harbor

Total miles of spawn: None seen.
Spawning dates: N/A
Peak spawning: N/A
Escapement: N/A

May 2 61Z. 7:30 pm. No herring or spawn seen.

May 11 61Z. No herring or spawn seen.

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Hobart Bay
Total miles of spawn: 10.0.
Spawning dates: 4/28-5/3
Peak spawning: 5/2
Escapement: N/A

19-Apr	"No fish or spawn, 106 SL, 1 Whale, 50 gulls"
21-Apr	"No fish or spawn, 130 SL, 3 Whales, 50 gulls"
23-Apr	"No fish or spawn, 130 SL, 1 Whale, 350 gulls, 400 scoters"
24-Apr	"No fish or spawn, 152 SL, 2 Whales"
26-Apr	"No fish or spawn, 85 SL, 2 Whales"
27-Apr	"No fish or spawn, 124 SL, 4 Whales, 100 gulls, 200 scoters"
28-Apr	"0.2 N. miles active **spawn** N. of Herring Lagoon, 173 SL, 9 Whales, 5,500 scoters"
29-Apr	0.3 N. miles active **spawn** N. of Herring Lagoon (skiff survey)
30-Apr	"0.5 N. miles active **spawn** S. of Herring Lagoon, "
1-May	"1.6 N. miles active **spawn** spread out in several locations, 70 SL, 2 Whales, 4K gulls, 15K scoters"
2-May	"1.8 N. miles active **spawn** spread out in several locations, 2 Whales, 4K gulls, 15K scoters"
3-May	"1.25 miles active **spawn** spread out in several locations, 40 SL, 5K gulls, 8K scoters"
4-May	"No fish or spawn, 15K scoters"
5-May	"No fish or spawn, 15K scoters"
7-May	"Spot spawn on peninsula on outer Windham, 15K scoters"
8-May	"No fish or spawn, >15K scoters"
10-May	Skiff survey: 0.4 N. miles added.

Port Houghton
Total miles of spawn: 4.4
Spawning dates: 4/30-5/4
Peak spawning: 5/2
Escapement: N/A

19-Apr	No fish or spawn
21-Apr	No fish or spawn
23-Apr	"No fish or spawn, 2 SL"
24-Apr	No fish or spawn
26-Apr	No fish or spawn
27-Apr	"No fish or spawn, 13 SL"
28-Apr	"No fish or spawn, 500 scoters"
29-Apr	"No fish or spawn, 500 scoters"
30-Apr	"Two spot **spawns** E. of Harmony Pt., 3 schls, 1,500 scoters"
1-May	"5 schls, N. shore both sides Harmony Pt."
2-May	"0.5 N. miles active **spawn** N. Harmony Pt., 2K gulls, 3K scoters"
3-May	"No spawn, 1 schl E. of Harmony Pt., 8K scoters"
4-May	"Spot **spawn** W. of Bluffs, 8K scoters"
5-May	No fish or spawn
7-May	No fish or spawn

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9-May	No fish or spawn
10-May	Skiff survey: 3.4 N. miles added

Farragut Bay

Total miles of spawn:	0.9
Spawning dates:	4/27
Peak spawning:	4/27
Escapement:	N/A
19-Apr	"No fish or spawn, 0 SL"
21-Apr	"No fish or spawn, 0 SL"
23-Apr	"No fish or spawn, 8 SL"
24-Apr	"No fish or spawn, 18 SL"
26-Apr	"No spawn, 6 small schls, 2 lg schls leading beach N of Bay Pt."
27-Apr	0.9 N. miles of **spawn** N. of Bay Pt.
28-Apr	"No spawn, one schl inside Grand Pt."
1-May	No fish or spawn.

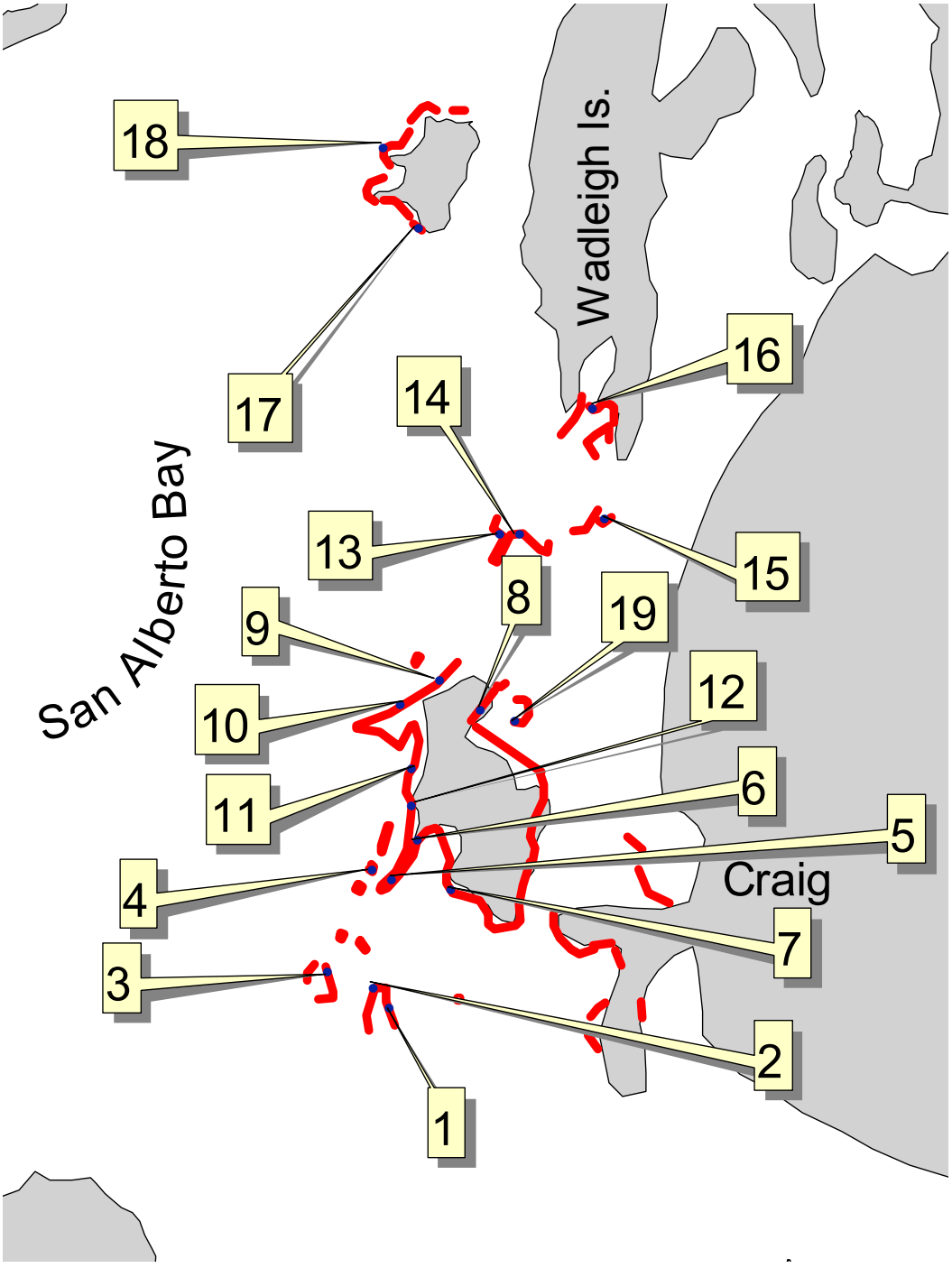
Ernest Sound

Total miles of spawn:	9.1
Spawning dates:	4/8-4/13
Peak spawning:	4/11
Escapement:	N/A
4-Apr	No fish or spawn--Sunrise Aviation report
7-Apr	No fish or spawn--Sunrise Aviation report
8-Apr	Two spot **spawns** @ Vixen Pt.--Sunrise Aviation report
9-Apr	0.1 N. miles active **spawn** on Onslow Pt.
10-Apr	1.8 N. miles active **spawn** N. Vixen Inlet/Pt. And spot on Eagle I.
11-Apr	5.5 N. miles active **spawn** N. Vixen Inlet/Pt. And spot on Eagle I.
12-Apr	2.2 N. miles active **spawn** S. Vixen Inlet and spot on Eagle I.
13-Apr	0.2 N. miles active **spawn** S. Vixen Inlet
14-Apr	No fish or spawn.
21-Apr	No fish or spawn. Birds over a distance of 0.7 miles on beach.

Port Camden

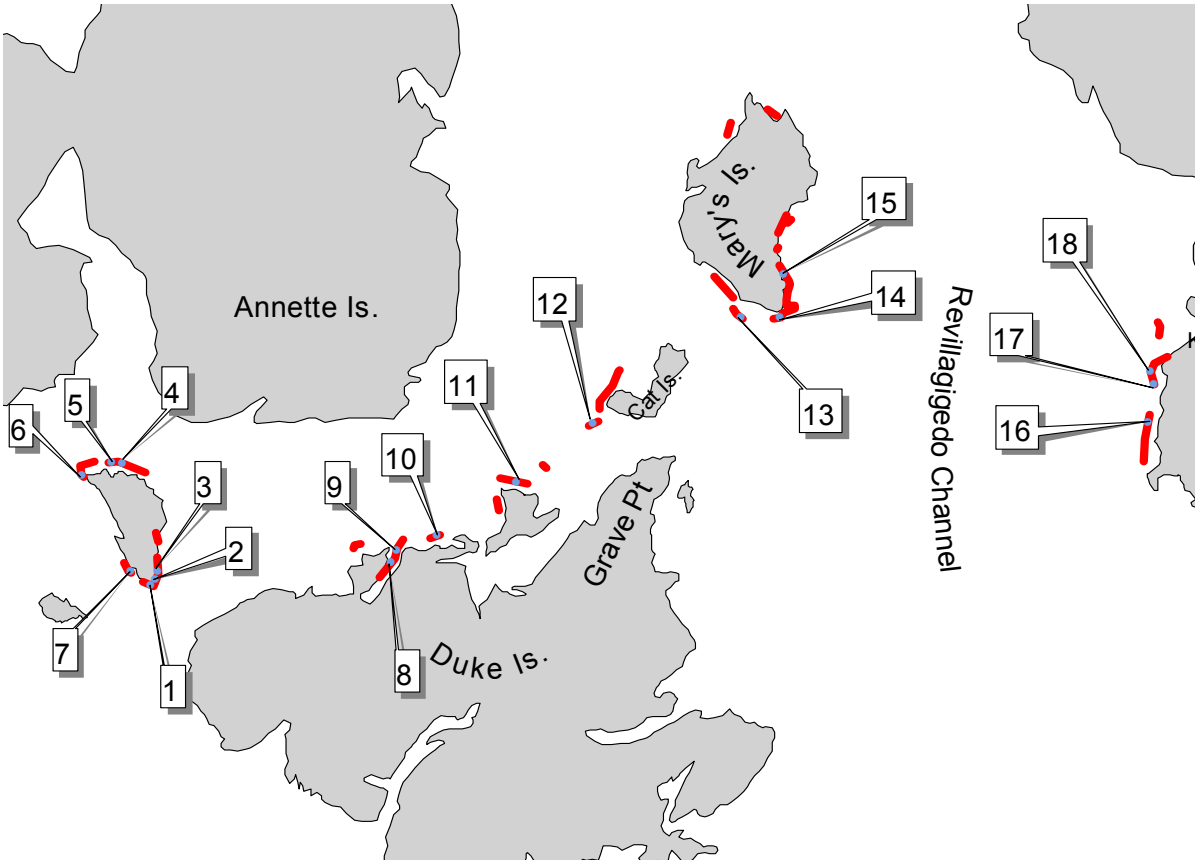
Total miles of spawn:	1.3
Spawning dates:	5/5-5/7
Peak spawning:	5/6
Escapement:	N/A Date
21-Apr	No fish or spawn
30-Apr	No fish or spawn
4-May	"No spawn, fish leading along E. shore opposite Cam I."
5-May	Spot **spawn** and several schls opposite Cam I and in Narrows
6-May	0.75 N. miles active **spawn** along E. shore S. of Pt. Camden
7-May	0.5 N. miles active **spawn** along E. shore S. of Pt. Camden
8-May	"No spawn, 6 schls in Narrows."

Appendix D. Locations of herring spawn and transects used during spawn deposition surveys in 2000.



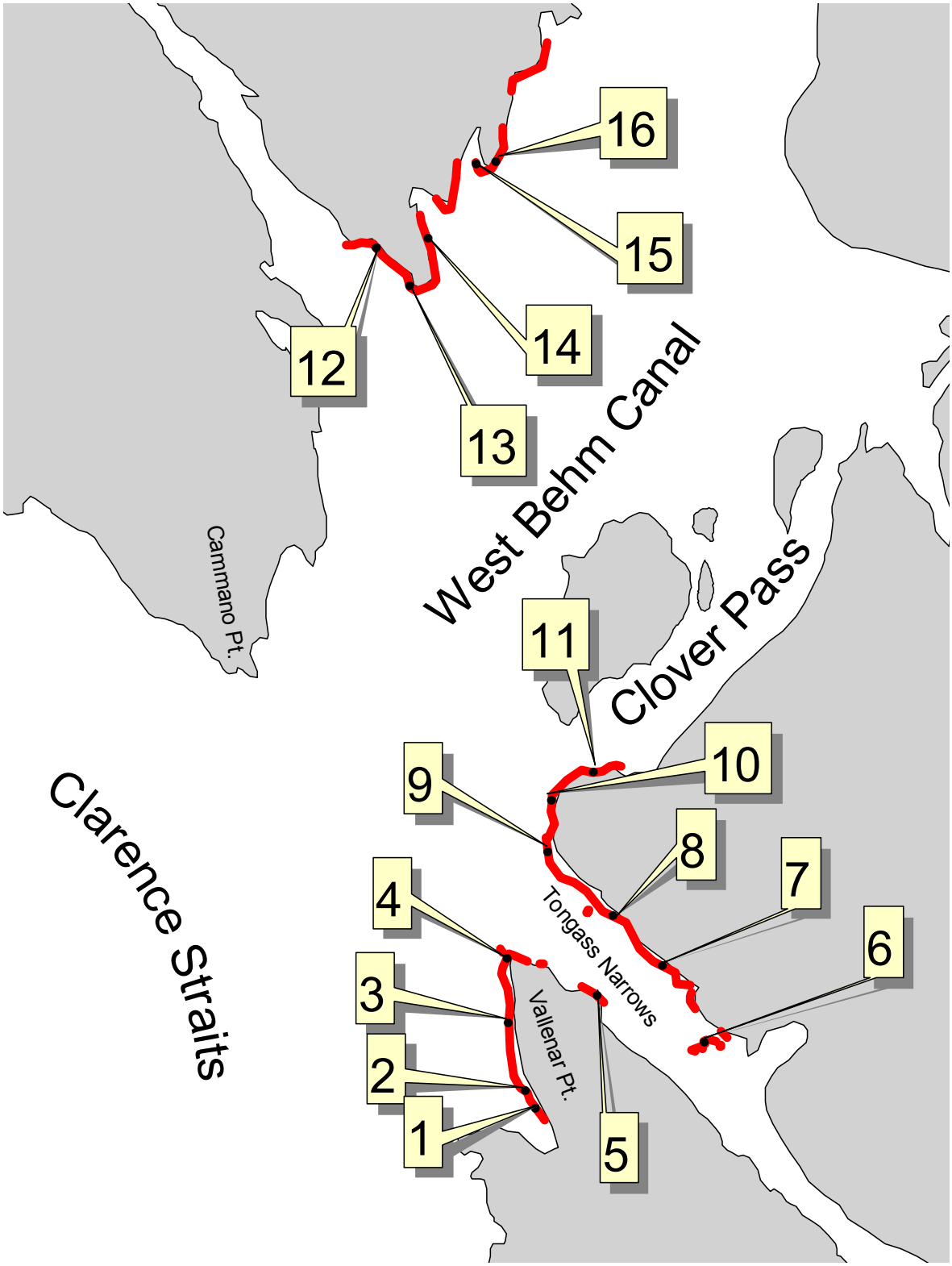
Craig spawning population.

Spawning Stock	Transect Number	Longitude	Latitude
Craig	1	-133.18725	55.46710
	2	-133.19014	55.46928
	3	-133.19886	55.47097
	4	-133.19040	55.48185
	5	-133.18668	55.48084
	6	-133.18172	55.48506
	7	-133.17545	55.47975
	8	-133.16982	55.49885
	9	-133.17752	55.50201
	10	-133.18504	55.49931
	11	-133.18284	55.49255
	12	-133.18296	55.48865
	13	-133.16602	55.51752
	14	-133.16221	55.51759
	15	-133.14605	55.51914
	16	-133.14847	55.53086
	17	-133.18163	55.55007
	18	-133.18822	55.55851
	19	-133.16330	55.49762



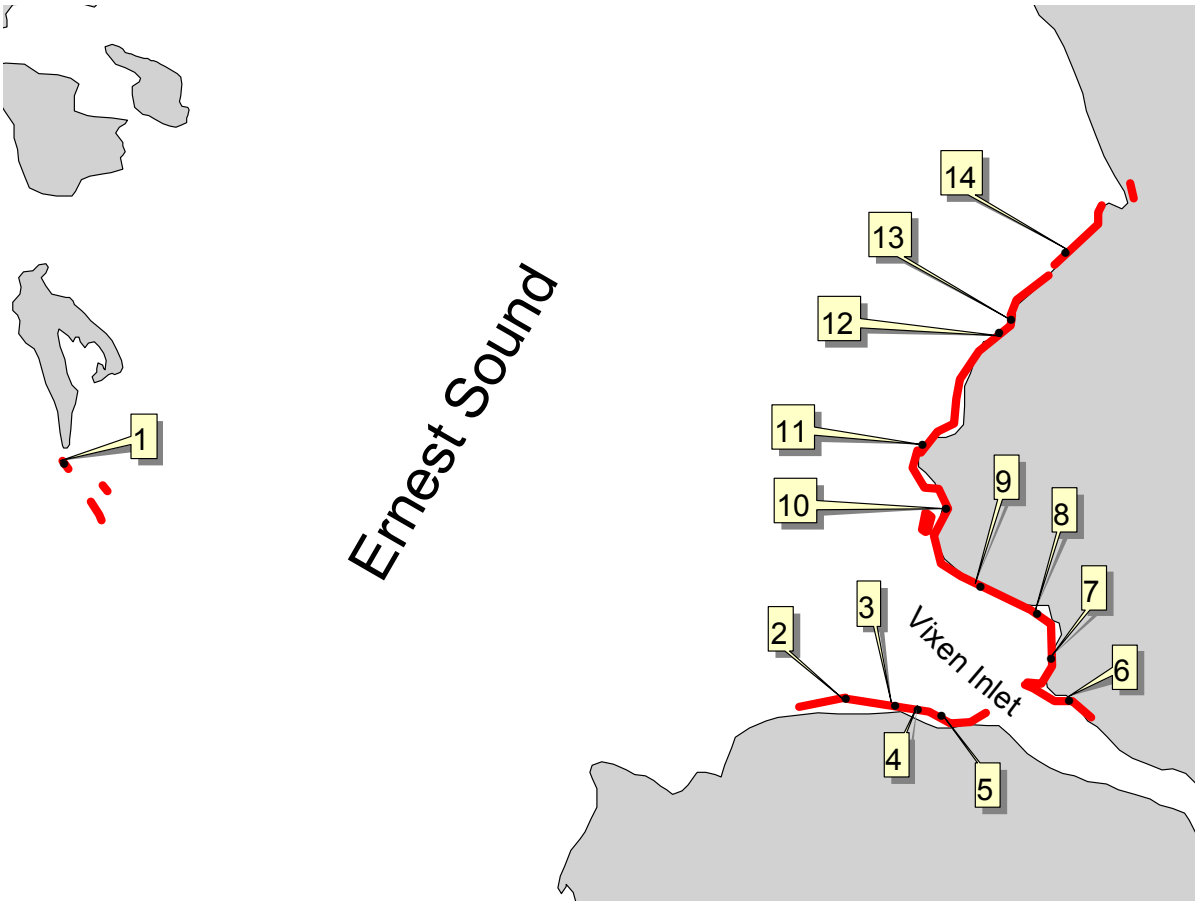
Kah Shakes/Cat Island spawning population.

Spawning Stock	Transect Number	Longitude	Latitude
Kah Shakes/ Cat Island	1	-131.50522	54.96335
	2	-131.50286	54.96505
	3	-131.50181	54.96759
	4	-131.51950	55.00035
	5	-131.52443	55.00064
	6	-131.53913	54.99649
	7	-131.51536	54.96742
	8	-131.38611	54.97011
	9	-131.38319	54.97385
	10	-131.36288	54.97838
	11	-131.32386	54.99463
	12	-131.28564	55.01242
	13	-131.21222	55.04419
	14	-131.19294	55.04451
	15	-131.19085	55.05731
	16	-131.00993	55.01254
	17	-131.00681	55.02408
	18	-131.00860	55.02819



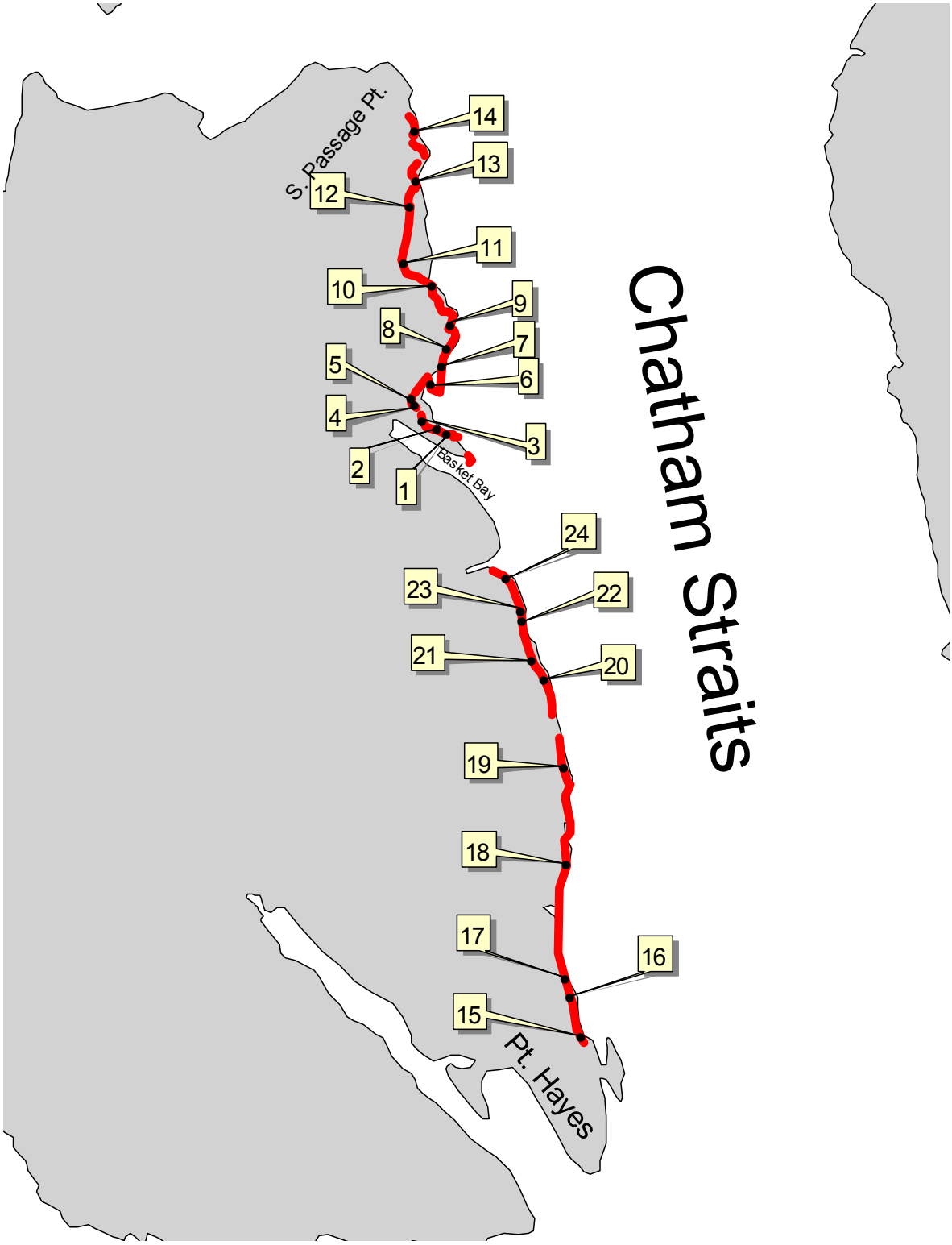
West Behm Canal spawning population.

Spawning Stock	Transect Number	Longitude	Latitude
West Behm Canal	1	-131.83916	55.38618
	2	-131.84376	55.39052
	3	-131.85167	55.40831
	4	-131.85272	55.42521
	5	-131.81045	55.41542
	6	-131.76062	55.40333
	7	-131.77996	55.42327
	8	-131.80306	55.43625
	9	-131.83343	55.45304
	10	-131.83156	55.46636
	11	-131.81251	55.47384
	12	-131.91356	55.61005
	13	-131.89802	55.60028
	14	-131.88949	55.61260
	15	-131.86693	55.63199
	16	-131.85780	55.63266



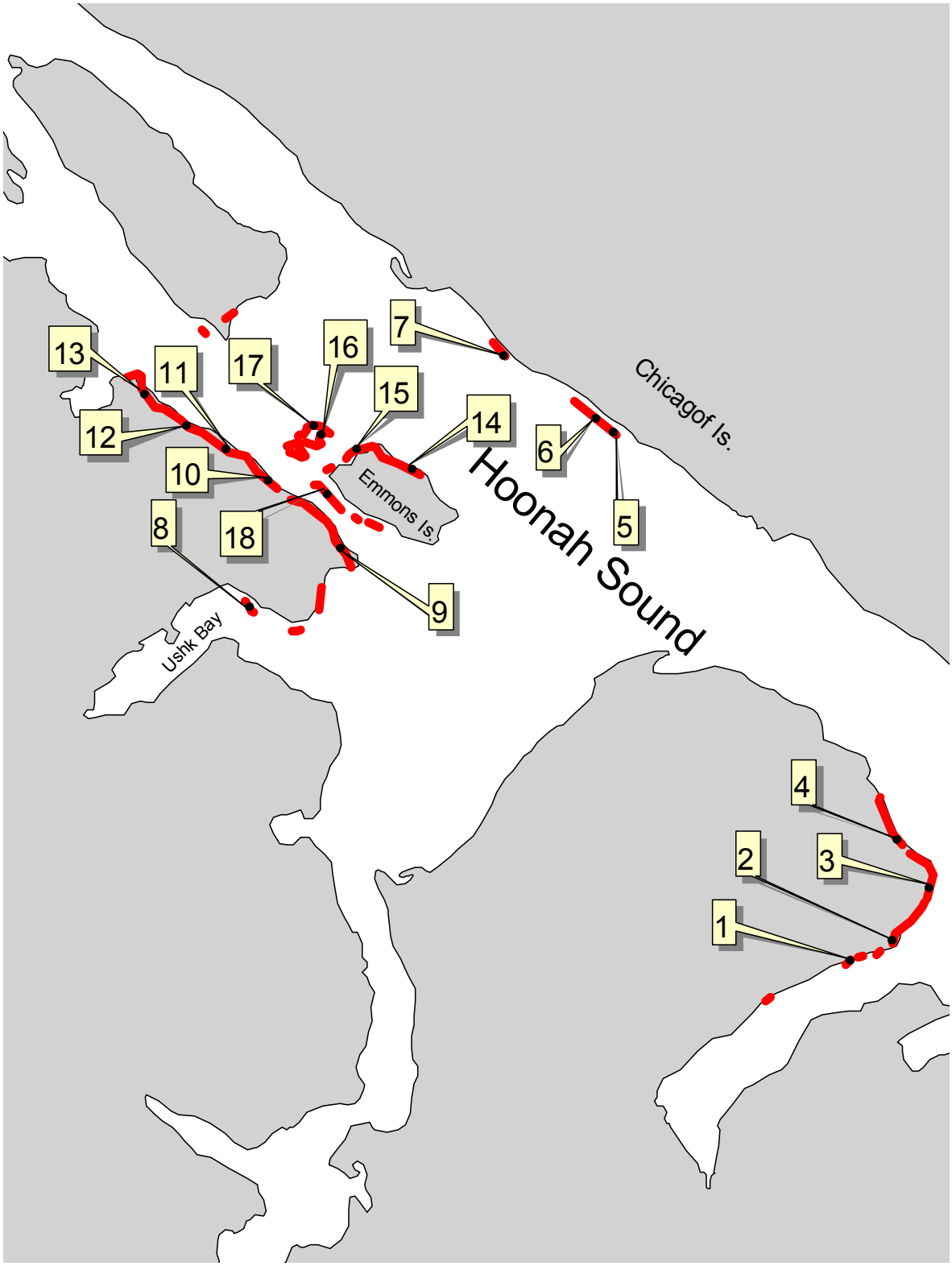
Ernest Sound spawning population.

Spawning Stock	Transect Number	Longitude	Latitude
Ernest Sound	1	-132.32199	55.84840
	2	-132.11544	55.81298
	3	-132.10243	55.81206
	4	-132.09641	55.81151
	5	-132.09023	55.81050
	6	-132.05657	55.81279
	7	-132.06128	55.81911
	8	-132.06486	55.82589
	9	-132.07999	55.82992
	10	-132.08909	55.84172
	11	-132.09511	55.85133
	12	-132.07495	55.86807
	13	-132.07169	55.87008
	14	-132.05738	55.88023



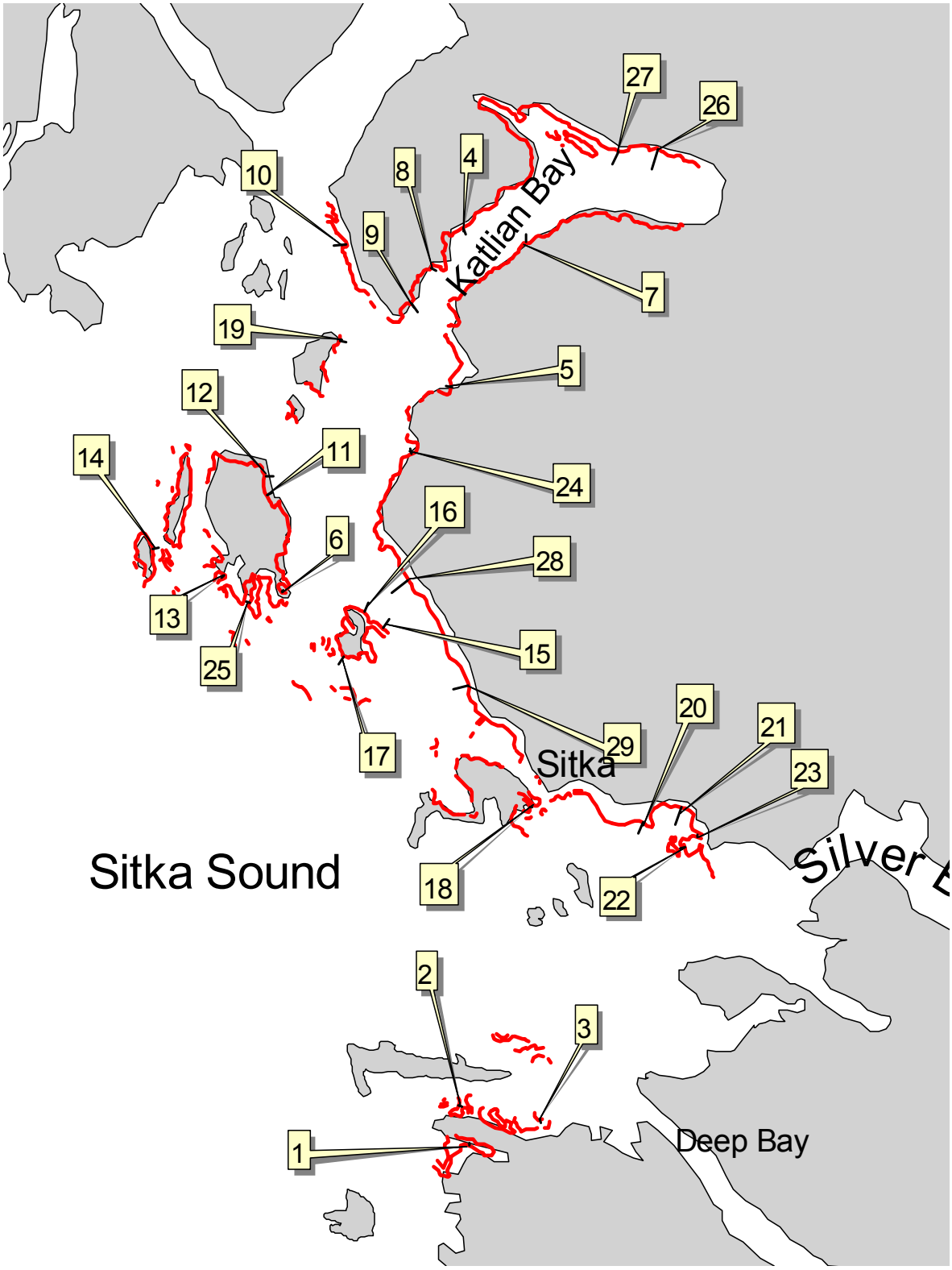
Tenakee Inlet spawning population.

Spawning Stock	Transect Number	Longitude	Latitude
Tenakee Inlet	1	-134.90878	57.66861
	2	-134.91349	57.66987
	3	-134.92016	57.67208
	4	-134.92394	57.67595
	5	-134.92552	57.67778
	6	-134.91643	57.68124
	7	-134.91089	57.68570
	8	-134.90853	57.69044
	9	-134.90718	57.69642
	10	-134.91566	57.70621
	11	-134.92918	57.71191
	12	-134.92639	57.72631
	13	-134.92336	57.73282
	14	-134.92398	57.74551
	15	-134.84530	57.51509
	16	-134.85043	57.52533
	17	-134.85236	57.52994
	18	-134.85214	57.55926
	19	-134.85343	57.58374
	20	-134.86241	57.60613
	21	-134.86818	57.61107
	22	-134.87289	57.62094
	23	-134.87353	57.62369
	24	-134.88037	57.63207



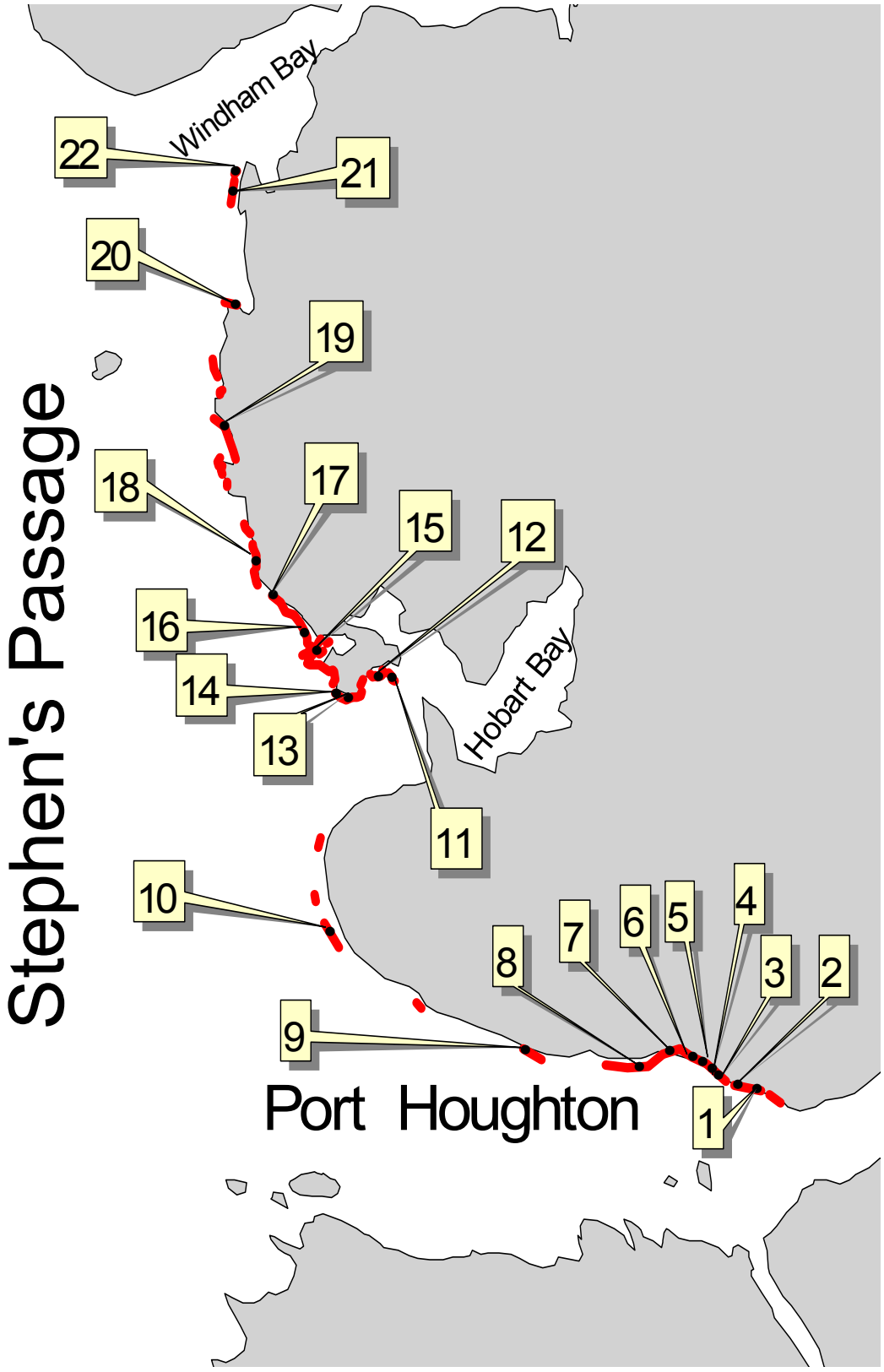
Hoonah Sound spawning population.

Spawning Stock	Transect Number	Longitude	Latitude
Hoonah Sound	1	-135.32831	57.48836
	2	-135.30872	57.49321
	3	-135.29167	57.50592
	4	-135.30653	57.51804
	5	-135.43738	57.61720
	6	-135.44529	57.62073
	7	-135.48774	57.63584
	8	-135.60522	57.57457
	9	-135.56306	57.58888
	10	-135.59653	57.60540
	11	-135.61561	57.61291
	12	-135.63401	57.61882
	13	-135.65331	57.62648
	14	-135.53015	57.60800
	15	-135.55555	57.61309
	16	-135.57201	57.61670
	17	-135.57558	57.61891
	18	-135.56929	57.60217



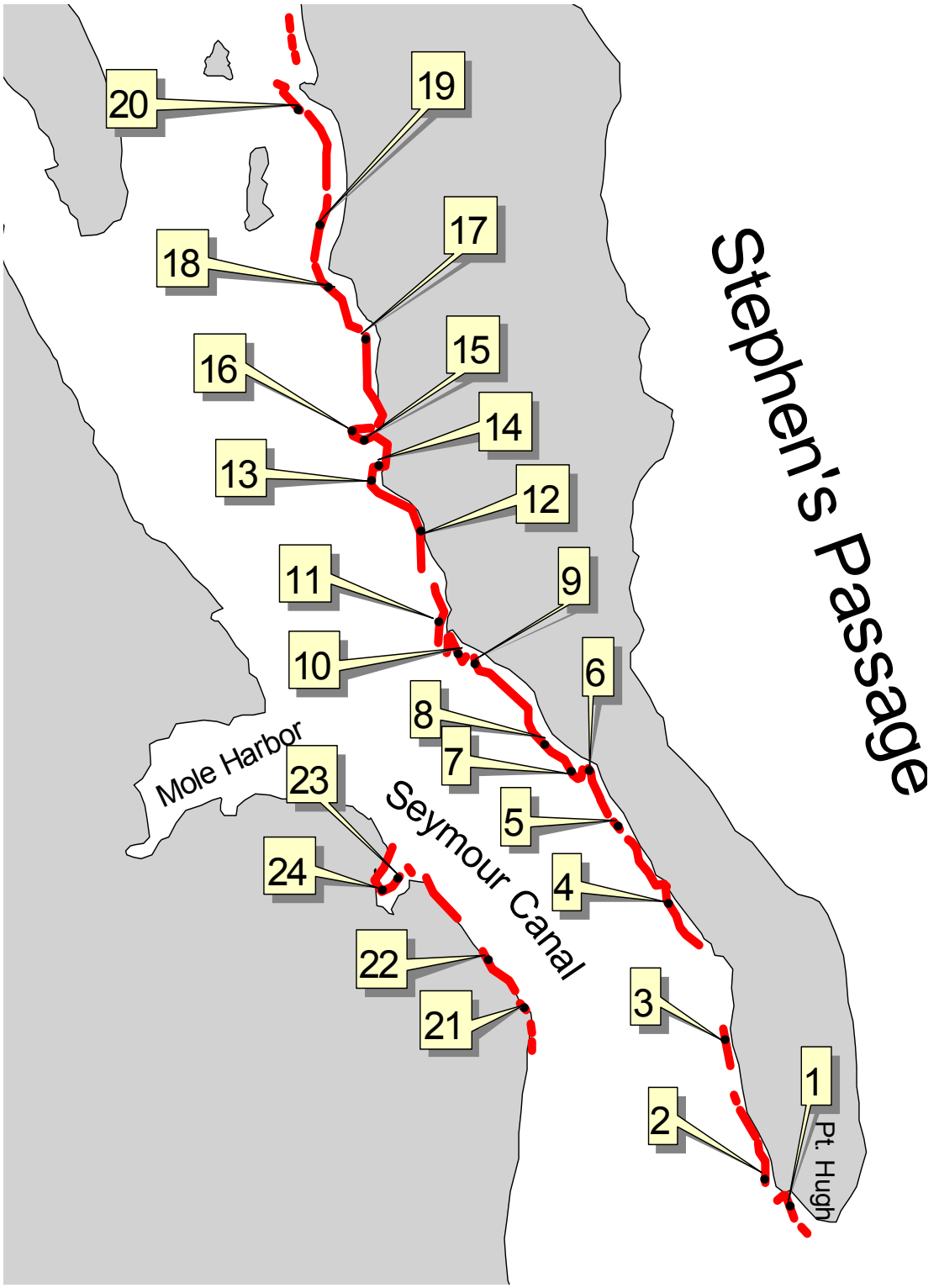
Sitka Sound spawning population.

Spawning Stock	Transect Number	Longitude	Latitude
Sitka Sound	1	-135.3688	56.9786
	2	-135.3728	56.9868
	3	-135.3424	56.9838
	4	-135.3711	57.1615
	5	-135.3757	57.1300
	6	-135.4386	57.0892
	7	-135.3475	57.1587
	8	-135.3829	57.1536
	9	-135.3902	57.1466
	10	-135.4145	57.1583
	11	-135.4442	57.1084
	12	-135.4448	57.1124
	13	-135.4603	57.0925
	14	-135.4866	57.0978
	15	-135.4009	57.0820
	16	-135.4081	57.0852
	17	-135.4158	57.0764
	18	-135.3461	57.0463
	19	-135.4171	57.1393
	20	-135.3041	57.0432
	21	-135.2858	57.0458
	22	-135.2903	57.0388
	23	-135.2836	57.0403
	24	-135.3902	57.1167
	25	-135.4508	57.0869
	26	-135.2983	56.1772
	27	-135.3132	57.1769
	28	-135.3915	57.0912
	29	-135.3689	57.0705



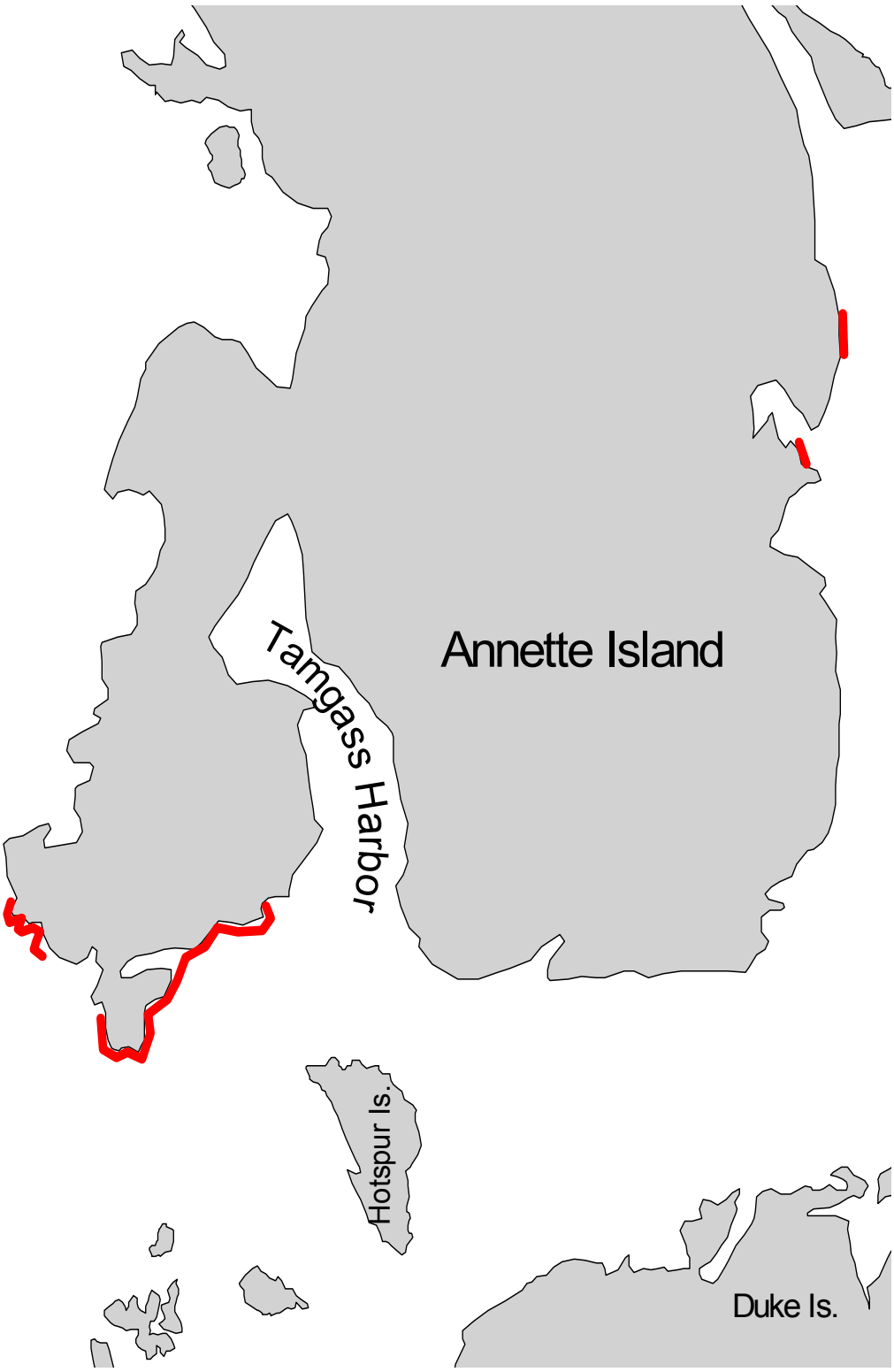
Hobart Bay/Port Houghton spawning population.

Spawning Stock	Transect Number	Longitude	Latitude
Hobart Bay/ Port Houghton	1	-133.25752	57.32724
	2	-133.26732	57.32823
	3	-133.27677	57.33068
	4	-133.27997	57.33224
	5	-133.28445	57.33385
	6	-133.28957	57.33501
	7	-133.30067	57.33639
	8	-133.31572	57.33241
	9	-133.37237	57.33662
	10	-133.46851	57.36471
	11	-133.43808	57.42550
	12	-133.44495	57.42582
	13	-133.45971	57.42062
	14	-133.46581	57.42176
	15	-133.47546	57.43184
	16	-133.48127	57.43615
	17	-133.49699	57.44506
	18	-133.50537	57.45341
	19	-133.52076	57.48548
	20	-133.51544	57.51449
	21	-133.51691	57.54159
	22	-133.51519	57.54637

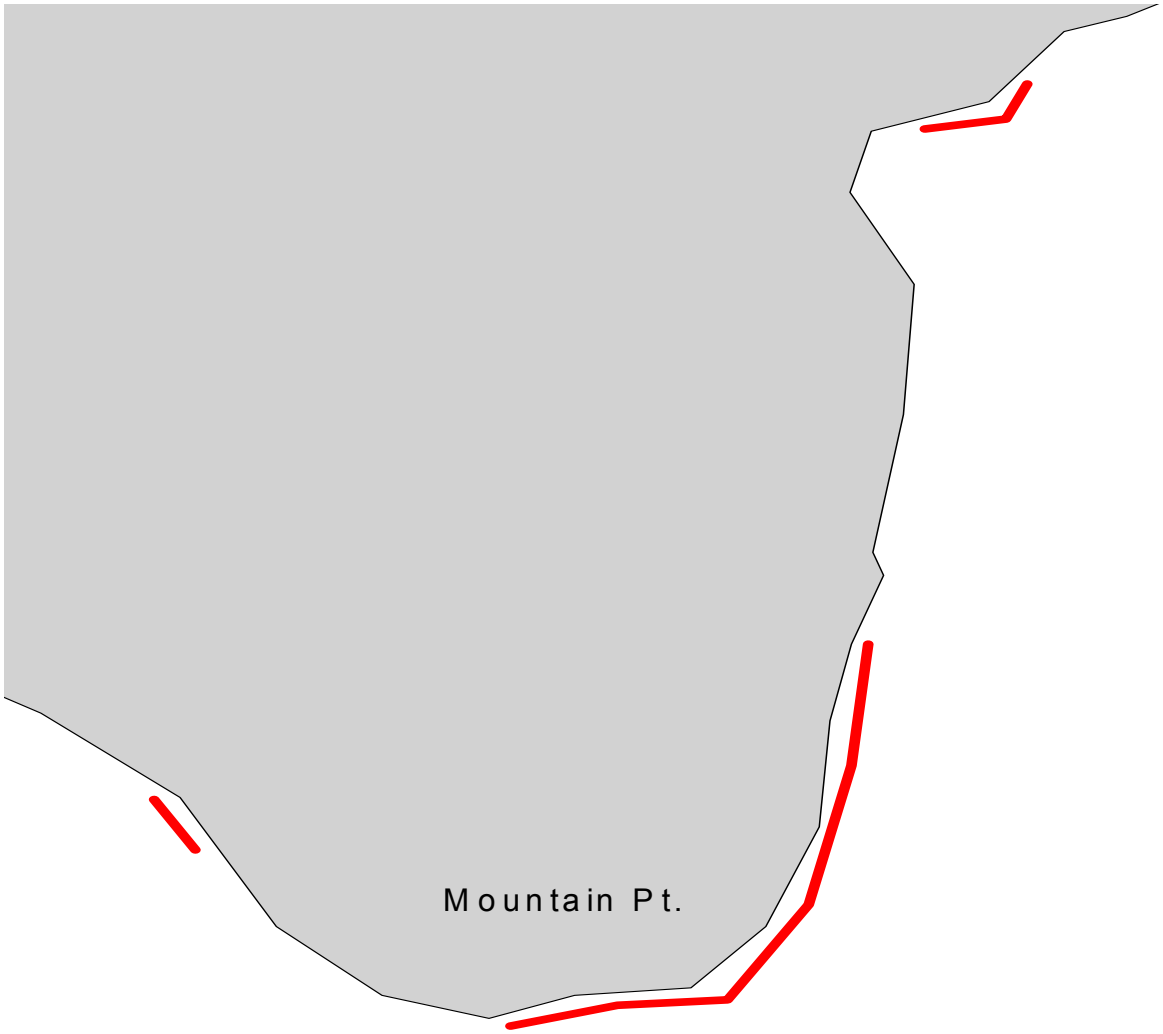


Seymour Canal spawning population.

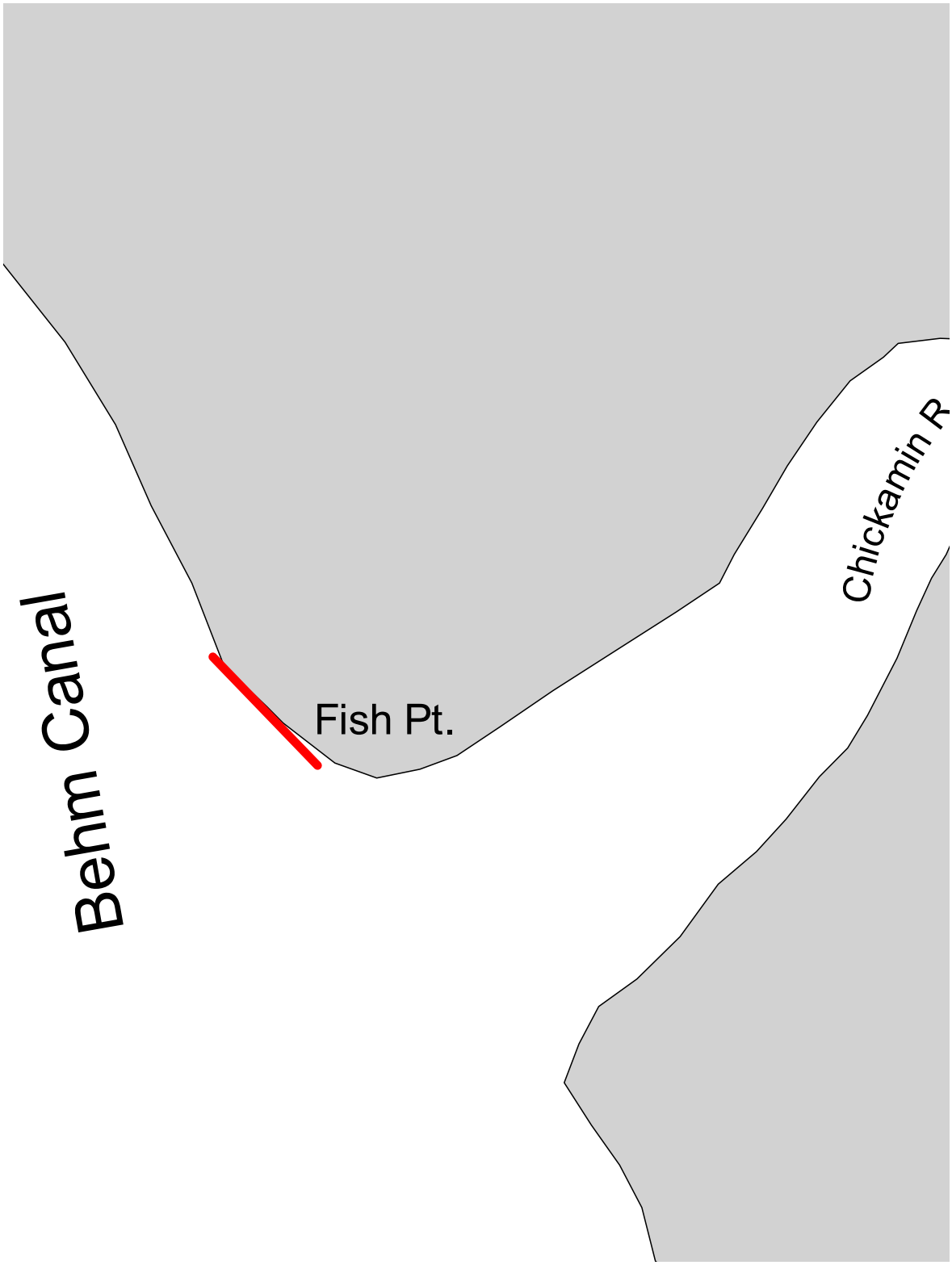
Spawning Stock	Transect Number	Longitude	Latitude
Seymour Canal	1	-133.83068	57.57489
	2	-133.84052	57.58033
	3	-133.85672	57.60878
	4	-133.87946	57.63662
	5	-133.89983	57.65233
	6	-133.91122	57.66384
	7	-133.91864	57.66347
	8	-133.92928	57.66901
	9	-133.95723	57.68546
	10	-133.96385	57.68761
	11	-133.97193	57.69390
	12	-133.97921	57.71248
	13	-133.99908	57.72279
	14	-133.99576	57.72575
	15	-134.00169	57.73106
	16	-134.00660	57.73289
	17	-134.00123	57.75151
	18	-134.01604	57.76197
	19	-134.01970	57.77452
	20	-134.02828	57.79821
	21	-133.93732	57.61521
	22	-133.95206	57.62512
	23	-133.98829	57.64166
	24	-133.99461	57.63953



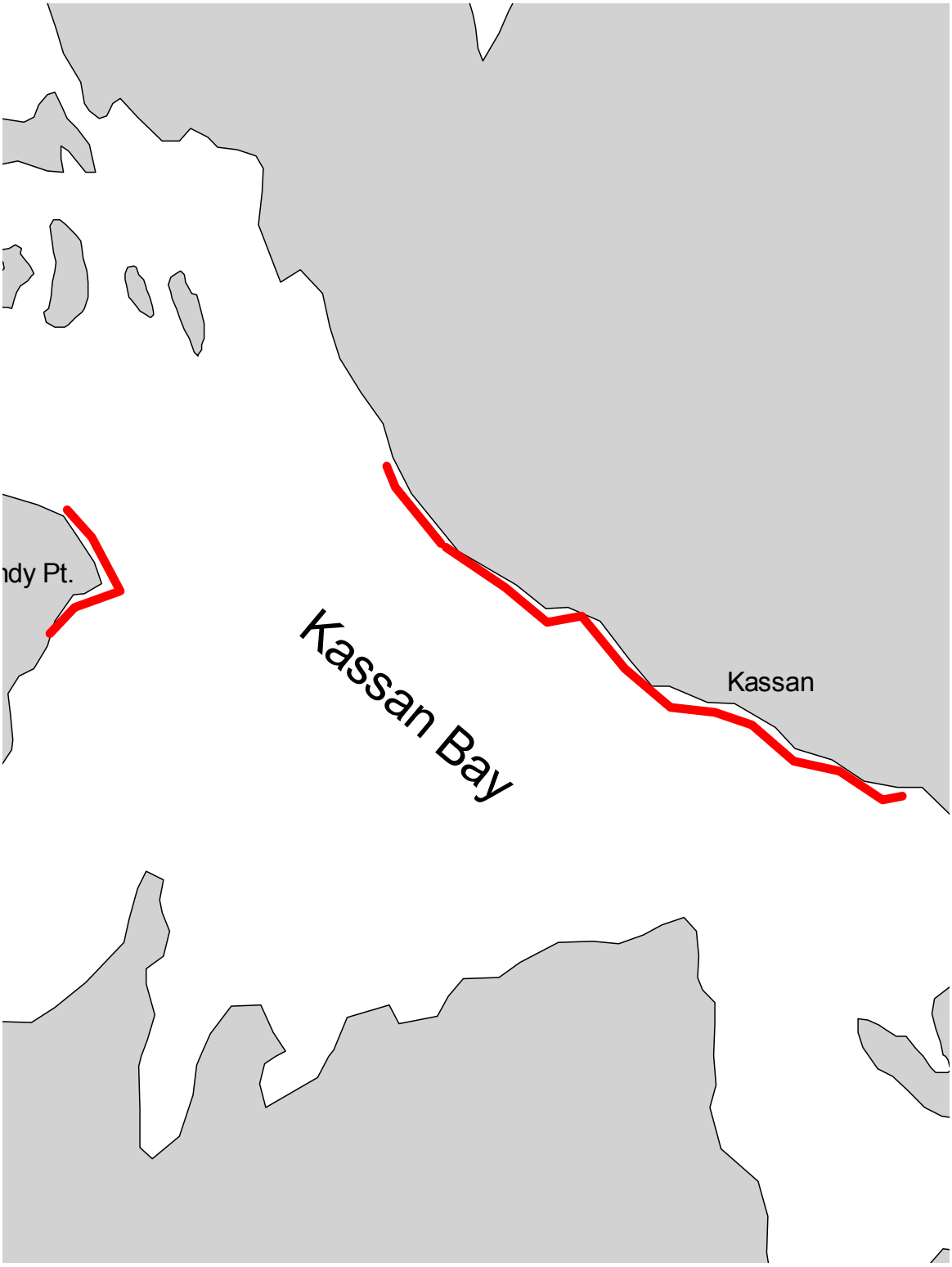
Annette Island spawning population.



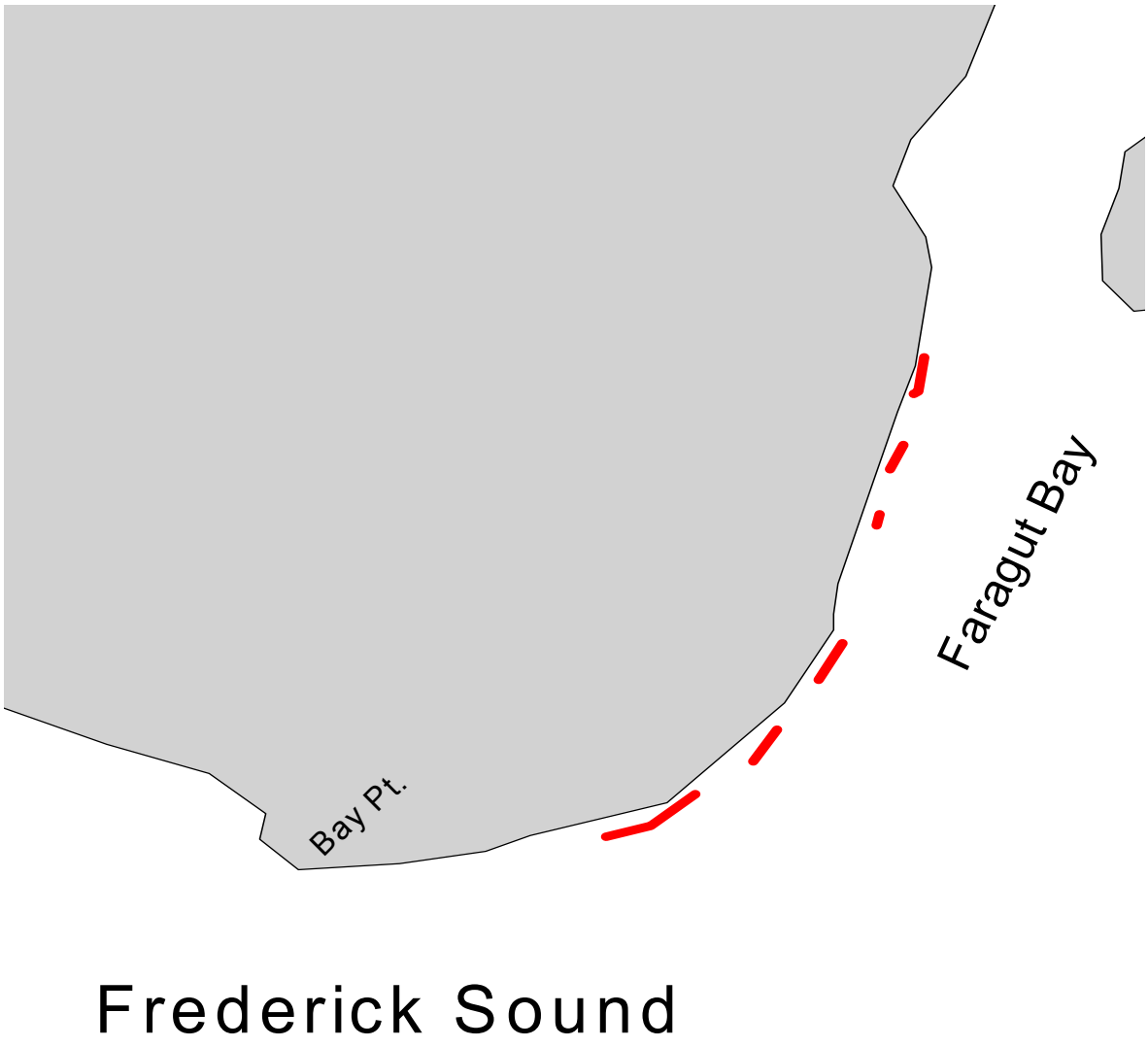
Mountain Point spawning population.



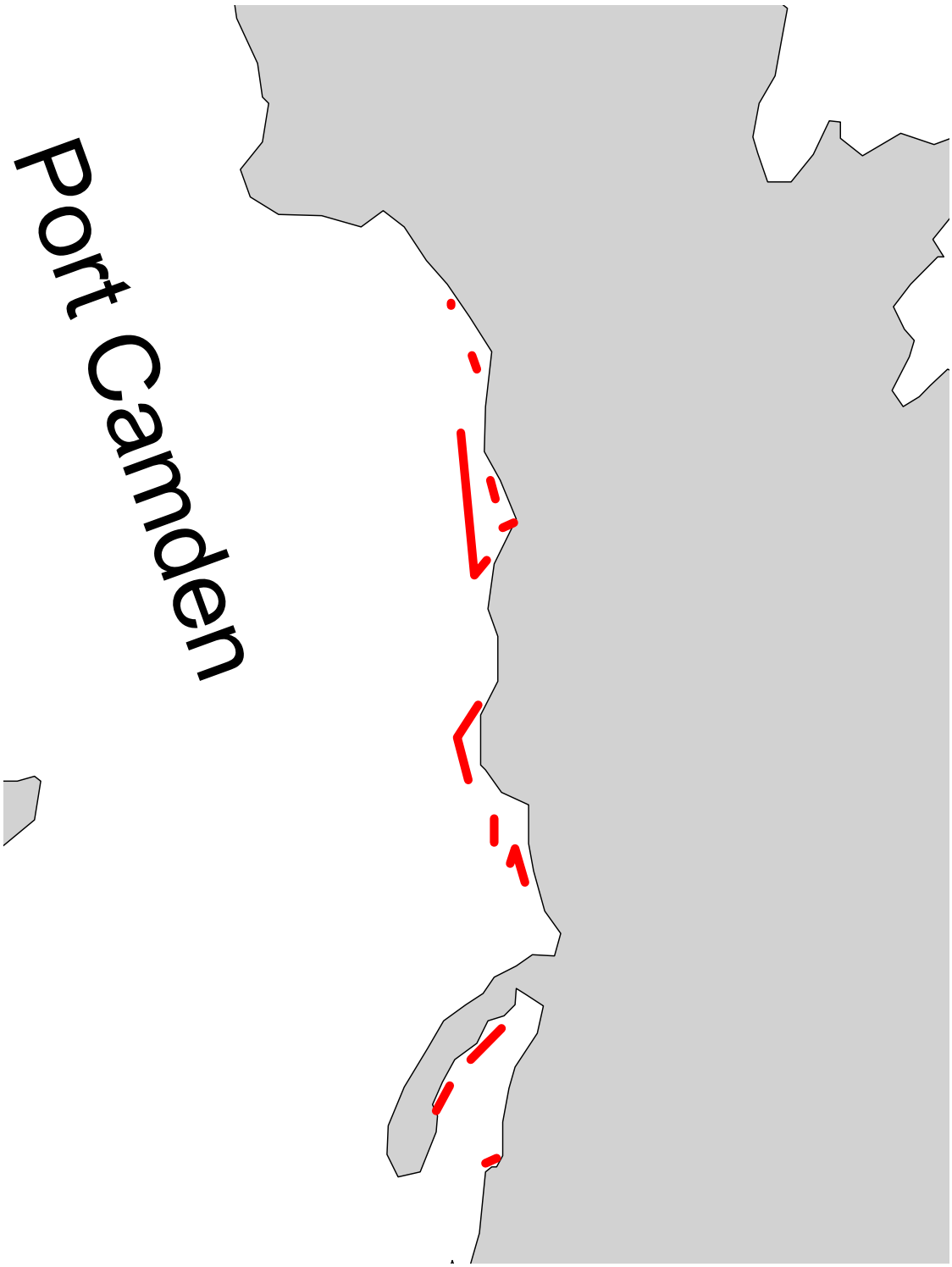
Chickamin River spawning population.



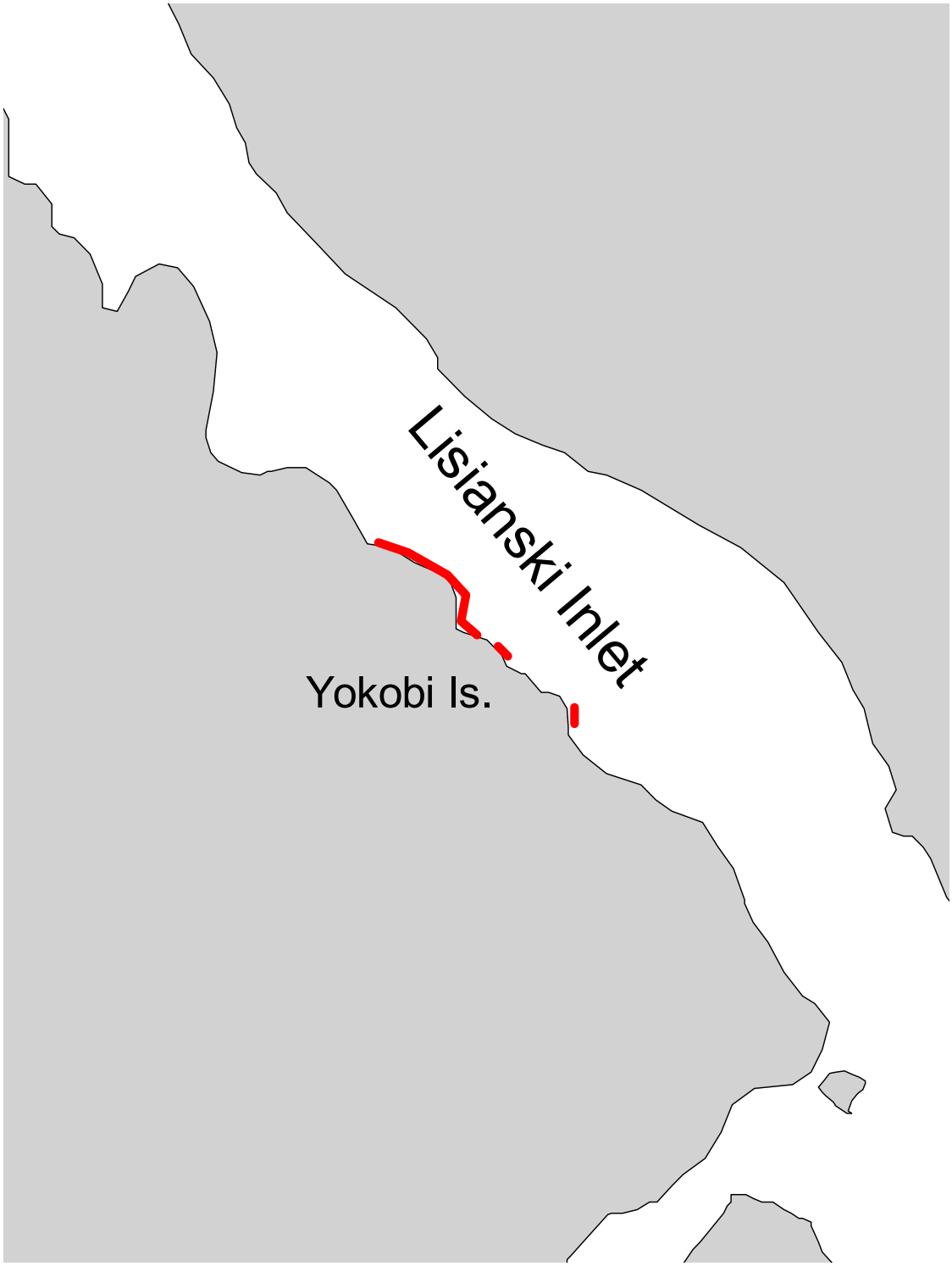
Kassan Bay spawning population.



Faragut Bay spawning population.

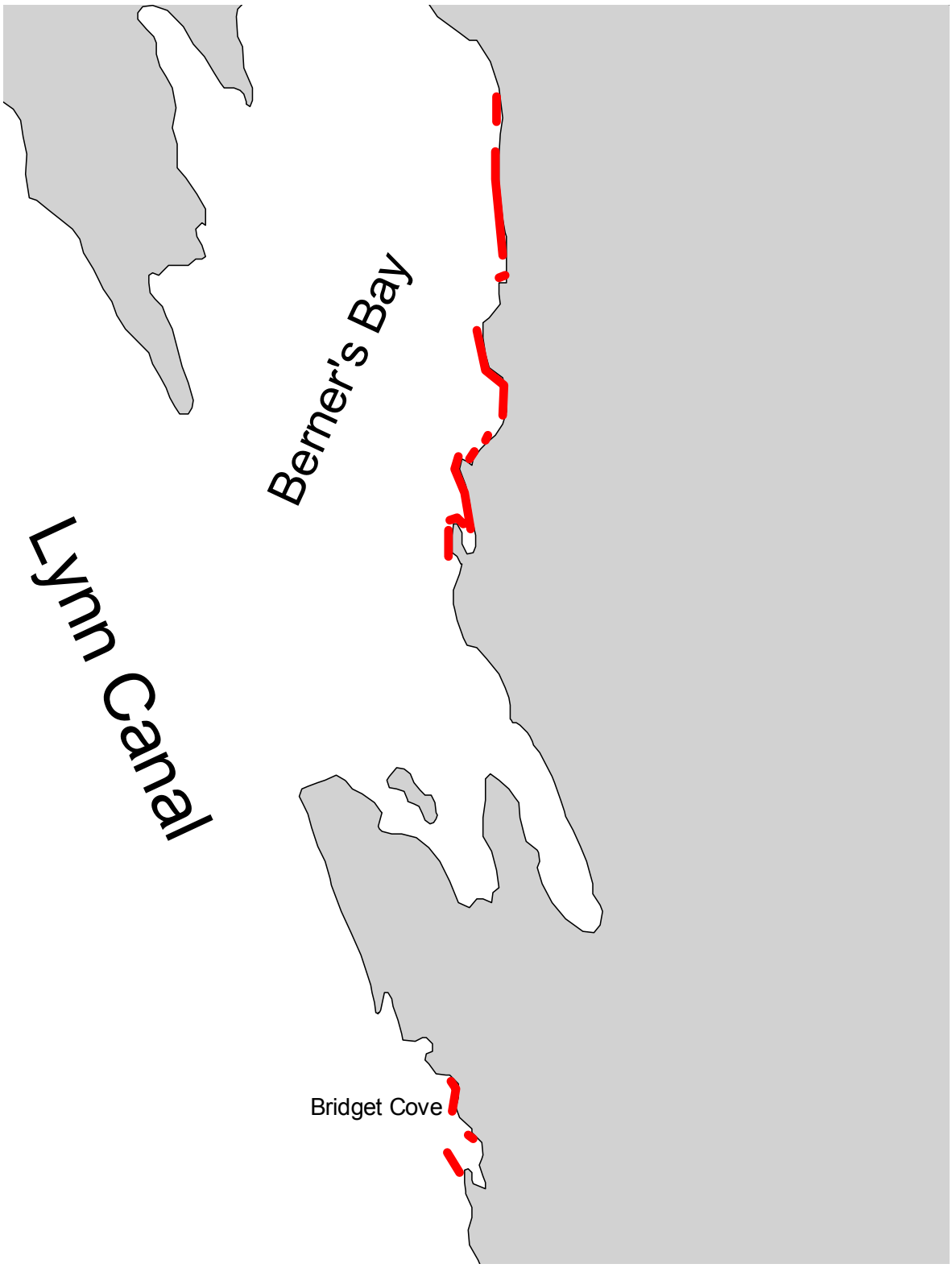


Port Camden spawning population.

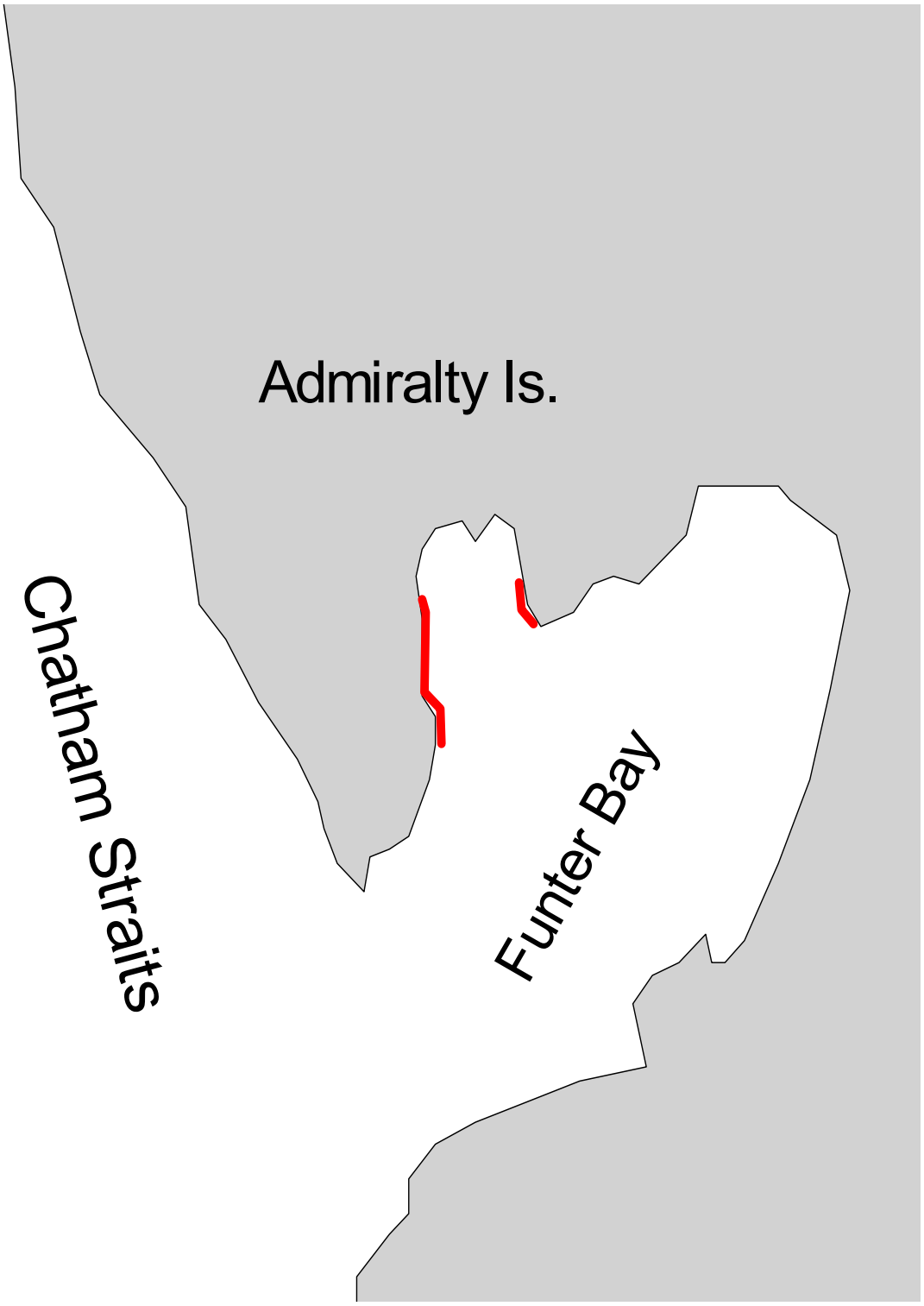


Lisianski Inlet spawning population.

Oliver Inlet spawning population.



Lynn Canal spawning population.



Funter Bay spawning population.

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