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SUMMARY OF BRITISH COLUMBIA HERRING SAMPLING DATA  
FOR THE 1990-91 SEASON

by

L. Hamer and J. Schweigert

Biological Sciences Branch  
Department of Fisheries and Oceans  
Pacific Biological Station  
Nanaimo, British Columbia V9R 5K6

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## ABSTRACT

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Age compositions and the average length and weight at age, the sex ratio, and the maturity stages of herring samples combined by geographical area, time period, gear type, and source are tabulated for the 1990-91 season. Tables are given for two geographical groupings: statistical areas and sections.

Key words: herring samples, age composition, geographical groupings

## RÉSUMÉ

Hamer, L. and J. Schweigert. 1991. Summary of British Columbia herring sampling data for the 1990-91 season. Can. Data Rep. Fish. Aquat. Sci. 865: 107 p.

La composition par âge et la longueur et le poids moyens par âge, le rapport des sexes et les stades de maturité des échantillons de hareng combinés au secteur géographique, à la période de l'année, au type d'engin et à la source des données ont été compilés sous forme de tableaux pour la saison 1990-1991. Les tableaux sont présentés en fonction de deux découpages géographiques: régions et secteurs statistiques.

Mots-clés: échantillons de hareng, composition par âge, découpage géographique

## INTRODUCTION

Biological samples of herring are collected and sampled annually for length, weight, sex, maturity, age, and gonad weight. This information is used in stock assessments, and for determining stock characteristics. As well, it is useful to fishery managers throughout the coast of British Columbia. This report summarizes biological characteristics by geographical groupings, time periods, gear, and source types.

Individual fish records since the 1950-51 season are maintained on computer files. These files provide a 41-year series of data accessible for analyses and modelling.

## METHODS

The catch sampling program collects samples from a variety of sources.

Pre-fishery charters provide the majority of samples. Charter vessels assess all major herring stocks to obtain biological sampling data, and to provide information for management of roe fisheries (Armstrong, 1989). (A 'major' stock is a stock that can regularly support roe fisheries.) Charter timing is set to ensure that the vessels are available before and during the main spawning in each area. Department of Fisheries and Oceans (DFO) staff on board the charter vessels collect samples from each test set.

Commercial samples are obtained from two types of fisheries: roe fisheries, and food and bait fisheries. Roe fisheries are sampled with the goal of getting ten samples from each seine fishery, and six samples from each gillnet fishery. A sampling plan is designed for each fishery to ensure that the sample series collected represents the catch in time, gear distribution, and space. The food and bait fisheries are currently very small both in quota and numbers of vessels licensed to fish (Chalmers, 1989). Consequently, each vessel participating in the food and bait fishery is expected to provide a biological sample.

Various research programs within DFO organized cruises and collected biological samples which are processed by the catch sampling program.

All biological samples are frozen on board vessels and shipped to the Pacific Biological Station where they are processed following standard procedures described by Hamer (1989). Gonad maturities are classified according to a modified Hjort maturity scale (Table 1). Female roe maturities in the data summaries are defined as:

Immature - Hjort stages 1 - 4  
Mature - Hjort stages 5 - 6  
Spent - Hjort stages 7 - 8.

Fish classified as immature in estimating the sex ratio are those whose gonads were not sufficiently developed for sex determination.

#### DATA COMPILATION AND SCREENING

The recorded data are entered onto computer tapes. The data are analysed by computer for relationships between age, length, and weight which are outside the normal range for the coast as a whole (mean +/- 2 standard deviations). Anomalies are listed and the associated data checked for possible errors in recording or coding. Gonad length and weight relationships were calculated, and values outside of a range of 3 standard deviations from the mean were deleted.

#### AGE DETERMINATION

Herring ages follow the "year of life" convention. Therefore, fish in their first year are designated as age "0+". (In sample summaries prior to the 89-90 season, an age 0+ fish would have been reported as age 1, an age 1+ fish would have been reported as age 2, etc.). There has been no change in the ageing method - only in the way the ages are reported (i.e., herring birthdays are at spawning, and not on January 1, which is the convention for many other fish species).

A revised system of ageing herring has been used since the 1987-88 season. Before that season, a fish was either assigned an age or was classified as unageable. With the revised ageing system, the option of two possible ages was used when it was difficult to positively determine an age. We have not determined how best to incorporate this additional information into estimates of age compositions. As a result, the age compositions in this report are based only on fish for which a single age was assigned.

#### RESULTS

Four hundred and twenty-four biological samples were processed in the 1990-91 season.

Thirteen vessels were chartered to help manage the 1991 roe herring fisheries through hydro-acoustic surveys and test fishing (Table 2). An additional four vessels were chartered to assist in spawn assessment after the fisheries were over. A total of 280 pre-fishery charter samples were processed. Twenty-eight of these samples were processed as a special study to see if there were differences between fish taken at different times during the pumping procedure (i.e. pumping the fish from the seine net into the hold of a vessel).

The 1991 roe herring fisheries occurred in the Queen Charlotte Islands, Prince Rupert District, Strait of Georgia, and West Coast of Vancouver Island assessment regions (Figs. 1-8) between March 2 and April 8. The 1991 roe quota of 29,338 tonnes was slightly less (1367 t) than the 1990 quota, but was distributed between assessment regions differently. Increasing stock strength in the Strait of Georgia resulted in a seine fishery in this region, as well as gillnet fisheries for both single and double licensed punts. Two different license areas for seines were set on the west coast of Vancouver Island to reflect different stock trends in northern and southern areas. Good stock estimates for the west coast of the Queen Charlotte Islands permitted a seine fishery for the second consecutive year. Openings occurred in areas that have supported fisheries within the last ten years, with the exceptions of Area 2W (where seines fished in Shields Bay), and Area 25 (where the fishery was in Nootka Sound). One hundred and eighteen samples (48 gillnet and 70 seine), were processed from the 16 openings (Table 3).

The food and bait herring fisheries took place in Johnstone Strait and the Strait of Georgia between November, 1990 and January, 1991. Eleven samples were collected from the 18 vessels eligible to fish in the Strait of Georgia.

Research samples in the 1990-91 season were collected from three sources. The La Perouse project conducted a research cruise (August 15-25, 1990), to study offshore herring year-class strength and production. The vessel chartered for this project, the F/V HOWE BAY, collected ten samples. Another research sample was acquired by the DFO seiner WALKER ROCK, which conducts annual fall and winter hydroacoustic surveys in the lower Strait of Georgia. The W.E. RICKER provided two research samples. These fish were caught in tows made during a hydroacoustic survey of Browning Entrance and Juan Perez Inlet.

The following types of information, with associated table numbers, are summarized in this report:

Maturity stages for Pacific herring	Table 1
Charter vessel information	Table 2
Roe herring fishery summaries	Table 3
Codes for sample data	Table 4
Week numbers for sample data	Table 5
Sample summaries	Table 6
Data summaries	Tables 7-13.

The data summaries include various groupings of samples by geographical areas, time periods, gear and source types. Each summary contains information on the age composition, the average length and weight at age, the sex ratio, and the maturity stages of the combined samples in that report.

#### ACKNOWLEDGMENTS

Margaret Burke, Karen Charles, and Diana Little of the Fish Ageing Unit determined the ages. J. O. Thomas and Associates Ltd. collected the roe fishery samples, and Tideview Services processed all samples.

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Table 1. Maturity stages for Pacific herring (adapted from Bowers and Holliday 1961; Parrish and Saville 1965). These descriptions are intended as general guidelines. Length of time samples have been frozen, thawing time, and different handling procedures may alter the colour of the gonads. Therefore, the texture of the gonad is also used to assess maturity. The timing description is also a general guideline due to the wide range in spawn timing on the British Columbia coast.

Stage	State of Maturity	Gonad appearance	Description	Timing
I	Undeveloped	Thread-shaped	Virgin herring with small gonads, less than 2 mm broad. Accurate macroscopic determination of sex not possible. Fat is visible in the body cavity.	Year-round for young herring usually less than 150 mm in length. (However, some herring as small as 125 mm may have mature gonads.)
II	Starting	Ribbon-shaped	Gonads increased in breadth to 3-5 mm. Sex determination difficult. Testes reddish-grey coloured and knife-shaped. Ovaries reddish-wine coloured and bullet-shaped at tip. (The gonads of virgins and some repeat spawners cannot be differentiated macroscopically.) Fat is visible in the body cavity.	Late spring and early summer.
III	Developing	Tube-like	Gonads thickened, increased in breadth (5-15 mm) and elongated, but not extending full length of body cavity. Ovaries red to reddish-orange, granular in appearance, and bullet-shaped at the tip. Testes reddish-grey, smooth in appearance and knife-shaped.	Usually late summer to early fall, but may extend into winter and early spring.
IV	Maturing	Prominent	Gonads extend full length of body cavity. Ovaries reddish-orange to yellow; eggs distinguishable, opaque, variable in size and separate. Testes mostly grey, firmer, and will ooze milt if sliced with a knife. Blood vessels often clearly visible in the ovary and testes walls.	Usually late fall and winter, but may extend to as late as March. (Slightly earlier in males than females.)
V	Mature	Bulging	Few or no blood vessels visible in gonad walls. Walls of body cavity thin. Ovaries gold-yellow, firm and will often break into sections. Eggs mostly transparent and uniform in size. Testes usually milk-white, soft and plump; and milt will flow under pressure.	Mid-winter to late spring.

Table 1 (cont'd)

Stage	State of Maturity	Gonad appearance	Description	Timing
VI	Ripe	Running	Gonads do not hold their shape. Ovaries look and feel gelatinous. Segmentation is lost. Eggs are transparent and sticky to the touch. Testes runny, and have a curdled appearance. Milt flows easily without external pressure.	A few days prior to spawning (usually in late winter to spring).
VII	Spent	Baggy	Gonads slack. Sex determination difficult. Ovaries may contain a few residual eggs. Testes limp and bloodshot. Body wall thin and no fat present; blood in body cavity.	Spring for the first few weeks following spawning.
VIII	Recovering	Compressed	Gonads wide-coloured and usually longer, fuller and not as slack as Stage VII. Blood vessels prominent. Little or no fat in the body cavity.	Late spring and early summer.

Table 2. Herring charter vessels by region and duration, and biological samples by vessel for 1991.

Region	Vessel	Duration	Samples processed
Queen Charlotte Islands	PACIFIC QUEST	08/03 - 07/04	27
	VAMPY I	11/03 - 09/04	17
	VENTUROUS	28/02 - 14/03*	9
Prince Rupert District	PACIFIC DISCOVERY	14/03 - 08/04	21
	VENTUROUS	20/03 - 07/04*	15
Central Coast	FISHER LASSIE II	06/03 - 31/03	27
	OCEAN ROYAL	01/03 - 26/03	42
Strait of Georgia/ Johnstone Strait	ARGENT 1	23/02 - 20/03	18
	BELINA	23/02 - 20/03	21
	ROYAL MARINER	26/02 - 24/03	15
West Coast Vancouver Island	ANTE B	25/02 - 22/03	19
	DELTA HARVESTER	01/03 - 26/03	10
	ELLING K	25/02 - 22/03	19
	WESTVIEW NO. 1	25/02 - 22/03	20
<p>*Split Charter</p>			
Total			280

Table 3. Summary of 1991 roe herring fisheries.

Region	Gear	Management Areas	Date	Opening Time	Duration	Hauled Catch (tonnes)
Queen Charlotte Islands	SN	2-77	23/03/91	1252	3:11	2005
	SN	2-12,13	31/03/91	1045	0:46	3771
	GN	2-12,13	08/04/91	1000	5:00	542
Prince Rupert District	GN	4-5,9	25/03/91	0800	4:30	771
	GN	4-5,7,8,9	27/03/91	1000	5:30	1116
	SN	5-4	06/04/91	0930	3:06	1406
Central Coast	SN	7-13,14	23/03/91	1201	4:18	6623
	GN	7-3,8,9,12,13,19	31/03/91	1000	8:00	1035
	GN	7-3,8,9,12,13,19	01/04/91	0800	10:00	702
Strait of Georgia	SN	7-21	-	-	-	-
	SN	14-11	02/03/91	0945	9:50	925
	GN-S	14-7 T0 11,13	17/03/91	0800	5:00	2168
	GN-D	14-7 T0 11,13	18/03/91	0800	11:00	6127
West Coast Vancouver Island	GN-D	14-7 T0 11,13	19/03/91	1000	1:30	635
	SN	25-6	10/03/91	1402	2:29	1583
	SN	23-9,10	12/03/91	1000	1:22	3992
	GN	23-9,10,11	21/03/91	1100	6:30	1871

Table 4. Codings for British Columbia herring sampling data.

A. Gear	B. Source
19 Gillnet	0 Roe fishery
29 Seine	1 Bait fishery
20 Salmon seine	2 Research - inshore
21 Other seine	3 Research - offshore
70 Beach seine	4 Other
50 Other trawl	5 Pre-fishery charter
59 Herring trawl	6 Food
01 Other	
C. Preservation	D. Sex
0 Frozen	1 Male
1 Fresh	2 Female
2 Salted	3 Unknown
3 Other	
4 Brined	

Table 5. Week numbers for Pacific herring data for the 1990-91 season.

Week Number	Duration	Week Number	Duration
1.	JULY 1 - JULY 7	27.	DEC. 30 - JAN. 5
2.	JULY 8 - JULY 14	28.	JAN. 6 - JAN. 12
3.	JULY 15 - JULY 21	29.	JAN. 13 - JAN. 19
4.	JULY 22 - JULY 28	30.	JAN. 20 - JAN. 26
5.	JULY 29 - AUG. 4	31.	JAN. 27 - FEB. 2
6.	AUG. 5 - AUG. 11	32.	FEB. 3 - FEB. 9
7.	AUG. 12 - AUG. 18	33.	FEB. 10 - FEB. 16
8.	AUG. 19 - AUG. 25	34.	FEB. 17 - FEB. 23
9.	AUG. 26 - SEPT. 1	35.	FEB. 24 - MAR. 2
10.	SEPT. 2 - SEPT. 8	36.	MAR. 3 - MAR. 9
11.	SEPT. 9 - SEPT. 15	37.	MAR. 10 - MAR. 16
12.	SEPT. 16 - SEPT. 22	38.	MAR. 17 - MAR. 23
13.	SEPT. 23 - SEPT. 29	39.	MAR. 24 - MAR. 30
14.	SEPT. 30 - OCT. 6	40.	MAR. 31 - APR. 6
15.	OCT. 7 - OCT. 13	41.	APR. 7 - APR. 13
16.	OCT. 14 - OCT. 20	42.	APR. 14 - APR. 20
17.	OCT. 21 - OCT. 27	43.	APR. 21 - APR. 27
18.	OCT. 28 - NOV. 3	44.	APR. 28 - MAY 4
19.	NOV. 4 - NOV. 10	45.	MAY 5 - MAY 11
20.	NOV. 11 - NOV. 17	46.	MAY 12 - MAY 18
21.	NOV. 18 - NOV. 24	47.	MAY 19 - MAY 25
22.	NOV. 25 - DEC. 1	48.	MAY 26 - JUNE 1
23.	NOV. 2 - DEC. 8	49.	JUNE 2 - JUNE 8
24.	DEC. 9 - DEC. 15	50.	JUNE 9 - JUNE 15
25.	DEC. 16 - DEC. 22	51.	JUNE 16 - JUNE 22
26.	DEC. 23 - DEC. 29	52.	JUNE 23 - JUNE 29
		53.	JUNE 30

Table 6. Sample information by area and location for the 1990-91 season.

Area	Section	Location	Sample					No. of fish			
			Number	Year	Mon	Day	Gear	Source	Pre Sampled	Aged	
2W	5	INSKIP CHANNEL	235	91	3	30	29	5	0	100	89
2W	5	INSKIP CHANNEL	267	91	3	29	29	5	0	100	96
2W	5	INSKIP CHANNEL	269	91	3	24	29	5	0	100	93
2W	5	INSKIP CHANNEL	276	91	3	30	29	5	0	100	94
2W	6	LOUSCOONE INLET	255	91	3	12	29	5	0	95	86
2W	2	PORT CHANAL	239	91	3	12	29	5	0	100	93
2W	2	PORT LOUIS	224	91	3	11	29	5	0	100	91
2W	2	PORT LOUIS	238	91	3	2	29	5	0	100	97
2W	2	PORT LOUIS	240	91	3	13	29	5	0	100	94
2W	2	PORT LOUIS	249	91	3	11	29	5	0	100	96
2W	2	PORT LOUIS	268	91	3	10	29	5	0	100	93
2W	2	PORT LOUIS	298	91	3	14	29	5	0	100	93
2W	2	PORT LOUIS	305	91	3	3	29	5	0	100	92
2W	2	PORT LOUIS	354	91	3	16	29	5	0	100	95
2W	2	PORT LOUIS	377	91	3	19	29	5	0	100	91
2W	2	PORT LOUIS	391	91	3	15	29	5	0	100	91
2W	2	QUEEN ISLAND	277	91	3	17	29	5	0	100	95
2W	3	RENNELL SOUND	223	91	3	4	29	5	0	100	95
2W	3	RENNELL SOUND	232	91	3	6	29	5	0	99	94
2W	3	RENNELL SOUND	266	91	3	11	29	5	0	100	93
2W	3	RENNELL SOUND	295	91	3	7	29	5	0	100	95
2W	3	RENNELL SOUND	332	91	3	23	29	0	0	100	89
2W	3	RENNELL SOUND	349	91	3	23	29	0	0	100	92
2W	3	SEAL INLET	260	91	4	5	29	5	0	99	96
2W	3	SHIELDS BAY	263	91	3	25	29	5	0	99	92
2W	3	SHIELDS BAY	264	91	3	23	29	5	0	100	91
2W	3	SHIELDS BAY	278	91	3	22	29	5	0	100	98
2W	3	SHIELDS BAY	279	91	3	26	29	5	0	100	94
2W	3	SHIELDS BAY	300	91	3	24	29	5	0	100	93
2W	3	SHIELDS BAY	311	91	3	23	29	0	0	100	85
2W	3	SHIELDS BAY	314	91	3	23	29	0	0	100	74
2W	3	SHIELDS BAY	329	91	3	23	29	0	0	100	85
2W	3	SHIELDS BAY	334	91	3	23	29	0	0	100	94
2W	3	SHIELDS BAY	340	91	3	23	29	0	0	100	84
2W	3	SHIELDS BAY	361	91	3	23	29	0	0	100	84
2W	3	SHIELDS ISLAND	315	91	3	23	29	0	0	100	85
2W	3	SHIELDS ISLAND	333	91	3	23	29	0	0	98	82
2W	6	SKINDASKUN ISLAND	247	91	3	13	29	5	0	100	95
2W	6	SKINDASKUN ISLAND	250	91	3	20	29	5	0	100	97
2E	21	ALDER ISLAND	388	91	4	8	19	0	0	100	72
2E	21	BURNABY ISLAND (N.)	319	91	4	8	19	0	0	100	42
2E	21	BURNABY ISLAND (N.)	331	91	4	8	19	0	0	100	63
2E	21	BURNABY STRAIT	251	91	3	25	29	5	0	100	96
2E	21	BURNABY STRAIT	281	91	4	4	29	5	0	100	92

Table 6 (cont'd)

Area	Section	Location	Sample Number	Year	Mon	Day	Gear	Source	No. of fish		
									Pre	Sampled	Aged
2E	21	BURNABY STRAIT	302	91	3	24	29	5	0	100	92
2E	21	BURNABY STRAIT	303	91	3	28	29	5	0	100	91
2E	21	BURNABY STRAIT	316	91	3	31	29	0	0	100	82
2E	21	BURNABY STRAIT	321	91	3	31	29	0	0	100	90
2E	21	BURNABY STRAIT	344	91	3	31	29	0	0	100	90
2E	21	BURNABY STRAIT	379	91	3	31	29	0	0	100	89
2E	21	BURNABY STRAIT	384	91	4	8	19	0	0	100	62
2E	21	BURNABY STRAIT	386	91	3	31	29	0	0	100	88
2E	24	DARWIN SOUND	228	91	3	23	29	5	0	100	95
2E	25	HUSTON INLET	226	91	3	19	29	5	0	100	94
2E	25	HUSTON INLET	248	91	3	18	29	5	0	100	93
2E	25	HUSTON INLET	308	91	4	1	29	5	0	100	96
2E	21	HUXLEY ISLAND	335	91	3	31	29	0	0	100	96
2E	21	HUXLEY ISLAND	363	91	3	31	29	0	0	100	84
2E	21	HUXLEY ISLAND	392	91	3	31	29	0	0	100	87
2E	21	JUAN PEREZ SOUND	225	91	3	10	29	5	0	100	90
2E	21	JUAN PEREZ SOUND	256	91	3	8	29	5	0	100	97
2E	21	JUAN PEREZ SOUND	301	91	3	14	29	5	0	100	94
2E	21	JUAN PEREZ SOUND	395	91	3	19	29	5	0	100	92
2E	21	KAT ISLAND	221	91	3	22	29	5	0	100	97
2E	21	KAT ISLAND	254	91	3	27	29	5	0	100	94
2E	21	KAT ISLAND	258	91	3	27	29	5	0	100	94
2E	21	KAT ISLAND	283	91	3	29	29	5	0	100	87
2E	21	NEWBERRY POINT	227	91	3	21	29	5	0	100	91
2E	21	NEWBERRY POINT	274	91	3	31	29	5	0	100	96
2E	21	NEWBERRY POINT	287	91	3	30	29	5	0	100	90
2E	21	SCUDDER POINT	318	91	4	8	19	0	0	100	79
2E	21	SCUDDER POINT	326	91	4	8	19	0	0	100	76
2E	21	SECTION COVE	165	91	3	31	29	0	0	100	80
2E	21	SECTION COVE	196	91	3	31	29	0	0	100	91
2E	21	SECTION COVE	257	91	3	19	29	5	0	100	89
2E	21	SECTION COVE	292	91	4	4	29	5	0	100	89
2E	21	SEDGWICK BAY	2	90	12	13	59	2	0	100	94
2E	25	SKINCUTTLE INLET	244	91	3	13	29	5	0	100	94
2E	25	SKINCUTTLE INLET	259	91	3	9	29	5	0	100	95
2E	24	TRAYNOR CREEK	307	91	4	5	29	5	0	100	94
3	33	BIRNIE ISLAND	275	91	3	18	29	5	0	100	95
3	33	BIRNIE ISLAND	284	91	3	15	29	5	0	100	97
3	33	BIRNIE ISLAND	289	91	3	14	29	5	0	100	96
3	33	BIRNIE ISLAND	293	91	3	15	29	5	0	100	93
3	33	GRASSY POINT	304	91	3	21	29	5	0	100	95
3	33	PORT SIMPSON	265	91	3	19	29	5	0	100	93
3	33	PORT SIMPSON	285	91	3	17	29	5	0	100	94
3	33	STUMAUN BAY	297	91	3	16	29	5	0	100	96
3	32	UNION INLET/BAY	282	91	3	15	29	5	0	100	96

Table 6 (cont'd)

Area	Section	Location	Sample						No. of fish		
			Number	Year	Mon	Day	Gear	Source	Pre	Sampled	Aged
3	32	UNION INLET/BAY	286	91	3	14	29	5	0	100	85
3	32	WINTER HARBOUR/INLET	294	91	3	16	29	5	0	100	0
4	42	BELLETTI POINT	357	91	3	27	19	0	0	100	67
4	42	BELLETTI POINT	359	91	3	27	19	0	0	100	87
4	42	BIG BAY	322	91	3	27	19	0	0	100	83
4	42	FLAT TOP ISLETS	241	91	3	20	29	5	0	100	93
4	43	LAMB POINT	306	91	3	31	29	5	0	100	95
4	43	MASON POINT	237	91	3	29	29	5	0	100	93
4	42	PEARL HARBOUR	242	91	3	19	29	5	0	100	94
4	42	PEARL HARBOUR	291	91	3	18	29	5	0	100	90
4	42	REEKS POINT	222	91	3	21	29	5	0	100	85
4	42	REEKS POINT	380	91	3	27	19	0	0	100	80
4	42	RYAN POINT	317	91	3	27	19	0	0	100	81
4	42	SLIPPERY ROCK	330	91	3	25	19	0	0	100	66
4	42	SLIPPERY ROCK	381	91	3	25	19	0	0	100	79
4	42	SLIPPERY ROCK	385	91	3	25	19	0	0	100	82
4	42	SOUTH ISLAND	245	91	3	20	29	5	0	100	93
4	42	SOUTH ISLAND	246	91	3	22	29	5	0	100	94
4	42	SWAMP ISLAND	324	91	3	27	19	0	0	100	70
4	42	SWAMP ISLAND	372	91	3	25	19	0	0	100	78
4	42	TREE BLUFF	328	91	3	25	19	0	0	100	77
4	42	TREE BLUFF	368	91	3	25	19	0	0	100	66
5	52	CLAMSHELL ISLAND	252	91	3	25	29	5	0	100	93
5	52	CLAMSHELL ISLAND	272	91	3	19	29	5	0	100	96
5	52	DRIES INLET	299	91	3	28	29	5	0	100	95
5	52	FREEMAN PASSAGE	230	91	4	4	29	5	0	100	92
5	52	FREEMAN PASSAGE	243	91	4	3	29	5	0	100	94
5	52	FREEMAN PASSAGE	253	91	4	5	29	5	0	100	92
5	52	FREEMAN PASSAGE	261	91	4	5	29	5	0	100	97
5	52	FREEMAN PASSAGE	262	91	3	31	29	5	0	100	92
5	52	FREEMAN PASSAGE	273	91	4	2	29	5	0	100	96
5	52	FREEMAN PASSAGE	323	91	4	6	29	0	0	100	78
5	52	FREEMAN PASSAGE	348	91	4	6	29	0	0	100	89
5	52	FREEMAN PASSAGE	378	91	4	4	29	5	0	100	97
5	52	GURD ISLAND	296	91	3	21	29	5	0	100	96
5	52	GURD ISLAND	312	91	4	6	29	0	0	100	79
5	52	GURD POINT	280	91	3	29	29	5	0	100	95
5	52	KITKATLA INLET (N.)	220	91	4	6	29	5	0	100	90
5	52	NUBBLE POINT	327	91	4	6	29	0	0	100	83
5	52	PORCHER PENINSULA	336	91	4	6	29	0	0	100	88
5	52	PORCHER PENINSULA	347	91	4	6	29	0	0	100	86
5	52	ROBERT ISLAND	313	91	4	6	29	0	0	100	82
5	52	ROBERT ISLAND	337	91	4	6	29	0	0	100	90
5	52	ROBERT ISLAND	342	91	4	6	29	0	0	100	90
5	52	ROBERT ISLAND	345	91	4	6	29	0	0	100	93

Table 6 (cont'd)

Area	Section	Location	Sample						No. of fish		
			Number	Year	Mon	Day	Gear	Source	Pre	Sampled	Aged
5	52	ROBERT ISLAND	351	91	4	6	29	0	0	100	79
5	51	WHITE ROCKS	1	90	12	9	59	2	0	100	88
5	52	WILLIS BAY	229	91	3	26	29	5	0	100	88
5	52	WILLIS BAY	270	91	3	19	29	5	0	100	93
5	52	WILLIS BAY	271	91	3	24	29	5	0	100	93
5	52	WILLIS BAY	290	91	3	20	29	5	0	100	93
6	67	JAMIESON POINT	148	91	3	9	29	5	0	100	95
6	67	LARKIN POINT	152	91	3	22	29	5	0	100	97
6	67	MARVIN ISLANDS	125	91	3	15	29	5	0	100	85
6	67	MARVIN ISLANDS	133	91	3	12	29	5	0	100	94
6	67	MARVIN ISLANDS	140	91	3	9	29	5	0	100	95
6	67	MARVIN ISLANDS	147	91	3	17	29	5	0	100	94
6	67	MEYERS PASSAGE	138	91	3	12	29	5	0	100	92
6	67	THISTLE PASSAGE	144	91	3	14	29	5	0	100	98
6	67	WILBY POINT	142	91	3	6	29	5	0	100	95
7	72	BERRY INLET	164	91	3	31	19	0	0	100	18
7	77	EAST HIGGINS PASS	111	91	3	19	29	5	0	100	95
7	77	EAST HIGGINS PASS	132	91	3	11	29	5	0	100	96
7	77	EAST HIGGINS PASS	135	91	3	9	29	5	0	100	97
7	77	EAST HIGGINS PASS	145	91	3	16	29	5	0	100	95
7	77	EAST HIGGINS PASS	146	91	3	17	29	5	0	100	97
7	77	EAST HIGGINS PASS	151	91	3	15	29	5	0	100	92
7	77	EAST HIGGINS PASS	233	91	3	14	29	5	0	100	92
7	72	FOOTE ISLETS	163	91	3	31	19	0	0	95	72
7	72	FOOTE ISLETS	346	91	3	31	19	0	0	100	77
7	73	LAMA PASSAGE	126	91	3	7	29	5	0	100	95
7	73	LAMA PASSAGE	131	91	3	4	29	5	0	100	92
7	72	LAMBARD INLET	172	91	3	31	19	0	0	100	79
7	74	LITTLE THOMPSON BAY	197	91	4	1	19	0	0	100	50
7	74	LITTLE THOMPSON BAY	213	91	3	27	29	5	0	100	89
7	72	NEEKAS INLET	108	91	3	23	29	5	0	100	95
7	72	NEEKAS INLET	134	91	3	24	29	5	0	100	91
7	72	NEEKAS INLET	136	91	3	20	29	5	0	100	93
7	72	NEEKAS INLET	137	91	3	19	29	5	0	100	89
7	72	NEEKAS INLET	143	91	3	16	29	5	0	100	86
7	72	NEEKAS INLET	150	91	3	18	29	5	0	100	93
7	72	NEEKAS INLET	168	91	3	23	29	0	0	100	87
7	72	NEEKAS INLET	171	91	3	23	29	0	0	100	90
7	72	NEEKAS INLET	216	91	3	25	29	5	0	100	93
7	72	NEEKAS INLET	234	91	3	24	29	5	0	100	94
7	72	NEEKAS INLET	343	91	3	23	29	0	0	100	93
7	72	NEEKAS INLET	353	91	3	24	29	5	0	100	89
7	72	NEEKAS INLET	360	91	3	24	29	5	0	100	91
7	72	NEEKAS INLET	364	91	3	25	29	5	0	100	79

Table 6 (cont'd)

Area	Section	Location	Sample Number	Year	Mon	Day	Gear	Source	No. of fish		
									Pre	Sampled	Aged
7	72	NEEKAS INLET	365	91	3	24	29	5	0	100	93
7	72	NEEKAS INLET	366	91	3	25	29	5	0	100	94
7	72	NEEKAS INLET	370	91	3	25	29	5	0	100	84
7	72	NEEKAS INLET	382	91	3	25	29	5	0	100	93
7	72	NEEKAS INLET	383	91	3	25	29	5	0	100	91
7	72	NEEKAS INLET	389	91	3	25	29	5	0	100	94
7	72	NEEKAS INLET	390	91	3	25	29	5	0	100	88
7	72	NEEKAS INLET	397	91	3	25	29	5	0	100	89
7	72	NEEKAS INLET	398	91	3	25	29	5	0	100	86
7	72	NEEKAS INLET	399	91	3	25	29	5	0	100	92
7	72	NEEKAS INLET	400	91	3	24	29	5	0	100	84
7	72	NEEKAS INLET	401	91	3	25	29	5	0	100	91
7	72	POWELL ANCHORAGE	309	91	3	31	19	0	0	100	88
7	74	PRINCESS ALICE IS.	189	91	3	31	19	0	0	100	63
7	74	RAYMOND PASS	129	91	3	8	29	5	0	100	88
7	73	RETURN CHANNEL	141	91	3	12	29	5	0	100	91
7	74	SEAFORTH CHANNEL	160	91	3	31	19	0	0	92	54
7	72	SHINGLE ROCK	153	91	3	17	29	5	0	100	91
7	72	SPILLER CHANNEL	104	91	3	22	29	5	0	100	96
7	72	SPILLER CHANNEL	106	91	3	18	29	5	0	100	90
7	72	SPILLER CHANNEL	107	91	3	21	29	5	0	100	92
7	72	SPILLER CHANNEL	109	91	3	18	29	5	0	100	94
7	72	SPILLER CHANNEL	110	91	3	22	29	5	0	100	91
7	72	SPILLER CHANNEL	112	91	3	24	29	5	0	100	89
7	72	SPILLER CHANNEL	113	91	3	18	29	5	0	100	93
7	72	SPILLER CHANNEL	124	91	3	12	29	5	0	100	95
7	72	SPILLER CHANNEL	130	91	3	10	29	5	0	100	92
7	72	SPILLER CHANNEL	338	91	3	23	29	0	0	100	85
7	72	SPILLER CHANNEL	341	91	3	23	29	0	0	100	87
7	72	SPILLER CHANNEL	350	91	3	24	29	5	0	100	89
7	72	SPILLER CHANNEL	352	91	3	24	29	5	0	100	96
7	72	SPILLER CHANNEL	355	91	3	24	29	5	0	100	89
7	72	SPILLER CHANNEL	367	91	3	24	29	5	0	100	86
7	72	SPILLER CHANNEL	369	91	3	23	29	0	0	100	88
7	72	SPILLER CHANNEL	371	91	3	24	29	5	0	100	89
7	72	SPILLER CHANNEL	376	91	3	20	29	5	0	100	87
7	72	SPILLER CHANNEL	387	91	3	24	29	5	0	100	89
7	72	SPILLER CHANNEL	394	91	3	24	29	5	0	100	92
7	72	SPILLER LAGOON	105	91	3	22	29	5	0	100	91
7	72	SPILLER LAGOON	139	91	3	23	29	5	0	100	91
7	72	SPILLER LAGOON	203	91	3	17	29	5	0	100	92
7	72	SPILLER LAGOON	310	91	3	23	29	0	0	100	96
7	72	SPILLER LAGOON	320	91	3	23	29	0	0	100	86
7	72	SPILLER LAGOON	325	91	3	23	29	0	0	100	90
7	72	SPILLER LAGOON	339	91	3	23	29	0	0	100	83

Table 6 (cont'd)

Area	Section	Location	Sample Number	Year				Gear	Source	Pre Sampled	No. of fish Aged
				Mon	Day	Gear	Source				
7	74	STRYKER BAY	127	91	3	14	29	5	0	100	91
7	74	THOMPSON BAY	128	91	3	8	29	5	0	100	92
7	74	THOMPSON BAY	169	91	4	1	19	0	0	100	57
7	74	THOMPSON BAY	175	91	4	1	19	0	0	100	45
7	74	WASKESIU PASS	231	91	3	13	29	5	0	100	96
8	85	KWAKSHUA CHANNEL	149	91	3	9	29	5	0	100	91
13	134	WADDINGTON HARBOUR	93	91	3	22	29	5	0	100	63
14	142	BAYNES SOUND	22	91	3	1	29	5	0	100	95
14	142	BAYNES SOUND	31	91	3	1	29	5	0	100	94
14	142	BAYNES SOUND	37	91	3	2	29	5	0	100	86
14	142	BAYNES SOUND	38	91	3	4	29	5	0	100	92
14	142	BAYNES SOUND	42	91	3	6	29	5	0	100	88
14	142	BAYNES SOUND	54	91	3	2	29	0	0	100	90
14	142	BAYNES SOUND	56	91	3	2	29	0	0	100	90
14	142	BAYNES SOUND	180	91	3	2	29	0	0	100	87
14	142	BAYNES SOUND	181	91	3	2	29	0	0	100	87
14	142	BAYNES SOUND	375	91	3	13	29	5	0	100	91
14	142	CAPE LAZO	41	91	3	10	29	5	0	100	90
14	142	CAPE LAZO	43	91	3	12	29	5	0	100	91
14	142	CAPE LAZO	44	91	3	7	29	5	0	100	95
14	142	CAPE LAZO	46	91	3	6	29	5	0	100	92
14	142	CAPE LAZO	192	91	3	19	19	0	0	100	69
14	142	CAPE LAZO	396	91	3	14	29	5	0	100	85
14	142	DENMAN ISLAND (E.)	19	91	2	27	29	5	0	100	84
14	142	DENMAN ISLAND (W.)	34	91	2	28	29	5	0	100	83
14	142	FILLONGLEY PARK	7	91	2	27	29	5	0	100	91
14	142	FLORA ISLET	40	91	2	26	29	5	0	100	85
14	143	FRENCH CREEK	6	91	3	1	29	5	0	100	92
14	142	GARTLEY POINT	49	91	3	4	29	5	0	100	91
14	142	HENRY BAY	55	91	3	2	29	0	0	100	92
14	142	HENRY BAY	57	91	3	2	29	0	0	100	93
14	142	HENRY BAY	72	91	3	2	29	0	0	100	87
14	142	HENRY BAY	80	91	3	18	19	0	0	100	73
14	142	KOMAS BLUFF	10	91	2	26	29	5	0	100	88
14	142	KOMAS BLUFF	12	91	2	28	29	5	0	100	93
14	142	KOMAS BLUFF	66	91	3	18	19	0	0	100	69
14	142	KOMAS BLUFF	77	91	3	18	19	0	0	100	84
14	142	LAMBERT CHANNEL	11	91	2	25	29	5	0	100	96
14	142	LAMBERT CHANNEL	13	91	3	3	29	5	0	100	79
14	142	LAMBERT CHANNEL	17	91	2	26	29	5	0	100	92
14	142	LAMBERT CHANNEL	18	91	2	28	29	5	0	100	88
14	142	LAMBERT CHANNEL	21	91	2	24	29	5	0	100	91
14	142	LAMBERT CHANNEL	23	91	2	25	29	5	0	100	90
14	142	LAMBERT CHANNEL	27	91	2	26	29	5	0	100	92
14	142	LAMBERT CHANNEL	35	91	2	27	29	5	0	100	90

Table 6 (cont'd)

Area	Section	Location	Sample Number	Year				Gear	Source	Pre Sampled	No. of fish Aged
				Mon	Day	Month	Year				
14	142	LAMBERT CHANNEL	50	91	3	6	29	5	0	100	89
14	142	LONGBEAK POINT	8	91	2	23	29	5	0	100	91
14	142	LONGBEAK POINT	9	91	2	28	29	5	0	100	92
14	142	LONGBEAK POINT	59	91	3	17	19	0	0	100	67
14	142	LONGBEAK POINT	61	91	3	2	29	0	0	100	81
14	142	LONGBEAK POINT	65	91	3	17	19	0	0	100	70
14	142	LONGBEAK POINT	71	91	3	17	19	0	0	100	69
14	142	LONGBEAK POINT	79	91	3	17	19	0	0	100	71
14	142	LONGBEAK POINT	82	91	3	17	19	0	0	100	54
14	142	LONGBEAK POINT	83	91	3	17	19	0	0	100	75
14	143	NORTHWEST BAY	4	91	3	4	29	5	0	100	89
14	142	SANDY ISLAND	5	91	3	2	29	5	0	100	89
14	142	SANDY ISLAND	33	91	3	1	29	5	0	100	96
14	142	SANDY ISLAND	69	91	3	18	19	0	0	100	79
14	142	SANDY ISLAND	73	91	3	18	19	0	0	100	79
14	142	SANDY ISLAND	74	91	3	18	19	0	0	100	77
14	142	SANDY ISLAND	76	91	3	18	19	0	0	100	78
14	142	SEAL ISLETS	45	91	3	10	29	5	0	100	90
14	142	TRIBUNE BAY	32	91	3	7	29	5	0	100	81
14	142	TRIBUNE BAY	81	91	3	18	19	0	0	84	73
15	152	WESTVIEW	2	91	3	4	29	5	0	100	91
17	173	COFFIN POINT (IS.)	39	91	3	12	29	5	0	100	94
17	173	DANGER REEFS	13	90	11	7	29	6	0	100	93
17	172	GABRIOLA IS. (N.)	48	91	2	24	29	5	0	100	97
17	172	ICARUS POINT	47	91	3	13	29	5	0	100	94
17	172	NANOOSE BAY (ENT.)	28	91	3	5	29	5	0	100	85
17	172	NANOOSE BAY (ENT.)	30	91	3	6	29	5	0	100	90
17	173	NORTHUMBERLAND CH.	4	90	11	18	29	6	0	100	89
17	173	NORTHUMBERLAND CH.	12	90	11	18	29	6	0	100	85
17	173	NORTHUMBERLAND CH.	15	90	11	16	29	6	0	100	65
17	173	NORTHUMBERLAND CH.	16	90	11	16	29	6	0	100	70
17	173	NORTHUMBERLAND CH.	20	91	2	23	29	5	0	100	85
17	173	NORTHUMBERLAND CH.	51	91	1	16	29	6	0	100	92
17	173	NORTHUMBERLAND CH.	53	91	1	16	29	6	0	100	93
17	173	PARKER ISLAND	15	91	2	27	29	5	0	100	94
17	173	PYLADES CHANNEL	17	90	11	29	29	6	0	100	87
17	173	PYLADES CHANNEL	36	91	3	14	29	5	0	100	90
17	173	PYLADES CHANNEL	393	91	3	18	29	5	0	100	93
17	172	SNAKE ISLAND	3	90	11	19	29	6	0	100	81
17	172	SNAKE ISLAND	14	90	11	16	29	6	0	100	59
17	173	STUART CHANNEL	26	91	3	11	29	5	0	100	92
17	173	STUART CHANNEL	29	91	3	7	29	5	0	100	90
17	173	TRINCOMALI CHANNEL	16	91	2	25	29	5	0	100	91
17	173	TRINCOMALI CHANNEL	25	91	3	6	29	5	0	100	86
17	173	YELLOW POINT	11	90	11	6	29	6	0	100	69

Table 6 (cont'd)

Area	Section	Location	Sample Number	Year				Day	Gear	Source	Pre Sampled	No. of fish Aged
				Mon	Year	Mon	Year					
17	173	YELLOW POINT	24	91	3	10	29	5	0	100	88	
18	181	CAPTAIN PASSAGE	14	91	3	8	29	5	0	100	83	
18	181	PREVOST ISLAND	1	91	2	25	29	5	0	100	81	
18	181	PREVOST ISLAND	3	91	2	25	29	5	0	100	93	
19	191	SAANICH INLET	52	91	1	16	29	2	0	100	92	
21	219	SWIFTSURE BANK	7	90	8	19	59	3	0	100	70	
21	219	SWIFTSURE BANK	10	90	8	19	59	3	0	100	82	
23	232	BEG ISLANDS	288	91	3	12	29	5	0	100	91	
23	232	CAPSTAN ISLAND	96	91	3	19	29	5	0	100	93	
23	232	CAPSTAN ISLAND	207	91	3	16	29	5	0	100	94	
23	232	CAPSTAN ISLAND	356	91	3	16	29	5	0	85	65	
23	232	CAPSTAN ISLAND	374	91	3	16	29	5	0	100	83	
23	232	CASTLE ISLET	70	91	3	12	29	0	0	88	72	
23	232	CASTLE ISLET	119	91	3	3	29	5	0	100	89	
23	232	CHROW ISLANDS	90	91	3	8	29	5	0	96	86	
23	232	CHROW ISLANDS	362	91	3	17	29	5	0	99	91	
23	232	DAVID ISLAND	58	91	3	12	29	0	0	100	86	
23	232	DAVID ISLAND	95	91	3	8	29	5	0	100	97	
23	232	DAVID ISLAND	97	91	3	7	29	5	0	100	90	
23	232	DAVID ISLAND	176	91	3	12	29	0	0	85	71	
23	232	DAVID ISLAND	179	91	3	12	29	0	0	100	69	
23	232	DAVID ISLAND	182	91	3	12	29	0	0	81	63	
23	232	DAVID ISLAND	186	91	3	12	29	0	0	100	72	
23	232	DAVID ISLAND	188	91	3	12	29	0	0	100	94	
23	239	FIRING RANGE	6	90	8	21	59	3	0	100	70	
23	232	FOOD ISLETS	86	91	3	10	29	5	0	98	88	
23	232	FOOD ISLETS	373	91	3	9	29	5	0	100	93	
23	232	FORBES ISLAND	85	91	3	10	29	5	0	99	92	
23	232	FORBES ISLAND	87	91	3	9	29	5	0	100	95	
23	232	FORBES ISLAND	101	91	3	12	29	5	0	100	94	
23	232	FORBES ISLAND	190	91	3	21	19	0	0	100	91	
23	239	FORTY MILE BANK	5	90	8	19	59	3	0	100	93	
23	239	FORTY MILE BANK	8	90	8	20	59	3	0	100	93	
23	232	HAND ISLAND	98	91	3	6	29	5	0	100	91	
23	232	HAND ISLAND	102	91	2	28	29	5	0	100	93	
23	232	HAND ISLAND	117	91	3	4	29	5	0	100	91	
23	232	HAND ISLAND	358	91	3	16	29	5	0	91	83	
23	239	LA PEROUSE BANK	19	90	8	21	59	3	0	100	80	
23	239	LA PEROUSE BANK	20	90	8	21	59	3	0	100	75	
23	232	LARKIN ISLAND	103	91	3	5	29	5	0	100	90	
23	232	LARKIN ISLAND	123	91	3	1	29	5	0	100	90	
23	232	LYALL POINT	91	91	3	17	29	5	0	94	84	
23	232	LYALL POINT	120	91	3	15	29	5	0	98	91	
23	232	LYALL POINT	122	91	3	14	29	5	0	100	73	
23	232	LYALL POINT	191	91	3	15	29	5	0	100	93	

Table 6 (cont'd)

Area	Section	Location	Sample						No. of fish		
			Number	Year	Mon	Day	Gear	Source	Pre	Sampled	Aged
23	232	LYALL POINT	198	91	3	15	29	5	0	100	93
23	232	LYALL POINT	201	91	3	14	29	5	0	100	94
23	232	MACOAH PASSAGE	187	91	3	21	19	0	0	100	42
23	232	NEWCOMBE CHANNEL	178	91	3	21	19	0	0	100	80
23	232	PIPESTEM INLET	92	91	3	7	29	5	0	99	90
23	232	SHEARS ISLANDS	116	91	3	3	29	5	0	100	91
23	232	SPILLING ISLET	121	91	3	2	29	5	0	100	95
23	232	ST. INES ISLAND	62	91	3	12	29	0	0	100	88
23	232	ST. INES ISLAND	99	91	3	11	29	5	0	100	93
23	232	ST. INES ISLAND	167	91	3	21	19	0	0	100	71
23	232	ST. INES ISLAND	170	91	3	12	29	0	0	100	71
23	232	STOPPER ISLANDS	173	91	3	12	29	0	0	100	89
23	232	STOPPER ISLANDS	174	91	3	21	19	0	0	100	65
23	232	STOPPER ISLANDS	185	91	3	12	29	0	0	100	80
24	245	DUNLAP ISLAND	157	91	3	16	29	5	0	91	84
24	249	RAPHAEL PT. OFFSHORE	9	90	8	25	59	3	0	100	87
24	243	SHELTER INLET	115	91	3	5	29	5	0	90	86
24	243	SHELTER INLET	118	91	3	3	29	5	0	100	95
24	243	STARLING POINT	88	91	3	4	29	5	0	100	88
24	249	SYDNEY IN. OFFSHORE	18	90	8	20	59	3	0	100	90
24	243	SYDNEY INLET	84	91	2	28	29	5	0	83	78
24	243	SYDNEY INLET	89	91	2	25	29	5	0	100	91
24	243	SYDNEY INLET	94	91	2	26	29	5	0	100	93
24	243	SYDNEY INLET	100	91	2	26	29	5	0	100	94
24	243	SYDNEY INLET	114	91	3	5	29	5	0	90	83
24	243	SYDNEY INLET	195	91	3	13	29	5	0	99	84
25	253	CATALA ISLAND	154	91	2	28	29	5	0	100	96
25	252	COOK CHANNEL	60	91	3	10	29	0	0	100	96
25	252	COOK CHANNEL	63	91	3	10	29	0	0	100	54
25	252	COOK CHANNEL	78	91	3	10	29	0	0	100	85
25	252	COOK CHANNEL	177	91	3	10	29	0	0	100	74
25	252	COOK CHANNEL	183	91	3	10	29	0	0	100	93
25	252	COOK CHANNEL	184	91	3	10	29	0	0	100	77
25	252	COOK CHANNEL	219	91	3	8	29	5	0	100	90
25	252	DISCOVERY POINT	204	91	3	5	29	5	0	100	87
25	252	DISCOVERY POINT	209	91	3	7	29	5	0	100	88
25	253	DOUBLE ISLAND	158	91	3	3	29	5	0	100	94
25	253	DOUBLE ISLAND	193	91	3	4	29	5	0	98	87
25	253	DOUBLE ISLAND	218	91	3	6	29	5	0	100	95
25	253	ESPERANZA INLET	156	91	2	28	29	5	0	88	84
25	253	ESPERANZA INLET	162	91	2	27	29	5	0	100	87
25	253	ESPERANZA INLET	194	91	3	4	29	5	0	100	86
25	253	ESPERANZA INLET	206	91	3	20	29	5	0	100	91
25	252	FRIENDLY COVE	67	91	3	10	29	0	0	92	79
25	252	FRIENDLY COVE	68	91	3	10	29	0	0	100	51

Table 6 (cont'd)

Area	Section	Location	Sample						No. of fish		
			Number	Year	Mon	Day	Gear	Source	Pre Sampled	Aged	
25	252	FRIENDLY COVE	75	91	3	10	29	0	0	87	58
25	252	FRIENDLY COVE	161	91	2	26	29	5	0	100	86
25	252	FRIENDLY COVE	199	91	2	26	29	5	0	100	94
25	252	FRIENDLY COVE	202	91	3	9	29	5	0	100	93
25	252	FRIENDLY COVE	205	91	3	7	29	5	0	100	89
25	252	FRIENDLY COVE	215	91	3	5	29	5	0	100	91
25	252	SAAVEDRA ISLANDS	211	91	3	9	29	5	0	100	93
25	252	SAAVEDRA ISLANDS	212	91	3	10	29	5	0	100	90
25	252	SAN MIGUEL ISLANDS	236	91	3	6	29	5	0	100	93
25	252	SANTA GERTRUDIS COVE	64	91	3	10	29	0	0	85	58
25	252	SANTA GERTRUDIS COVE	200	91	3	8	29	5	0	100	96
25	252	ZUCIARTE CHANNEL	155	91	3	7	29	5	0	87	81
25	252	ZUCIARTE CHANNEL	159	91	3	3	29	5	0	100	95
25	252	ZUCIARTE CHANNEL	166	91	3	6	29	5	0	100	93
27	273	FORWARD INLET	210	91	3	2	29	5	0	100	94
27	273	FORWARD INLET	214	91	3	21	29	5	0	100	90
27	271	ILDSTAD ISLANDS	21	90	8	24	59	2	0	100	82
27	272	KLASKISH INLET	217	91	3	3	29	5	0	100	92
27	272	MCDUGAL ISLAND	208	91	3	2	29	5	0	100	93

TABLE 7 TRAWL RESEARCH SAMPLE SUMMARIES BY SECTION

SECTION: 21 - JUAN PEREZ SOUND  
 SAMPLE NUMBERS: 2  
 SOURCE: RESEARCH - INSHORE  
 GEAR: HERRING TRAWL  
 DATE: DEC 13/90

SPECIMENS AT EACH AGE:		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	1	4	8	20	44	4	6	4	4	3	6	100
% AT AGE	0.00	1.06	4.26	8.51	21.28	46.81	4.26	6.38	4.26	3.19	0.00	100.00	
LENGTH - MEAN(mm)	0.00	140.00	181.00	200.38	206.30	212.55	216.50	224.17	242.00	228.00	212.50	210.83	
- STD. DEV.	0.00	0.00	7.87	10.28	8.91	10.06	13.63	8.95	11.28	15.62	35.81	17.70	
WEIGHT - MEAN(gm)	0.00	38.00	88.25	118.63	133.20	146.32	162.75	171.67	192.00	183.33	146.17	143.18	
- STD. DEV.	0.00	0.00	10.72	4.57	13.15	18.62	19.24	14.71	23.22	34.08	59.44	30.76	

HJORT MATURITY STAGES:

		MATURITY STAGE								
		1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	1	1	1	33	65	0	0	0	0	0
% AT STAGE	1.00	1.00	33.00	65.00	0.00	0.00	0.00	0.00	0.00	0.00

ROE MATURITY (FEMALE):

		IMMATURE	MATURE	SPENT	TOTAL	SEX RATIO:			MALE	FEMALE	IMMATURE	TOTAL
NO.	%	39	0	0	39	NO.	60	39	1	100		
100.00	0.00	100.00	0.00	100.00	100.00	%	60.00	39.00	1.00	100.00		
8.08	0.00	8.08	0.00	8.08	8.08	MEAN WEIGHT	139.82	149.54	97.00	143.18		
						% SAMP. WT.	58.59	40.73	0.68	100.00		

TABLE 7 (CONT'D) TRAWL RESEARCH SAMPLE SUMMARIES BY SECTION

SECTION: 51 - OTHER AREA 5											
SAMPLE NUMBERS: 1											
SOURCE: RESEARCH - INSHORE											
GEAR: HERRING TRAWL											
DATE: DEC 9/90											
SPECIMENS AT EACH AGE:											
0+	1+	2+	3+	4+	5+	6+	7+	8+	9+		
NO. AT AGE	0	15	25	5	20	6	6	2	9		
% AT AGE	0.00	17.05	28.41	5.68	22.73	6.82	0.00	2.27	10.23		
LENGTH - MEAN(mm)	0.00	149.60	170.16	205.00	212.35	213.00	219.50	0.00	226.00		
- STD. DEV.	0.00	13.04	9.32	10.17	8.86	8.90	8.78	0.00	2.83		
WEIGHT - MEAN(gm)	0.00	44.80	73.96	121.20	139.20	138.50	157.33	0.00	164.00		
- STD. DEV.	0.00	12.78	12.72	18.94	18.82	14.96	20.00	0.00	21.21		
HJORT MATURITY STAGES:											
1	2	3	4	5	6	7	8	UNKNOWN			
NO. AT STAGE	9	14	39	38	0	0	0	0			
% AT STAGE	9.00	14.00	39.00	38.00	0.00	0.00	0.00	0.00			
ROE MATURITY (FEMALE):											
IMMATURE	MATURE	SPENT	TOTAL	SEX RATIO:							
NO.	40	0	40	NO.	38	40	22	100			
%	100.00	0.00	100.00	%	38.00	40.00	22.00	100.00			
% SAMPLE WEIGHT	4.14	0.00	4.14	MEAN WEIGHT	130.58	122.45	56.59	111.05			
				% SAMP. WT.	44.68	44.11	11.21	100.00			

TABLE 7 (CONT'D) TRAWL RESEARCH SAMPLE SUMMARIES BY SECTION

SECTION: 219 - OFFSHORE AREA 21  
SAMPLE NUMBERS: 10,  
SOURCE: RESEARCH - OFFSHORE  
GEAR: HERRING TRAWL  
DATE: AUG 19/90

SPECIMENS AT EACH AGE:		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	19	11	59	26	30	4	3	0	0	48	200	
% AT AGE	0.00	12.50	7.24	38.82	17.11	19.74	2.63	1.97	0.00	0.00	0.00	100.00	
LENGTH - MEAN (mm)	0.00	148.63	193.55	201.31	210.38	217.50	231.50	225.67	0.00	0.00	188.77	197.45	
- STD. DEV.	0.00	8.50	6.01	8.74	6.31	7.85	1.00	9.02	0.00	0.00	27.15	24.25	
WEIGHT - MEAN (gm)	0.00	44.11	113.18	129.93	152.31	162.30	200.25	197.67	0.00	0.00	113.21	127.03	
- STD. DEV.	0.00	7.38	10.58	15.33	14.68	15.13	8.30	28.04	0.00	0.00	45.23	42.44	

## HJORT Maturity Stages:

NO. AT STAGE	% AT STAGE	NO. AT STAGE	% AT STAGE
28	16.0	12	0
14.00	80.00	6.00	0.00

### ROE MATURITY (FEMALE):

TABLE 7 (CONT'D) TRAWL RESEARCH SAMPLE SUMMARIES BY SECTION

SECTION: 239 - OFFSHORE AREA 23									
SAMPLE NUMBERS: 20, 8, 19, 6, 5									
SOURCE: RESEARCH - OFFSHORE									
GEAR: HERRING TRawl									
DATE: AUG 19/90 - AUG 21/90									
SPECIMENS AT EACH AGE:									
AGE	0+	1+	2+	3+	4+	5+	6+	7+	8+
NO. AT AGE	0	139	97	94	20	51	2	6	2
% AT AGE	0.00	33.82	23.60	22.87	4.87	12.41	0.49	1.46	0.49
LENGTH - MEAN (mm)	0.00	138.31	177.47	192.97	205.15	214.73	235.00	223.00	229.00
- STD. DEV.	0.00	14.08	11.33	15.53	12.39	9.58	4.24	15.06	1.41
WEIGHT - MEAN (gm)	0.00	40.23	88.29	111.10	129.45	151.75	172.00	151.50	173.00
- STD. DEV.	0.00	13.77	17.03	22.61	22.93	20.22	9.90	22.30	15.56

HJORT MATURITY STAGES:

MATURITY STAGE							
NO. AT STAGE	1	2	3	4	5	6	7
NO. AT STAGE	153	302	45	0	0	0	0
% AT STAGE	30.60	60.40	9.00	0.00	0.00	0.00	0.00

ROE MATURITY (FEMALE):

IMMATURE				MATURE	SPENT	TOTAL	SEX RATIO:	MALE	FEMALE	IMMATURE	TOTAL
NO.	160	0	0	160			NO.	123	160	217	500
%	100.00	0.00	0.00	100.00			%	24.60	32.00	43.40	100.00
% SAMPLE WEIGHT	0.27	0.00	0.00	0.27			MEAN WEIGHT	114.36	109.51	47.01	83.58

% SAMP. WT.	33.66	41.93	24.41	100.00
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TABLE 7 (CONT'D) TRAWL RESEARCH SAMPLE, SUMMARIES BY SECTION

SECTION: 249 - OFFSHORE AREA 24  
 SAMPLE NUMBERS: 18,  
 SOURCE: RESEARCH - OFFSHORE  
 GEAR: HERRING TRAWL  
 DATE: AUG 20/90 - AUG 25/90

SPECIMENS AT EACH AGE:

	NO. AT AGE	0	24	36	53	25	35	4	0	0	0	23	200
% AT AGE	0.00	13.56	20.34	29.94	14.12	19.77	2.26	0.00	0.00	0.00	0.00	0.00	100.00
LENGTH - MEAN(mm)	0.00	143.63	182.58	196.85	208.00	215.37	215.00	0.00	0.00	0.00	0.00	186.57	191.71
- STD. DEV.	0.00	6.54	6.07	10.18	8.10	9.83	5.42	0.00	0.00	0.00	0.00	31.63	24.91
WEIGHT - MEAN(gm)	0.00	39.54	90.44	114.26	132.60	146.00	144.25	0.00	0.00	0.00	0.00	102.35	108.08
- STD. DEV.	0.00	6.43	10.29	20.35	15.61	20.51	15.63	0.00	0.00	0.00	0.00	52.40	39.14

## HJORT Maturity Stages:

NO. AT STAGE	21	160	19	0	0	0	0
% AT STAGE	10.50	80.00	9.50	0.00	0.00	0.00	0.00

## ROE MATURITY (FEMALE):

TABLE 7 (CONT'D) TRAWL RESEARCH SAMPLE' SUMMARIES BY SECTION

SAMPLE SECTION: 271 - OTHER AREA 27  
 NUMBERS: 21  
 SOURCE: RESEARCH - INSHORE  
 GEAR: HERRING TRAWL  
 DATE: AUG 24/90

SPECIMENS AT EACH AGE:		AGE									TOTAL	
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN
NO. AT AGE	0	1	39	9	10	9	8	2	1	3	18	100
% AT AGE	0.00	1.22	47.56	10.98	12.20	10.98	9.76	2.44	1.22	3.66	0.00	100.00
LENGTH - MEAN (mm)	0.00	125.00	162.64	184.67	196.10	204.11	226.88	212.50	217.00	250.67	187.33	185.09
- STD. DEV.	0.00	0.00	5.64	10.11	9.06	16.82	12.78	12.02	0.00	15.31	35.02	29.27
WEIGHT - MEAN (gm)	0.00	25.00	69.79	102.22	118.70	130.89	179.38	150.50	143.00	207.33	109.89	105.11
- STD. DEV.	0.00	0.00	9.17	18.55	16.28	28.14	32.18	26.16	0.00	1.53	60.01	48.01

## HJORT Maturity Stages: Maturity Stage

NO. AT STAGE % AT STAGE  
13 13.00  
76 76.00  
11 11.00  
0 0.00  
0 0.00  
0 0.00  
0 0.00

### ROE MATURITY (FEMALE):

NO.	23	0	0	23	31	23	46	100	
%	100.00	0.00	0.00	100.00	31.00	23.00	46.00	100.00	
% SAMPLE WEIGHT	0.87	0.00	0.00	0.87	MEAN WEIGHT	144.65	110.39	75.83	105.11
% SAMP. WT.					42.66	24.16	33.18	100.00	

TABLE 8 SEINE RESEARCH SAMPLE SUMMARIES BY SECTION

SECTION: 191 - SAANICH INLET  
SAMPLE NUMBERS: 52  
SOURCE: RESEARCH - INSHORE  
GEAR: HERRING SEINE  
DATE: JAN 16/91

SPECIMENS AT EACH AGE:

NO. AT AGE	0	56	14	16	6	0	0	0	0	8	100
% AT AGE	0.00	60.87	15.22	17.39	6.52	0.00	0.00	0.00	0.00	0.00	100.00
LENGTH - MEAN (mm)	0.00	160.77	185.21	197.25	211.67	0.00	0.00	0.00	0.00	189.25	175.36
- STD. DEV.	0.00	16.58	17.77	14.60	8.78	0.00	0.00	0.00	0.00	27.26	24.29
WEIGHT - MEAN (gm)	0.00	58.29	93.29	116.31	138.67	0.00	0.00	0.00	0.00	102.00	80.79
- STD. DEV.	0.00	18.76	21.98	25.57	20.10	0.00	0.00	0.00	0.00	37.94	35.10

## HJORT Maturity Stages:

NO. AT STAGE	0	21	9	70	0	0	0	0
% AT STAGE	0.00	21.00	9.00	70.00	0.00	0.00	0.00	0.00

### ROE MATURITY (FEMALE):

NO.	41	0	0	41	NO.	50	41	9	100
%	100.00	0.00	0.00	100.00	%	50.00	41.00	9.00	100.00
% SAMPLE WEIGHT	10.96	0.00	0.00	10.96	MEAN WEIGHT	80.84	90.34	37.00	80.79
% SAMP. WT.	50.03	45.85	4.12	100.00					

TABLE 9 SEINE COMMERCIAL FOOD SAMPLE SUMMARIES BY SECTION

		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	27	53	46	6	7	1	0	0	0	0	60	200
% AT AGE	0.00	19.29	37.86	32.86	4.29	5.00	0.71	0.00	0.00	0.00	0.00	0.00	100.00
LENGTH - MEAN(mm)	0.00	171.59	183.91	194.98	200.67	207.00	205.00	0.00	0.00	0.00	0.00	181.18	185.39
- STD. DEV.	0.00	11.12	9.94	9.06	9.93	11.56	0.00	0.00	0.00	0.00	0.00	12.95	13.97
WEIGHT - MEAN(gm)	0.00	74.07	94.30	113.33	125.67	145.29	140.00	0.00	0.00	0.00	0.00	88.62	97.19
- STD. DEV.	0.00	14.00	16.68	14.33	17.74	27.00	0.00	0.00	0.00	0.00	0.00	17.90	23.27

HJORT MATURITY STAGES:

		MATURITY STAGE										
		1	2	3	4	5	6	7	8	UNKNOWN		
NO. AT STAGE	0	3	121	76	0	0	0	0	0	0		
% AT STAGE	0.00	1.50	60.50	38.00	0.00	0.00	0.00	0.00	0.00	0.00		

ROE MATURITY (FEMALE):

		IMMATURE	MATURE	SPENT	TOTAL	SEX RATIO:		
NO.	%	100.00	0.00	100.00	79	NO.	%	
		5.96	0.00	5.96				
						121	79	0
						60.50	39.50	0.00
						93.98	102.11	0.00
						% SAMP. WT.	58.50	41.50
								0.00
								100.00

TABLE 9 (CONT'D) SEINE COMMERCIAL FOOD SAMPLE SUMMARIES BY SECTION

SECTION: 173 - YELLOW POINT  
 SAMPLE NUMBERS: 13, 12, 16, 11, 51, 53, 4, 17, 15

SOURCE: FOOD FISHERY

GEAR: HERRING SEINE

DATE: NOV 6/90 - JAN 16/91

SPECIMENS AT EACH AGE:		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	135	233	267	51	49	6	2	0	0	157	900	
% AT AGE	0.00	18.17	31.36	35.94	6.86	6.59	0.81	0.27	0.00	0.00	0.00	100.00	
LENGTH - MEAN (mm)	0.00	168.76	186.45	196.67	202.18	204.55	200.33	217.50	0.00	0.00	180.75	187.87	
- STD. DEV.	0.00	11.52	10.74	10.57	12.91	12.78	13.43	6.36	0.00	0.00	16.13	16.25	
WEIGHT - MEAN (gm)	0.00	67.16	96.09	117.33	130.88	133.39	134.50	156.00	0.00	0.00	91.29	101.61	
- STD. DEV.	0.00	13.07	16.19	19.07	23.37	24.37	16.71	45.25	0.00	0.00	24.31	27.65	

HJORT MATURITY STAGES:

					MATURITY STAGE								
						1	2	3	4	5	6	7	8
NO. AT STAGE	3	25	345	516	11	0	0	0	0	0	0	0	0
% AT STAGE	0.33	2.78	38.33	57.33	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ROE MATURITY (FEMALE):

					SEX RATIO:				
						MALE	FEMALE	IMMATURE	TOTAL
NO.	428	2	0	430		461	430	9	900
%	99.53	0.47	0.00	100.00	%	51.22	47.78	1.00	100.00
% SAMPLE WEIGHT	7.89	0.10	0.00	7.99	MEAN WEIGHT	97.91	106.69	48.33	101.61

TABLE 10 SEINE ROE FISHERY SAMPLE SUMMARIES BY SECTION

SECTION: 3 - RENELL SOUND  
 SAMPLE NUMBERS: 329, 332, 314, 334, 349, 311, 361, 340, 315, 333  
 SOURCE: ROE FISHERY  
 GEAR: HERRING SEINE  
 DATE: MAR 23/91

SPECIMENS AT EACH AGE:		AGE												
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL	
NO. AT AGE	0	0	2	28	5	18	579	208	7	3	4	144	998	
% AT AGE	0.00	0.23	3.28	0.59	2.11	67.80	24.36	0.82	0.35	0.47	0.00	100.00		
LENGTH - MEAN (mm)	0.00	154.00	189.96	209.60	225.00	226.58	231.31	228.43	248.67	248.75	223.15	225.95		
- STD. DEV.	0.00	8.49	7.27	15.65	7.40	9.09	9.51	12.46	7.37	5.85	17.20	13.14		
WEIGHT - MEAN (gm)	0.00	52.00	97.29	137.00	175.17	181.18	193.04	193.57	226.33	225.50	172.82	179.90		
- STD. DEV.	0.00	15.56	15.17	33.99	20.74	23.34	25.93	32.57	12.34	21.49	38.64	31.47		

HJORT MATURITY STAGES:

		MATURITY STAGE									
		1	2	3	4	5	6	7	8	UNKNOWN	
NO. AT STAGE	0	0	0	0	16	771	210	1	0	0	0
% AT STAGE	0.00	0.00	0.00	0.00	1.60	77.25	21.04	0.10	0.00	0.00	0.00

ROE MATURITY (FEMALE):

		IMMATURE			MATURE	SPENT	TOTAL	SEX RATIO:						
		NO.	%	%				NO.	%	MALE	FEMALE	IMMATURE	TOTAL	
NO.	6	498	0	504				494	504	0	498			
%	1.19	98.81	0.00	100.00				49.50	50.50	0.00	100.00			
% SAMPLE WEIGHT	0.20	29.65	0.00	29.85				170.36	189.26	0.00	179.90			
								% SAMP. WT.	46.87	53.13	0.00	100.00		

TABLE 10 (CONT'D) SEINE ROE FISHERY SAMPLE SUMMARIES BY SECTION

SECTION: 21 - JUAN PEREZ SOUND  
 SAMPLE NUMBERS: 386, 321, 379, 335, 165, 392, 196, 344, 363, 316  
 SOURCE: ROE FISHERY  
 GEAR: HERRING SEINE  
 DATE: MAR 31/91

SPECIMENS AT EACH AGE:		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	49	34	98	285	291	34	24	42	18	123	998	
% AT AGE	0.00	5.60	3.89	11.20	32.57	33.26	3.89	2.74	4.80	2.06	0.00	100.00	
LENGTH - MEAN(mm)	0.00	164.63	179.09	197.40	204.59	210.72	220.06	225.71	233.43	232.17	202.97	205.39	
- STD. DEV.	0.00	7.64	6.52	8.18	7.79	9.18	11.63	10.99	9.23	10.97	22.90	17.71	
WEIGHT - MEAN(gm)	0.00	57.14	75.32	110.83	124.24	136.24	150.97	162.21	178.88	175.11	121.52	126.17	
- STD. DEV.	0.00	8.40	8.39	14.21	15.32	18.93	24.20	24.44	18.12	25.59	38.49	32.05	

HJORT MATURITY STAGES:		MATURITY STAGE										
		1	2	3	4	5	6	7	8	UNKNOWN		
NO. AT STAGE	1	0	1	9	758	227	1	0	0	1		
% AT STAGE	0.10	0.00	0.10	0.90	75.95	22.75	0.10	0.00	0.10			

ROE MATURITY (FEMALE):		SEX RATIO:										
		IMMATURE	MATURE	SPENT	TOTAL							
NO.	6	502	0	508	1000	NO.	488	508	2	998		
%	1.18	98.82	0.00	100.00		%	48.90	50.90	0.20	100.00		
% SAMPLE WEIGHT	0.15	27.95	0.00	28.10		MEAN WEIGHT	115.17	137.00	56.50	126.17		
						% SAMP. WT.	44.64	55.27	0.09	100.00		

TABLE 10 (CONT'D) SEINE ROE FISHERY SAMPLE SUMMARIES BY SECTION

SECTION: 52 - KITKATLA INLET

SAMPLE NUMBERS: 347, 336, 313, 327, 342, 337, 312, 345, 351, 323,

348

SOURCE: ROE FISHERY  
GEAR: HERRING SEINE  
DATE: APR 6/91

SPECIMENS AT EACH AGE:

	0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	6	471	91	96	166	71	12	13	10	163	1099
% AT AGE	0.00	0.64	50.32	9.72	10.26	17.74	7.59	1.28	1.39	1.07	0.00	100.00
LENGTH - MEAN(mm)	0.00	165.67	177.17	196.04	203.24	206.10	213.01	222.00	224.69	228.10	187.41	190.67
- STD. DEV.	0.00	4.50	9.11	9.26	7.73	8.18	9.21	6.69	6.12	13.96	23.41	18.75
WEIGHT - MEAN(gm)	0.00	60.67	76.44	107.09	117.19	127.48	138.70	143.50	156.69	175.20	97.77	99.93
- STD. DEV.	0.00	5.16	13.33	17.65	16.54	17.58	18.67	14.22	16.29	38.04	40.20	32.37

HJORT MATURITY STAGES:

	1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	0	1	0	16	704	361	17	0	0
% AT STAGE	0.00	0.09	0.00	1.46	64.06	32.85	1.55	0.00	0.00

ROE MATURITY (FEMALE):

	IMMATURE	MATURE	SPENT	TOTAL	SEX RATIO:	MALE	FEMALE	IMMATURE	TOTAL
NO.	11	555	2	568	NO.	530	568	1	1099
% SAMPLE WEIGHT	1.94 0.27	97.71 26.82	0.35 0.00	100.00 27.09	%	48.23	51.68	0.09	100.00
					MEAN WEIGHT	94.07	105.52	30.00	99.93
					% SAMP. WT.	45.40	54.57	0.03	100.00

TABLE 10 (CONT'D) SEINE ROE FISHERY SAMPLE SUMMARIES BY SECTION

SECTION: 72 - POWELL ANCHORAGE  
 SAMPLE NUMBERS: 338, 310, 339, 325, 320, 369, 171, 341, 168, 343  
 SOURCE: ROE FISHERY  
 GEAR: HERRING SEINE  
 DATE: MAR 23/91

SPECIMENS AT EACH AGE:

	AGE											
	0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	14	157	56	48	510	54	22	17	7	115	1000
% AT AGE	0.00	1.58	17.74	6.33	5.42	57.63	6.10	2.49	1.92	0.79	0.00	100.00
LENGTH - MEAN(mm)	0.00	163.14	176.21	189.13	202.46	209.39	217.91	224.45	227.24	242.43	197.82	202.06
- STD. DEV.	0.00	15.83	11.54	13.43	12.91	11.22	11.01	10.52	5.90	10.89	23.66	19.80
WEIGHT - MEAN(gm)	0.00	62.00	80.27	102.82	127.08	143.91	164.59	174.14	180.65	212.29	123.18	130.17
- STD. DEV.	0.00	20.16	17.85	23.24	26.82	27.22	25.29	24.10	23.29	23.15	43.45	39.59

HJORT MATURITY STAGES:

	MATURITY STAGE								
	1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	0	0	0	19	768	212	1	0	0
% AT STAGE	0.00	0.00	0.00	1.90	76.80	21.20	0.10	0.00	0.00

ROE MATURITY (FEMALE):

	IMMATURE	MATURE	SPENT	TOTAL					
	NO.	%	MEAN WEIGHT	% SAMP. WT.	NO.	%	MEAN WEIGHT	% SAMP. WT.	MALE FEMALE IMMATURE TOTAL
NO.	17	490	0	507	493	50.7	0	1000	
% SAMPLE WEIGHT	3.35	96.65	0.00	100.00	49.30	50.70	0.00	100.00	
	0.56	29.28	0.00	29.84	121.42	138.67	0.00	130.17	
					45.99	54.01	0.00	100.00	

TABLE 10 (CONT'D) SEINE ROE FISHERY SAMPLE SUMMARIES BY SECTION

SECTION: 142 - BAYNES SOUND  
 SAMPLE NUMBERS: 54, 180, 57, 61, 181, 72, 55, 56  
 SOURCE: ROE FISHERY  
 GEAR: HERRING SEINE  
 DATE: MAR 2/91

		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	18	137	348	57	111	23	11	2	0	93	800	
% AT AGE	0.00	2.55	19.38	49.22	8.06	15.70	3.25	1.56	0.28	0.00	0.00	100.00	
LENGTH - MEAN(mm)	0.00	173.44	186.17	195.83	205.32	212.04	222.57	217.64	225.50	0.00	194.17	197.54	
- STD. DEV.	0.00	7.30	10.69	11.52	11.55	11.37	9.14	12.51	23.33	0.00	18.03	15.65	
WEIGHT - MEAN(gm)	0.00	67.44	88.34	105.77	124.47	139.24	159.78	152.36	188.50	0.00	107.22	110.47	
- STD. DEV.	0.00	8.26	17.20	22.42	27.14	26.46	21.45	42.18	50.20	0.00	33.77	31.02	

## HJORTH MATURITY STAGES:

NO. AT STAGE		Maturity (Female):		SEX RATIO:			
% AT STAGE	% SAMPLE WEIGHT	IMMATURE	MATURE	SPENT	TOTAL	MALE	FEMALE
1	0.13	0	0	0	33	660	105
%	%	0.00	0.00	0.00	4.13	82.50	13.13
						0.13	0.00
						0	0.00
						0	0
NO.		21	376	0	397	402	397
% SAMPLE WEIGHT		5.29	94.71	0.00	100.00	50.25	49.63
		1.10	24.35	0.00	25.44	MEAN WEIGHT	106.05
						% SAMP. WT.	115.08
							57.00
							110.47
							100.00

#### ROE MATURITY (FEMALE):

	NO.	%	% SAMPLE WEIGHT	21	376	0	397	NO.	402	397	1	800
	%	% SAMPLE WEIGHT		5.29	94.71	0.00	100.00	%	50.25	49.63	0.13	100.00
				1.10	24.35	0.00	25.44					
								MEAN WEIGHT	106.05	115.08	57.00	110.47
								% SAMP. WT.	48.24	51.70	0.06	100.00

TABLE 10 (CONT'D) SEINE ROE FISHERY SAMPLE SUMMARIES BY SECTION

AGE										SEX RATIO:				
SPECIMENS AT EACH AGE:														
NO. AT AGE		% AT AGE	0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
LENGTH - MEAN(mm)	0.00	167.29	188.20	203.78	212.71	219.96	229.18	231.54	226.00	0.00	199.42	205.57		
- STD. DEV.	0.00	6.51	8.34	9.14	8.79	9.12	9.09	10.89	8.49	0.00	22.15	19.34		
WEIGHT - MEAN(gm)	0.00	68.02	96.54	126.04	140.28	159.65	175.68	184.85	198.50	0.00	122.02	131.68		
- STD. DEV.	0.00	8.95	14.62	19.93	19.20	22.97	22.41	29.95	4.95	0.00	39.06	36.97		
HJORT MATURITY STAGES:														
NO. AT STAGE			1	2	3	4	5	6	7	8	UNKNOWN			
% AT STAGE	0.00	0.00	0	0	25	858	169	1	0	0				
ROE MATURITY (FEMALE):														
NO.			IMMATURE	MATURE	SPENT	TOTAL	NO.			MALE	FEMALE	IMMATURE	TOTAL	
%	3.71	96.29	0.00	100.00	620		%	41.12	58.88	0.00	0.00	100.00		
% SAMPLE WEIGHT	0.49	26.96	0.00	27.45			MEAN WEIGHT	121.46	138.81	0.00	0.00	131.68		
% SAMP. WT.			37.93	62.07	0.00	100.00								

TABLE 10 (CONT'D) SEINE ROE FISHERY SAMPLE SUMMARIES BY SECTION

SECTION: 252 - NOOTKA SOUND  
SAMPLE NUMBERS: 184, 78, 68, 60, 63, 75, 67, 183, 64, 177  
SOURCE: ROE FISHERY  
GEAR: HERRING SEINE  
DATE: MAR 10/91

SPECIMENS AT EACH AGE:

	NO. AT AGE	% AT AGE	0	7.3	19.7	134	86	185	24	18	8	0	239	964
LENGTH - MEAN(mm)	0.00	10.07	27.17	18.48	11.86	25.52	3.31	2.48	1.10	0.00	0.00	0.00	100.00	
- STD. DEV.	0.00	7.68	8.46	186.41	202.61	212.86	220.80	229.04	232.83	241.75	0.00	189.56	199.29	
WEIGHT - MEAN(gm)	0.00	68.44	92.61	120.44	140.69	160.09	177.67	182.06	217.75	0.00	103.74	119.47		
- STD. DEV.	0.00	10.05	13.88	18.67	20.59	24.84	27.30	31.38	31.38	15.85	0.00	43.06	41.80	

## HJORT Maturity Stages:

TABLE 11 GILLNET ROE FISHERY SAMPLE SUMMARIES BY SECTION

SPECIMENS AT EACH AGE:										AGE					
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL		
NO. AT AGE	0	0	0	0	10	85	175	36	27	41	20	206	600		
% AT AGE	0.00	0.00	0.00	2.54	21.57	44.42	9.14	6.85	10.41	5.08	0.00	100.00			
LENGTH - MEAN(mm)	0.00	0.00	0.00	207.10	211.32	216.34	223.92	227.74	233.12	232.25	215.26	217.75			
- STD. DEV.	0.00	0.00	0.00	6.51	6.40	8.54	8.20	9.32	8.31	10.92	10.83	11.16			
WEIGHT - MEAN(gm)	0.00	0.00	0.00	134.90	139.60	147.03	156.03	171.37	169.88	176.65	145.29	149.36			
- STD. DEV.	0.00	0.00	0.00	18.60	11.94	14.93	18.54	18.91	19.58	15.57	16.98	18.98			

ROE MATURITY STAGES:

MATURITY STAGE						
	1	2	3	4	5	6
NO. AT STAGE	0	0	0	0	442	150
% AT STAGE	0.00	0.00	0.00	0.00	1.33	0.00

SEX RATIO:

SEX RATIO:				
	MALE	FEMALE	IMMATURE	TOTAL
NO.	0	302	4	306
%	0.00	98.69	1.31	100.00
% SAMPLE WEIGHT	0.00	27.35	0.01	27.36
MEAN WEIGHT				
% SAMP. WT.	48.28	51.72	0.00	100.00

TABLE 11 (CONT'D) GILLNET ROE FISHERY SAMPLE SUMMARIES BY SECTION

SECTION: 42 - AREA 4 NORTH  
SAMPLE NUMBERS: 381, 357, 380, 324, 385, 322, 372, 328, 317, 368,  
330, 359

SOURCE: ROE FISHERY  
GEAR: GILLNET

DATE: MAR 25/91 - MAR 27/91

SPECIMENS AT EACH AGE:

	0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	0	0	39	171	288	61	40	30	284	1200	
% AT AGE	0.00	0.00	0.00	4.26	18.67	31.44	6.66	4.37	3.28	0.00	100.00	
LENGTH - MEAN(mm)	0.00	0.00	0.00	205.59	211.67	214.61	217.07	220.64	226.25	228.33	215.58	215.75
- STD. DEV.	0.00	0.00	0.00	9.48	8.38	7.70	8.36	8.12	7.31	9.31	9.41	9.33
WEIGHT - MEAN(gm)	0.00	0.00	0.00	128.46	139.56	141.56	146.26	149.39	159.48	175.30	142.44	144.02
- STD. DEV.	0.00	0.00	0.00	15.98	15.53	15.99	16.48	19.03	18.61	30.69	16.00	18.14

HJORT MATURITY STAGES:

	1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	0	0	0	11	793	361	35	0	0
% AT STAGE	0.00	0.00	0.00	0.92	66.08	30.08	2.92	0.00	0.00

ROE MATURITY (FEMALE):

	IMMATURE	MATURE	SPENT	TOTAL	SEX RATIO:			
NO.	11	666	15	692	NO.	508	692	0
% SAMPLE WEIGHT	1.59	96.24	2.17	100.00	%	42.33	57.67	0.00
% SAMPLE WEIGHT	0.37	26.28	0.03	26.69	MEAN WEIGHT	141.14	146.13	0.00
					% SAMP. WT.	41.49	58.51	100.00

TABLE 11 (CONT'D) GILLNET ROE FISHERY SAMPLE SUMMARIES BY SECTION

SECTION: 72 - POWELL ANCHORAGE  
 SAMPLE NUMBERS: 172, 163, 346, 164, 309  
 SOURCE: ROE FISHERY  
 GEAR: GILLNET  
 DATE: MAR 31/91

SPECIMENS AT EACH AGE:

	0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	0	0	4	24	29	21	14	2	161	495	
% AT AGE	0.00	0.00	0.00	1.20	7.19	71.86	8.68	6.29	0.60	0.00	100.00	
LENGTH - MEAN (mm)	0.00	0.00	0.00	202.75	215.13	217.61	222.76	227.71	230.07	236.50	211.46	216.53
- STD. DEV.	0.00	0.00	0.00	5.12	8.30	9.25	11.88	11.86	11.32	2.12	11.65	11.44
WEIGHT - MEAN(gm)	0.00	0.00	0.00	130.00	140.63	147.04	157.76	166.19	164.71	171.50	143.71	147.55
- STD. DEV.	0.00	0.00	0.00	13.44	16.69	20.61	23.75	21.84	21.70	14.85	17.09	20.48

HJORT MATURITY STAGES:

	1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	0	0	0	0	8	287	173	27	0
% AT STAGE	0.00	0.00	0.00	1.62	57.98	34.95	5.45	0.00	0.00

ROE MATURITY (FEMALE):

	IMMATURE	MATURE	SPENT	TOTAL	NO.	%	MALE	FEMALE	IMMATURE	TOTAL
NO.	2	241	12	255	239	255	1	495		
%	0.78	94.51	4.71	100.00	48.28	51.52	0.20	100.00		
% SAMPLE WEIGHT	0.12	26.04	0.02	26.18	MEAN WEIGHT	143.64	151.25	138.00	147.55	
% SAMP. WT.					% SAMP. WT.	47.00	52.81	0.19	100.00	

**TABLE 11 (CONT'D) GILLNET ROE FISHERY' SAMPLE SUMMARIES BY SECTION**

SECTION: 74 - THOMPSON BAY  
SAMPLE NUMBERS: 189, 169, 197, 175, 160  
SOURCE: ROE FISHERY  
GEAR: GILLNET  
DATE: MAR 31/91 - APR 1/91

SPECIMENS AT EACH AGE:

	NO. AT AGE	% AT AGE	LENGTH - MEAN (mm)	- STD. DEV.	WEIGHT - MEAN (gm)	- STD. DEV.
	0	0	3	10	17	31
	0.00	0.00	1.12	3.72	6.32	65.80
	0.00	0.00	200.67	200.80	215.29	215.46
	0.00	0.00	3.79	5.12	14.20	8.90
	0.00	0.00	129.67	131.30	152.59	158.88
	0.00	0.00	3.79	11.20	24.36	20.73
	0.00	0.00	11.52	8.90	24.36	23.99
	0.00	0.00	9.95	10.27	180.30	174.77
	0.00	0.00	11.26	11.26	23.99	224.43
	0.00	0.00	14.57	14.57	25.83	222.81
	0.00	0.00	10.52	10.52	10.79	230.20
	0.00	0.00	10.81	10.81	19.61	232.67
	0.00	0.00	215.35	215.35	19.61	213.57
	0.00	0.00	10.81	10.81	157.82	492
	0.00	0.00	223	223	19.61	153.03
	0.00	0.00	100.00	100.00	19.61	22.58

## HJORTH Maturity Stages:

	NO. AT STAGE	% AT STAGE					
0	0	0	0	5	322	158	6
0.00	0.00	0.00	1.00	65.45	32.11	1.22	0.00

#### ROE MATURITY (FEMALE):

	NO.	2	281	4	287	NO.	205	287	0	492
	%	0.70	97.91	1.39	100.00	%	41.67	58.33	0.00	100.00
	% SAMPLE WEIGHT	0.24	28.64	0.00	28.89	MEAN WEIGHT	152.59	161.56	0.00	157.82
	% SAMP. WT.					% SAMP. WT.	40.28	59.72	0.00	100.00

TABLE 11 (CONT'D) GILLNET ROE FISHERY SAMPLE SUMMARIES BY SECTION

		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0.0	0	14	306	187	436	79	51	13	1	397	1484	
% AT AGE	0.00	0.00	1.29	28.15	17.20	40.11	7.27	4.69	1.20	0.09	0.00	100.00	
LENGTH - MEAN (mm)	0.00	0.00	202.43	209.23	214.24	219.11	221.44	225.08	227.00	225.00	215.88	215.84	
- STD. DEV.	0.00	0.00	6.32	6.95	7.28	8.43	7.87	8.58	10.31	0.00	9.61	9.43	
WEIGHT - MEAN (gm)	0.00	0.00	118.50	133.31	143.81	151.79	158.78	163.75	161.69	156.00	144.45	145.57	
- STD. DEV.	0.00	0.00	9.73	12.41	14.82	17.80	18.59	18.20	26.17	0.00	17.45	18.50	
		MATURITY STAGE											
HJORT MATURITY STAGES:		1	2	3	4	5	6	7	8	UNKNOWN			
NO. AT STAGE	0	0	0	8	998	456	22	0	0				
% AT STAGE	0.00	0.00	0.00	0.54	67.25	30.73	1.48	0.00	0.00				
		SEX RATIO:											
		IMMATURE	MATURE	SPENT	TOTAL					MALE	FEMALE	IMMATURE	TOTAL
NO.	1	724	4	729						755	729	0	1484
% SAMPLE WEIGHT	0.14	99.31	0.55	100.00						50.88	49.12	0.00	100.00
	0.03	27.39	0.00	27.43									
		MEAN WEIGHT								144.94			
		% SAMP. WT.								146.22			
		50.66								0.00			
		49.34								145.57			
		0.00								100.00			

**GILLNET ROE FISHERY' SAMPLE SUMMARIES BY SECTION**

SECTION: 232 - MACOAH PASS  
SAMPLE NUMBERS: 187, 167, 178, 174, 190  
SOURCE: ROE FISHERY  
GEAR: GILLNET  
DATE: MAR 21/91

SPECIMENS AT EACH AGE:

	NO. AT AGE	% AT AGE	LENGTH - MEAN(mm)	- STD. DEV.	WEIGHT - MEAN(gm)	- STD. DEV.
	0	0	0	0	0	0
	0.00	0.00	0.29	0.29	0.00	0.00
	0.00	0.00	209.00	206.52	133.00	133.00

## HJORT Maturity Stages:

NO. AT STAGE % AT STAGE

#### ROE MATURITY (FEMALE):

NO.	1	256	3	260	NO.	240	260	0	500
%	0.38	98.46	1.15	100.00	%	48.00	52.00	0.00	100.00
% SAMPLE WEIGHT	0.08	27.23	0.00	27.31	MEAN WEIGHT	153.70	160.16	0.00	157.06
% SAMP. WT.					%	46.97	53.03	0.00	100.00

SEX RATIO:

MATURITY STAGE	4	5	6	7	8	UNKNOWN
3	352	135	10	0	0	0
.60	70.40	27.00	2.00	0.00	0.00	0.00

TABLE 12 PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

SPECIMENS AT EACH AGE:										AGE						
					0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE		0	28	394	76	74	1707	302	20	12	13	171	2797			
% AT AGE		0.00	1.07	15.00	2.89	2.82	65.00	11.50	0.76	0.46	0.50	0.00	100.00			
LENGTH - MEAN (mm)		0.00	166.00	188.91	204.72	219.69	222.84	228.85	231.50	236.17	239.62	211.73	217.08			
- STD. DEV.		0.00	7.04	9.06	10.42	10.06	9.40	9.16	10.47	6.81	11.38	20.88	17.13			
WEIGHT - MEAN (gm)		0.00	62.39	95.75	127.04	160.73	172.30	186.52	203.35	208.75	201.46	147.39	159.41			
- STD. DEV.		0.00	12.96	16.72	19.85	28.85	26.24	25.11	34.13	29.01	30.31	45.24	40.21			
HOJORT MATURITY STAGES:																
					1	2	3	4	5	6	7	8	UNKNOWN			
NO. AT STAGE		1	7	1	433	1770	485	100	0	0	0	0	0.00			
% AT STAGE		0.04	0.25	0.04	15.48	63.28	17.34	3.58	0.00							
ROE MATURITY (FEMALE):																
					IMMATURE	MATURE	SPENT	TOTAL	SEX RATIO:							
NO.		353	1097	38	1488				NO.		1303	1488	6	2797		
%		23.72	73.72	2.55	100.00				%		46.59	53.20	0.21	100.00		
% SAMPLE WEIGHT		5.55	22.54	0.03	28.12				MEAN WEIGHT		149.61	168.23	98.17	159.41		
									% SAMP. WT.		43.72	56.15	0.13	100.00		



TABLE 12 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

AREA: 3 - NASS  
SAMPLE NUMBERS: 294,282,293,284,289,304,265,286,275,297,  
285

SOURCE: PRE-FISHERY CHARTER  
GEAR: HERRING SEINE  
DATE: MAR 14/91 - MAR 21/91

SPECIMENS AT EACH AGE:

	AGE											
	0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	81	342	60	132	139	132	25	9	20	160	1100
% AT AGE	0.00	8.62	36.38	6.38	14.04	14.79	14.04	2.66	0.96	2.13	0.00	100.00
LENGTH - MEAN(mm)	0.00	140.98	173.35	191.35	200.44	205.16	210.77	217.28	221.00	228.00	124.57	179.00
- STD. DEV.	0.00	7.96	10.43	7.01	8.09	7.91	7.91	8.52	12.30	10.29	50.04	36.63
WEIGHT - MEAN(gm)	0.00	34.44	73.78	105.53	120.24	131.99	142.30	152.40	156.11	170.60	40.86	93.20
- STD. DEV.	0.00	7.98	14.80	13.68	15.27	18.10	18.39	18.22	23.79	22.72	54.81	47.06

HJORT MATURITY STAGES:

	MATURITY STAGE								
	1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	142	37	3	305	530	82	0	0	1
% AT STAGE	12.91	3.36	0.27	27.73	48.18	7.45	0.00	0.00	0.09

ROE MATURITY (FEMALE):

	IMMATURE				MATURE	SPENT	TOTAL				
	NO.	%	% SAMPLE WEIGHT	47.21	203	227	0	430	NO.	531	139
				8.17	47.21	52.79	0.00	100.00	%	48.27	39.09
					16.21	16.21	0.00	24.38	MEAN WEIGHT	102.33	107.63
									% SAMP. WT.	53.00	45.14
										1.86	100.00

SEX RATIO:

TABLE 12 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

===== ===== ===== ===== ===== ===== =====

AREA: 4 - SKEENA  
 SAMPLE NUMBERS: 245, 242, 237, 306, 222, 241, 291, 246  
 SOURCE: PRE-FISHERY CHARTER  
 GEAR: HERRING SEINE  
 DATE: MAR 18/91 - MAR 31/91

SPECIMENS AT EACH AGE:

	AGE											
	0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	5	335	81	107	110	81	12	4	2	63	800
% AT AGE	0.00	0.68	45.45	10.99	14.52	14.93	10.99	1.63	0.54	0.27	0.00	100.00
LENGTH - MEAN (mm)	0.00	157.20	177.73	195.63	202.15	208.08	213.91	214.67	227.75	226.50	202.11	193.37
- STD. DEV.	0.00	10.47	10.17	9.52	9.53	8.29	8.81	9.93	6.85	7.78	20.73	18.24
WEIGHT - MEAN (gm)	0.00	48.80	79.36	107.69	120.36	132.15	144.09	145.58	173.00	175.00	121.67	106.37
- STD. DEV.	0.00	10.55	14.47	15.60	20.56	15.17	21.04	26.29	11.92	21.21	37.05	32.02

HOJRT MATURITY STAGES:

	MATURITY STAGE								
	1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	1	0	0	55	557	187	0	0	0
% AT STAGE	0.13	0.00	0.00	6.88	69.63	23.38	0.00	0.00	0.00

ROE MATURITY (FEMALE):

	IMMATURE		MATURE	SPENT	TOTAL		SEX RATIO:					
						NO.	%	MALE	FEMALE	IMMATURE	TOTAL	
NO.	29	340	0	369				430	369	1	800	
%	7.86	92.14	0.00	100.00				53.75	46.13	0.13	100.00	
% SAMPLE WEIGHT	1.63	24.71	0.00	26.34				99.92	114.06	39.00	106.37	
								% SAMP. WT.	50.49	49.46	0.05	100.00

TABLE 12 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

AREA: 5 - GRENVILLE-PRINCIPAL  
 SAMPLE NUMBERS: 229, 299, 270, 253, 271, 296, 272, 290, 280,  
 230, 261, 262, 243, 378, 252, 273  
 SOURCE: PRE-FISHERY CHARTER  
 GEAR: HERRING SEINE  
 DATE: MAR 19/91 - APR 6/91

SPECIMENS AT EACH AGE:

	AGE											
	0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	21	842	159	184	234	107	19	10	16	108	1700
% AT AGE	0.00	1.32	52.89	9.99	11.56	14.70	6.72	1.19	0.63	1.01	0.00	100.00
LENGTH - MEAN(mm)	0.00	163.81	175.59	192.95	202.60	204.88	212.60	215.89	222.80	229.19	195.89	188.87
- STD. DEV.	0.00	10.52	9.29	8.17	8.89	8.79	8.63	7.78	10.93	7.71	21.68	18.07
WEIGHT - MEAN(gm)	0.00	58.57	75.68	103.60	122.34	127.12	139.64	147.79	163.00	173.69	110.75	98.71
- STD. DEV.	0.00	8.99	13.94	15.43	19.01	18.35	18.73	21.12	21.35	27.25	40.03	31.88

HJORT MATURITY STAGES:

	MATURITY STAGE								
	1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	0	1	2	105	1235	244	113	0	0
% AT STAGE	0.00	0.06	0.12	6.18	72.65	14.35	6.65	0.00	0.00

ROE MATURITY (FEMALE):

	IMMATURE	MATURE	SPENT	TOTAL				
					NO.	FEMALE	IMMATURE	TOTAL
NO.	66	702	38	806		894	806	0
%	8.19	87.10	4.71	100.00	%	52.59	47.41	100.00
% SAMPLE WEIGHT	1.58	23.40	0.05	25.03	MEAN WEIGHT	93.31	104.69	98.71
					% SAMP. WT.	49.71	50.29	100.00

TABLE 12 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

SPECIMENS AT EACH AGE:										AGE																		
				0+		1+		2+		3+		4+		5+		6+		7+		8+		9+		UNKNOWN		TOTAL		
NO. AT AGE	% AT AGE	0.36	11.36	96	164	58	36	421	48	14	4	1	55	900														
LENGTH - MEAN(mm)	- STD. DEV.	114.33	5.69	137.90	10.12	178.84	10.98	188.45	12.09	201.78	8.12	205.21	10.06	213.94	9.57	216.14	14.61	229.75	14.38	240.00	0.00	190.42	29.94	191.58	25.47			
WEIGHT - MEAN(gm)	- STD. DEV.	16.33	2.52	32.53	10.43	83.72	16.57	99.74	19.78	122.67	17.18	133.32	22.49	150.85	21.56	147.14	21.38	172.25	33.38	196.00	0.00	107.95	46.95	110.39	41.36			
HJORT MATURITY STAGES:										MATURITY STAGE						MATURITY STAGE						MATURITY STAGE						
NO. AT STAGE	% AT STAGE	1	2	27	51	3	4	5	6	7	8	8	1															
NO.	%	112	347	0	459										NO.	409	459	32	900									
% SAMPLE WEIGHT	% SAMPLE WEIGHT	24.40	75.60	0.00	100.00										%	45.44	51.00	3.56	100.00									
ROE MATURITY (FEMALE):										SEX RATIO:						SEX RATIO:						SEX RATIO:						
NO.	%	112	347	0	459					NO.	409	459	32	900		NO.	409	459	32	900								
% SAMPLE WEIGHT	% SAMPLE WEIGHT	3.80	22.32	0.00	26.12					%	45.44	51.00	3.56	100.00		%	45.44	51.00	3.56	100.00								
MEAN WEIGHT										MEAN WEIGHT						MEAN WEIGHT						MEAN WEIGHT						
% SAMP. WT.	% SAMP. WT.	43.46	55.64	0.90	100.00					% SAMP. WT.	43.46	55.64	0.90	100.00		% SAMP. WT.	43.46	55.64	0.90	100.00								

TABLE 12 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

**AREA:** 7 - BELLA BELLA  
**SAMPLE NUMBERS:** 131,400,130,145,108,399,129,151,104,213,  
 150,365,355,398,128,134,364,127,137,107,  
 394,143,401,350,139,146,132,153,360,352,  
 389,376,370,113,136,234,397,124,110,106,  
 353,390,371,231,126,112,383,367,216,387,  
 382,141,135,111,233,109,105,203,366  
**SOURCE:** PRE-FISHERY CHARTER  
**GEAR:** HERRING SEINE  
**DATE:** MAR 4/91 - MAR 27/91

SPECIMENS AT EACH AGE:

NO. AT AGE	1	112	980	359	348	2994	349	130	83	25	516	5897
% AT AGE	0.02	2.08	18.21	6.67	6.47	55.64	6.49	2.42	1.54	0.46	0.00	100.00
LENGTH - MEAN(mm)	117.00	160.26	178.96	191.16	203.44	210.24	219.08	226.18	228.35	234.36	201.36	202.97
- STD. DEV.	0.00	11.00	11.72	12.38	11.53	11.43	10.83	11.13	9.86	7.44	22.97	19.33
WEIGHT - MEAN(gm)	24.00	58.76	85.63	108.11	130.18	146.69	167.32	182.46	189.52	199.52	130.65	132.96
- STD. DEV.	0.00	12.47	18.34	24.40	24.90	27.74	27.51	28.82	27.46	20.44	43.89	39.58

## **MJORT Maturity Stages:**

TABLE 12 (CONT'D) PRE-FISHERY CHARTER' SAMPLE SUMMARIES BY AREA

SAMPLE AREA: 8 - BELLA COOLA  
NUMBERS: 149 SOURCE: PRE-FISHERY CHARTER  
GEAR: HERRING SEINE DATE: MAR 9/91

SPECIMENS AT EACH AGE:

	0	4	46	6	8	24	2	0	1	0	9	100
NO. AT AGE	0.00	4.40	50.55	6.59	8.79	26.37	2.20	0.00	1.10	0.00	0.00	100.00
% AT AGE												
LENGTH - MEAN(mm)	0.00	149.25	173.20	181.83	195.63	197.50	200.50	0.00	202.00	0.00	187.78	182.53
- STD. DEV.	0.00	12.28	7.74	9.52	9.97	8.26	4.95	0.00	0.00	0.00	17.04	15.79
WEIGHT - MEAN(gm)	0.00	45.00	74.28	84.83	104.00	108.75	109.50	0.00	124.00	0.00	100.78	87.98
- STD. DEV.	0.00	10.89	10.72	10.93	18.88	14.60	17.68	0.00	0.00	0.00	30.30	23.22

## HJORT Maturity Stages:

NO. AT STAGE	% AT STAGE	1	1	0	66	32	0	0	0
		1.00	1.00	0.00	66.00	32.00	0.00	0.00	0.00

### ROE MATURITY (FEMALE):

NO.	NO.	NO.	100
%	%	%	
% SAMPLE WEIGHT	% SAMPLE WEIGHT	% SAMPLE WT.	
35	49	49	100
71.43	28.57	0.00	100.00
13.23	6.14	0.00	19.37
		MEAN WEIGHT	
		89.94	87.12
			32.00
			87.98
		% SAMP. WT.	
		51.11	48.52
			0.36
			100.00

**SEX RATIO:**

TABLE 12 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

SPECIMENS AT EACH AGE:												
AGE												
	0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	35	12	1	2	12	1	0	0	0	0	100
% AT AGE	0.00	55.56	19.05	1.59	3.17	19.05	1.59	0.00	0.00	0.00	0.00	100.00
LENGTH - MEAN(mm)	0.00	134.43	158.92	150.00	182.50	174.25	171.00	0.00	0.00	0.00	144.51	147.36
- STD. DEV.	0.00	9.59	9.34	0.00	10.61	10.71	0.00	0.00	0.00	0.00	18.32	19.34
WEIGHT - MEAN(gm)	0.00	27.37	44.50	35.00	61.00	56.42	57.00	0.00	0.00	0.00	34.95	36.76
- STD. DEV.	0.00	6.59	9.05	0.00	11.31	7.88	0.00	0.00	0.00	0.00	13.37	14.13

HJORT MATURITY STAGES:									
MATURITY STAGE									
	1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	8	31	8	0	10	4	33	2	4
% AT STAGE	8.00	31.00	8.00	0.00	10.00	4.00	33.00	2.00	4.00

ROE MATURITY (FEMALE):				
	IMMATURE	MATURE	SPENT	TOTAL
NO.	12	6	15	33
%	36.36	18.18	45.45	100.00
% SAMPLE WEIGHT	0.00	2.64	0.00	2.64

SEX RATIO:				
	MALE	FEMALE	IMMATURE	TOTAL
NO.	51	33	16	100
%	51.00	33.00	16.00	100.00
MEAN WEIGHT	38.59	39.03	26.25	36.76
% SAMP. WT.	53.54	35.04	11.43	100.00

TABLE 12 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

AREA:	14 - COMOX									
SAMPLE NUMBERS:	22, 375, 31, 396, 21, 12, 37, 13, 32, 23, 4, 33, 40, 41, 49, 17, 42, 50, 5, 34, 18, 35, 6, 7, 27, 19, 43, 44, 8, 45, 9, 11, 10, 46, 38									
SOURCE:	PRE-FISHERY CHARTER									
GEAR:	HERRING SEINE									
DATE:	FEB 23/91 - MAR 14/91									
SPECIMENS AT EACH AGE:										
0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN TOTAL
NO. AT AGE	0	167	681	1340	333	495	73	44	7	1 359 3500
% AT AGE	0.00	5.32	21.68	42.66	10.60	15.76	2.32	1.40	0.22	0.03 0.00 100.00
LENGTH - MEAN(mm)	0.00	167.58	184.82	195.45	205.04	211.66	216.68	220.34	217.00	230.00 196.81 196.20
- STD. DEV.	0.00	11.59	10.10	10.89	10.83	11.22	11.76	10.75	11.99	0.00 18.68 16.25
WEIGHT - MEAN(gm)	0.00	62.29	89.12	108.70	127.56	142.85	153.45	162.64	138.86	185.00 112.19 111.35
- STD. DEV.	0.00	12.34	16.94	21.45	24.68	26.38	30.07	25.27	27.24	0.00 35.49 31.69

HJORT MATURITY STAGES:

	1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	0	6	12	735	2472	267	7	1	0
% AT STAGE	0.00	0.17	0.34	21.00	70.63	7.63	0.20	0.03	0.00

ROE MATURITY (FEMALE):

	IMMATURE	MATURE	SPENT	TOTAL	SEX RATIO:	MALE	FEMALE	IMMATURE	TOTAL
NO.	358	1396	3	1757	NO.	1741	1757	2	3500
%	20.38	79.45	0.17	100.00	%	49.74	50.20	0.06	100.00
% SAMPLE WEIGHT	4.00	21.38	0.00	25.38	MEAN WEIGHT	106.75	115.95	80.50	111.35
					% SAMP. WT.	47.69	52.27	0.04	100.00

TABLE 12 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

===== ===== ===== ===== ===== ===== ===== ===== ===== =====

AREA: 15 - WESTVIEW

SAMPLE NUMBERS: 2

SOURCE: PRE-FISHERY CHARTER

GEAR: HERRING SEINE

DATE: MAR 4/91

SPECIMENS AT EACH AGE:

	AGE											
	0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	7	40	32	5	7	0	0	0	0	9	100
% AT AGE	0.00	7.69	43.96	35.16	5.49	7.69	0.00	0.00	0.00	0.00	0.00	100.00
LENGTH - MEAN(mm)	0.00	148.29	171.50	181.66	190.60	195.14	0.00	0.00	0.00	0.00	167.56	175.38
LENGTH - STD. DEV.	0.00	14.07	10.60	10.95	9.34	9.26	0.00	0.00	0.00	0.00	15.84	15.44
WEIGHT - MEAN(gm)	0.00	47.43	68.18	81.69	97.40	108.43	0.00	0.00	0.00	0.00	64.33	74.98
WEIGHT - STD. DEV.	0.00	10.58	11.20	20.10	31.20	21.03	0.00	0.00	0.00	0.00	16.09	21.71

HJORT MATURITY STAGES:

	MATURITY STAGE								
	1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	0	6	2	77	13	0	0	0	2
% AT STAGE	0.00	6.00	2.00	77.00	13.00	0.00	0.00	0.00	2.00

ROE MATURITY (FEMALE):

	IMMATURE	MATURE	SPENT	TOTAL						
	NO.	%	%	%	NO.	%	MALE	FEMALE	IMMATURE	TOTAL
NO.	40	7	0	47	51	47	2	47	2	100
%	85.11	14.89	0.00	100.00	51.00	47.00	2.00	100.00		
% SAMPLE WEIGHT	13.94	6.05	0.00	19.99	72.45	78.77	50.50	74.98		
% SAMP. WT.					49.28	49.37	1.35	100.00		

TABLE 12 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

SPECIMENS AT EACH AGE:		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	1	467	278	323	61	109	19	9	1	0	0	130	1398
% AT AGE	0.08	36.83	21.92	25.47	4.81	8.60	1.50	0.71	0.08	0.00	0.00	0.00	100.00
LENGTH - MEAN(mm)	108.00	164.52	180.99	198.24	206.59	213.28	225.89	231.11	221.00	0.00	185.55	184.44	
- STD. DEV.	0.00	12.46	11.13	11.23	11.59	9.73	6.90	8.21	0.00	0.00	22.53	21.78	
WEIGHT - MEAN(gm)	13.00	59.78	83.17	113.28	129.67	148.53	164.32	176.22	159.00	0.00	91.87	91.95	
- STD. DEV.	0.00	13.87	16.32	21.90	19.82	21.19	13.79	20.87	0.00	0.00	37.62	36.30	

HJORT MATURITY STAGES:

		MATURITY STAGE								
		1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	27	31	10	416	853	58	3	0	0	
% AT STAGE	1.93	2.22	0.72	29.76	61.02	4.15	0.21	0.00	0.00	

ROE MATURITY (FEMALE):

		IMMATURE	MATURE	SPENT	TOTAL	SEX RATIO:			
						MALE	FEMALE	IMMATURE	TOTAL
NO.	200	398	1	599					
%	33.39	66.44	0.17	100.00					
% SAMPLE WEIGHT	4.77	18.48	0.00	23.25					
					NO.	758	599	41	1398
					%	54.22	42.85	2.93	100.00
					MEAN WEIGHT	90.22	98.02	35.49	91.95
					% SAMP. WT.	53.19	45.67	1.13	100.00

TABLE 12 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

SPECIMENS AT EACH AGE:		AGE									SEX RATIO:		
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	43	54	82	17	48	3	10	0	0	43	300	
% AT AGE	0.00	16.73	21.01	31.91	6.61	18.68	1.17	3.89	0.00	0.00	0.00	100.00	
LENGTH - MEAN(mm)	0.00	166.98	187.04	200.99	210.94	214.46	211.33	225.00	0.00	0.00	195.93	196.50	
- STD. DEV.	0.00	11.78	9.16	8.86	11.71	12.75	19.76	12.16	0.00	0.00	19.68	19.75	
WEIGHT - MEAN(gm)	0.00	61.98	93.30	117.85	139.94	147.81	155.33	168.80	0.00	0.00	110.53	112.49	
- STD. DEV.	0.00	12.41	16.46	17.79	24.06	27.78	26.16	20.88	0.00	0.00	36.80	36.40	
HJORT MATURITY STAGES:		MATURITY STAGE									SEX RATIO:		
NO. AT STAGE	1	2	3	4	5	6	7	8	UNKNOWN		MALE	FEMALE	IMMATURE TOTAL
% AT STAGE	0.00	1.33	0.00	39.00	59.00	0.67	0.00	0.00	0.00		175	125	0 300
ROE MATURITY (FEMALE):		IMMATURE MATURE SPENT TOTAL									NO.	58.33	41.67 100.00
NO.	42	83	0	125						%			
% SAMPLE WEIGHT	33.60 5.58	66.40 17.98	0.00 0.00	100.00 23.55						MEAN WEIGHT	105.97	121.63 0.00	112.49
% SAMP. WT.										% SAMP. WT.	54.95	45.05 0.00	100.00

TABLE 12 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

SPECIMENS AT EACH AGE:										AGE																	
		0+		1+		2+		3+		4+		5+		6+		7+		8+		9+		UNKNOWN		TOTAL			
NO. AT AGE		0	120	403	619	308	1112	85	108	20	1	283	3059														
% AT AGE		0.00	4.32	14.52	22.30	11.10	40.06	3.06	3.89	0.72	0.04	0.00	100.00														
LENGTH - MEAN(mm)		0.00	166.36	186.86	202.89	212.19	219.05	223.96	229.51	237.30	230.00	210.07	208.58														
- STD. DEV.		0.00	8.64	9.15	8.90	8.75	8.51	8.46	7.89	8.99	0.00	19.24	17.62														
WEIGHT - MEAN(gm)		0.00	66.09	95.10	124.61	143.06	160.55	171.65	182.94	194.80	193.00	141.31	138.74														
- STD. DEV.		0.00	11.32	15.69	18.94	20.21	21.28	22.36	23.04	21.26	0.00	38.87	35.84														
HJORT MATURITY STAGES:										MATURITY STAGE																	
		1		2		3		4		5		6		7		8		UNKNOWN									
NO. AT STAGE		0	0	1	0	0	0	0	0	66	2369	619	4	0	0	0	0	0	0								
% AT STAGE		0.00	0.00	0.03	0.00	0.00	2.16	77.44	20.24	0.13	0.00	0.00	0.00														
ROE MATURITY (FEMALE):										IMMATURE																	
										IMMATURE		MATURE		SPENT		TOTAL				MALE		FEMALE		IMMATURE		TOTAL	
NO.		45	1566	2	1613															NO.	1446	1613	0	3059			
%		2.79	97.09	0.12	100.00															%	47.27	52.73	0.00	100.00			
% SAMPLE WEIGHT		0.44	27.81	0.01	28.26															MEAN WEIGHT	129.85	146.72	0.00	138.74			
																			% SAMP. WT.	44.24	55.76	0.00	100.00				

TABLE 12 (CONT'D) PRE-FISHERY CHARTER, SAMPLE SUMMARIES BY AREA

AREA: 24 - CLAYOQUOT SOUND  
 SAMPLE NUMBERS: 100, 84, 89, 115, 88, 118, 114, 157, 195, 94  
 SOURCE: PRE-FISHERY CHARTER  
 GEAR: HERRING SEINE  
 DATE: FEB 25/91 - MAR 16/91

## SPECIMENS AT EACH AGE:

	0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	68	142	185	101	319	32	23	5	1	77	953
% AT AGE	0.00	7.76	16.21	21.12	11.53	36.42	3.65	2.63	0.57	0.11	0.00	100.00
LENGTH - MEAN(mm)	0.00	164.21	185.87	200.55	211.48	217.84	225.22	224.22	229.40	232.00	202.10	204.42
- STD. DEV.	0.00	8.08	9.44	8.97	8.30	8.77	11.55	7.78	4.51	0.00	23.68	19.52
WEIGHT - MEAN(gm)	0.00	62.38	90.86	122.21	142.72	161.82	176.72	179.91	183.60	220.00	128.45	132.85
- STD. DEV.	0.00	9.30	16.56	19.90	23.57	23.86	28.22	24.43	23.62	0.00	47.73	40.84

## HJORT Maturity Stages:

NO. AT STAGE	0	1	7	23	684	156	13	0	69
% AT STAGE	0.00	0.10	0.73	2.41	71.77	16.37	1.36	0.00	7.24

## ROE MATURITY (FEMALE):

NO.	15	424	1	440	NO.	441	440	72	953
%	3.41	96.36	0.23	100.00	%	46.27	46.17	7.56	100.00
% SAMPLE WEIGHT	0.36	27.92	0.00	28.28	MEAN WEIGHT	127.16	146.26	85.78	132.85
					% SAMP. WT.	44.29	50.83	4.88	100.00

**SEX RATIO:**

TABLE 12 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

AREA: 25 - NOOTKA SOUND  
 SAMPLE NUMBERS: 218, 204, 206, 162, 194, 215, 159, 156, 200, 236,  
 166, 161, 219, 205, 154, 211, 199, 212, 202, 158,  
 155, 193, 209

SOURCE: PRE-FISHERY CHARTER

GEAR: HERRING SEINE

DATE: FEB 26/91 - MAR 20/91

SPECIMENS AT EACH AGE:

	0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	166	683	377	200	513	51	76	13	0	194	2273
% AT AGE	0.00	7.98	32.85	18.13	9.62	24.68	2.45	3.66	0.63	0.00	0.00	100.00
LENGTH - MEAN(mm)	0.00	165.64	185.95	200.71	210.04	219.21	228.39	233.43	231.15	0.00	202.68	200.77
- STD. DEV.	0.00	9.69	8.54	9.16	8.96	9.22	8.89	9.71	12.44	0.00	23.15	20.47
WEIGHT - MEAN(gm)	0.00	66.23	94.39	122.04	138.29	161.60	187.86	192.89	195.62	0.00	134.03	125.30
- STD. DEV.	0.00	11.33	14.84	20.29	21.18	25.74	29.57	28.10	30.83	0.00	66.42	43.46

HJORT MATURITY STAGES:

	1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	0	1	2	127	1696	319	126	0	2
% AT STAGE	0.00	0.04	0.09	5.59	74.62	14.03	5.54	0.00	0.09

ROE MATURITY (FEMALE):

	IMMATURE	MATURE	SPENT	TOTAL	SEX RATIO:				
NO.	82	1089	60	1231	NO.	1034	1231	8	2273
%	6.66	88.46	4.87	100.00	%	45.49	54.16	0.35	100.00
% SAMPLE WEIGHT	1.11	24.97	0.07	26.15	MEAN WEIGHT	116.73	132.80	79.00	125.30

% SAMP. WT. 42.38 57.40 0.22 100.00

TABLE 12 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY AREA

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AREA: 27 - QUATSINO SOUND  
 SAMPLE NUMBERS: 210, 214, 208, 217  
 SOURCE: PRE-FISHERY CHARTER  
 GEAR: HERRING SEINE  
 DATE: MAR 2/91 - MAR 21/91

SPECIMENS AT EACH AGE:

		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	1	33	145	33	38	83	10	18	8	0	31	400	
% AT AGE	0.27	8.94	39.30	8.94	10.30	22.49	2.71	4.88	2.17	0.00	0.00	100.00	
LENGTH - MEAN(mm)	123.00	165.03	184.39	196.97	212.08	219.88	233.10	234.06	231.63	0.00	196.74	199.03	
- STD. DEV.	0.00	11.16	9.60	9.63	10.54	10.76	7.17	9.75	16.00	0.00	28.06	23.55	
WEIGHT - MEAN(gm)	22.00	64.91	94.43	119.15	152.79	173.78	200.50	206.33	204.50	0.00	118.19	127.60	
- STD. DEV.	0.00	12.64	17.40	21.65	27.89	26.62	23.89	23.92	51.44	0.00	47.42	49.31	

HOJRT MATURITY STAGES:

		MATURITY STAGE										
		1	2	3	4	5	6	7	8	UNKNOWN		
NO. AT STAGE	0	2	2	2	26	279	83	8	0	0	0	
% AT STAGE	0.00	0.50	0.50	0.50	6.50	69.75	20.75	2.00	0.00	0.00	0.00	

ROE MATURITY (FEMALE):

		IMMATURE	MATURE	SPENT	TOTAL	SEX RATIO:				
NO.	%	26	191	2	219	NO.	MALE	FEMALE	IMMATURE	TOTAL
11.87	87.21	0.91	100.00	0.00	26.87	%	44.75	54.75	0.50	100.00
2.07	24.80	0.00	26.87			MEAN WEIGHT	115.12	137.64	144.00	127.60
						% SAMP. WT.	40.37	59.06	0.56	100.00

TABLE 13 PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SECTION: 2 - PORT LOUIS  
SAMPLE NUMBERS: 354, 277, 240, 268, 377, 238, 391, 224, 249, 305,  
298, 239

SOURCE: PRE-FISHERY CHARTER  
GEAR: HERRING SEINE  
DATE: MAR 2/91 - MAR 19/91

SPECIMENS AT EACH AGE:		AGE									UNKNOWN		TOTAL
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+		
NO. AT AGE	0	4	258	27	32	672	106	13	4	5	79	1200	
% AT AGE	0.00	0.36	23.02	2.41	2.85	59.95	9.46	1.16	0.36	0.45	0.00	100.00	
LENGTH - MEAN (mm)	0.00	168.75	188.38	206.93	223.38	224.31	228.27	231.92	237.00	232.60	209.78	215.53	
- STD. DEV.	0.00	10.63	9.41	11.71	7.01	9.34	9.64	10.36	8.83	10.48	22.56	18.70	
WEIGHT - MEAN (gm)	0.00	62.25	94.13	129.56	167.16	176.42	183.92	209.54	206.50	175.80	141.56	155.87	
- STD. DEV.	0.00	19.02	16.95	20.67	23.96	25.54	24.39	29.77	34.69	25.52	49.20	43.65	

HJORT MATURITY STAGES: MATURITY STAGE

		1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	0	5	0	194	755	245	1	0	0	0
% AT STAGE	0.00	0.42	0.00	16.17	62.92	20.42	0.08	0.00	0.00	0.00

ROE MATURITY (FEMALE): SEX RATIO:

	IMMATURE	MATURE	SPENT	TOTAL	NO.	MALE	FEMALE	IMMATURE	TOTAL
NO.	181	473	1	655		541	655	4	1200
%	27.63	72.21	0.15	100.00	%	45.08	54.58	0.33	100.00
% SAMPLE WEIGHT	6.21	22.37	0.04	28.63	MEAN WEIGHT	145.98	164.25	121.75	155.87
					% SAMP. WT.	42.22	57.52	0.26	100.00

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SECTION: 3 - RENNELL SOUND									
SAMPLE NUMBERS: 264, 279, 266, 263, 300, 295, 278, 223, 232, 260									
SOURCE: PRE-FISHERY CHARTER									
GEAR: HERRING SEINE									
DATE: MAR 4/91 - APR 5/91									
SPECIMENS AT EACH AGE:									
0+	1+	2+	3+	4+	5+	6+	7+	8+	9+
NO. AT AGE	0	7	88	11	15	658	148	6	5
% AT AGE	0.00	0.74	9.35	1.17	1.59	69.93	15.73	0.64	0.53
LENGTH - MEAN (mm)	0.00	166.29	188.83	207.36	220.27	223.07	229.07	229.17	233.60
- STD. DEV.	0.00	6.99	8.27	9.79	13.71	9.19	8.78	11.72	4.39
WEIGHT - MEAN (gm)	0.00	63.00	95.55	116.82	170.73	172.03	187.15	187.67	210.00
- STD. DEV.	0.00	20.74	15.03	15.58	32.54	26.80	26.04	43.22	30.58
HJORT MATURITY STAGES:									
1	2	3	4	5	6	7	8	UNKNOWN	
NO. AT STAGE	0.1	0.1	0.1	1	226	538	132	98	0
% AT STAGE	0.10	0.10	0.10	0.10	22.67	53.96	13.24	9.83	0.00
ROE MATURITY (FEMALE):									
IMMATURE	MATURE	SPENT	TOTAL						
NO.	165	332	37	534	NO.	461	534	2	997
%	30.90	62.17	6.93	100.00	%	46.24	53.56	0.20	100.00
% SAMPLE WEIGHT	7.42	19.76	0.04	27.22	MEAN WEIGHT	155.33	175.01	51.00	165.66
					% SAMP. WT.	43.36	56.58	0.06	100.00

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SPECIMENS AT EACH AGE:										AGE															
		0+		1+		2+		3+		4+		5+		6+		7+		8+		9+		UNKNOWN		TOTAL	
NO. AT AGE		0	4	41	11	15	254	39	0	3	5	28	400												
% AT AGE		0.00	1.08	11.02	2.96	4.03	68.28	10.48	0.00	0.81	1.34	0.00	100.00												
LENGTH - MEAN(mm)		0.00	167.75	192.54	199.09	217.80	220.36	230.28	0.00	239.33	244.20	208.39	216.87												
- STD. DEV.		0.00	8.06	8.31	10.09	7.78	9.15	9.81	0.00	8.14	10.40	22.90	15.77												
WEIGHT - MEAN(gm)		0.00	66.00	107.10	126.36	156.47	169.56	190.95	0.00	209.67	218.80	142.14	161.52												
- STD. DEV.		0.00	9.13	15.31	22.17	27.22	24.78	24.65	0.00	30.62	24.26	46.07	36.13												
HJORT MATURITY STAGES:										MATURITY STAGE					MATURITY STAGE					MATURITY STAGE					
NO. AT STAGE		1	2	3	4	5	6	7	8	1					2					3					
% AT STAGE		0.00	0.00	0.00	0.00	0.75	75.75	23.25	0.25	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ROE MATURITY (FEMALE):										IMMATURE					MATURE					SPENT					
NO.		2	199	0	201					TOTAL					TOTAL					NO.					
%		1.00	99.00	0.00	100.00					%					%					%					
% SAMPLE WEIGHT		0.22	28.61	0.00	28.83					MEAN WEIGHT					152.32					199					
										% SAMP. WT.					46.91					49.75					
										%					53.09					201					
										0.00					0.00					0.00					
										100.00					161.52					0.00					
										400					0.00					170.64					
										0.00					0.00					0.00					
										100.00					0.00					53.09					

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SECTION: 6 - LOUSCOONE INLET									
SAMPLE NUMBERS: 250, 247									
SOURCE: PRE-FISHERY CHARTER									
GEAR: HERRING SEINE									
DATE: MAR 13/91 - MAR 20/91									
SPECIMENS AT EACH AGE:									
AGE									
0+	1+	2+	3+	4+	5+	6+	7+	8+	9+ UNKNOWN TOTAL
NO. AT AGE	0	13	7	27	12	123	9	1	0 0 8 200
% AT AGE	0.00	6.77	3.65	14.06	6.25	64.06	4.69	0.52	0.00 0.00 0.00 100.00
LENGTH - MEAN(mm)	0.00	164.46	188.29	203.74	211.50	218.71	225.67	240.00	0.00 0.00 214.25 211.90
- STD. DEV.	0.00	6.05	5.47	8.80	9.93	9.28	6.14	0.00	0.00 15.05 17.26
WEIGHT - MEAN(gm)	0.00	61.00	91.57	128.96	136.42	156.86	187.67	217.00	0.00 0.00 160.50 145.18
- STD. DEV.	0.00	6.70	12.39	19.30	26.28	23.42	19.52	0.00	0.00 46.70 36.45
HJORT MATURITY STAGES:									
MATURITY STAGE									
1	2	3	4	5	6	7	8	UNKNOWN	
NO. AT STAGE	0	1	0	10	174	15	0	0	0
% AT STAGE	0.00	0.50	0.00	5.00	87.00	7.50	0.00	0.00	0.00
SEX RATIO:									
ROE MATURITY (FEMALE):									
IMMATURE MATURE SPENT TOTAL									
NO.	5	93	0	98	0	0	0	0	200
% SAMPLE WEIGHT	5.10	94.90	0.00	100.00	0.00	0.00	0.00	0.00	100.00
	1.26	27.13	0.00	28.39					
MEAN WEIGHT									
% SAMP. WT.	48.38	51.62	0.00	100.00					



TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SECTION: 24 - LASKEEK BAY									
SAMPLE NUMBERS: 228, 307									
SOURCE: PRE-FISHERY CHARTER									
GEAR: HERRING SEINE									
DATE: MAR 23/91 - APR 5/91									
SPECIMENS AT EACH AGE:									
AGE									
0+	1+	2+	3+	4+	5+	6+	7+	8+	9+
NO. AT AGE	0	7	10	30	54	62	7	3	9
% AT AGE	0.00	3.70	5.29	15.87	28.57	32.80	3.70	1.59	4.76
LENGTH - MEAN(mm)	0.00	167.86	190.50	201.07	206.15	212.35	222.43	226.33	230.33
- STD. DEV.	0.00	8.69	7.56	5.38	8.57	7.41	11.83	7.51	10.27
WEIGHT - MEAN(gm)	0.00	57.71	99.50	117.13	127.54	137.58	159.29	147.67	175.56
- STD. DEV.	0.00	10.11	18.34	11.20	18.45	15.42	27.69	15.04	20.42
HJORT MATURITY STAGES:									
MATURITY STAGE									
1	2	3	4	5	6	7	8	UNKNOWN	
NO. AT STAGE	0	2	0	14	120	64	0	0	0
% AT STAGE	0.00	1.00	0.00	7.00	60.00	32.00	0.00	0.00	0.00
ROE MATURITY (FEMALE):									
SEX RATIO:									
=====									
NO.	13	79	0	92					
% SAMPLE WEIGHT	14.13	85.87	0.00	100.00	NO.	108	92	0	200
	2.57	24.50	0.00	27.07	%	54.00	46.00	0.00	100.00
MEAN WEIGHT									
% SAMP. WT.									
					MEAN WEIGHT	126.38	139.38	0.00	132.36
					% SAMP. WT.	51.56	48.44	0.00	100.00

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SPECIMENS AT EACH AGE:										AGE															
		0+		1+		2+		3+		4+		5+		6+		7+		8+		9+		UNKNOWN		TOTAL	
NO. AT AGE	0	69	18	33	87	220	17	8	10	10	28	500													
% AT AGE	0.00	14.62	3.81	6.99	18.43	46.61	3.60	1.69	2.12	2.12	0.00	100.00													
LENGTH - MEAN (mm)	0.00	164.67	182.67	196.58	205.31	210.86	225.06	227.75	237.90	235.90	196.18	202.54													
- STD. DEV.	0.00	7.40	11.46	8.98	7.98	8.60	10.88	6.27	11.90	6.77	25.71	20.69													
WEIGHT - MEAN (gm)	0.00	64.20	91.94	113.39	129.40	143.41	167.29	168.00	181.40	190.80	112.82	127.41													
- STD. DEV.	0.00	9.47	17.44	16.69	15.78	20.65	24.93	24.03	23.68	22.25	44.09	37.13													
HJORT MATURITY STAGES:										MATURITY STAGE															
NO. AT STAGE	1	2	3	4	5	6	7	8	UNKNOWN																
% AT STAGE	0.00	0.00	0.00	7.80	72.40	19.60	0.20	0.00	0.00																
ROE MATURITY (FEMALE):										SEX RATIO:															
NO.	34	224	0	258						NO.	242	258	0	500						NO.	48.40	51.60	0.00	100.00	
%	13.18	86.82	0.00	100.00						%										%					
% SAMPLE WEIGHT	2.47	25.32	0.00	27.79						MEAN WEIGHT	117.80	136.43	0.00	127.41						% SAMP. WT.	44.75	55.25	0.00	100.00	

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SPECIMENS AT EACH AGE:										AGE					
NO. AT AGE		0+		1+		2+		3+		4+		5+		6+	
% AT AGE		43.09		51.93		0.55		1.66		0.55		1.66		0.55	
LENGTH - MEAN (mm)	140.45	169.87	180.00	202.33	190.00	206.67	210.00	0.00	0.00	0.00	0.00	0.00	0.00	98.73	134.93
- STD. DEV.	7.52	10.87	0.00	8.96	0.00	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.91	36.38
WEIGHT - MEAN (gm)	33.73	66.22	77.00	119.00	94.00	136.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	13.05	38.27
- STD. DEV.	7.03	14.09	0.00	15.13	0.00	14.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.72	30.46
HJORT MATURITY STAGES:															
		1		2		3		4		5		6		7	
NO. AT STAGE	142	34	2	92	28	1	0	0	0	0	0	1	0	0	UNKNOWN
% AT STAGE	47.33	11.33	0.67	30.67	9.33	0.33	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	
ROE MATURITY (FEMALE):															
		IMMATURE		MATURE		SPENT		TOTAL							
NO.	64	7	0	71	0	100.00	16.49	NO.	91	71	138	300	0	0	
% SAMPLE WEIGHT	90.14	9.86	0.00	100.00	0.00	100.00	16.49	%	30.33	23.67	46.00	100.00	0	0	
	13.86	2.63	0.00	16.49				MEAN WEIGHT	57.75	61.59	13.42	38.27			
								% SAMP. WT.	45.78	38.09	16.13	100.00			

**TABLE 13 (CONT'D) PRE-FISHERY CHARTER 'SAMPLE SUMMARIES BY SECTION**

SECTION: 33 - PORT SIMPSON  
 SAMPLE NUMBERS: 265, 304, 275, 297, 289, 285, 293, 284  
 SOURCE: PRE-FISHERY CHARTER  
 GEAR: HERRING SEINE  
 DATE: MAR 14/91 - MAR 21/91

SPECIMENS AT EACH AGE:		AGE								TOTAL		
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN
NO. AT AGE	0	3	248	59	129	138	129	24	9	20	41	800
% AT AGE	0.00	0.40	32.67	7.77	17.00	18.18	17.00	3.16	1.19	2.64	0.00	100.00
LENGTH - MEAN(mm)	0.00	154.67	174.67	191.54	200.40	205.27	210.87	217.58	221.00	228.00	199.59	195.52
- STD. DEV.	0.00	8.08	9.97	6.91	8.10	7.83	7.98	8.56	12.30	10.29	22.66	18.64
WEIGHT - MEAN(gm)	0.00	53.00	76.65	106.02	120.27	132.27	142.44	153.13	156.11	170.60	121.59	113.80
- STD. DEV.	0.00	10.44	14.06	13.27	15.33	17.88	18.49	18.24	23.79	22.72	43.91	33.78

#### HJORTH Maturity Stages:

NO. AT STAGE	% AT STAGE	0	3	1	213	502	81	0	0	0
0	0.00	0	0.38	0.13	26.63	62.75	10.13	0.00	0.00	0.00
0	0.00	0	0.38	0.13	26.63	62.75	10.13	0.00	0.00	0.00

**ROE MATURITY (FEMALE):**

ROE MATURITY (FEMALE):			SEX RATIO:								
			=====								
			IMMATURE	MATURE	SPENT	TOTAL		MALE	FEMALE	IMMATURE	TOTAL
NO.	139	220	0	359			NO.	440	359	1	800
%	38.72	61.28	0.00	100.00			%	55.00	44.88	0.13	100.00
% SAMPLE WEIGHT	7.57	17.63	0.00	25.21			MEAN WEIGHT	111.55	116.73	53.00	113.80
% STAMP. WT.							% STAMP. WT.	53.91	46.03	0.06	100.00

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

**SECTION:** 42 - AREA 4 NORTH  
**SAMPLE NUMBERS:** 291,246,245,222,241,242  
**SOURCE:** PRE-FISHERY CHARTER  
**GEAR:** HERRING SEINE  
**DATE:** MAR 18/91 - MAR 22/91

SPECIMENS AT EACH AGE:

	NO. AT AGE	% AT AGE	LENGTH - MEAN (mm)	- STD. DEV.	WEIGHT - MEAN (gm)	- STD. DEV.
0	0	0	224	59	96	62
0.00	0.55	40.80	10.75	16.94	17.49	11.29
0.00	9.61	10.64	7.65	9.97	8.06	8.58
0.00	43.00	80.75	108.64	121.35	132.66	142.50
0.00	8.72	14.52	12.72	21.24	14.70	19.61
					150.70	25.53
					0.00	0.00
					226.50	215.70
					0.00	0.00
					201.49	213.19
					0.00	0.00
					194.95	215.70
					0.00	0.00
					121.16	175.00
					0.00	0.00
					36.61	21.21
					109.20	175.00
					31.07	21.21
					100.00	100.00

## HJORT Maturity Stages:

NO. AT STAGE	1	0	0	29	433	137	0	0	0
% AT STAGE	0.17	0.00	0.00	4.83	72.17	22.83	0.00	0.00	0.00

## ROE Maturity (Female):

	NO.	%	% SAMPLE WEIGHT	NO.	%	%	MEAN WEIGHT	% SAMP. WT.
	20	254	0	274	54.17	45.67	0.17	100.00
	7.30	92.70	0.00	100.00				
	1.54	24.60	0.00	26.14				

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SECTION: 43 - AREA 4 SOUTH  
SAMPLE NUMBERS: 237, 306  
SOURCE: PRE-FISHERY CHARTER  
GEAR: HERRING SEINE  
DATE: MAR 29/91 - MAR 31/91

SPECIMENS AT EACH AGE:

	NO. AT AGE	% AT AGE	0	2	111	22	14	14	19	2	4	0	12	200
LENGTH - MEAN (mm)	0.00	1.06	59.04	11.70	7.45	7.45	10.11	1.06	2.13	0.00	0.00	0.00	100.00	
- STD. DEV.	0.00	4.95	8.92	13.23	5.72	10.00	9.37	2.12	6.85	0.00	24.17	19.30		
WEIGHT - MEAN (gm)	0.00	57.50	76.56	105.14	113.79	128.64	149.26	120.00	173.00	0.00	123.83	97.87		
- STD. DEV.	0.00	6.36	14.02	21.70	14.07	18.25	25.06	12.73	11.92	0.00	40.46	33.39		

## HJORT Maturity Stages:

#### **ROE Maturity (Female):**



TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SECTION: 67 - LAREDO SOUND  
 SAMPLE NUMBERS: 125, 147, 144, 138, 152, 140, 133, 148, 142  
 SOURCE: PRE-FISHERY CHARTER  
 GEAR: HERRING SEINE  
 DATE: MAR 6/91 - MAR 22/91

SPECIMENS AT EACH AGE:

		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	3	96	164	58	36	421	48	14	4	1	55	900	
% AT AGE	0.36	11.36	19.41	6.86	4.26	49.82	5.68	1.66	0.47	0.12	0.00	100.00	
LENGTH - MEAN (mm)	114.33	137.90	178.84	188.45	201.78	205.21	213.94	216.14	229.75	240.00	190.42	191.58	
- STD. DEV.	5.69	10.12	10.98	12.09	8.12	10.06	9.57	14.61	14.38	0.00	29.94	25.47	
WEIGHT - MEAN (gm)	16.33	32.53	83.72	99.74	122.67	133.32	150.85	147.14	172.25	196.00	107.95	110.39	
- STD. DEV.	2.52	10.43	16.57	19.78	17.18	22.49	21.56	33.38	34.57	0.00	46.95	41.36	

HJORT MATURITY STAGES:

		MATURITY STAGE										
		1	2	3	4	5	6	7	8	UNKNOWN		
NO. AT STAGE	27	51	7	105	623	86	0	0	0	1		
% AT STAGE	3.00	5.67	0.78	11.67	69.22	9.56	0.00	0.00	0.00	0.11		

ROE MATURITY (FEMALE):

		IMMATURE			MATURE	SPENT	TOTAL						
		NO.	%	%				NO.	%	MALE	FEMALE	IMMATURE	TOTAL
NO.	112	347	0	459				409	45.44	45.44	45.44	32	900
%	24.40	75.60	0.00	100.00				51.00	3.56	51.00	3.56	100.00	
% SAMPLE WEIGHT	3.80	22.32	0.00	26.12				105.57	120.44	105.57	120.44	27.94	110.39
% SAMP. WT.								43.46	55.64	43.46	55.64	0.90	100.00

SEX RATIO:

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

AGE													
SPECIMENS AT EACH AGE:		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	79	687	271	252	2227	276	99	70	23	414	4398	
% AT AGE	0.00	1.98	17.24	6.80	6.33	55.90	6.93	2.48	1.76	0.58	0.00	100.00	
LENGTH - MEAN(mm)	0.00	159.78	178.29	190.39	203.21	210.67	219.59	225.84	227.79	234.26	199.79	203.30	
- STD. DEV.	0.00	11.36	12.13	13.04	11.24	11.57	10.41	10.99	9.91	7.76	23.38	19.67	
WEIGHT - MEAN(gm)	0.00	58.63	85.66	108.39	131.63	149.59	170.47	185.32	190.33	200.65	129.63	135.55	
- STD. DEV.	0.00	12.71	19.11	25.39	24.48	27.73	26.84	27.94	26.91	18.82	44.66	40.41	

HJORT MATURITY STAGES:

MATURITY STAGE						
NO. AT STAGE		1	2	3	4	5
% AT STAGE	0.02	0.05	0.07	3.25	3506	739
				79.72	16.80	0.07

ROE MATURITY (FEMALE):

SEX RATIO:					
IMMATURE		MATURE	SPENT	TOTAL	
NO.	117	2342	2	2461	
% SAMPLE	4.75	95.16	0.08	100.00	
WEIGHT	0.91	29.02	0.00	29.93	
					NO. 1935 2461 2 4398
					% 44.00 55.96 0.05 100.00
					MEAN WEIGHT 123.72 144.92 61.00 135.55
					% SAMP. WT. 40.16 59.82 0.02 100.00

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SECTION: 73 - BELLA BELLA  
 SAMPLE NUMBERS: 131, 141-126  
 SOURCE: PRE-FISHERY CHARTER  
 GEAR: HERRING SEINE  
 DATE: MAR 4/91 - MAR 12/91

SPECIMENS AT EACH AGE:

NO. AT AGE	0	7	47	19	153	19	9	4	1	22	300
% AT AGE	0.00	2.52	16.91	6.83	6.83	55.04	6.83	3.24	1.44	0.36	0.00
LENGTH - MEAN(mm)	0.00	161.14	173.83	194.00	208.79	211.92	218.42	230.44	232.50	235.00	213.23
- STD. DEV.	0.00	9.28	11.30	12.62	13.26	11.90	11.02	8.41	12.82	0.00	20.00
WEIGHT - MEAN(gm)	0.00	58.29	76.17	110.89	136.58	145.17	162.05	174.00	187.25	156.00	144.82
- STD. DEV.	0.00	8.90	18.45	29.06	28.43	27.54	23.17	16.87	16.30	0.00	39.03

## HJORT Maturity Stages:

## ROE MATURITY (FEMALE):

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SPECIMENS AT EACH AGE:		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE		1	19	108	32	32	220	22	16	5	1	44	500
% AT AGE		0.22	4.17	23.68	7.02	7.02	48.25	4.82	3.51	1.10	0.22	0.00	100.00
LENGTH - MEAN(mm)		117.00	159.32	180.91	195.16	204.59	213.80	223.05	227.13	232.80	236.00	212.18	203.57
- STD. DEV.		0.00	10.76	11.48	10.76	13.35	10.42	12.57	10.53	7.29	0.00	21.01	21.22
WEIGHT - MEAN(gm)		24.00	57.37	88.31	114.00	131.13	154.51	170.68	179.69	203.40	217.00	145.43	133.50
- STD. DEV.		0.00	14.04	17.88	21.74	28.97	23.91	22.50	26.75	27.07	0.00	43.00	41.56
HJORT MATURITY STAGES:		MATURITY STAGE											
NO. AT STAGE		1	2	3	4	5	6	7	8	UNKNOWN			
% AT STAGE		0.20	0.40	0.00	16.60	77.20	5.60	0.00	0.00	0.00			
ROE MATURITY (FEMALE):		SEX RATIO:											
NO.		70	225	0	295						MALE	FEMALE	IMMATURE
%		23.73	76.27	0.00	100.00						NO.	202	295
% SAMPLE WEIGHT		4.87	22.61	0.00	27.49						%	40.40	59.00
						MEAN WEIGHT					MEAN WEIGHT	123.72	141.21
						% SAMP. WT.					% SAMP. WT.	37.44	62.41
												33.33	133.50
												0.15	100.00

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SPECIMENS AT EACH AGE:										AGE					
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL		
NO. AT AGE	0	0	7	138	37	45	394	32	6	4	0	36	699		
% AT AGE	0.00	1.06	20.81	5.58	6.79	59.43	4.83	0.90	0.60	0.00	0.00	0.00	100.00		
LENGTH - MEAN (mm)	0.00	167.29	182.52	191.89	201.64	205.16	212.34	222.83	228.50	0.00	198.94	199.68			
- STD. DEV.	0.00	7.83	8.40	6.89	10.66	9.25	10.84	18.13	10.02	0.00	16.05	14.11			
WEIGHT - MEAN (gm)	0.00	64.43	86.60	99.51	118.67	126.57	141.00	155.33	160.25	0.00	115.69	116.66			
- STD. DEV.	0.00	7.81	13.25	11.94	19.53	20.19	24.90	48.27	35.20	0.00	31.43	26.89			
HJORT MATURITY STAGES:															
		1	2	3	4	5	6	7	8	UNKNOWN					
NO. AT STAGE	0	0	0	2	179	484	33	0	1	0					
% AT STAGE	0.00	0.00	0.29	25.61	69.24	4.72	0.00	0.14	0.00						
ROE MATURITY (FEMALE):															
		IMMATURE	MATURE	SPENT	TOTAL					SEX RATIO:					
NO.	133	210	1	344						MALE	FEMALE	IMMATURE	TOTAL		
%	38.66	61.05	0.29	100.00						NO.	355	344	0	699	
% SAMPLE WEIGHT	8.72	17.42	0.02	26.16						%	50.79	49.21	0.00	100.00	
										MEAN WEIGHT	111.10	122.39	0.00	116.66	
										% SAMP. WT.	48.37	51.63	0.00	100.00	

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

===== ===== ===== ===== ===== ===== ===== ===== ===== =====

SECTION: 85 - KWAKSHUA CHANNEL  
 SAMPLE NUMBERS: 149  
 SOURCE: PRE-FISHERY CHARTER  
 GEAR: HERRING SEINE  
 DATE: MAR 9/91

SPECIMENS AT EACH AGE:		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	4	46	6	8	24	2	0	1	0	9	100	
% AT AGE	0.00	4.40	50.55	6.59	8.79	26.37	2.20	0.00	1.10	0.00	0.00	100.00	
LENGTH - MEAN(mm)	0.00	149.25	173.20	181.83	195.63	197.50	200.50	0.00	202.00	0.00	187.78	182.53	
- STD. DEV.	0.00	12.28	7.74	9.52	9.97	8.26	4.95	0.00	0.00	0.00	17.04	15.79	
WEIGHT - MEAN(gm)	0.00	45.00	74.28	84.83	104.00	108.75	109.50	0.00	124.00	0.00	100.78	87.98	
- STD. DEV.	0.00	10.89	10.72	10.93	18.88	14.60	17.68	0.00	0.00	0.00	30.30	23.22	

HJORT MATURITY STAGES:

		MATURITY STAGE					SEX RATIO:				
		1	2	3	4	5	6	7	8	UNKNOWN	
NO. AT STAGE	1	1	1	0	66	32	0	0	0	0	0
% AT STAGE	1.00	1.00	1.00	0.00	66.00	32.00	0.00	0.00	0.00	0.00	0.00

ROE MATURITY (FEMALE):

		IMMATURE	MATURE	SPENT	TOTAL	NO.	%	NO.	%	NO.	FEMALE	IMMATURE	TOTAL
NO.	35	14	0	49									
%	71.43	28.57	0.00	100.00									
% SAMPLE WEIGHT	13.23	6.14	0.00	19.37									
MEAN WEIGHT													
% SAMP. WT.													

- STD. DEV.

15.79

23.22

100.00

87.98

**TABLE 13 (CONT'D) PRE-FISHERY CHARTER 'SAMPLE SUMMARIES BY SECTION**

SECTION: 134 - BUTE INLET  
SAMPLE NUMBERS: 93  
SOURCE: PRE-FISHERY CHART  
GEAR: HERRING SEINE  
DATE: MAR 22/91

## HJORT Maturity Stages:

NO. AT STAGE	8	31	8	0	10	4	33	2	4
% AT STAGE	8.00	31.00	8.00	0.00	10.00	4.00	33.00	2.00	4.00

**ROE MATURITY (FEMALE):**

NO.	12	6	15	33	NO.	51	33	16	100
%	36.36	18.18	45.45	100.00	%	51.00	33.00	16.00	100.00
% SAMPLE WEIGHT	0.00	2.64	0.00	2.64	MEAN WEIGHT	38.59	39.03	26.25	36.76
% SAMP. WT.					% SAMP. WT.	53.54	35.04	11.43	100.00

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SECTION: 142 - BAYNES SOUND  
SAMPLE NUMBERS: 22, 375, 31, 396, 21, 12, 37, 13, 32, 23,  
33, 40, 18, 35, 7, 27, 19, 43, 50, 42,  
5, 34, 49, 17, 41, 44, 8, 45, 9, 11,

SOURCE: PRE-FISHERY CHARTER  
GEAR: HERRING SEINE  
DATE: FEB 23/91 - MAR 14/91

#### SPECIMENS AT EACH AGE:

	NO. AT AGE	% AT AGE	0	120	636	1286	320	479	68	43	7	1	340	3300
	LENGTH - MEAN(mm)	- STD. DEV.	0.00	4.05	21.49	43.45	10.81	16.18	2.30	1.45	0.24	0.03	0.00	100.00
	WEIGHT - MEAN(gm)	- STD. DEV.	0.00	168.17	184.87	195.23	204.75	211.65	216.69	219.93	217.00	230.00	197.46	196.61
			0.00	11.56	10.03	10.87	10.84	11.30	11.90	10.52	11.99	0.00	18.64	15.91
			0.00	63.54	89.22	108.27	127.04	142.67	153.12	162.70	138.86	185.00	113.52	112.05
			0.00	12.04	16.82	21.32	24.79	26.65	30.40	25.57	27.24	0.00	35.30	31.25

## HJORT Maturity Stages:

### **ROE MATURITY (FEMALE):**

NO.	305	1364	3	1672	NO.	1626	1672	2	3300
%	18.24	81.58	0.18	100.00	%	49.27	50.67	0.06	100.00
% SAMPLE WEIGHT	3.66	21.81	0.00	25.47	MEAN WEIGHT	107.45	116.55	80.50	112.05
% SAMP. WT.					% SAMP. WT.	47.25	52.70	0.04	100.00



TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SECTION: 152 - POWELL RIVER									
SAMPLE NUMBERS: 2									
SOURCE: PRE-FISHERY CHARTER									
GEAR: HERRING SEINE									
DATE: MAR 4/91									
SPECIMENS AT EACH AGE:									
AGE	0+	1+	2+	3+	4+	5+	6+	7+	8+
NO. AT AGE	0	7	40	32	5	7	0	0	0
% AT AGE	0.00	7.69	43.96	35.16	5.49	7.69	0.00	0.00	0.00
LENGTH - MEAN(mm)									
- STD. DEV.	0.00	148.29	171.50	181.66	190.60	195.14	0.00	0.00	0.00
WEIGHT - MEAN(gm)	0.00	47.43	68.18	81.69	97.40	108.43	0.00	0.00	0.00
- STD. DEV.	0.00	10.58	11.20	20.10	31.20	21.03	0.00	0.00	0.00
HJORT MATURITY STAGES:									
MATURITY STAGE	1	2	3	4	5	6	7	8	UNKNOWN
NO. AT STAGE	0	6	2	3	4	5	0	0	2
% AT STAGE	0.00	6.00	2.00	77.00	13.00	0.00	0.00	0.00	2.00
ROE MATURITY (FEMALE):									
IMMATURE	MATURE	SPENT	TOTAL						
NO.	40	7	0	47					
% SAMPLE WEIGHT	85.11	14.89	0.00	100.00					
% SAMPLE WEIGHT	13.94	6.05	0.00	19.99					
SEX RATIO:									
NO.	51	47	2	100					
%	51.00	47.00	2.00	100.00					
MEAN WEIGHT	72.45	78.77	50.50	74.98					
% SAMP. WT.	49.28	49.37	1.35	100.00					

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

**SECTION:** 172 - NANOOS BAY  
**SAMPLE NUMBERS:** 28, 47, 30, 48  
**SOURCE:** PRE-FISHERY CHARTER  
**GEAR:** HERRING SEINE  
**DATE:** FEB 24/91 - MAR 13/91

SPECIMENS AT EACH AGE:

	0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	1	162	86	83	12	17	4	1	0	0	33	399
% AT AGE	0.27	44.26	23.50	22.68	3.28	4.64	1.09	0.27	0.00	0.00	0.00	100.00
LENGTH - MEAN (mm)	108.00	166.80	180.76	196.35	208.33	212.18	227.00	230.00	0.00	0.00	179.61	180.81
- STD. DEV.	0.00	12.00	11.13	9.80	5.18	8.52	5.23	0.00	0.00	0.00	19.13	19.34
WEIGHT - MEAN (gm)	13.00	61.25	82.81	108.04	138.17	146.53	166.75	183.00	0.00	0.00	80.97	84.45
- STD. DEV.	0.00	13.49	16.65	19.09	17.37	17.80	16.86	0.00	0.00	0.00	26.13	31.30

## HJORT Maturity Stages:

NO. AT STAGE	3	14	5	130	230	16	1	0	0
% AT STAGE	0.75	3.51	1.25	32.58	57.64	4.01	0.25	0.00	0.00

#### **ROE Maturity (Female):**

NO.	71	114	0	185	NO.	205	185	9	399
%	38.38	61.62	0.00	100.00	%	51.38	46.37	2.26	100.00
% SAMPLE WEIGHT	5.23	16.47	0.00	21.70					

SEX RATIO:

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SECTION: 173 - YELLOW POINT  
 SAMPLE NUMBERS: 16, 24, 26, 25, 20, 39, 393, 15, 29, 36  
 SOURCE: PRE-FISHERY CHARTER  
 GEAR: HERRING SEINE  
 DATE: FEB 23/91 - MAR 18/91

SPECIMENS AT EACH AGE:		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	305	192	240	49	92	15	8	1	0	97	999	
% AT AGE	0.00	33.81	21.29	26.61	5.43	10.20	1.66	0.89	0.11	0.00	0.00	100.00	
LENGTH - MEAN (mm)	0.00	163.31	181.10	198.90	206.16	213.49	225.60	231.25	221.00	0.00	187.58	185.90	
- STD. DEV.	0.00	12.55	11.15	11.63	12.68	9.97	7.40	8.76	0.00	0.00	23.32	22.53	
WEIGHT - MEAN (gm)	0.00	59.01	83.33	115.09	127.59	148.90	163.67	175.38	159.00	0.00	95.58	94.95	
- STD. DEV.	0.00	14.03	16.21	22.55	19.99	21.82	13.47	22.15	0.00	0.00	40.25	37.72	

## HJORT Maturity Stages:

#### **ROE Maturity (Female):**

	IMMATURE	MATURE	SPENT	TOTAL		MALE	FEMALE	IMMATURE	TOTAL
NO.	129	284	1	414	NO.	553	414	32	999
%	31.16	68.60	0.24	100.00	%	55.36	41.44	3.20	100.00
% SAMPLE WEIGHT	4.58	19.29	0.00	23.87	MEAN WEIGHT	93.57	101.36	35.97	94.95
% SAMP. WT.					% SAMP. WT.	54.55	44.24	1.21	100.00

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SECTION: 181 - SWANSON CHANNEL  
 SAMPLE NUMBERS: 14, 3,  
 SOURCE: PRE-FISHERY CHARTER  
 GEAR: HERRING SEINE  
 DATE: FEB 25/91 - MAR 8/91

SPECIMENS AT EACH AGE:		AGE											
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	43	54	82	17	48	3	10	0	0	0	43	300
% AT AGE	0.00	16.73	21.01	31.91	6.61	18.68	1.17	3.89	0.00	0.00	0.00	0.00	100.00
LENGTH - MEAN(mm)	0.00	166.98	187.04	200.99	210.94	214.46	211.33	225.00	0.00	0.00	0.00	195.93	196.50
- STD. DEV.	0.00	11.78	9.16	8.86	11.71	12.75	19.76	12.16	0.00	0.00	0.00	19.68	19.75
WEIGHT - MEAN(gm)	0.00	61.98	93.30	117.85	139.94	147.81	155.33	168.80	0.00	0.00	0.00	110.53	112.49
- STD. DEV.	0.00	12.41	16.46	17.79	24.06	27.78	26.16	20.88	0.00	0.00	0.00	36.80	36.40

## HJORT Maturity Stages:

NO. AT STAGE	0	4	0	117	177	2	0	0	0
% AT STAGE	0.00	1.33	0.00	39.00	59.00	0.67	0.00	0.00	0.00

#### ROE MATURITY (FEMALE):

NO.	42	83	0	125	NO.	175	125	0	300
%	33.60	66.40	0.00	100.00	%	58.33	41.67	0.00	100.00
% SAMPLE WEIGHT	5.58	17.98	0.00	23.55	MEAN WEIGHT	105.97	121.63	0.00	112.49
% SAMP. WT.					% SAMP. WT.	54.95	45.05	0.00	100.00



TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SECTION: 243 - SYDNEY INLET  
 SAMPLE NUMBERS: 195, 94,100, 88,118,114, 84, 89,115  
 SOURCE: PRE-FISHERY CHARTER  
 GEAR: HERRING SEINE  
 DATE: FEB 25/91 - MAR 13/91

SPECIMENS AT EACH AGE:		AGE								TOTAL		
		0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN
NO. AT AGE	0	66	121	165	91	290	31	22	5	1	70	862
% AT AGE	0.00	8.33	15.28	20.83	11.49	36.62	3.91	2.78	0.63	0.13	0.00	100.00
LENGTH - MEAN(mm)	0.00	164.26	184.92	200.39	210.90	217.34	224.68	224.41	229.40	232.00	201.54	204.05
- STD. DEV.	0.00	8.16	9.53	9.10	8.23	8.68	11.32	7.91	4.51	0.00	23.80	19.71
WEIGHT - MEAN(gm)	0.00	62.42	89.31	122.10	141.88	160.71	174.65	180.77	183.60	220.00	128.34	132.37
- STD. DEV.	0.00	9.31	16.55	19.97	23.74	23.71	26.09	24.64	23.62	0.00	48.01	40.98

## HJORT Maturity Stages:

SEX RATIO:

		UNKNOWN
7	8	
13	0	69
51	0.00	8.00

EX RATIO:		MALE		FEMALE	IMMATURE	TOTAL
NO.	%	385	405	72	862	
%		44.66	46.98	8.35	100.00	
MEAN WEIGHT		127.88	144.92	85.78	132.37	
% SAMP. WT.		43.15	51.44	5.41	100.00	

**TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION**

SAMPLE SECTION: 245 - VARGAS ISLAND  
NUMBERS: 157 SOURCE: PRE-FISHERY CHARTER  
GEAR: HERRING SEINE DATE: MAR 16/91

SPECIMENS AT EACH AGE:

	NO. AT AGE	% AT AGE	MEAN (mm)	STD. DEV.	MEAN (gm)	STD. DEV.
NO. AT AGE	0	2	21	20	10	29
% AT AGE	0.00	2.38	25.00	23.81	11.90	34.52
LENGTH - MEAN (mm)	0.00	162.50	191.33	201.80	216.70	222.86
- STD. DEV.	0.00	6.36	6.78	7.92	7.41	8.15
WEIGHT - MEAN (gm)	0.00	61.00	99.76	123.10	150.40	172.93
- STD. DEV.	0.00	12.73	13.82	19.81	21.52	22.82

## HJORT MATURITY STAGES:



TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SPECIMENS AT EACH AGE:										AGE				
			0+	1+	2+	3+	4+	5+	6+	7+	8+	9+	UNKNOWN	TOTAL
NO. AT AGE	0	39	255	123	77	161	19	40	6	0	66	786		
% AT AGE	0.00	5.42	35.42	17.08	10.69	22.36	2.64	5.56	0.83	0.00	0.00	100.00		
LENGTH - MEAN (mm)	0.00	164.28	186.16	200.37	210.30	220.59	228.00	235.25	229.67	0.00	203.05	201.98		
- STD. DEV.	0.00	9.77	9.22	8.97	9.98	9.04	8.03	9.87	15.87	0.00	25.15	20.98		
WEIGHT - MEAN (gm)	0.00	66.18	93.82	121.95	135.82	161.02	180.00	197.27	188.83	0.00	134.94	126.26		
- STD. DEV.	0.00	10.08	15.33	19.91	22.59	26.39	32.46	30.33	37.56	0.00	54.08	42.42		

HJORT MATURITY STAGES:

MATURITY STAGE							
	1	2	3	4	5	6	7
NO. AT STAGE	0	1	1	1	1	1	1
% AT STAGE	0.00	0.13	0.13	0.13	0.13	0.13	0.13

ROE MATURITY (FEMALE):

IMMATURE MATURE SPENT TOTAL					SEX RATIO:				
	IMMATURE	MATURE	SPENT	TOTAL		MALE	FEMALE	IMMATURE	TOTAL
NO.	23	355	58	436	NO.	348	436	2	786
%	5.28	81.42	13.30	100.00	%	44.27	55.47	0.25	100.00
% SAMPLE WEIGHT	0.96	23.52	0.20	24.69	MEAN WEIGHT	119.77	131.56	99.00	126.26
					% SAMP. WT.	42.00	57.80	0.20	100.00

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SECTION: 272 - BROOKS BAY  
SAMPLE NUMBERS: 217,208  
SOURCE: PRE-FISHERY CHARTER  
GEAR: HERRING SEINE  
DATE: MAR 2/91 - MAR 3/91

SPECIMENS AT EACH AGE:

	NO. AT AGE	% AT AGE	LENGTH - MEAN(mm)	- STD. DEV.	WEIGHT - MEAN(gm)	- STD. DEV.	NO. AT AGE	% AT AGE	LENGTH - MEAN(mm)	- STD. DEV.	WEIGHT - MEAN(gm)	- STD. DEV.
	0	2	53	19	22	58	8	15	8	0	0	200
	0.00	1.08	28.65	10.27	11.89	31.35	4.32	8.11	4.32	0.00	0.00	100.00
	0.00	168.00	186.02	197.47	216.82	221.50	233.38	234.80	231.63	0.00	207.40	209.59
	0.00	9.90	9.92	8.65	8.90	10.31	6.89	7.65	16.00	0.00	27.02	21.33
	0.00	75.00	98.94	120.11	166.09	177.24	200.00	206.87	204.50	0.00	136.87	150.01
	0.00	12.73	18.31	18.78	24.13	24.82	26.83	20.96	51.44	0.00	49.45	47.30

## HJORT Maturity Stages:

### **ROE Maturity (Female):**

SEX RATIO:  $\frac{1}{1}$

TABLE 13 (CONT'D) PRE-FISHERY CHARTER SAMPLE SUMMARIES BY SECTION

SPECIMENS AT EACH AGE:										AGE						
NO. AT AGE		0+		1+		2+		3+		4+		5+		6+		
% AT AGE		1	31	92	14	16	25	2	3	0	0	0	0	16	200	
LENGTH - MEAN (mm)	0.54	16.85	50.00	7.61	8.70	13.59	1.09	1.63	0.00	0.00	0.00	0.00	0.00	0.00	100.00	
- STD. DEV.	0.00	11.36	9.33	11.12	9.22	11.07	11.31	19.35	0.00	0.00	0.00	0.00	25.94	20.82		
WEIGHT - MEAN (gm)	22.00	64.26	91.84	117.86	134.50	165.76	202.50	203.67	0.00	0.00	0.00	0.00	100.69	105.18		
- STD. DEV.	0.00	12.56	16.40	25.74	22.06	29.36	9.19	42.16	0.00	0.00	0.00	0.00	39.23	40.34		
HJORT MATURITY STAGES:																
NO. AT STAGE		1		2		3		4		5		6		7		
% AT STAGE		0.00	1.00	2	1.00	2	20	113	55	8	0	0	0	0	0	
ROE MATURITY (FEMALE):																
NO.		IMMATURE		MATURE		SPENT		TOTAL		NO.		%		MALE		
%		21	81	2	104					94	104			2	200	
% SAMPLE WEIGHT		20.19	77.88	1.92	100.00					47.00	52.00			1.00	100.00	
		3.93	20.71	0.00	24.64					MEAN WEIGHT	96.21	112.54		144.00	105.18	
										% SAMP. WT.	42.99	55.64		1.37	100.00	



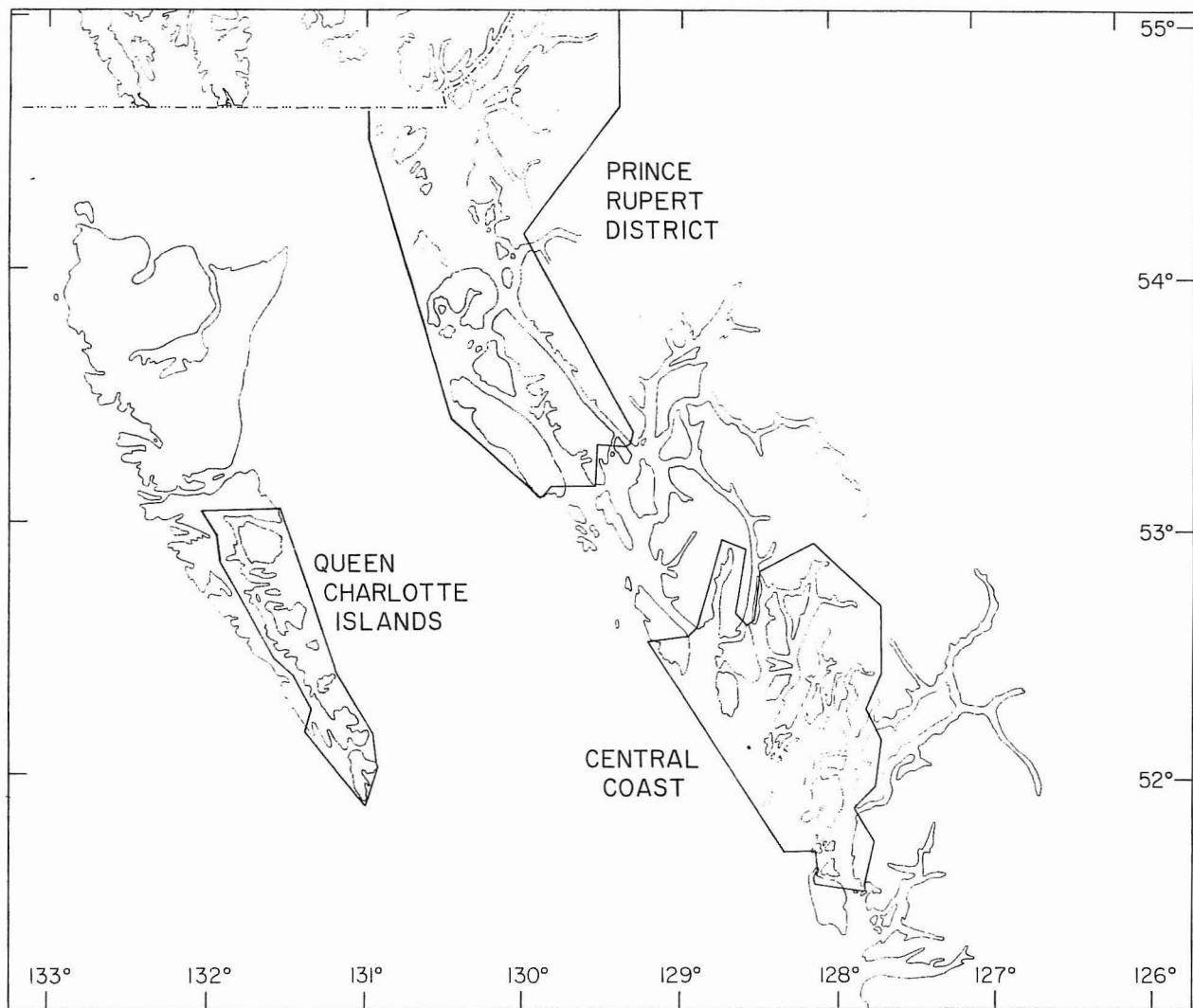


Fig. 1. Northern stock assessment regions.



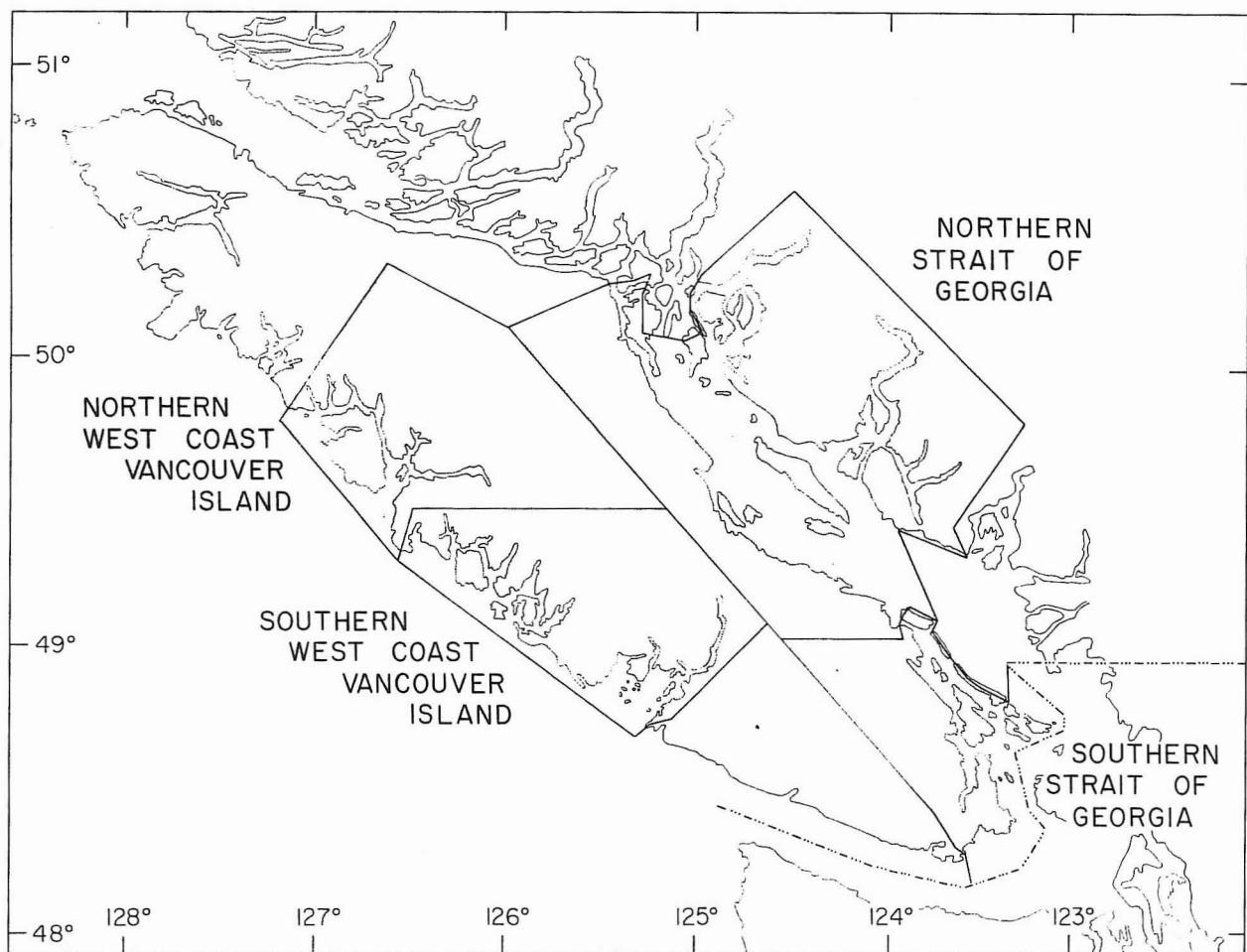


Fig. 2. Southern stock assessment regions.



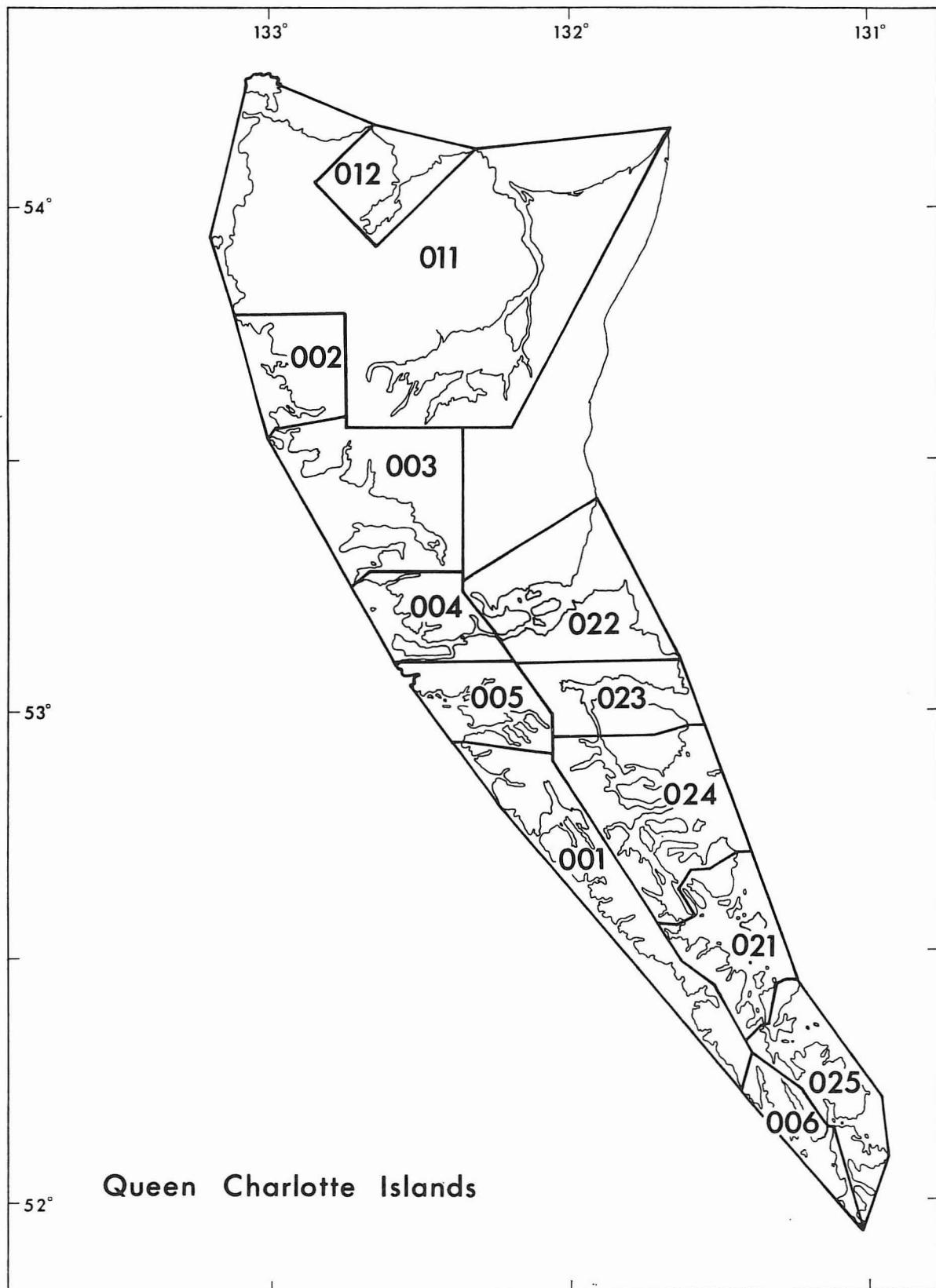


Fig. 3. Herring sections in the Queen Charlotte Islands region.



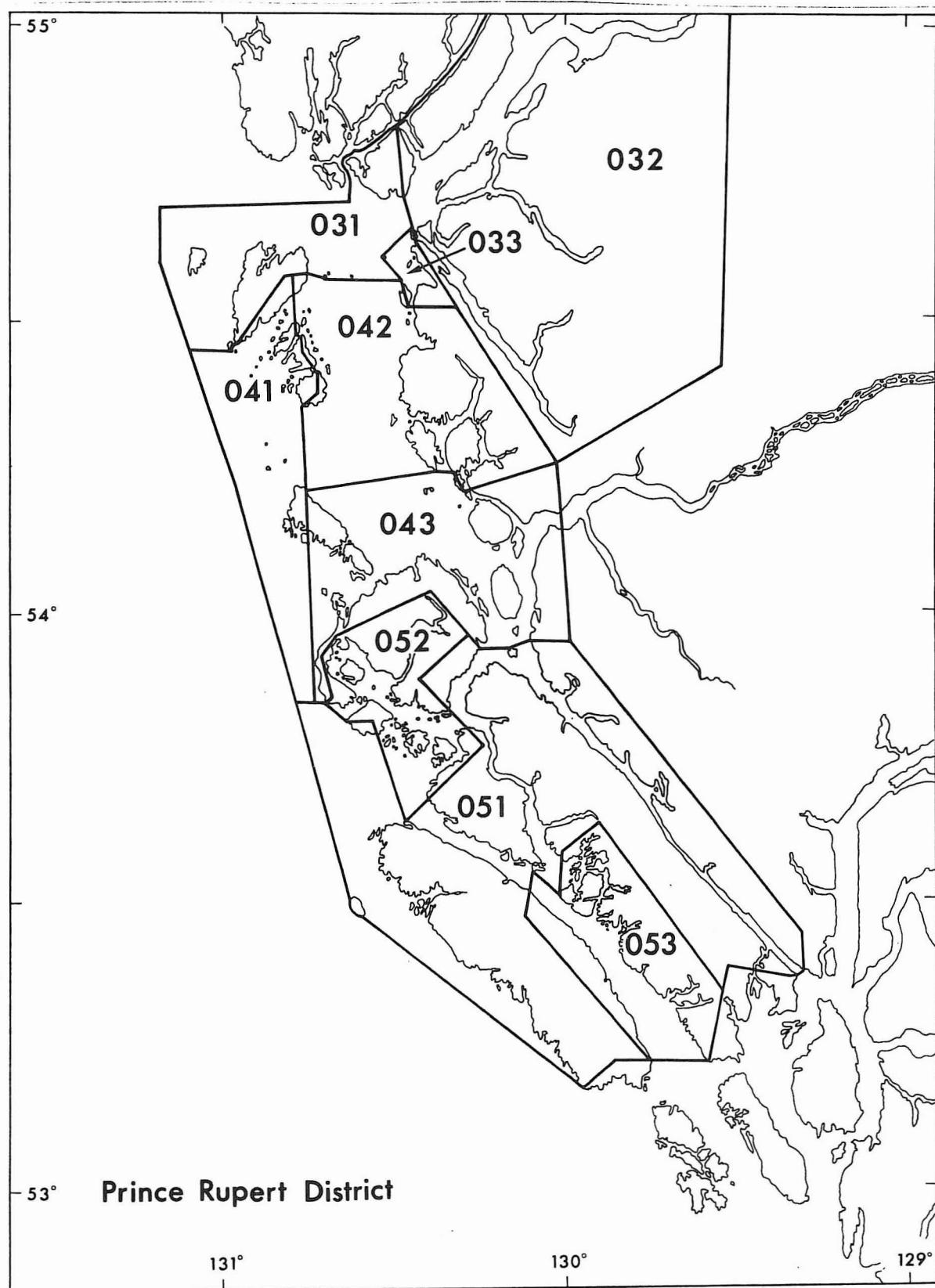


Fig. 4. Herring sections in the Prince Rupert District region.



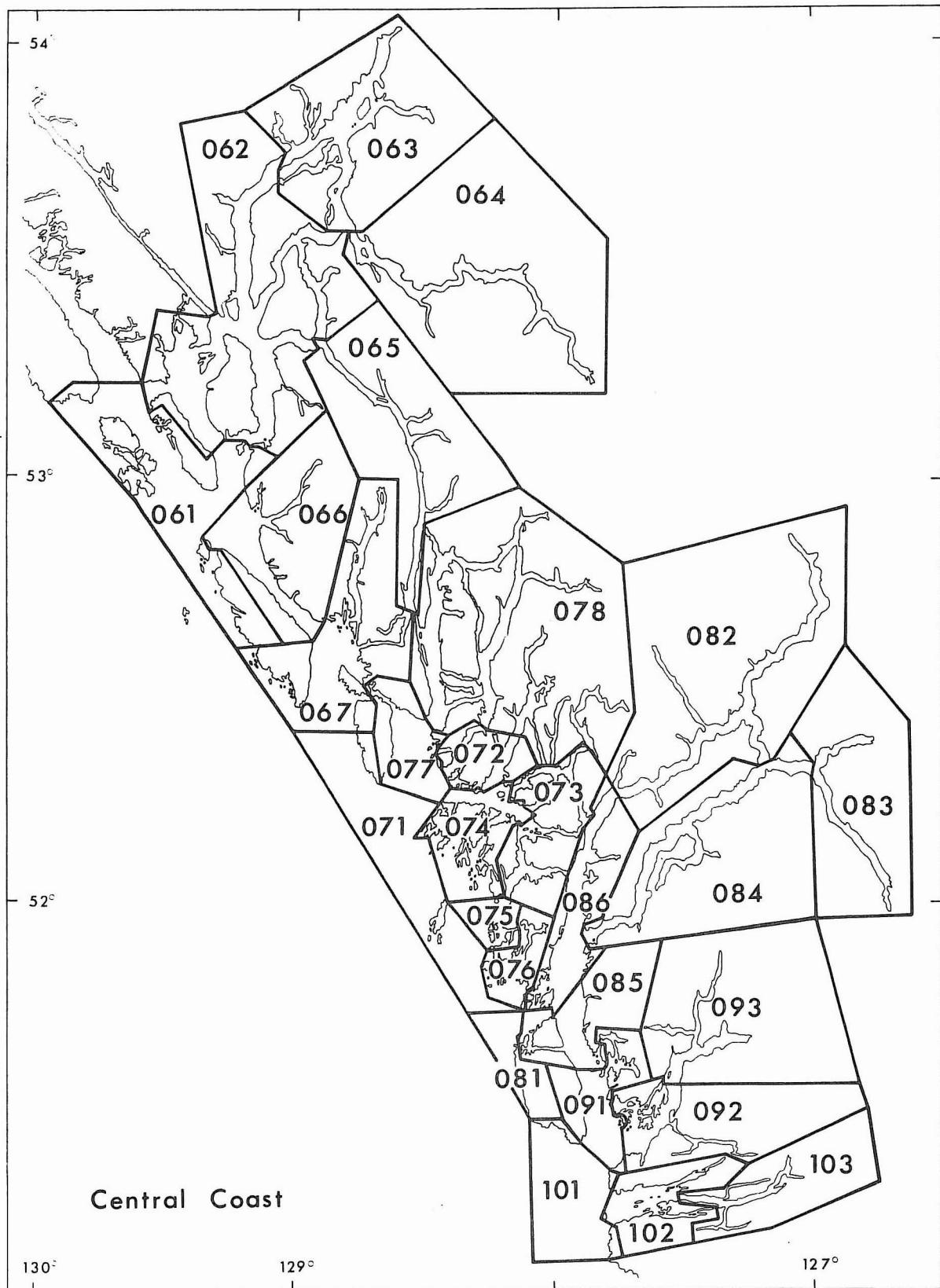


Fig. 5. Herring sections in the Central Coast region.



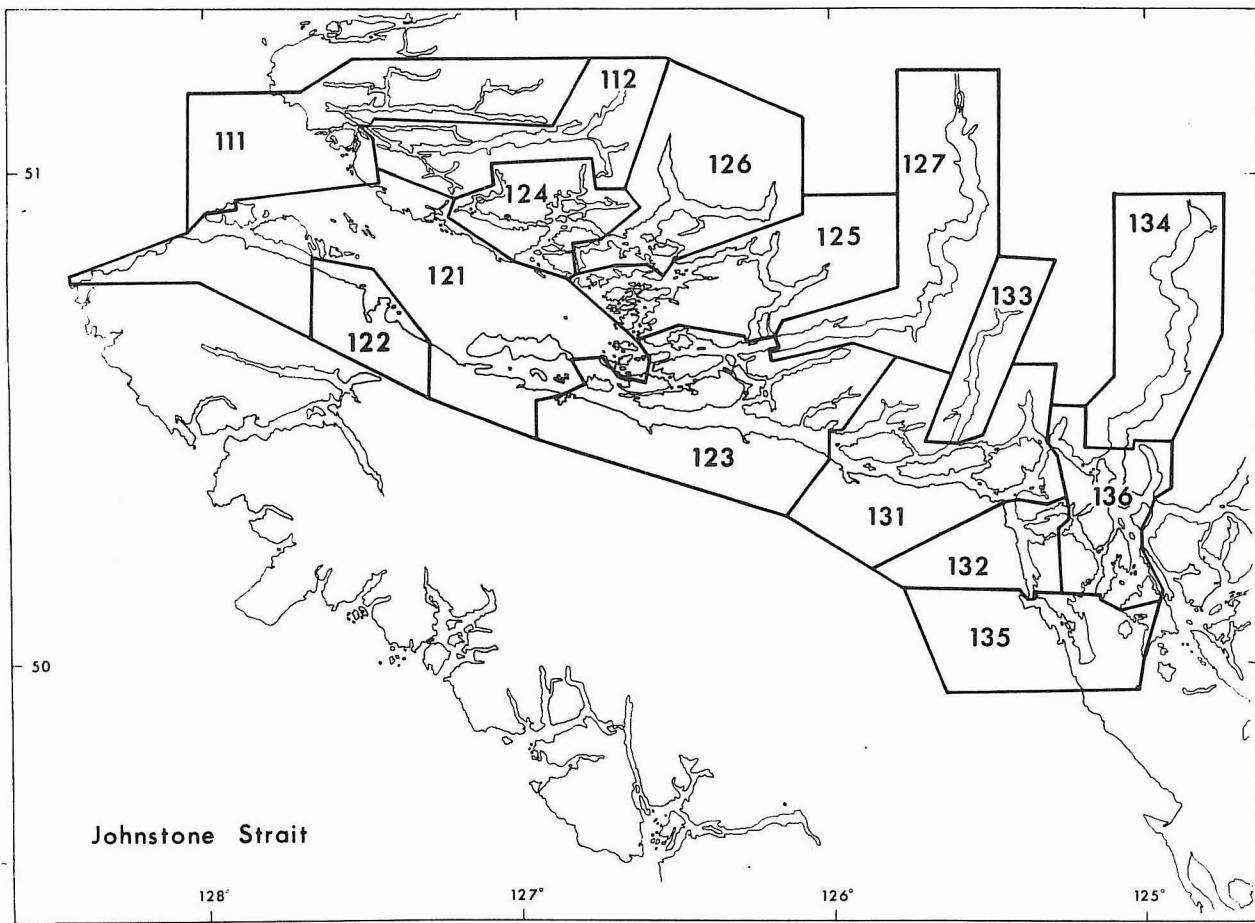
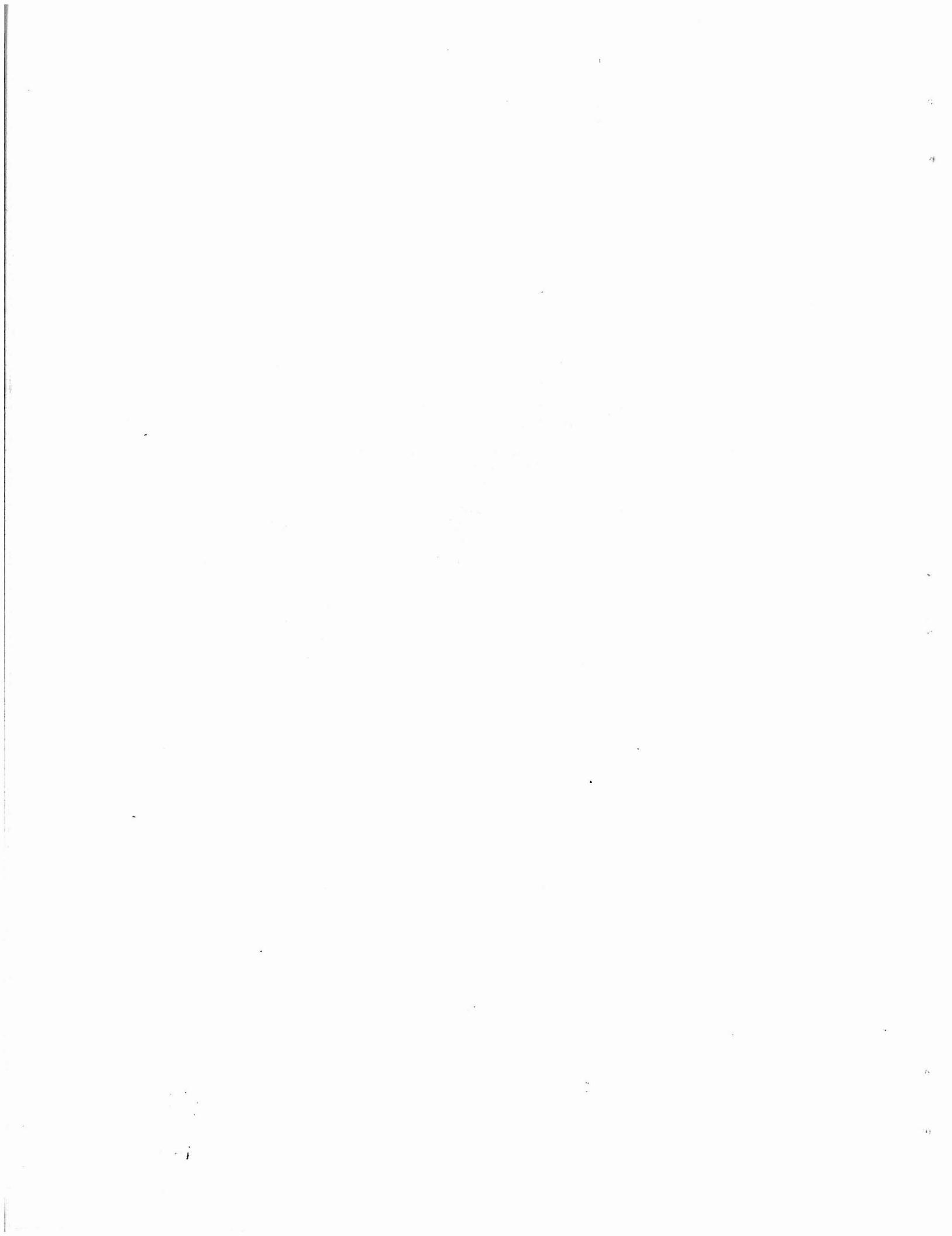


Fig. 6. Herring sections in the Johnstone Strait region.



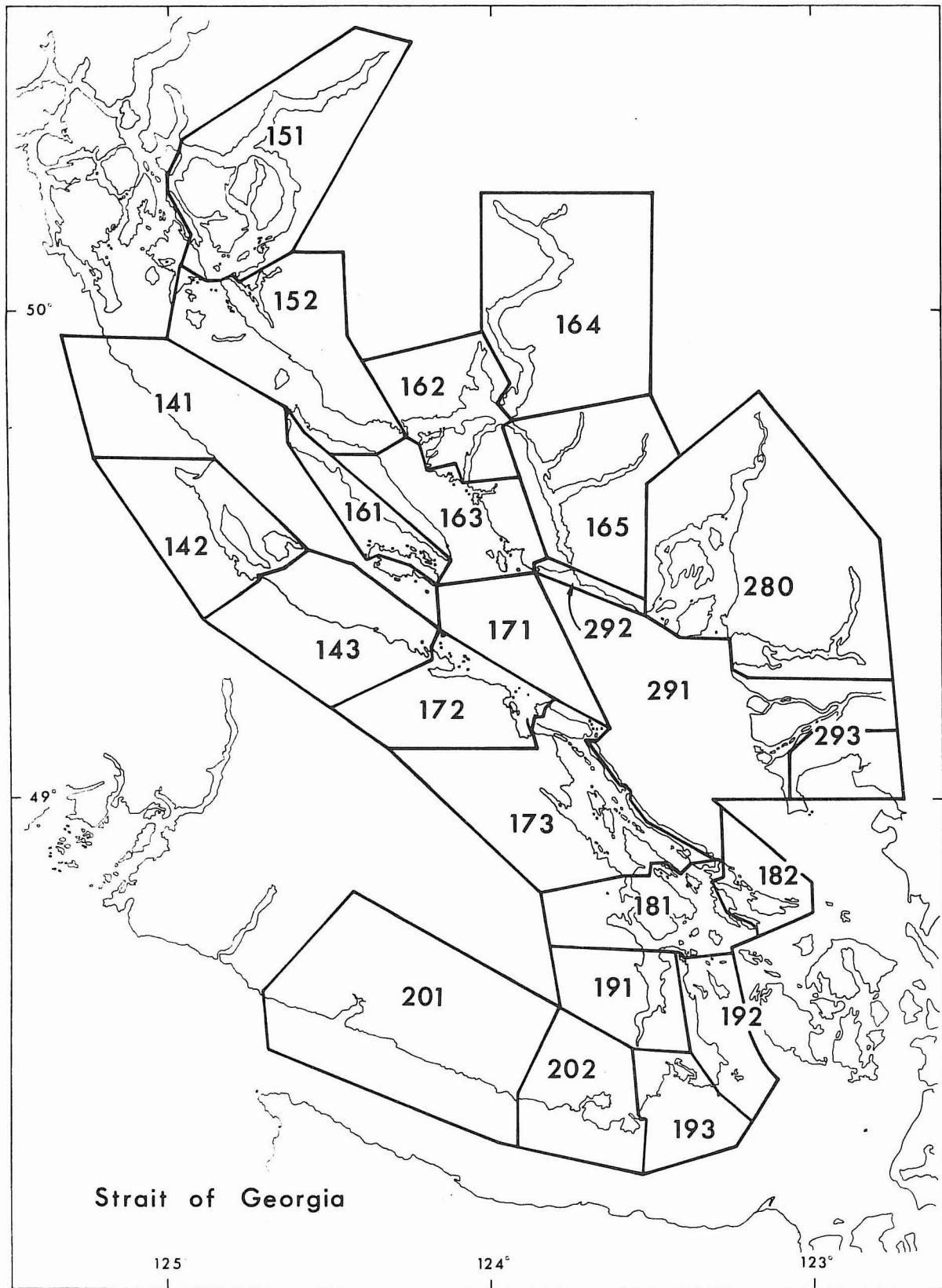


Fig. 7. Herring sections in the Strait of Georgia region.



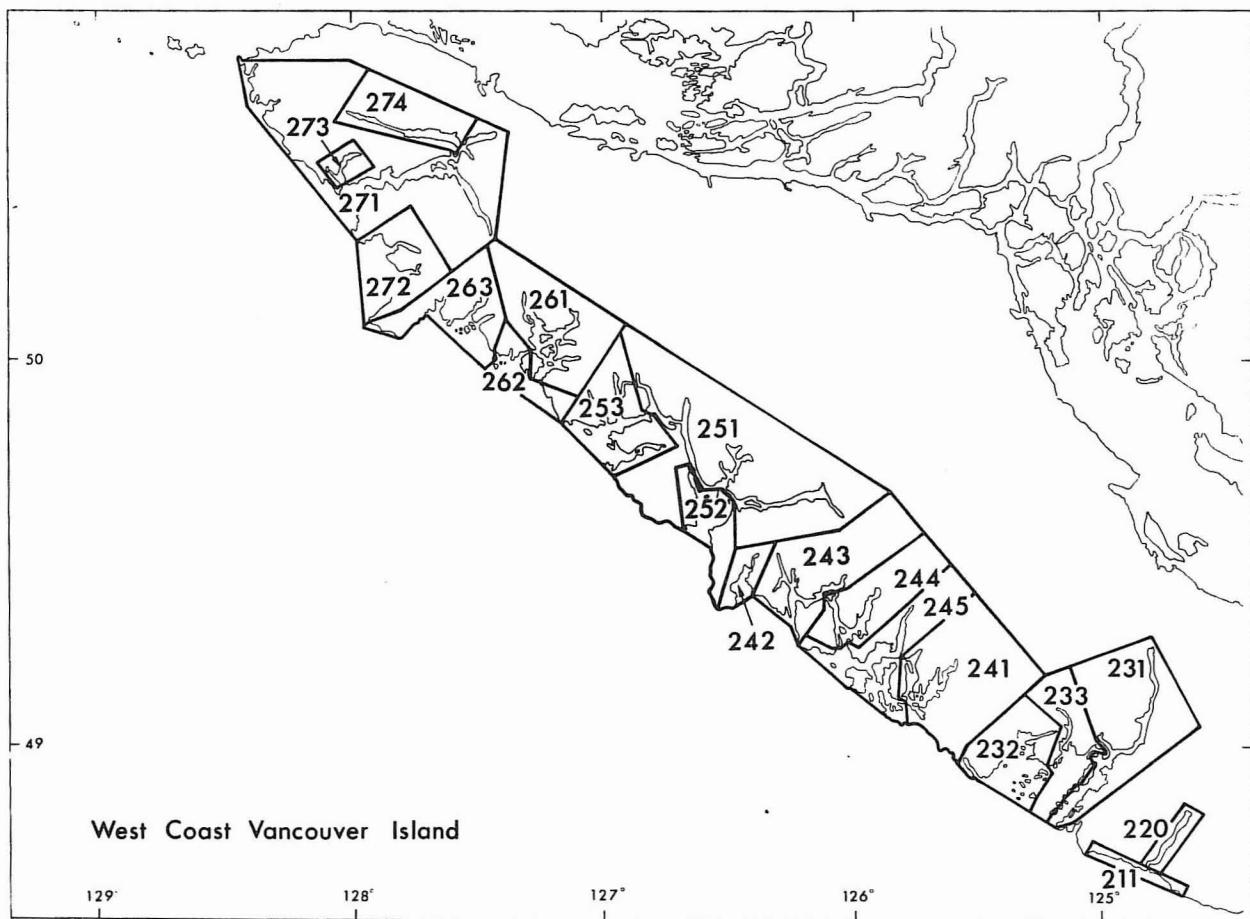


Fig. 8. Herring sections in the west coast of Vancouver Island region.

