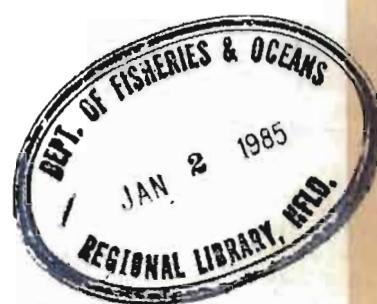


# **British Columbia Herring Landings for the 1970-71 Season**

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December 1980

## **Canadian Data Report of Fisheries and Aquatic Sciences No. 228**



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## **Canadian Data Report of Fisheries and Aquatic Sciences**

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FOR THE 1970-71 SEASON

by

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ABSTRACT

Hourston, A. S. 1980. British Columbia herring landings for the 1970-71 season. Can. Data Rep. Fish. Aquat. Sci. No. 228: 20 p.

Individual landings of herring caught in British Columbia waters during the 1970-71 season are listed with the associated data. The sources of these data are described, along with procedures for compiling, checking and revising the data. The role of these data in annual stock assessment analysis is outlined.

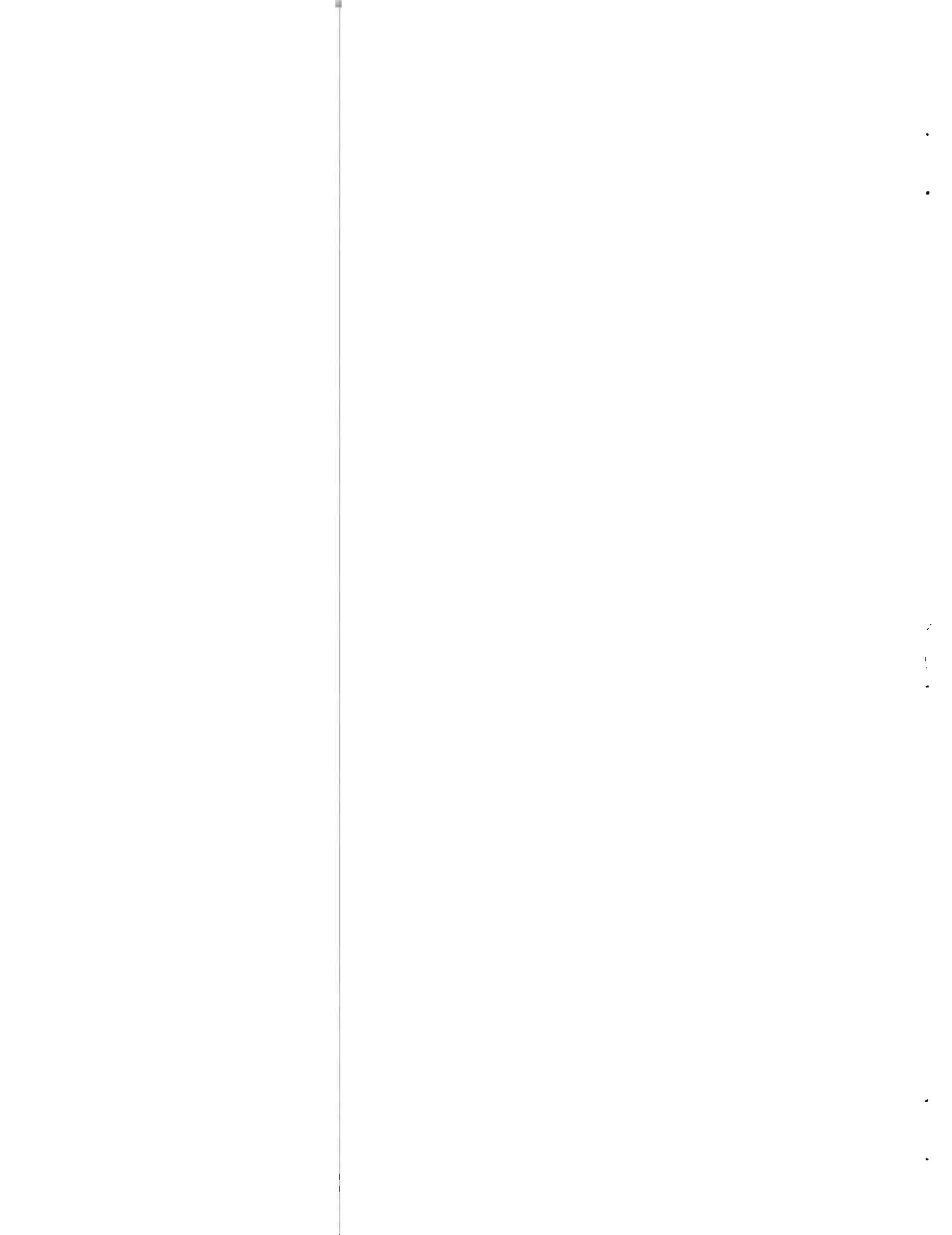
Key words: Clupea harengus pallasi, landings, catch.

RÉSUMÉ

Hourston, A. S. 1980. British Columbia herring landings for the 1970-71 season. Can. Data Rep. Fish. Aquat. Sci. No. 228: 20 p.

Les débarquements de hareng capturé dans les eaux de la Colombie-Britannique au cours de la saison de 1970-71 sont indiqués séparément avec les données connexes. Les sources de ces données sont décrites, ainsi que les procédures de compilation, de vérification et de révision des données. Le rôle de ces données pour l'analyse d'évaluation des stocks annuels est aussi exposé.

Mots clés: Clupea harengus pallasi, débarquements, prises.



## INTRODUCTION

Detailed catch records form one of the three sources of monitoring data used for annual assessments and forecasts of British Columbia herring stocks (Hourston and Schweigert 1980). The information required includes the tonnage taken, place and date of capture, gear used, and the disposal of the catch (product produced) for each successful set during the season. These data, along with monitoring data from biological sampling (e.g. Hourston 1980a) are processed by computer analyses to estimate the age composition and average weight, average length, percent females, and numbers and tons of fish in each year-class represented which were taken from each section (Figs. 1, 2) during each week of the season (Hourston 1980c). The results are then summarized by season and combined with similar estimates of spawning escapements from egg depositions (Hourston 1980b) to add data for this year to a continuing inventory of the stocks (Hourston 1980d). This inventory, along with estimates of spawning requirements, forms the basis of further analyses to forecast the available catch for the coming season (Hourston 1979).

Detailed catch data have been archived in this way since the 1950-51 season (Hourston and Isaacson 1972), providing a 21-yr series of basic data accessible for analyses and modeling.

## METHODS

### DATA SOURCES

Each herring catch from British Columbia waters is reported when landed on a "sales slip," a copy of which is provided to the Department's Economics and Statistical Services in Vancouver. Since these same sales slips are the basis for payment to the fisherman and of plant inventories of landings, coverage is considered virtually complete. This is especially true for the major roe and food fisheries, whose products are virtually all exported, because recorded landings must account for the product on the export licence. A further check is provided by comparing sales slip records with hailed catches (estimates of daily catches on the fishing grounds by Fishery Officers).

### DATA COMPILATION (ECONOMICS AND STATISTICAL SERVICES)

Information on herring sales slips is coded for locality (Hourston and Hamer 1979), gear, and disposal (Table 1) and any other information required by other users. These data, along with numerical data for the

weight and date of the catch and the C.F.V. (Canadian Fishing Vessel) number, are recorded on a master computer tape, along with catch data for all other species for that calendar year. Herring catch data are copied onto other tapes semi-annually and forwarded to the Pacific Biological Station for stock assessment analyses.

#### DATA CHECKS AND REVISIONS (PACIFIC BIOLOGICAL STATION)

The "months" coded on the master catch file are not exact calendar months; weeks overlapping two calendar months are assigned to one or the other of the two months involved. An additional coding of period (week number for that master file month) provides a means of revising the codings to the calendar months. For example, a date recorded as day 29, period 1 in month 4 would be revised to day 29, month 3.

Information on the location of capture is sometimes not sufficiently specific (e.g. Area 23 or Barkley Sound) for direct assignment to the sections used in the stock assessment analyses (Figs. 1, 2). Such landings are traced to their section of capture through information from other sources. These include sections open for fishing on the date of capture, the location of catches taken by that vessel immediately before or after that date, Fishery Officers' journal records of the distribution of boats in their area, differences between catches recorded on sales slips and hailed catches for that day and contacting the skipper of the catcher boat.

The data are then screened for obvious errors in the recording and/or coding of section or date (fishery closed), disposal of the catch (unrealistic or illegal) and gear (excessively high gillnet catches or low seine catches or change in gear for the same CFV number). Questionable data are checked as for incomplete data above and/or through the company and plant where the fish were landed.

#### RESULTS

Final values for herring landings for the 1970-71 season are given by section, locality and date in Table 2, along with the related data. CFV numbers are not included as catch records for individual boats are confidential.

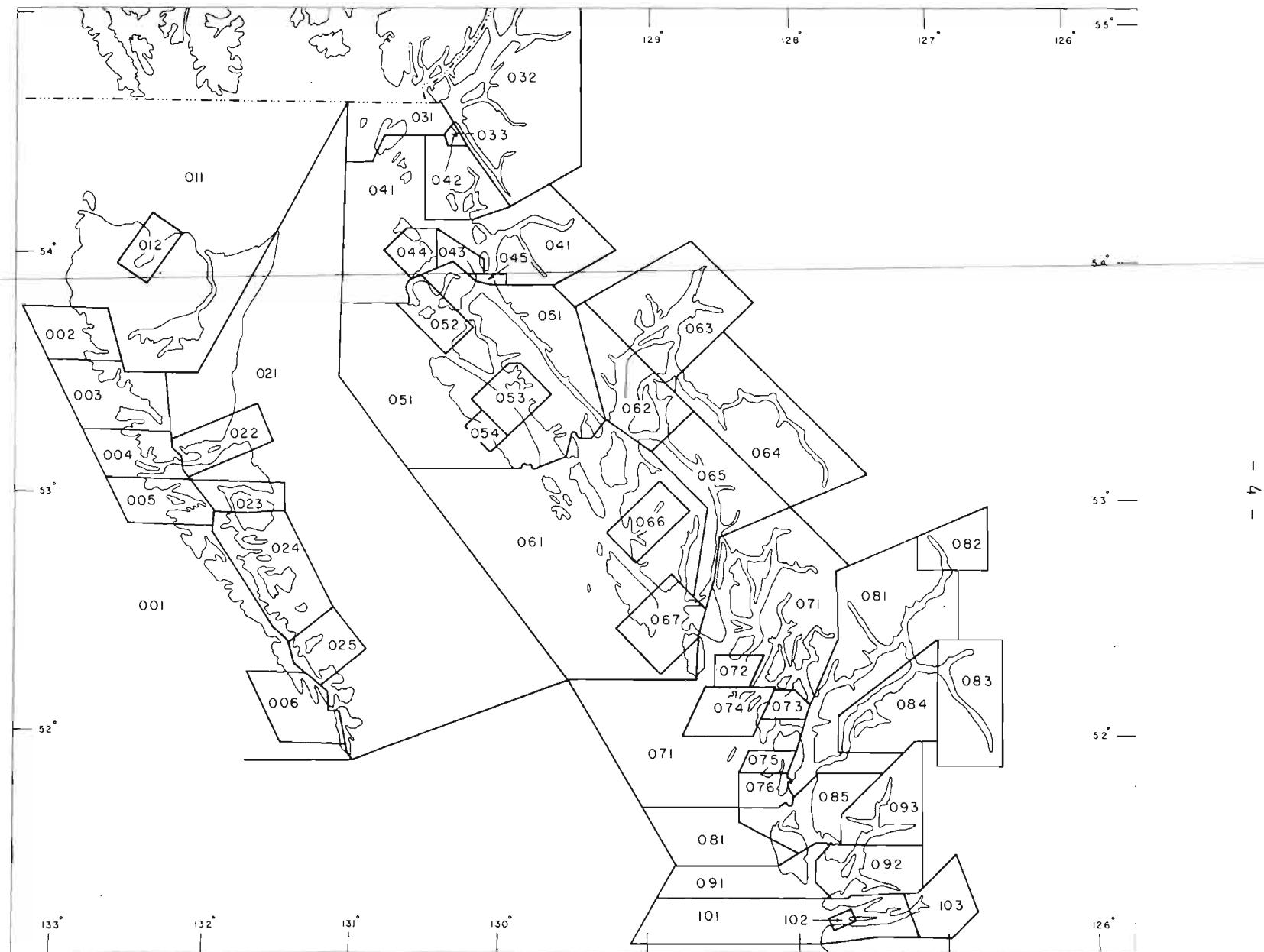
ACKNOWLEDGMENTS

Appreciation is extended to Harry Hsu of the Economics and Statistical Services and his staff for preparing and supplying the computer tapes and to Margaret Walker who did most of the coding. The initial data tapes were checked and revised at the Pacific Biological Station by Marc Hamer.

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Fig. 1. Herring sections in northern British Columbia.



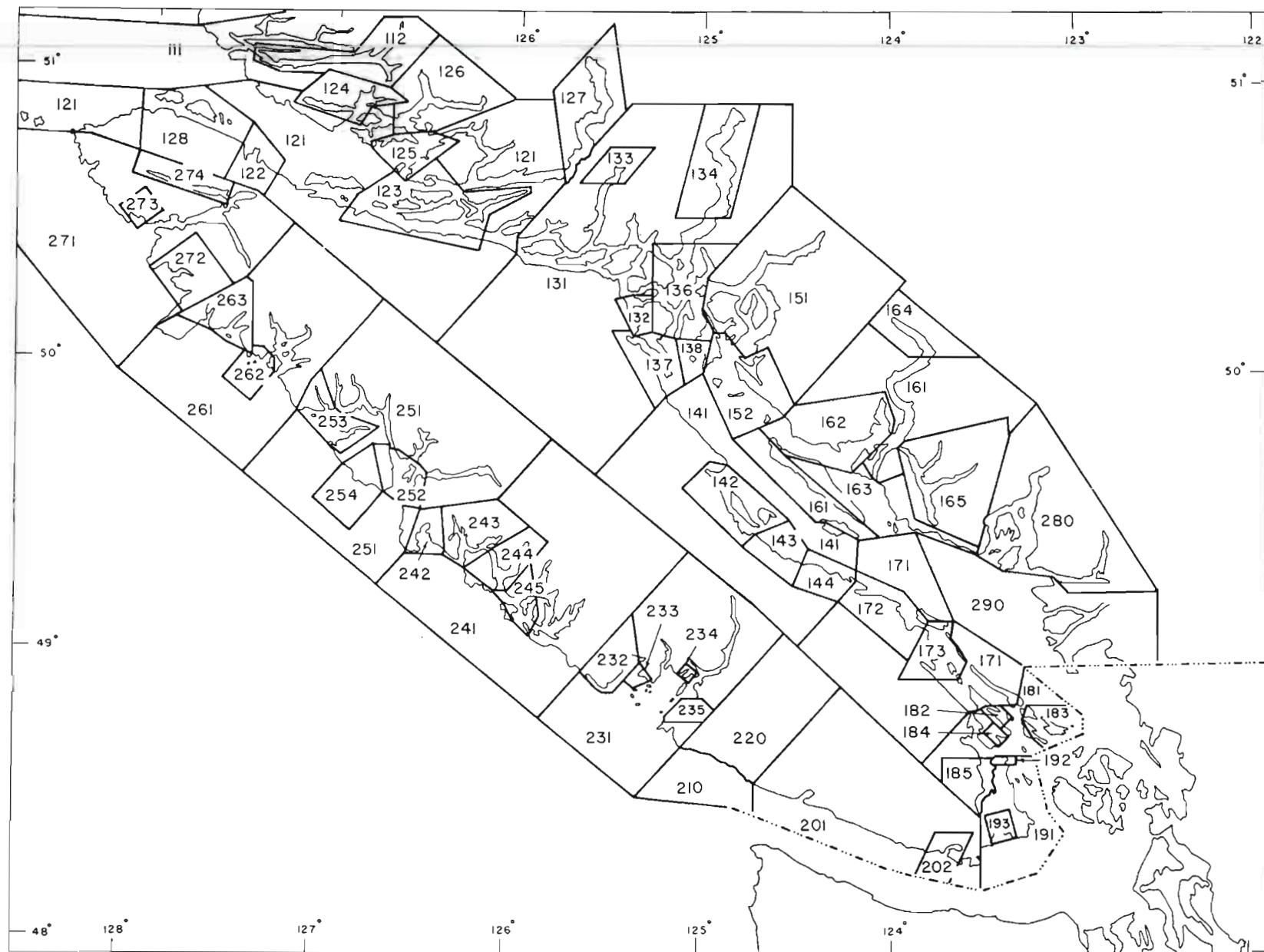


Fig. 2. Herring sections in southern British Columbia.

Table 1. Gear and disposal codes for British Columbia herring catch data.

Gear	Disposal
01 Other	1 Reduction
19 Gillnet	2 Canning
20 Salmon seine	3 Bait
21 Other seine	4 Fresh
29 Herring seine	5 Pickled or kippered
50 Other trawl	6 Dry salted
59 Herring trawl	7 Roe
70 Beach seine	8 Other food
	9 Food (bait)

TABLE 2. LANDINGS IN TONS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LOC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.
22	99	45	71	5	7	51	29	10.00	98	1	3
			71	5	7	51	29	12.90	98	1	3
			71	5	8	51	29	17.00	98	1	3
		46	71	5	12	52	29	13.80	98	1	3
			71	5	13	52	29	30.05	98	1	3
			71	5	15	52	29	14.90	98	1	3
		47	71	5	19	53	29	10.80	98	1	3
			71	5	21	53	29	8.60	98	1	3
			71	5	22	53	29	4.80	98	1	3
		48	71	5	26	54	29	9.00	98	1	3
			71	5	28	54	29	9.30	98	1	3
			71	5	29	54	29	5.70	98	1	3
		49	71	5	30	61	29	7.40	98	1	3
			71	6	2	61	29	12.50	98	1	3
			71	6	4	61	29	10.90	98	1	3
			71	6	5	61	29	21.90	98	1	3
			71	6	5	61	29	10.10	98	1	3
		50	71	6	9	62	29	11.70	98	1	3
			71	6	12	62	29	17.10	98	1	3
		51	71	6	13	63	29	8.10	98	1	3
			71	6	15	63	29	11.20	98	1	3
			71	6	18	63	29	9.10	98	1	3
			71	6	19	63	29	8.40	98	1	3
		52	71	6	21	64	29	10.30	98	1	3
			71	6	22	64	29	9.30	98	1	3
			71	6	26	64	29	10.70	98	1	3
		53	71	6	27	71	29	16.50	98	1	3
			71	6	29	71	29	8.90	98	1	3
23	156	44	71	4	25	45	29	13.43	40	2	8
			71	4	25	45	29	56.50	20	3	8
			71	4	28	45	29	42.10	40	2	8
32	194	36	71	3	4	31	29	48.25	20	3	3
		37	71	3	8	32	29	44.75	20	3	3
	199	32	71	2	3	21	29	10.75	70	1	3
	203	34	71	2	17	23	29	13.25	70	1	3
	208	32	71	2	3	21	29	11.20	33	1	3
		34	71	2	16	23	29	13.50	20	3	3
			71	2	17	23	29	20.50	33	1	3
			71	2	17	23	29	38.25	20	3	3
			71	2	19	23	29	14.77	33	1	3
			71	2	19	23	29	32.00	20	3	3
		35	71	2	22	24	29	9.00	20	3	3
			71	2	24	24	29	20.75	20	3	3
33	211	41	71	4	8	42	29	23.25	50	1	8
			71	4	10	42	29	20.00	50	1	8
	218	41	71	4	8	42	29	40.95	33	1	8
			71	4	8	42	29	19.40	33	1	8
			71	4	8	42	29	19.95	33	1	8
41	223	32	71	2	5	21	29	40.25	70	1	3

TABLE 2. LANDINGS IN TONS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LOC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.
41	223	33	71	2	8	22	29	55.25	70	1	3
			71	2	11	22	29	5.75	70	1	3
		34	71	2	15	23	29	21.00	70	1	3
43	287	44	71	5	1	45	29	49.46	40	2	8
			71	5	1	45	29	41.38	40	2	8
44	275	32	71	2	1	21	29	23.75	70	1	3
51	327	32	71	2	1	21	29	13.50	33	1	3
	331	32	71	2	5	21	29	17.50	33	1	3
52	338	34	71	2	15	23	29	22.05	33	1	3
	341	41	71	4	5	42	29	21.50	70	1	4
			71	4	6	42	29	53.25	70	1	4
			71	4	6	42	29	41.50	70	1	4
			71	4	6	42	29	116.25	20	3	4
			71	4	6	42	29	45.26	40	2	1
			71	4	7	42	29	51.00	70	1	4
			71	4	7	42	29	18.63	40	2	1
			71	4	7	42	29	11.90	33	1	8
			71	4	8	42	29	54.00	20	3	4
			71	4	9	42	29	26.98	40	2	1
			71	4	9	42	29	48.33	40	2	1
			71	4	10	42	29	42.50	40	2	1
			71	4	10	42	29	102.75	20	3	4
			71	4	10	42	29	60.81	40	2	1
			71	4	10	42	29	42.19	40	2	1
			71	4	10	42	29	47.96	40	2	1
42	71	4	11	42	29	32.31			40	2	1
	71	4	11	43	29	38.01			33	1	3
	71	4	11	43	29	7.90			40	2	1
	71	4	11	43	29	53.20			33	1	3
	71	4	12	43	29	55.75			70	1	8
	71	4	12	43	29	23.50			70	1	8
	71	4	12	43	29	36.00			70	1	8
	71	4	12	43	29	71.50			20	3	4
	71	4	12	43	29	47.58			40	2	1
	71	4	12	43	29	30.64			40	2	1
	71	4	13	43	29	67.00			70	1	8
	71	4	13	43	29	31.75			50	1	8
	71	4	13	43	29	96.61			40	2	1
	71	4	13	43	29	62.82			40	2	1
	71	4	13	43	29	31.37			40	2	1
	71	4	13	43	29	50.65			33	1	3
	71	4	13	43	29	35.75			20	3	4
	71	4	14	43	29	12.50			96	1	8
	71	4	14	43	29	49.25			40	2	1
	71	4	14	43	29	52.28			40	2	1
	71	4	14	43	29	93.25			20	3	4
	71	4	14	43	29	43.60			40	2	1
	71	4	14	43	29	31.98			40	2	1
	71	4	14	43	29	13.51			33	1	3

TABLE 2. LANDINGS IN TUNS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LOC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.
52	341	42	71	4	14	43	29	24.85	33	1	3
			71	4	15	43	29	46.75	70	1	8
			71	4	15	43	29	31.50	70	1	8
			71	4	15	43	29	46.50	70	1	8
			71	4	15	43	29	142.47	20	1	8
			71	4	15	43	29	51.00	20	3	4
			71	4	16	43	29	23.75	70	1	8
			71	4	16	43	29	36.25	70	1	8
			71	4	16	43	29	42.25	20	3	4
			71	4	16	43	29	21.25	20	3	4
			71	4	16	43	29	56.10	20	1	8
			71	4	16	43	29	69.59	20	1	8
			71	4	16	43	29	30.00	20	3	4
			71	4	16	43	29	52.73	40	2	8
			71	4	16	43	29	50.78	40	2	8
			71	4	16	43	29	49.75	33	1	8
			71	4	16	43	29	37.33	33	1	8
			71	4	16	43	29	44.75	40	2	8
			71	4	17	43	29	64.00	70	1	8
			71	4	17	43	29	54.75	70	1	8
			71	4	17	43	29	6.53	40	2	8
			71	4	17	43	29	37.83	40	2	8
			71	4	17	43	29	25.70	40	2	8
			71	4	17	43	29	35.00	40	2	8
			71	4	17	43	29	38.51	40	2	8
			71	4	17	43	29	33.00	33	1	8
			71	4	17	43	29	28.75	50	1	8
			71	4	17	43	29	39.48	40	2	8
		43	71	4	20	44	29	93.09	20	1	8
61	423	39	71	3	23	34	29	39.00	96	1	8
			71	3	24	34	29	27.00	96	1	8
67	424	40	71	3	29	41	29	115.51	33	1	8
			71	3	30	41	29	53.00	70	1	4
			71	3	31	41	29	84.00	70	1	4
			71	3	31	41	29	38.00	70	1	4
			71	3	31	41	29	17.00	70	1	4
			71	3	31	41	29	94.25	20	3	4
			71	3	31	41	29	48.90	20	2	8
			71	4	1	41	29	42.75	20	3	4
			71	4	2	41	29	15.50	50	1	8
426	39	71	3	23	34	29	51.57	33	1	4	
			71	3	23	34	29	80.85	33	1	4
			71	3	23	34	29	30.75	50	1	4
			71	3	23	34	29	42.00	20	3	4
			71	3	23	34	29	50.00	20	2	8
			71	3	23	34	29	30.50	20	3	4
			71	3	23	34	29	81.75	70	1	4
			71	3	23	34	29	22.00	70	1	4
			71	3	23	34	29	55.75	70	1	4

TABLE 2. LANDINGS IN TUNS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LOC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.
67	426	39	71	3	24	34	29	31.50	20	3	4
			71	3	25	34	29	48.20	20	2	8
			71	3	26	34	29	26.25	70	1	4
			71	3	26	34	29	18.75	70	1	4
			71	3	26	34	29	80.50	70	1	4
			71	3	26	34	29	65.10	33	1	4
			71	3	26	34	29	31.50	50	1	4
			71	3	26	34	29	42.25	20	3	4
			71	3	26	34	29	56.00	70	1	4
			71	3	27	34	29	31.50	20	3	4
			71	3	27	34	29	48.30	20	2	8
			71	3	27	34	29	31.25	20	3	4
		40	71	3	28	41	29	52.62	33	1	8
			71	3	29	41	29	23.26	33	1	8
			71	3	29	41	29	64.75	33	1	8
			71	3	29	41	29	50.80	20	2	8
			71	3	30	41	29	41.00	20	3	4
71	429	40	71	3	28	41	29	47.00	96	1	8
	452	36	71	3	4	31	29	34.00	20	2	3
	458	37	71	3	10	32	29	25.00	96	1	8
			71	3	13	32	29	28.00	96	1	8
		38	71	3	18	33	29	53.00	96	1	8
			71	3	19	33	29	28.00	96	1	8
74	438	38	71	3	15	33	29	43.05	33	1	4
			71	3	18	33	29	38.50	33	1	4
			71	3	19	33	29	11.48	33	1	4
			71	3	19	33	29	26.35	33	1	4
			71	3	19	33	29	38.15	33	1	4
483	38	71	3	20	33	29	27.50	20	3	4	
537	35	71	2	23	24	29	19.80	33	1	3	
			71	2	24	24	29	35.49	33	1	3
	36	71	3	1	31	29	26.00	20	2	3	
			71	3	3	31	29	25.50	20	2	3
	38	71	3	17	33	29	30.50	20	2	8	
			71	3	20	33	29	36.25	20	3	4
		39	71	3	23	34	29	18.70	20	2	8
538	37	71	3	9	32	29	27.40	20	2	4	
			71	3	10	32	29	30.00	99	1	3
			71	3	11	32	29	24.17	33	1	3
			71	3	11	32	29	36.75	33	1	3
			71	3	11	32	29	36.60	20	2	4
			71	3	11	32	29	79.25	70	1	4
			71	3	11	32	29	22.25	70	1	4
			71	3	11	32	29	25.45	33	1	3
			71	3	12	32	29	40.40	20	2	8
			71	3	12	32	29	53.00	70	1	4
			71	3	12	32	29	28.25	70	1	4
			71	3	13	32	29	40.25	33	1	3
	38	71	3	14	33	29	28.33	50	1	3	

TABLE 2. LANDINGS IN TUNS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LOC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.	
74	538	38	71	3	14	33	29	38.89	40	2	8	
			71	3	15	33	29	33.90	20	2	8	
			71	3	16	33	29	39.50	20	3	4	
			71	3	16	33	29	31.08	40	2	1	
			71	3	16	33	29	24.50	20	3	4	
			71	3	17	33	29	52.25	70	1	4	
			71	3	18	33	29	25.25	50	1	3	
			71	3	18	33	29	34.50	70	1	4	
			71	3	18	33	29	81.50	70	1	4	
			71	3	20	33	29	31.02	40	2	1	
			71	3	20	33	29	34.80	40	2	1	
			39	71	3	23	34	29	31.73	40	2	1
				71	3	23	34	29	42.50	40	20	1
				71	3	23	34	29	67.10	40	2	1
				71	3	26	34	29	142.60	40	2	1
				71	3	27	34	29	45.51	40	2	1
76	549	40	40	71	3	29	41	29	35.32	40	2	1
				71	3	30	41	29	89.13	40	2	1
				71	4	1	41	29	31.17	40	2	4
				71	4	1	41	29	45.40	40	2	1
				71	4	1	41	29	45.03	40	2	1
			41	71	4	6	42	29	55.10	40	2	1
				71	4	3	41	29	25.80	20	2	8
				71	3	16	33	29	10.30	20	2	8
				71	3	31	41	29	113.60	20	1	8
				71	4	1	41	29	112.20	20	1	8
92	617	40	71	4	6	42	29	119.20	20	1	8	
			71	4	7	42	29	37.20	20	2	8	
			71	4	8	42	29	106.10	20	1	8	
101	636	41	71	5	4	51	29	1.10	99	1	3	
				71	5	4	51	29	0.70	99	1	3
				71	5	4	51	29	0.50	99	1	3
				71	5	4	51	29	0.40	99	1	3
				71	5	5	51	29	1.20	99	1	3
				71	5	5	51	29	1.20	99	1	3
			71	5	5	51	29	0.20	99	1	3	
				71	5	5	51	29	0.30	99	1	3
				71	5	5	51	29	0.25	99	1	3
				71	5	6	51	29	0.60	99	1	3
				71	5	6	51	29	0.50	99	1	3
				71	5	6	51	29	0.20	99	1	3
				71	5	6	51	29	0.20	99	1	3
				71	5	6	51	29	0.60	99	1	3
				71	5	6	51	29	0.10	99	1	3
				71	5	6	51	29	0.20	99	1	3
				71	5	6	51	29	0.10	99	1	3
				71	5	6	51	29	0.50	99	1	3
				71	5	6	51	29	2.50	99	1	3
121	673	45	71	5	4	51	29					

TABLE 2. LANDINGS IN TUNS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LOC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.
121	673	45	71	5	6	51	29	1.80	99	1	3
			71	5	6	51	29	1.00	99	1	3
			71	5	6	51	29	1.00	99	1	3
			71	5	6	51	29	1.20	99	1	3
			71	5	6	51	29	2.00	99	1	3
			71	5	6	51	29	0.20	99	1	3
			71	5	6	51	29	1.00	99	1	3
			71	5	6	51	29	1.00	99	1	3
			71	5	7	51	29	0.20	99	1	3
			71	5	7	51	29	0.25	99	1	3
			71	5	7	51	29	0.10	99	1	3
			71	5	7	51	29	0.40	99	1	3
			71	5	7	51	29	0.10	99	1	3
			71	5	7	51	29	0.30	99	1	3
			71	5	7	51	29	0.40	99	1	3
			71	5	7	51	29	1.00	99	1	3
			71	5	7	51	29	0.10	99	1	3
			71	5	7	51	29	0.40	99	1	3
			71	5	7	51	29	1.20	99	1	3
			71	5	7	51	29	0.20	99	1	3
			71	5	7	51	29	0.75	99	1	3
			71	5	7	51	29	0.68	99	1	3
			71	5	7	51	29	0.25	99	1	3
			71	5	7	51	29	0.10	99	1	3
			71	5	7	52	29	2.00+	99	1	3
			71	5	8	51	29	0.10	99	1	3
			71	5	8	51	29	0.25	99	1	3
46			71	5	9	52	29	0.05	99	1	3
			71	5	9	52	29	0.80	99	1	3
			71	5	9	52	29	0.10	99	1	3
			71	5	9	52	29	0.25	98	1	3
			71	5	9	52	29	0.20	98	1	3
			71	5	9	52	29	0.02	99	1	3
			71	5	9	53	29	0.25+	99	1	3
			71	5	11	52	29	0.05	99	1	3
			71	5	11	52	29	0.20	99	1	3
			71	5	11	53	29	0.75+	99	1	3
			71	5	12	52	29	0.10	99	1	3
			71	5	12	52	29	0.30	99	1	3
			71	5	13	52	29	0.20	99	1	3
			71	5	13	52	29	0.10	99	1	3
			71	5	13	52	29	0.15	99	1	3
			71	5	13	53	29	0.75+	99	1	3
			71	5	14	52	29	0.50	99	1	3
			71	5	14	52	29	0.20	99	1	3
			71	5	14	52	29	0.30	99	1	3
			71	5	14	52	29	0.20	99	1	3
			71	5	14	52	29	0.15	99	1	3
			71	5	14	52	29	0.30	99	1	3

TABLE 2. LANDINGS IN TONS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LOC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.	
121	673	46	71	5	14	52	29	0.10	99	1	3	
			71	5	14	52	29	0.25	99	1	3	
			71	5	14	52	29	0.10	99	1	3	
			71	5	15	52	29	0.10	99	1	3	
			71	5	15	52	29	1.00	99	1	3	
			71	5	15	52	29	0.10	99	1	3	
			47	71	5	17	53	29	0.40	99	1	3
			71	5	17	53	29	0.30	99	1	3	
			71	5	17	53	29	0.15	99	1	3	
			71	5	17	53	29	0.15	99	1	3	
48	71	48	71	5	17	54	29	0.60+	99	1	3	
			71	5	19	53	29	0.05	99	1	3	
			71	5	19	53	29	0.10	99	1	3	
			71	5	19	53	29	0.30	99	1	3	
			71	5	19	54	29	1.20+	99	1	3	
			71	5	20	53	29	0.10	99	1	3	
			71	5	20	53	29	0.30	99	1	3	
			71	5	20	53	29	0.30	99	1	3	
			71	5	22	53	29	0.60	99	1	3	
			71	5	22	53	29	0.65	99	1	3	
			71	5	22	53	29	0.80	99	1	3	
			71	5	23	54	29	0.50	99	1	3	
			71	5	26	54	29	0.25	99	1	3	
			71	5	26	54	29	0.07	99	1	3	
			71	5	26	55	29	1.70+	99	1	3	
			71	5	28	54	29	0.20	99	1	3	
			71	5	28	54	29	0.20	99	1	3	
			71	5	28	54	29	0.20	99	1	3	
			71	5	28	54	29	0.10	99	1	3	
			71	5	28	54	29	0.10	99	1	3	
			71	5	28	54	29	0.30	99	1	3	
			71	5	28	54	29	0.20	99	1	3	
			71	5	28	54	29	0.10	99	1	3	
			71	5	28	54	29	0.30	99	1	3	
			71	5	28	54	29	0.20	99	1	3	
			71	5	28	54	29	0.10	99	1	3	
			71	5	28	54	29	0.60	99	1	3	
			71	5	28	54	29	0.08	99	1	3	
			71	5	28	55	29	0.70+	99	1	3	
			71	5	28	55	29	0.40+	99	1	3	
			71	5	28	55	29	0.50+	99	1	3	
			71	5	28	55	29	0.02+	99	1	3	
			71	5	28	55	29	0.02+	99	1	3	
			71	5	29	55	29	0.20+	99	1	3	
			71	5	29	55	29	0.10+	99	1	3	
			71	5	29	55	29	0.25+	99	1	3	
			71	5	29	55	29	0.40+	99	1	3	
			71	5	29	55	29	0.20+	99	1	3	
			71	5	29	55	29	1.80+	99	1	3	
			71	5	29	55	29	0.50+	99	1	3	
			71	5	29	55	29	1.30+	99	1	3	
49	71	5	30	56	29			0.30+	99	1	3	

TABLE 2. LANDINGS IN TONS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LUC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.
121	673	49	71	5	30	56	29	1.50+	99	1	3
			71	5	30	56	29	0.02+	99	1	3
			71	5	30	56	29	0.02+	99	1	3
			71	5	31	61	29	0.50	99	1	3
			71	5	31	61	29	0.60	99	1	3
			71	6	1	61	29	0.20	99	1	3
			71	6	1	61	29	0.10	99	1	3
			71	6	1	61	29	0.30	99	1	3
			71	6	1	61	29	0.10	99	1	3
			71	6	2	61	29	0.05	99	1	3
			71	6	2	61	29	0.50	99	1	3
			71	6	2	61	29	0.25	99	1	3
			71	6	2	61	29	0.10	99	1	3
			71	6	2	61	29	2.20+	99	1	3
			71	6	3	61	29	1.10	99	1	3
			71	6	3	61	29	0.20	99	1	3
			71	6	3	61	29	3.00+	99	1	3
			71	6	3	61	29	0.80+	99	1	3
			71	6	3	61	29	1.00+	99	1	3
			71	6	3	61	29	0.60+	99	1	3
			71	6	4	61	29	0.20	99	1	3
			71	6	4	61	29	0.10	99	1	3
			71	6	5	61	29	0.03	99	1	3
			71	6	5	61	29	0.02	99	1	3
			71	6	5	61	29	0.05	99	1	3
50	50	50	71	6	6	62	29	0.60	99	1	3
			71	6	6	62	29	0.20	99	1	3
			71	6	6	62	29	0.30	99	1	3
			71	6	6	62	29	0.30	99	1	3
			71	6	6	62	29	2.50+	99	1	3
			71	6	6	62	29	3.20+	99	1	3
			71	6	7	62	29	0.20	99	1	3
			71	6	8	62	29	0.30	99	1	3
			71	6	9	62	29	1.00	99	1	3
			71	6	9	62	29	0.10	99	1	3
			71	6	9	62	29	1.00	99	1	3
			71	6	10	62	29	0.40	99	1	3
			71	6	10	62	29	0.30	99	1	3
			71	6	10	62	29	0.30	99	1	3
51	51	51	71	6	13	63	29	0.20	99	1	3
			71	6	14	63	29	0.50	99	1	3
			71	6	15	63	29	0.15	99	1	3
			71	6	15	63	29	1.00	99	1	3
			71	6	15	63	29	0.60	99	1	3
			71	6	15	63	29	0.15	99	1	3
			71	6	15	63	29	0.30+	99	1	3
			71	6	15	63	29	0.60+	99	1	3
			71	6	16	63	29	0.25	99	1	3

TABLE 2. LANDINGS IN TONS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LOC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.
121	673	51	71	6	16	63	29	0.05	99	1	3
			71	6	16	63	29	0.05	99	1	3
			71	6	16	63	29	0.15+	99	1	3
			71	6	17	63	29	0.05	99	1	3
			71	6	17	63	29	1.60+	99	1	3
			71	6	18	63	29	0.20	99	1	3
		52	71	6	20	64	29	0.20	99	1	3
			71	6	20	64	29	0.40	99	1	3
			71	6	20	64	29	1.80+	99	1	3
			71	6	20	64	29	2.10+	99	1	3
			71	6	21	64	29	0.20	99	1	3
			71	6	21	64	29	0.05	99	1	3
			71	6	22	64	29	0.20	99	1	3
			71	6	22	64	29	0.20	99	1	3
132	766	53	71	6	23	64	29	0.45	99	1	3
			71	6	23	64	29	0.70+	99	1	3
			71	6	24	64	29	1.50+	99	1	3
			71	6	25	64	29	0.40+	99	1	3
			71	6	26	64	29	2.50+	99	1	3
			71	6	29	71	29	0.40	99	1	3
			71	6	29	71	29	1.25	99	1	3
		33	71	6	29	71	29	0.05	99	1	3
			71	6	29	71	29	0.60	99	1	3
			71	6	29	71	29	0.25	99	1	3
			71	1	13	13	29	26.48+	56	1	3
			30	71	1	20	14	21.77+	56	1	3
			71	1	21	14	29	0.02+	83	1	3
			31	71	1	26	15	0.32+	83	1	3
			32	71	2	2	21	1.18	20	5	3
142	817	34	71	2	3	21	29	0.70	20	5	3
			71	2	3	21	29	20.24+	56	1	3
			71	2	8	22	29	0.42	64	1	4
			71	2	8	22	29	0.36	64	1	4
			71	2	8	22	29	0.39	83	1	3
			71	2	8	22	29	0.89	20	5	3
			71	2	8	22	29	28.33+	56	1	3
		35	71	2	10	22	29	57.68	56	1	3
			71	2	10	22	29	1.15	20	5	3
			71	2	11	21	29	24.05+	56	1	3
			71	2	16	23	29	0.80	20	5	3
			71	2	16	23	29	26.14+	56	1	3
			71	2	18	23	29	0.40	20	5	3
			35	71	2	25	24	40.27+	64	1	3
			36	71	3	4	31	29.01+	56	1	3
161	876	41	71	4	5	42	29	62.64	94	1	3
			70	12	1	121	19	0.35	99	0	0
			70	12	11	122	29	3.55	99	1	3
			71	1	11	13	29	4.18	99	1	3
162	874	38	71	3	18	33	29	3.41	99	1	3

TABLE 2. LANDINGS IN TONS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LOC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.
162	874	39	71	3	26	34	29	5.27	99	1	3
		42	71	4	14	43	29	3.32	99	1	3
		43	71	4	23	44	29	3.96	99	1	3
		53	71	6	30	65	29	1.20+	99	1	3
			71	6	30	65	29	0.30+	99	1	3
	886	35	71	2	22	24	29	3.54	99	1	3
		36	71	2	28	31	29	3.32	99	1	3
			71	3	5	31	29	2.97	99	1	3
		40	71	4	2	41	29	3.00+	99	1	3
			71	4	2	41	29	3.01	99	1	0
163	871	41	71	4	8	42	29	3.10	99	1	3
		1	70	7	4	72	29	0.33+	98	1	3
		2	70	7	10	72	29	6.04+	99	1	3
			70	7	11	73	29	0.01+	98	1	3
			70	7	11	73	29	0.23+	98	1	3
		3	70	7	17	73	29	5.16+	99	1	3
		4	70	7	19	74	29	0.22+	98	1	3
			70	7	24	74	29	3.97+	99	1	3
			70	7	25	75	29	0.25+	98	1	3
		5	70	7	30	75	29	4.72+	99	1	3
	870		70	8	1	81	29	0.33+	98	1	3
		7	70	8	15	83	29	0.99+	98	1	3
		8	70	8	22	84	29	0.39+	98	1	3
		9	70	8	29	85	29	0.21+	98	1	3
		11	70	9	6	92	29	0.20+	98	1	3
		13	70	9	26	95	29	0.19+	98	1	3
		15	70	10	9	102	29	4.80+	99	1	3
		16	70	10	15	103	29	3.38+	99	1	3
		19	70	11	3	111	29	1.17+	99	1	3
			70	11	6	111	29	4.49+	99	1	3
		22	70	11	24	114	29	0.50+	99	1	3
			70	11	24	114	29	0.50+	99	1	3
		24	70	12	9	122	19	0.08+	56	0	0
			70	12	11	122	29	5.22+	99	1	3
			70	12	11	122	19	1.50+	56	0	0
		26	70	12	22	124	29	0.89+	99	1	3
		31	71	1	29	15	29	1.21+	99	1	1
		34	71	2	20	23	29	0.96+	99	1	1
			71	2	20	23	29	1.13+	99	1	3
			71	2	20	23	29	1.13+	99	1	3
		35	71	2	26	24	29	1.35+	99	1	3
		39	71	3	26	34	29	0.30+	99	1	3
			71	3	26	34	29	0.30+	99	1	3
		40	71	4	2	41	29	2.82	99	1	3
			71	4	2	41	29	2.82	99	1	3
			71	4	2	41	29	2.42	99	1	3
		41	71	4	10	42	29	0.69	99	1	3
			71	4	10	42	29	0.59	99	1	3
			71	4	10	42	29	0.69	99	1	3

TABLE 2. LANDINGS IN TONS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LUC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.
163	871	43	71	4	23	44	29	0.48+	99	1	3
		44	71	4	30	45	29	4.00+	99	1	3
		45	71	4	30	45	29	1.43+	99	1	3
		46	71	4	30	45	29	1.22+	99	1	3
		47	71	4	30	45	29	1.43+	99	1	3
		48	71	5	5	51	29	4.00	99	1	0
		49	71	5	5	52	29	1.43	99	1	0
		50	71	5	5	52	29	1.22	99	1	0
		51	71	5	5	52	29	1.43	99	1	0
		52	71	5	13	52	29	3.09	99	1	3
		53	71	5	21	53	29	4.74	99	1	3
		54	71	5	21	54	29	1.91+	99	1	3
		55	71	5	21	54	29	1.64+	99	1	3
		56	71	5	21	54	29	1.91+	99	1	3
		57	71	5	27	54	29	1.73	99	1	3
		58	71	5	29	55	29	0.22+	99	1	3
		59	71	5	29	55	29	0.01+	99	1	3
		60	71	5	29	55	29	0.02+	99	1	3
		61	71	6	4	61	29	0.98+	99	1	3
		62	71	6	4	61	29	0.84+	99	1	3
		63	71	6	4	61	29	0.98+	99	1	3
		64	71	6	11	62	29	3.60	99	1	3
		65	71	6	12	63	29	4.32	99	1	3
		66	71	6	18	63	29	0.44	98	1	3
		67	71	6	18	63	29	1.41+	99	1	3
		68	71	6	18	63	29	1.41+	99	1	3
		69	71	6	18	63	29	1.21+	99	1	3
		70	71	6	25	64	29	5.13	99	1	3
		71	71	6	26	64	29	5.82	99	1	3
		72	71	6	26	64	29	0.27+	99	1	3
		73	71	6	26	64	29	0.32+	99	1	3
		74	71	6	26	64	29	0.32+	99	1	3
		75	71	6	26	64	29	0.36	98	1	3
		76	71	6	29	65	29	0.38+	99	1	3
		77	71	6	29	65	29	0.38+	99	1	3
887	30	71	1	22	14	29	2.32	99	1	3	
	31	71	1	28	14	29	4.12+	99	1	3	
	32	71	2	5	21	29	5.08	99	1	3	
	33	71	2	10	22	29	3.22	99	1	3	
	34	71	3	12	32	29	2.87	99	1	3	
165	875	31	71	1	29	14	29	1.61+	99	1	1
	35	71	2	26	24	29	1.35+	99	1	3	
	36	71	2	26	24	29	1.16+	99	1	3	
	37	71	3	6	31	29	1.88+	99	1	3	
	38	71	3	6	31	29	1.61+	99	1	3	

TABLE 2. LANDINGS IN TUNS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LOC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.	
165	875	37	71	3	7	32	29	1.88+	99	1	3	
		39	71	3	26	34	29	1.89+	99	1	1	
		43	71	4	21	44	59	2.15	56	1	0	
			71	4	23	44	29	0.57+	99	1	3	
			71	4	23	44	29	0.57+	99	1	3	
			71	4	23	44	29	0.56	99	1	0	
			71	4	23	44	29	0.48	99	1	0	
			71	4	23	44	29	0.56	99	1	0	
172	995	23	70	12	4	121	29	2.54	99	1	3	
		32	71	2	5	21	19	0.40	56	0	0	
			71	2	5	21	19	0.80	56	0	0	
			71	2	5	21	19	0.30	56	0	0	
			71	2	5	21	19	1.10	56	0	0	
			71	2	5	21	19	0.05	56	0	0	
		33	71	2	11	22	19	0.96	83	0	0	
			71	2	12	22	19	0.03	93	0	0	
		34	71	2	16	23	29	185.14	94	1	3	
			71	2	16	23	29	18.26	94	1	3	
			71	2	17	23	29	19.14	94	1	3	
			71	2	19	23	29	25.41	94	1	3	
		35	71	2	23	24	29	42.29	94	1	3	
			71	2	23	24	19	0.08	93	0	0	
			71	2	25	24	29	41.51	94	1	3	
			71	2	26	24	29	19.88	94	1	3	
181	1008	36	71	3	1	31	29	16.05	94	1	3	
			71	3	1	31	19	1.25	76	0	0	
			71	3	3	31	19	0.64	56	0	0	
			71	3	3	31	19	0.17	83	0	0	
			71	3	4	31	29	55.90	94	1	3	
		37	71	3	11	32	29	29.96	20	1	3	
			71	3	11	32	29	33.66	30	4	8	
		34	71	2	19	23	59	1.93	77	1	3	
		1013	20	70	11	9	112	29	68.74+	20	6	6
			70	11	10	112	29	68.34+	40	1	6	
22	21		70	11	10	112	29	10.18+	40	1	6	
			70	11	17	113	29	60.85+	40	1	6	
			70	11	17	113	29	3.59+	40	1	6	
			70	11	18	113	29	69.37+	40	1	6	
			70	11	18	113	29	5.27+	40	1	6	
			70	11	18	113	29	6.28+	40	1	6	
			70	11	26	114	19	33.16	90	0	0	
			70	11	28	114	19	0.95	99	0	0	
		23	70	12	3	121	19	1.99	90	0	0	
			70	12	4	121	29	19.05+	20	1	1	
			70	12	4	121	29	24.18+	40	1	6	
		25	70	12	16	123	29	50.27+	40	1	1	
			70	12	17	123	29	2.77+	20	1	6	
			70	12	17	123	29	64.02+	40	1	3	

TABLE 2. LANDINGS IN TONS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LUC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.
181	1013	25	70	12	17	123	19	5.37	90	0	0
182	1050	29	71	1	14	13	19	0.71	64	0	0
		30	71	1	18	14	19	0.59	64	0	0
			71	1	18	14	29	1.06+	64	0	0
			71	1	20	14	19	0.36	77	0	0
			71	1	22	14	19	0.10	56	0	0
			71	1	22	14	19	3.38	56	0	0
		31	71	1	29	15	19	0.44	20	0	0
			71	1	29	15	19	4.63	56	0	0
			71	1	29	15	19	1.11	64	0	0
			71	1	29	15	19	0.10	56	0	0
		32	71	2	2	21	19	0.85	83	0	0
			71	2	3	21	19	0.82	20	0	0
			71	2	3	21	19	0.75	64	0	0
			71	2	5	21	19	1.76	64	0	0
			71	2	5	21	19	1.00	20	0	0
		33	71	2	10	22	19	0.66	20	0	0
			71	2	11	22	19	0.28	51	0	0
			71	2	11	22	19	0.70	56	0	0
			71	2	11	22	19	0.05	56	0	0
			71	2	11	22	19	1.53	56	0	0
			71	2	11	22	19	0.08	56	0	0
			71	2	11	22	19	0.58	64	0	0
			71	2	11	22	19	0.96	64	0	0
			71	2	11	22	19	0.85	64	0	0
			71	2	12	22	19	0.32	77	0	0
			71	2	12	22	19	0.92	20	0	0
		34	71	2	17	23	19	1.15	56	0	0
			71	2	17	23	19	3.50	56	0	0
			71	2	17	23	19	0.08	56	0	0
			71	2	19	23	19	6.85	64	0	0
		35	71	2	24	24	19	2.50	56	0	0
			71	2	24	24	19	0.85	56	0	0
			71	2	25	24	19	3.83	64	0	0
			43	71	4	21	44	2.15+	56	1	3
	1053	23	70	12	2	121	29	38.70+	56	1	6
			70	12	4	121	59	1.24	77	1	3
			70	12	5	121	29	1.00	99	1	3
183	1012	18	70	10	27	105	29	49.96+	40	1	6
			70	10	28	105	29	72.80+	40	1	6
	1017	26	70	12	21	124	59	103.58	56	1	3
			70	12	22	124	19	0.70	56	0	0
			70	12	22	124	19	0.07	56	0	0
191	1063	40	71	4	2	41	29	2.70	99	1	3
		41	71	4	5	42	29	1.73	77	1	3
		42	71	4	14	43	29	1.83	99	1	3
280	870	5	70	8	1	81	29	0.16+	98	1	3
			70	8	1	81	29	0.15+	98	1	3
		6	70	8	8	82	29	0.17+	98	1	3

TABLE 2. LANDINGS IN TONS BY SECTION, LOCALITY AND DATE, 1970-71.

SECT.	LOC.	WEEK	YR.	MO.	DAY	PER.	GEAR	CATCH	CO.	PL.	DISP.
280	870	8	70	8	22	84	29	0.14+	98	1	3
		9	70	8	29	85	29	0.35+	98	1	3
		12	70	9	14	93	29	0.15+	98	1	3
		14	70	9	28	95	29	0.09+	98	1	3
		15	70	10	4	102	29	0.03+	98	1	3
			70	10	4	102	29	0.03+	98	1	3
		31	71	1	29	15	29	1.21+	99	1	1
		2280	13	70	9	25	94	19	0.10	64	0
			70	9	25	94	19	0.12	64	0	0
290	1349	10	70	8	31	91	19	0.14	83	0	0
			70	9	1	91	19	0.08	83	0	0
			70	9	1	91	19	0.20	83	0	0
		12	70	9	18	93	19	0.51	56	0	0
		13	70	9	21	94	19	0.10	83	0	0
			70	9	21	94	19	0.11	83	0	0
			70	9	24	94	19	0.41	56	0	0
			70	9	25	94	19	0.08	83	0	0
		14	70	10	2	101	19	0.19	83	0	0
			70	10	2	101	19	1.05	51	0	0
		15	70	10	9	102	19	0.25	56	0	0
			70	10	9	102	19	0.08	83	0	0
			70	10	9	102	19	0.23	51	0	0
			70	10	9	102	19	0.08	56	0	0
			70	10	9	102	19	0.10	56	0	0
			70	10	9	102	19	0.25	56	0	0
		18	70	10	30	105	19	0.41	56	0	0
		44	71	4	26	45	19	0.60	56	0	0
		45	71	5	6	51	19	0.76	83	0	0
		48	71	5	26	54	19	0.27	83	0	0
			71	5	26	54	19	0.14	83	0	0
		49	71	5	31	61	19	0.06	83	0	0
			71	5	31	61	19	0.10	83	0	0
			71	6	2	61	19	0.30	56	0	0