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of pacific cod
(*Gadus macrocephalus*)
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Canadian trawlers
1951-66

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FISHERIES RESEARCH BOARD OF CANADA
TECHNICAL REPORT NO. 23

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TECHNICAL REPORT NO. 23

LENGTH COMPOSITION OF PACIFIC COD (Gadus macrocephalus)
IN LANDINGS BY CANADIAN TRAWLERS, 1951-66

by

K. S. Ketchen

FISHERIES RESEARCH BOARD OF CANADA
Biological Station, Nanaimo, B. C.

June, 1967

Foreword

The Pacific cod (Gadus macrocephalus) was of minor importance in the Canadian west coast trawl fishery until 1951. Thereafter production increased as did the proportion of cod in the total foodfish landings. By 1966, Canadian landings of cod reached an all-time record of 27.5 million lb and accounted for more than 55% of the total production of trawl-caught foodfish.

In the early years of the cod fishery, the Strait of Georgia accounted for a high percentage of the catch. However, as production increased, the Strait was relegated to minor importance relative to more distant and exposed waters. In recent years, Hecate Strait has become the main area of production and in 1966 accounted for 74% of the Canadian cod catch, followed by the west coast of Vancouver Island (18%), Queen Charlotte Sound (5%) and the Strait of Georgia (2%).

Sampling of commercial landings began around about 1951, but there was not widespread coverage until 1954. The system of sampling has depended in large measure on the geographical pattern of the fishing operation (which varies from year to year) and on the availability of suitable samples. Thus, the distribution and intensity of sampling has varied from year to year. For some areas and seasons a long, continuous series of data is available, but for others the series is short or broken. Differences reflect the sporadic nature of the fishery in some areas and in others the expansion of operations which have brought new grounds into production.

Since the beginning of the cod sampling program, about 300,000 fish have been sampled by the Board's representatives at the main ports of landing. More than 85% of the measurement data are summarized in the present report. The remainder concern areas and seasons in which the fishery is of minor importance.

While the information contained in this report is of limited value in itself, it has been assembled for the purpose of facilitating current analyses of the trends in abundance of cod and important studies of ways and means of establishing a reliable basis for forecasting fishing success.

Methods of measurement and consolidation

(1) At time of sampling cod are measured from the tip of the snout to the extremity of the central caudal fin rays (fork length). The measurements are made to the nearest whole centimeter (e.g. 51.5 to 52.4 = 52 cm).

(2) In accordance with widespread international practice (ICNAF/ICES) the measurement data are then grouped by 3 cm intervals (e.g. 49 to 51 cm = 50 cm; 52 to 54 cm = 53 cm, etc.).

(3) For any particular area in one year, the data are combined by quarters (three-month periods), and the frequency distribution is converted to percentage. This is the form in which the data appear in the present report.

(4) Across the bottom of each table (Table 2.1 et seq.) are shown the total numbers of fish sampled, the average length for the quarter and a calculated average whole (round) weight. The average weight is to be regarded as preliminary, since for lack of better information, it is based on a length-weight formula for one area (Strait of Georgia). It is possible that the length-weight relationship varies from area to area, from season to season and from year to year. Information on such changes must await further field studies.

For present purposes, however, the formula used to convert average length to average weight is as follows:-

$$\text{Log}_{10} W = 3.100 \text{ Log}_{10} L - 2.103462$$

where W is the weight in grams and L is the length in centimeters. Weight in lb is obtained by dividing the weight in grams by 453.5.

Acknowledgments

Much of the material forming the basis of this compilation was collected through the conscientious efforts of Mr. R. M. Wilson, the Station's principal representative at the port of Vancouver. To him and to his assistant, Mr. R. Wowchuk, as well as to various summer workers, goes most of the credit. Assistance in the consolidation of the sampling data was provided by M. Smith, D. Holmberg and D. Chilton.

Table 1. Pacific cod. Summary of average lengths (cm) in commercial landings, by area, year and quarter.

Area	Sub-area	Quarter	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1954-66 mean	
SD Northern Hecate Strait	Two Peaks	1	..	..	..	58.4	62.6	65.1	57.2	61.6	58.5	60.1	61.0	62.0	61.2	56.1	61.1	62.1	60.5	
		2	63.1*	65.0*	..	58.5	61.6	57.5	56.8	60.4	59.7	59.1	61.6	63.3	58.9	57.2	61.9	63.7	60.0	
		3	..	..	..	..	..	..	..	..	62.1	62.6	63.2	64.8	58.9	58.4	63.7	62.7	..	
		4	..	..	..	..	..	..	..	..	..	..	..	..	..	60.9*	63.0*	61.9*	..	
SC Southern Hecate Strait	White Rocks	1	..	..	..	56.8	62.9	62.3	59.3	60.0	61.4	58.6	59.5	60.2	58.9	57.1	58.5	58.5	59.5	
		2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	58.9*	..	58.7*	
		3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	56.8*	57.9*	57.7*	
		4	..	..	..	..	63.7	..	..	58.4	63.3	56.7	58.3	58.7	56.3	52.7	56.3	61.0	60.3	..
SB Goose Island		1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	56.7*	57.6*	64.6*	
		2	*	..	..	..	..	62.1	62.8	..	57.9	57.5	58.3	64.1	59.8	57.9	54.9	58.5	60.5	59.5
		3	..	..	..	..	..	..	..	..	61.6	58.2	57.4	..	56.6	56.2	60.4	62.6	61.8	..
		4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
SA Cape Scott		1	..	..	..	..	..	..	..	..	63.3	..	..	..	62.2	..	..	..	..	..
		2	..	..	..	..	..	69.1	60.0	57.6	60.9	63.2	67.2	71.8	73.0	58.3	56.9	62.3	66.3	63.9
		3	*	*	*	*	..	..	..	58.9	62.5	64.8	70.0	70.4	66.0	61.6	63.6	67.8	..	..
		4	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	..	..
SD Upper West Coast		1	..	..	..	..	..	..	..	59.5	..	..	..	..	63.9	..	..	..	59.7	..
		2	..	..	..	59.3	..	53.6	56.7	62.0	59.2	61.6	63.1	62.2	59.0	57.0	60.9	58.8	59.4	..
		3	..	..	..	60.4	..	54.8	56.3	..	58.6	60.6	..	54.7	..	60.9	60.6	56.6	..	..
		4	..	..	..	..	..	..	..	..	..	62.2	..	..	..	57.9	55.8	..	..	..
SC Lower West Coast		1	..	..	..	..	..	*	*	..	..	..	..	..	*	..	..	62.9	60.0	..
		2	..	..	..	..	..	*	..	..	..	..	..	..	..	..	59.1	61.3	59.1	..
		3	..	..	..	..	..	*	..	..	..	..	..	..	..	..	62.1	63.9	58.8	..
		4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	57.0	61.7	..	..
AB Strait of Georgia	Cape Lazo	1	..	..	..	61.4	60.6	62.0	58.7	54.8	58.8	62.1	58.7	61.6	55.3	56.0	60.1	54.4	58.8	..
		2	*	*	*	..	*	*	..	*	*	*	*	..	*	..	..	..	..	..
		3	..	*	*	*	..	*	*	..	..	..	..	..	..	..	..	..	..	..
		4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nanooze		1	60.1	62.8	60.1	60.5	60.7	58.8	60.1	60.4	57.2	60.8	59.7	58.0	58.0	58.7	59.6	..	59.4	..
		2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gulf Islands		1	50.3	..	55.5	56.5	60.0	52.7	53.9	54.4	55.7	56.5	58.8	50.3	56.5	52.3	57.2	47.9	54.8	..
		2	*	..	*	..	..	..	..	*	..	*	*	*	*	..	..	..	..	..
		3	*	..	*	*	*	*	..	*	*	*	*	..	*	..	..	..	..	..
		4	62.5	..	64.4	60.8	61.9	..	..	56.8	..	61.4	..	56.1	58.3	58.2	62.1	44.8	..	..

NOTE: Where average length is accompanied by an asterisk the basic data do not appear in the tables which follow. An asterisk alone indicates that data are available, but have not been used on this report because of the sporadic or minor nature of the fishery in certain areas.

Table 2.1. Pacific cod - Northern Hecate Strait (Area 5D)
Two Peaks Ground - January to March
Length frequency distribution in per cent

Length group	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1954-66 mean
cm														
41	..	..	..	0.3	..	..	..	..	..	0.7	0.2	..	..	0.4
44	0.2	0.4	..	0.3	..	..	0.6	0.3	..	2.5	2.5	..	..	1.0
47	0.8	0.9	0.6	1.4	..	1.9	1.8	1.2	..	2.9	13.6	..	0.4	2.6
50	5.6	2.8	1.5	3.9	2.0	4.3	0.6	2.5	..	3.0	19.5	3.6	3.1	4.4
53	18.2	3.5	3.0	14.4	2.0	22.5	7.3	6.7	..	3.5	15.9	9.9	7.7	9.6
56	23.7	10.4	6.9	23.5	19.9	21.5	21.8	20.5	..	12.7	13.4	21.4	16.5	17.7
59	22.2	14.7	11.9	27.0	23.8	14.0	24.9	21.5	..	18.6	9.2	20.2	15.1	18.6
62	14.4	22.4	17.9	17.2	18.5	12.1	20.0	17.2	..	18.2	7.4	18.3	16.1	16.6
65	6.6	21.1	15.2	5.3	15.2	12.0	12.7	11.4	..	14.4	5.1	11.7	16.0	12.2
68	4.0	13.8	18.8	3.9	11.9	4.3	4.2	9.0	..	7.6	4.3	7.1	11.2	8.3
71	2.4	7.2	12.2	1.8	3.3	2.9	1.2	5.1	..	6.2	4.0	3.6	7.1	4.8
74	1.3	1.4	6.9	1.1	0.7	1.4	3.6	2.9	..	4.4	2.7	2.3	4.4	2.6
77	0.5	1.1	1.5	..	1.3	1.0	1.2	0.8	..	2.2	1.8	1.7	1.7	1.3
80	0.2	0.1	3.6	..	..	..	0.4	..	..	1.3	0.4	1.0	0.5	0.9
83	..	0.1	..	..	1.3	..	..	0.4	..	0.7	..	..	0.1	0.5
86	..	..	..	..	..	..	..	0.1	..	0.3	..	..	..	0.2
89	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Numbers	1,310	762	335	285	151	209	165	976	..	1,329	447	3,931	954	..
Mean length (cm)	58.4	62.6	65.1	57.2	61.6	58.5	60.1	61.0	(62.0)*	61.2	56.1	61.1	62.1	60.5
Mean weight (lb)	5.19	6.45	7.27	4.88	6.13	5.22	5.68	5.95	(6.26)	6.01	4.59	5.98	6.29	5.80

* A calculated value based on the average relationship between mean length in January-March to that in April-June on the Two Peaks ground.

Table 2.2. Pacific cod - Northern Hecate Strait (Area 5D)
Two Peaks Ground - April to June
 Length frequency distribution in per cent

Length group	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1954-66 mean
cm														
41	..	..	..	0.2	..	..	..	0.2	..	..	..	..	..	0.2
44	0.5	0.4	0.2	4.1	..	0.6	..	1.3	1.1	1.7	1.3	..	0.3	1.2
47	1.5	3.4	4.8	9.3	0.2	4.6	1.7	3.0	5.3	6.4	5.6	1.5	1.5	3.9
50	4.0	5.3	19.5	10.6	1.2	14.2	3.9	3.9	5.3	2.5	14.6	3.6	3.6	7.4
53	14.1	6.2	20.0	11.1	10.9	14.6	11.6	7.2	6.7	8.5	19.2	6.6	6.2	10.9
56	23.1	7.3	11.8	15.0	21.5	12.3	24.2	14.1	5.8	22.9	16.7	14.3	8.0	14.4
59	25.7	16.5	10.6	21.0	23.1	10.1	28.5	19.1	9.3	19.1	13.2	17.7	11.3	16.4
62	16.9	21.2	9.6	13.7	15.3	9.8	13.7	15.7	14.1	19.1	10.7	17.7	14.6	14.9
65	7.7	19.2	8.0	8.5	12.0	8.9	7.3	12.6	15.9	10.6	7.0	14.8	18.2	12.0
68	3.7	10.3	8.9	3.9	8.5	9.7	3.4	9.9	13.3	5.1	5.7	12.1	16.5	9.0
71	1.7	6.0	4.3	1.3	5.2	8.1	2.4	6.6	11.4	3.0	2.3	5.7	10.4	5.5
74	1.1	3.0	1.7	0.9	0.7	3.6	1.6	3.2	5.5	1.3	1.8	3.5	5.8	2.5
77	..	0.9	0.5	0.2	1.0	1.8	..	1.5	3.3	..	1.3	1.1	2.3	1.4
80	..	0.4	..	..	0.2	1.5	0.6	1.1	2.1	..	0.4	0.8	0.8	0.9
83	..	..	..	..	0.2	0.1	1.1	0.7	0.9	..	0.1	0.4	0.4	0.4
86	..	..	..	..	..	0.1	..	0.2	0.1	..	..	0.6	0.1	0.2
89	..	..	..	0.2	..	..	..	0.1	..	..	..	..	..	0.2
Numbers														
Mean length (cm)	809	468	415	461	424	990	182	2,716	913	236	854	840	2,788	..
Mean weight (lb)	58.5	61.6	57.5	56.8	60.4	59.7	59.1	61.6	63.3	58.9	57.2	61.9	63.7	60.0

Table 2.3. Pacific cod - Northern Hecate Strait (Area 5D)
 Two Peaks Ground - July to September
 Length frequency distribution in per cent

Length group	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	
cm														
41	0.4	..	..	..	0.3
44	0.1	0.1	0.1	..	1.9	..	0.5	0.8	
47	1.9	1.6	1.0	..	6.6	2.4	0.7	2.7	
50	9.0	6.8	3.6	4.8	12.7	8.7	3.2	4.2	
53	12.6	8.7	6.3	6.7	13.2	18.6	3.5	10.7	
56	13.8	8.3	7.8	12.4	11.6	22.3	7.0	11.3	
59	9.9	11.6	14.6	9.5	11.4	18.7	13.1	11.8	
62	8.4	17.7	18.2	12.4	9.9	10.5	20.3	11.6	
65	9.8	16.7	17.9	9.5	12.3	7.1	20.4	12.4	
68	11.3	12.5	13.6	11.4	8.4	4.3	15.2	10.3	
71	9.1	6.0	10.2	15.2	5.7	3.7	8.9	9.6	
74	6.8	4.0	3.5	8.6	2.4	1.4	4.5	7.6	
77	3.9	3.4	1.9	3.8	1.5	1.4	1.8	4.3	
80	2.1	1.2	0.5	4.8	0.5	0.5	0.7	1.7	
83	0.8	0.6	0.3	..	0.8	0.3	0.2	0.6	
86	0.1	0.4	0.3	..	0.2	0.2	0.1	0.1	
89	0.1	0.2	0.9	0.2	..	..	0.1	
Numbers	2,536	2,600	2,092	151	888	1,117	1,368	1,756	
Mean length (cm)	62.1	62.6	63.2	64.8	58.9	58.4	63.7	62.7	
Mean weight (lb)	6.29	6.45	6.64	7.18	5.34	5.19	6.80	6.48	

Table 3.1. Pacific cod - Northern Hecate Strait (Area 5D)
White Rocks Ground - January to March
 Length frequency distribution in per cent

Length group	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1954-66 mean
cm														
41	0.7	..	0.3	..	..	..	0.3	0.6	0.3	0.8	0.8	0.1	0.2	0.5
44	1.6	0.3	0.3	1.2	0.1	0.2	1.2	1.0	1.9	3.2	4.1	0.5	1.3	1.3
47	3.9	0.8	2.6	5.6	0.8	1.0	4.3	1.7	4.3	4.2	10.8	2.8	3.9	3.6
50	9.3	2.1	5.8	6.1	4.3	4.2	6.8	5.9	6.4	6.2	16.5	8.9	9.0	7.0
53	22.8	6.3	8.6	12.2	15.7	11.7	13.8	15.2	9.5	13.4	13.9	18.9	15.9	13.7
56	22.1	11.6	12.0	20.1	20.1	16.8	19.1	19.3	15.5	18.1	10.2	21.1	17.5	17.2
59	16.4	17.0	11.4	20.3	18.4	16.0	22.4	17.2	16.0	17.8	8.7	17.6	14.9	16.5
62	9.6	19.2	15.4	12.2	14.4	14.6	14.4	13.5	14.8	14.0	9.8	12.3	16.2	13.9
65	4.9	17.2	10.3	5.2	12.2	13.5	8.3	11.0	11.5	7.6	8.5	7.8	9.6	9.8
68	4.8	14.3	14.0	3.7	8.6	10.9	4.5	6.9	8.3	5.5	7.5	4.0	4.2	7.5
71	2.4	8.4	9.4	5.9	3.4	6.5	2.3	3.8	4.9	3.9	5.0	2.7	3.8	4.8
74	1.0	2.7	5.3	1.9	1.7	3.4	1.1	2.5	3.2	2.1	2.3	1.4	2.9	2.4
77	0.4	0.7	2.3	3.9	0.5	1.3	0.9	0.6	1.7	1.8	1.2	0.9	0.5	1.3
80	..	0.2	1.7	1.7	0.3	0.4	0.6	0.5	0.8	0.5	0.3	0.3	0.2	0.7
83	..	..	0.5	..	..	..	0.2	0.5	0.4	0.5	0.1	0.1	..	0.3
86	..	..	..	..	..	..	..	..	0.4	0.4	0.1	0.1	..	0.3
89	..	..	..	..	..	..	0.1	..	0.1	0.1	0.1	..	..	0.1
Numbers	838	1,372	350	138	1,935	4,002	1,684	1,802	4,907	2,971	2,844	3,973	623	..
Mean length (cm)	56.8	62.9	62.3	59.3	60.0	61.4	58.6	59.5	60.2	58.9	57.1	58.5	58.5	59.5
Mean weight (lb)	4.77	6.54	6.35	5.45	5.66	6.08	5.26	5.51	5.71	5.34	4.85	5.22	5.22	5.51

Table 3.2. Pacific cod - Northern Hecate Strait (Area 5D)
White Rocks Ground - October to December
 Length frequency distribution in per cent

Length group	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
cm													
41	..	..	..	..	0.1	..	0.4	0.2	0.5	2.9	..	0.2	..
44	..	..	..	..	0.6	0.5	0.5	1.1	2.9	8.1	0.1	0.5	0.3
47	0.1	..	..	0.7	1.1	2.0	4.5	5.0	5.7	17.9	1.2	1.8	1.4
50	0.2	..	..	7.3	2.4	14.4	14.6	11.8	14.5	21.2	12.0	7.0	4.1
53	3.0	..	..	18.7	3.8	25.0	19.7	19.4	21.3	17.6	24.6	14.4	13.8
56	7.2	..	..	26.3	8.5	22.0	16.3	16.4	21.7	12.7	24.7	10.5	20.4
59	12.9	..	..	18.0	14.9	15.8	11.0	11.6	12.6	6.9	13.6	11.1	20.0
62	20.2	..	..	8.9	20.0	6.2	10.4	8.6	7.5	5.0	12.7	15.0	12.2
65	24.2	..	..	10.5	20.1	8.2	9.4	7.5	4.8	3.8	5.2	15.5	8.3
68	19.1	..	..	4.6	15.1	2.5	6.8	6.4	3.4	1.9	1.7	12.1	7.0
71	8.1	..	..	2.1	7.0	2.5	3.6	5.2	2.5	1.7	1.7	7.5	6.1
74	3.6	..	..	1.8	4.4	0.8	1.9	2.3	1.6	0.5	1.0	3.1	3.6
77	1.1	..	..	0.5	1.9	0.3	0.7	1.7	0.8	..	0.5	0.9	1.9
80	0.2	..	..	0.5	0.2	..	0.4	1.6	0.3	..	0.1	0.2	0.9
83	..	..	..	0.2	0.1	..	0.4	0.9	0.1	..	..	0.1	..
86	..	..	..	..	..	..	0.1	0.3	..	..	0.1	0.1	..
89	..	..	..	..	..	..	..	..	..	..	..	..	..
Numbers	802	..	..	438	1,439	404	1,962	1,330	1,467	1,266	765	2,116	1,924
Mean length (cm)	63.7	..	..	58.4	63.3	56.7	58.3	58.7	56.3	52.7	56.3	61.0	60.3
Mean weight (lb)	6.80	..	..	5.19	6.67	4.74	5.16	5.28	4.64	3.79	4.64	5.95	5.74

Table 4.1. Pacific cod - Southern Hecate Strait (Area 5C)
Horseshoe and Ole Spot - January to March
Length frequency distribution in per cent

Length group cm	1964	1965	1966
41	..	..	..
44	3.8	..	0.1
47	12.3	1.0	1.0
50	18.8	6.5	2.0
53	15.0	16.8	4.8
56	8.8	28.0	7.5
59	10.8	25.4	10.6
62	9.1	12.6	15.6
65	4.4	6.8	18.7
68	7.3	1.6	17.3
71	4.4	1.1	11.5
74	3.2	0.1	5.6
77	2.1	0.1	2.8
80	..	..	1.8
83	..	..	0.6
86	..	..	0.1
Numbers	341	708	1,735
Mean length (cm)	56.7	57.6	64.6
Mean weight (lb)	4.74	4.98	7.11

Table 4.2. Pacific cod - Southern Hecate Strait (Area 5C)
Horseshoe and Ole Spot - April to June
 Length frequency distribution in per cent

Length group	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1954-66 mean
cm														
41	0.3	1.9	0.3	..	1.6	0.4	0.1	..	0.7
44	3.2	9.0	3.4	..	6.0	2.1	1.7	0.3	0.8
47	2.3	..	..	..	..	..	4.9	6.3	9.8	1.5	3.2	4.8
50	..	0.8	7.2	..	5.7	12.6	9.8	1.1	4.7	7.9	21.1	6.3	4.5	7.4
53	..	3.8	14.6	..	15.9	13.8	12.5	3.9	3.9	11.2	24.0	16.1	8.1	11.6
56	..	13.5	9.7	..	24.5	13.6	17.5	9.8	9.6	15.7	16.3	22.5	15.4	15.3
59	..	28.6	7.6	..	24.7	13.6	21.4	16.8	17.4	21.6	9.8	21.0	18.9	18.3
62	..	15.8	9.0	..	13.9	14.1	16.2	19.9	17.7	16.3	6.2	15.3	17.8	14.7
65	..	20.3	11.3	..	6.1	9.8	10.3	13.2	18.2	10.1	4.5	9.0	13.0	11.4
68	..	7.5	12.2	..	3.3	6.7	5.4	14.8	6.8	4.0	3.3	4.3	9.5	7.1
71	..	6.0	12.2	..	1.9	3.3	1.7	10.4	6.2	2.4	2.1	1.9	5.2	4.8
74	..	1.5	7.4	..	0.4	1.0	1.1	4.8	2.3	1.3	0.8	0.9	2.4	2.2
77	..	0.8	4.2	..	0.2	0.5	0.2	3.6	0.8	0.4	1.1	0.8	0.8	1.2
80	..	0.8	2.1	..	..	..	0.1	1.1	..	0.2	0.1	0.1	0.2	0.6
83	..	0.8	0.2	..	..	..	..	0.3	..	..	..	0.1	0.1	0.3
86	0.3	..	..	..	..	..	0.3
89
Numbers	..	133	433	..	1,043	580	1,658	357	385	2,471	4,723	5,034	4,446	..
Mean length (cm)	..	62.1	62.8	..	57.9	57.5	58.3	64.1	59.8	57.9	54.9	58.5	60.5	59.5
Mean weight (lb)	..	6.29	6.51	..	5.06	4.95	5.16	6.94	5.59	5.06	4.29	5.22	5.80	5.51

Table 4.3. Pacific cod - Southern Hecate Strait (Area 5C)
Horseshoe and Ole Spot - July to September
 Length frequency distribution in per cent

Length group	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
cm													
41	1.0	..	..	..	..
44	0.7	..	3.8	..	..	0.1	0.2
47	6.2	..	10.9	2.6	..	1.1	1.5
50	1.5	6.0	14.9	..	12.0	15.8	3.1	2.4	5.5
53	5.6	24.3	15.1	..	15.2	28.5	14.1	6.0
56	12.3	22.3	16.5	..	10.7	17.3	18.5	9.4
59	27.1	17.4	13.4	..	12.8	14.3	19.7	14.4
62	21.2	12.3	14.1	..	12.7	12.8	17.3	22.8
65	14.5	9.5	10.4	..	10.7	4.1	10.3	18.3
68	10.4	5.5	5.3	..	5.1	2.6	9.9	12.9
71	5.6	1.3	1.5	..	2.6	1.0	4.1	7.2
74	1.1	1.5	1.4	..	1.4	1.0	1.5	3.3
77	0.7	..	0.5	..	0.5	..	1.1	1.3
80	0.3	..	0.2	0.7
83	0.2	..	0.1
86
89
Numbers	269	547	844	..	782	196	545	945	1,232
Mean length (cm)	61.6	58.2	57.4	..	56.6	56.2	60.4	62.6	61.8
Mean weight (lb)	6.13	5.14	4.93	..	4.72	4.61	5.77	6.45	6.19

Table 5.1. Pacific cod - Northern Queen Charlotte Sound (Area 5B)
Goose Island Grounds - January to March
Length frequency distribution in per cent

Length group cm	1958	1959	1960	1961	1962	1963	1964	1965	1966
41
44	0.5	..	..	..
47	1.6	..	..	..
50	..	0.7	..	..	..	3.7	..	..	..
53	..	2.2	..	..	..	4.7	..	..	..
56	..	17.6	..	..	..	11.5	..	..	..
59	..	25.7	..	..	..	23.0	..	..	..
62	..	14.0	..	..	..	25.7	..	..	..
65	..	10.3	..	..	..	13.6	..	..	..
68	..	10.3	..	..	..	4.2	..	..	..
71	..	6.6	..	..	..	1.0	..	..	..
74	..	4.4	..	..	..	2.1	..	..	..
77	..	4.4	..	..	..	2.1	..	..	..
80	..	2.9	..	..	..	1.6	..	..	..
83	..	0.7	..	..	..	2.1	..	..	..
86	1.6	..	..	..
89	1.0	..	..	..
Numbers	..	136	..	..	..	191	..	..	..
Mean length (cm)	..	63.3	..	..	..	62.2	..	..	..
Mean weight (lb)	..	6.67	..	..	..	6.32	..	..	..

Table 5.2. Pacific cod - Northern Queen Charlotte Sound (Area 5B)
Goose Island Grounds - April to June
Length frequency distribution in per cent

Length group	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1954-66 mean
cm														
41	0.1	..	..	..	0.1	0.1	..	0.1	..	(0.03)
44	0.1	0.5	..	..	0.4	0.7	2.0	0.2	0.2	..	0.3
47	..	1.9	..	4.5	2.6	0.6	0.3	0.4	2.7	8.2	3.0	2.7	0.4	2.3
50	..	5.8	2.2	17.0	6.9	2.1	0.3	0.8	7.5	13.5	17.0	4.5	3.6	6.8
53	..	8.7	20.0	19.2	9.2	6.6	1.4	0.9	4.9	12.6	27.4	6.2	6.0	10.3
56	..	5.8	21.5	14.9	11.1	13.5	3.8	1.9	3.2	8.5	18.2	11.1	9.6	10.3
59	..	4.9	23.7	11.5	15.5	18.0	8.3	4.3	2.1	12.0	10.7	14.6	9.5	11.3
62	..	8.7	10.4	11.8	20.3	16.7	15.0	5.0	2.0	15.9	10.2	16.6	9.7	11.9
65	..	4.9	9.6	10.5	13.6	11.5	19.3	7.2	3.0	14.9	5.7	16.1	10.3	10.5
68	..	3.9	3.0	5.6	9.1	11.1	19.1	11.8	3.7	7.8	2.7	14.6	9.6	8.5
71	..	10.8	1.5	2.5	6.2	7.1	13.2	15.8	4.6	2.0	2.3	6.9	12.5	7.1
74	..	15.5	..	1.1	2.5	6.1	8.5	18.0	6.4	0.8	1.4	2.5	11.2	6.2
77	..	8.7	3.7	0.2	1.3	3.5	5.3	15.4	13.2	0.6	0.9	1.5	9.3	5.3
80	..	4.9	3.0	0.7	0.5	1.5	1.9	11.0	16.7	0.5	0.2	1.2	5.7	4.0
83	..	4.9	..	0.2	0.1	1.6	2.0	4.8	14.2	0.3	..	0.7	2.1	2.6
86	..	1.9	0.7	0.1	0.2	0.2	1.1	1.6	10.4	..	..	0.4	0.4	1.4
89	..	6.8	0.7	..	0.1	..	0.4	0.5	3.6	0.3	..	..	0.1	1.0
92	..	1.9	..	0.1	..	..	..	0.1	0.6	..	..	..	..	0.2
95	0.2	..	..	..	..	..
Numbers	..	103	135	927	2,200	1,257	1,237	1,649	1,762	1,987	559	1,683	718	..
Mean length (cm)	..	69.1	60.0	57.6	60.9	63.2	67.2	71.8	73.0	58.3	56.9	62.3	66.3	63.9
Mean weight (lb)	..	8.76	5.65	4.98	5.92	6.64	8.03	9.86	10.38	5.16	4.79	6.35	7.70	6.87

Table 5.3. Pacific cod - Northern Queen Charlotte Sound (Area 5B)
Goose Island Ground - July to September
Length frequency distribution in per cent

Length group	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
cm												
41
44	0.2	..	..	..	..	..	0.1	..	..	..
47	1.9	0.3	..	..	..	0.3	2.5	0.2	..	..
50	8.6	2.4	1.2	0.1	0.9	3.9	8.2	1.2	..	..
53	17.7	10.6	3.3	0.3	1.9	10.9	12.3	7.0	1.0	..
56	23.0	8.4	11.6	0.7	2.8	17.9	12.2	14.7	3.3	..
59	13.5	14.5	14.9	3.5	5.3	13.4	9.0	17.5	7.4	..
62	10.4	22.2	17.4	8.4	4.7	7.2	11.0	15.3	11.5	..
65	11.5	16.1	11.6	15.8	9.6	5.0	14.2	11.6	19.1	..
68	6.4	12.4	14.5	21.5	14.0	4.8	14.0	9.8	20.9	..
71	3.0	6.6	9.5	19.6	20.0	4.8	9.9	8.8	19.3	..
74	1.4	3.7	8.3	12.2	17.9	3.7	4.3	4.7	10.2	..
77	0.6	1.8	2.9	7.6	11.5	6.1	0.8	5.6	3.9	..
80	0.8	1.0	3.3	5.2	7.4	8.0	0.4	2.8	1.4	..
83	0.3	..	0.8	2.7	3.2	7.7	0.7	0.6	1.4	..
86	0.5	..	0.4	1.9	0.9	4.6	0.4	0.1	0.6	..
89	0.2	..	..	0.4	..	1.5	..	0.1	..	..
92	0.4	..	..	..	..
Numbers	627	595	241	1,356	470	1,070	748	1,362	488	..
Mean length (cm)	58.9	62.5	64.8	70.0	70.4	66.0	61.6	63.6	67.8	..
Mean weight (lb)	5.34	6.42	7.18	9.11	9.28	7.60	6.13	6.77	8.26	..

Table 6.1. Pacific cod - Southern Queen Charlotte Sound (Area 5A)
 Cape Scott Ground - January to March
 Length frequency distribution in per cent

Length group	1958	1959	1960	1961	1962	1963	1964	1965	1966
cm									
41	..	..	..	..	..	..	..	..	0.3
44	..	..	..	..	1.3	..	..	..	1.9
47	0.5	..	..	..	3.9	..	..	..	9.4
50	2.6	..	..	..	2.8	..	..	..	8.0
53	14.8	..	..	..	4.6	..	..	..	14.9
56	17.9	..	..	..	9.5	..	..	..	12.6
59	24.0	..	..	..	14.6	..	..	..	11.8
62	16.8	..	..	..	15.8	..	..	..	10.2
65	16.3	..	..	..	10.2	..	..	..	6.2
68	4.6	..	..	..	9.7	..	..	..	7.0
71	2.0	..	..	..	8.1	..	..	..	7.0
74	..	..	..	..	9.0	..	..	..	4.8
77	..	..	..	..	6.1	..	..	..	2.4
80	0.5	..	..	..	2.3	..	..	..	1.3
83	..	..	..	..	1.5	..	..	..	1.9
86	..	..	..	..	0.2	..	..	..	0.3
89	..	..	..	..	0.3	..	..	..	..
Numbers	196	..	..	..	608	..	..	..	373
Mean length (cm)	59.5	..	..	..	63.9	..	..	..	59.7
Mean weight (lb)	5.51	..	..	..	6.87	..	..	..	5.56

Table 6.2. Pacific cod - Southern Queen Charlotte Sound (Area 5A)
Cape Scott Grounds - April to June
Length frequency distribution in per cent

Length group	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1954-66 mean
cm														
41	..	..	0.3	..	..	..	0.1	0.1	0.3	..	0.3	..	0.2	0.1
44	0.5	..	3.4	0.2	..	0.2	1.0	0.7	3.7	2.2	2.9	..	1.4	1.3
47	4.3	..	16.5	4.7	0.5	3.4	4.8	2.7	6.6	11.3	11.0	1.1	3.7	5.9
50	11.8	..	24.3	15.7	3.8	9.3	7.4	4.5	7.1	10.9	13.2	6.3	12.5	10.6
53	8.1	..	17.7	19.9	10.2	16.8	7.4	7.1	5.0	6.9	15.9	13.6	17.6	12.2
56	15.8	..	12.1	19.1	15.0	14.9	12.5	8.5	8.7	8.6	13.7	16.6	15.6	13.4
59	14.4	..	11.9	15.6	16.9	15.8	13.6	13.5	12.4	12.6	12.8	15.5	13.6	14.0
62	21.5	..	7.2	12.2	13.7	13.8	13.4	16.9	11.9	17.9	9.0	14.5	11.0	13.6
65	12.4	..	2.9	6.6	13.8	10.6	10.3	14.8	12.4	13.1	6.8	10.3	6.3	10.0
68	7.2	..	3.1	3.6	11.1	7.1	9.1	11.0	7.7	7.1	5.5	9.4	6.3	7.3
71	1.9	..	0.4	1.3	7.8	4.5	9.3	7.4	7.1	4.6	4.4	4.9	4.7	4.9
74	1.4	..	0.1	0.6	4.7	2.5	4.9	5.5	6.6	2.9	2.2	3.8	2.9	3.2
77	0.5	..	0.1	0.3	1.5	1.3	3.6	3.2	6.1	1.3	1.4	2.2	2.0	2.0
80	0.5	..	..	0.2	0.9	0.3	1.3	2.1	2.1	0.2	0.6	0.9	1.2	0.8
83	..	..	..	(0.03)	0.3	0.1	0.8	1.2	2.1	0.2	0.1	0.8	0.6	0.5
86	0.5	..	..	..	..	..	0.2	0.6	..	0.2	0.2	0.1	0.3	0.2
89	..	..	..	..	..	..	0.1	..	0.3	..	..	..	0.1	..
Numbers	209	..	680	2,527	1,670	1,904	1,414	2,325	379	548	1,801	1,129	2,160	..
Mean length (cm)	59.3	..	53.6	56.7	62.0	59.2	61.6	63.1	62.2	59.0	57.1	60.9	58.8	59.4
Mean weight (lb)	5.45	..	3.98	4.72	6.26	5.42	6.13	6.61	6.32	5.36	4.85	5.92	5.31	5.48

Table 6.3. Pacific cod - Southern Queen Charlotte Sound (Area 5A)
Cape Scott Grounds - July to September
Length frequency distribution in per cent

Length group	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
cm													
41	..	..	..	0.2	..	0.3	..	..	..	..	0.1	..	0.1
44	..	..	2.4	1.8	..	2.1	..	..	6.5	..	0.3	..	1.2
47	0.7	..	9.8	5.5	..	5.1	1.2	..	12.8	..	2.0	..	6.0
50	5.4	..	23.2	13.5	..	10.6	9.7	..	20.8	..	7.5	2.4	15.0
53	17.0	..	21.0	21.8	..	13.8	10.3	..	20.1	..	13.0	18.9	19.4
56	12.9	..	17.4	20.7	..	15.7	15.0	..	13.3	..	13.7	19.8	17.4
59	19.7	..	7.4	12.1	..	13.9	15.6	..	6.5	..	14.6	13.8	16.1
62	14.3	..	7.6	9.8	..	11.7	16.2	..	4.7	..	14.2	10.2	10.9
65	11.5	..	6.3	7.9	..	11.3	12.7	..	5.2	..	10.5	13.2	6.8
68	8.2	..	2.7	4.2	..	7.2	7.1	..	4.2	..	8.7	12.0	4.1
71	5.4	..	0.3	1.8	..	4.9	6.5	..	3.1	..	6.3	5.4	1.5
74	1.4	..	0.8	0.4	..	2.1	2.9	..	1.8	..	4.9	3.3	0.6
77	1.4	..	0.8	0.2	..	1.0	1.2	..	..	..	2.7	0.6	0.6
80	0.7	..	0.3	0.1	..	0.1	0.9	..	0.8	..	1.1	..	0.2
83	1.4	..	..	..	..	0.1	0.3	..	..	..	0.3	0.3	0.1
86	..	..	..	(0.04)	..	..	0.3	..	..	..	0.1	..	..
89	..	..	..	..	..	..	..	..	..	..	0.1	..	..
Numbers	147	..	367	2,027	..	904	339	..	383	..	1,466	334	2,105
Mean length (cm)	60.4	..	54.8	56.3	..	58.6	60.6	..	54.7	..	60.9	60.6	56.6
Mean weight (lb)	5.77	..	4.27	4.64	..	5.25	5.83	..	4.24	..	5.92	5.83	4.72

Table 6.4. Pacific cod - Southern Queen Charlotte Sound (Area 5A)
Cape Scott Grounds - October to December
Length frequency distribution in per cent

Length group	1958	1959	1960	1961	1962	1963	1964	1965	1966
cm									
41	0.9	..
44	7.5	..
47	1.9	..	..	..	..	11.1	..
50	4.6	..	..	..	6.0	6.3	..
53	13.1	..	..	..	21.6	12.2	..
56	13.5	..	..	..	29.0	18.2	..
59	16.2	..	..	..	19.9	19.8	..
62	15.4	..	..	..	11.6	11.1	..
65	8.5	..	..	..	3.7	5.5	..
68	8.1	..	..	..	4.5	3.6	..
71	2.7	..	..	..	1.1	1.2	..
74	5.8	..	..	..	0.9	1.2	..
77	4.2	..	..	..	0.6	0.4	..
80	3.1	..	..	..	0.6	0.4	..
83	1.5	..	..	..	..	..	..
86	1.2	..	..	..	0.3	..	..
89
Numbers	259	..	..	..	352	252	..
Mean length (cm)	62.2	..	..	..	57.9	55.8	..
Mean weight (lb)	6.32	..	..	..	5.06	4.51	..

Table 7. Pacific cod - Upper west coast Vancouver Island (Area 3D)
Quatsino Sound to Nootka Sound - by quarters
 Length frequency distribution in per cent

Length group	January to March			April to June			July to September			October to December		
	1964	1965	1966	1964	1965	1966	1964	1965	1966	1964	1965	1966
cm												
41	..	0.3	1.0	..	..	0.9	..	..	..	..	..	..
44	..	1.1	1.8	1.1	..	1.1	0.1	..	..	..	..	..
47	..	1.3	3.7	5.9	0.8	3.8	0.7	..	2.9	..	..	1.1
50	..	1.3	8.8	11.0	4.8	10.8	4.7	2.0	11.1	..	..	3.9
53	..	4.4	9.8	11.5	8.4	17.0	6.9	7.4	18.7	..	..	13.5
56	..	9.1	12.5	13.2	13.9	14.1	11.2	7.4	18.4	..	..	19.7
59	..	18.6	15.9	12.9	17.8	13.2	15.1	11.5	13.4	..	..	22.5
62	..	19.9	14.0	15.7	20.7	10.9	18.7	23.0	10.4	..	..	11.2
65	..	16.3	12.4	12.4	14.8	8.1	17.6	14.9	9.2	..	..	11.8
68	..	9.9	8.9	7.9	9.0	7.4	13.7	12.8	6.3	..	..	11.2
71	..	8.1	6.1	5.3	4.3	6.6	6.7	9.5	4.8	..	..	3.4
74	..	5.2	2.7	2.0	3.2	3.7	3.2	7.4	3.2	..	..	1.7
77	..	3.6	1.8	0.8	1.7	1.6	1.1	2.0	1.2	..	..	..
80	..	0.8	0.5	0.3	0.5	0.5	0.2	2.0	0.2	..	..	..
83	0.2	..	0.1	0.2	0.1	..	0.2	..	..	..
86	0.1	..	..	..	..	..	..
89
Numbers	..	614	1,731	356	878	2,403	886	148	2,321	..	..	178
Mean length (cm)	..	62.9	60.0	59.1	61.3	59.1	62.1	63.9	58.8	..	..	59.8
Mean weight (lb)	..	6.54	5.65	5.39	6.04	5.39	6.29	6.87	5.31	..	..	5.59

Table 8.1. Pacific cod - Lower west coast Vancouver Island (Area 3C)
Swiftsure and Ucluelet Grounds - January to March
Length frequency distribution in per cent

Length group	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
cm													
41	0.1	..	0.2
44	0.9	0.6	1.4	1.1	0.8
47	3.5	2.3	3.8	5.4	3.8
50	..	0.5	..	..	..	0.6	..	..	6.7	4.6	8.7	9.4	7.2
53	..	2.0	..	..	..	8.2	..	..	14.8	12.0	13.9	19.6	12.7
56	..	4.9	..	..	..	10.6	..	..	20.5	20.6	19.6	17.9	19.9
59	..	12.8	..	..	..	24.1	..	..	16.2	24.2	18.9	15.8	20.5
62	..	17.7	..	..	..	18.8	..	..	17.0	19.6	15.6	11.6	15.4
65	..	17.7	..	..	..	21.2	..	..	11.8	10.9	9.0	7.9	8.8
68	..	20.7	..	..	..	12.4	..	..	4.8	4.0	5.4	5.8	5.9
71	..	10.4	..	..	..	2.9	..	..	2.6	1.1	2.7	2.7	3.2
74	..	7.4	..	..	..	1.2	..	..	0.9	..	0.6	1.5	1.0
77	..	4.4	..	..	..	..	..	..	..	..	0.2	0.9	0.3
80	..	1.5	..	..	..	..	..	..	..	0.3	..	0.3	0.2
83	0.1	..	0.1
86
89
Numbers	..	203	..	..	..	170	..	..	229	350	1,543	660	2,566
Mean length (cm)	..	65.7	..	..	..	61.7	..	..	58.4	58.6	58.1	57.4	58.6
Mean weight (lb)	..	7.49	..	..	..	6.16	..	..	5.19	5.25	5.11	4.93	5.25

Table 8.2. Pacific cod - Lower west coast Vancouver Island (Area 3C)
Swiftsure and Ucluelet Grounds - April to June
 Length frequency distribution in per cent

Length group	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1954-66 mean
cm																	
41	0.3	0.3	..	..	0.1	..	..	0.1	..	..	0.3	0.5	0.4	0.1	..	0.6	0.2
44	1.9	1.2	0.2	0.1	0.1	1.1	0.6	1.1	0.2	..	1.9	3.5	3.5	1.0	1.6	4.4	1.5
47	2.8	2.4	0.2	0.6	1.4	4.3	3.9	3.0	1.4	0.4	3.5	18.0	12.0	4.8	5.3	12.1	5.4
50	4.1	3.1	1.8	3.1	2.8	7.3	11.3	5.8	4.2	2.2	4.3	21.7	20.6	12.8	9.3	15.2	9.3
53	7.2	5.7	4.1	8.9	9.1	9.3	15.1	14.7	8.6	5.6	5.3	11.4	14.2	13.3	11.1	14.5	10.8
56	14.6	9.5	5.6	18.3	15.9	15.0	13.7	20.9	14.1	15.6	8.2	8.5	11.5	14.1	14.9	13.6	14.2
59	18.8	15.0	9.2	20.8	18.5	16.6	14.6	19.5	18.5	18.8	12.6	10.0	12.1	13.5	16.4	11.8	15.7
62	17.0	17.0	14.1	14.6	18.3	15.9	13.4	15.4	20.3	18.4	16.7	10.5	11.5	14.4	14.0	10.0	14.9
65	13.6	17.8	23.1	10.3	13.1	12.8	10.4	7.8	16.9	17.5	18.7	6.8	7.5	10.3	11.3	7.3	11.6
68	9.6	13.4	16.7	7.9	10.5	8.9	8.2	4.6	10.1	11.4	14.0	4.5	3.6	7.8	7.6	4.9	8.0
71	6.1	8.5	10.2	7.0	5.7	4.5	4.9	4.3	3.7	7.2	8.7	2.7	1.8	5.1	4.5	3.2	4.9
74	2.8	4.1	10.3	3.6	2.5	2.2	2.5	2.1	1.2	2.1	4.3	1.3	1.0	2.4	2.6	1.6	2.3
77	0.7	1.6	2.6	3.2	1.0	1.2	0.9	0.4	0.6	0.7	1.3	0.6	0.3	0.5	0.7	0.6	0.9
80	0.3	0.4	1.6	1.0	0.8	0.7	0.3	0.3	0.1	..	0.4	0.1	0.1	0.2	0.3	0.2	0.3
83	..	..	0.3	0.4	0.1	..	0.2	..	..	0.1	..	..	..	0.1	..	0.1	..
86	..	..	..	0.1	0.1	..	..	..	0.1	..	..	..	..	..	..	..	..
Numbers	3,552	919	610	2,083	1,663	2,102	2,891	1,283	2,291	942	2,629	2,501	3,011	1,854	3,088	2,019	..
Mean length (cm)	60.6	62.4	65.3	61.6	61.3	59.9	59.1	58.8	60.8	61.9	62.1	55.1	55.7	58.7	59.1	56.1	59.3
Mean weight (lb)	5.83	6.38	7.34	6.13	6.04	5.62	5.39	5.31	5.89	6.23	6.29	4.34	4.49	5.28	5.39	4.59	5.45

Table 8.3. Pacific cod - Lower west coast Vancouver Island (Area 3C)
Swiftsure and Ucluelet Grounds - July to September
Length frequency distribution in per cent

Length group	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1954-66 mean
cm																	
41	0.1	..	..	..	..	..	..	..	..	..	..	..	0.2	..	..	..	..
44	0.9	..	..	0.1	..	..	..	..	..	..	..	0.3	2.5	..	0.3	0.4	0.3
47	4.4	..	2.3	2.1	0.2	..	1.6	0.4	0.7	0.1	5.5	8.6	14.4	1.4	3.1	3.8	3.2
50	6.0	..	12.9	5.4	3.8	1.8	7.3	4.2	4.4	2.1	12.8	17.7	28.8	5.5	7.4	10.3	8.6
53	4.8	..	20.5	8.2	7.7	5.7	13.8	10.8	8.1	5.8	9.5	18.3	23.6	8.6	11.3	17.0	11.4
56	8.2	..	17.0	16.3	14.8	8.7	15.9	24.2	12.5	12.8	7.6	11.3	13.1	9.1	10.8	16.8	13.4
59	16.8	..	9.2	23.0	16.8	11.9	13.9	24.2	16.8	19.6	10.7	8.1	7.2	10.7	13.6	14.2	14.7
62	18.9	..	7.9	16.2	17.3	16.4	12.7	18.5	18.1	17.4	15.6	11.8	4.5	12.9	18.6	11.5	14.7
65	17.8	..	9.1	9.9	16.4	25.6	12.3	8.4	20.5	17.7	15.0	9.0	4.5	15.3	13.0	11.6	13.8
68	13.2	..	9.2	6.1	9.7	13.5	9.5	4.9	11.2	11.7	12.5	6.0	1.0	14.0	10.9	5.8	9.0
71	5.7	..	6.5	4.7	7.1	9.8	6.9	2.3	5.7	7.9	4.9	4.2	..	10.5	5.5	4.0	5.7
74	2.8	..	3.4	3.1	3.8	5.7	3.8	1.4	1.7	3.7	4.9	2.3	0.2	8.1	3.0	2.5	3.4
77	0.4	..	1.5	2.7	1.1	0.5	1.7	0.6	0.2	1.0	0.3	1.7	..	3.4	1.5	1.3	1.2
80	..	..	0.5	1.2	0.9	0.5	0.4	..	0.1	0.2	0.3	0.3	..	0.6	0.9	0.4	0.4
83	..	..	..	0.4	0.4	..	0.1	0.1	..	..	0.3	0.2	..	0.1	0.1	0.2	0.2
86	..	..	..	0.1	..	..	0.1	..	..	..	..	..	..	0.1	0.1	0.1	..
Numbers	1,016	..	814	2,413	452	438	1,364	1,348	1,305	1,344	327	1,322	403	1,238	800	2,019	..
Mean length (cm)	61.2	..	59.1	60.8	62.0	63.6	60.7	59.3	61.4	62.4	60.4	57.6	53.0	63.3	60.8	58.8	60.4
Mean weight (lb)	6.01	..	5.39	5.89	6.26	6.77	5.86	5.45	6.07	6.38	5.77	4.98	3.85	6.67	5.89	5.31	5.77

Table 8.4. Pacific cod - Lower west coast Vancouver Island (Area 3C)
Swiftsure and Ucluelet Grounds - October to December
 Length frequency distribution in per cent

Length group	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
cm													
41
44	0.3	0.1	..	..	..	..	4.7	..	..	..
47	0.7	4.0	1.9	..	..	2.9	..	10.7	0.5	0.2	..
50	10.3	11.6	6.3	..	..	16.2	..	8.3	4.9	3.4	..
53	16.1	19.9	9.7	..	..	5.1	26.8	..	13.6	9.2	10.2
56	14.1	14.5	14.5	..	..	10.1	19.8	..	14.5	21.8	16.5
59	15.1	15.6	20.2	..	..	26.8	7.0	..	16.9	14.1	17.9
62	13.6	11.1	20.6	..	..	21.7	5.8	..	12.7	13.0	13.4
65	12.7	8.5	14.4	..	..	18.8	9.9	..	9.5	9.8	13.7
68	10.0	5.4	7.7	..	..	10.2	4.1	..	5.0	11.4	12.8
71	3.8	4.3	3.0	..	..	3.6	4.1	..	2.1	10.4	6.4
74	2.4	3.4	1.2	..	..	2.9	3.5	..	1.8	0.5	3.4
77	1.4	1.1	0.3	..	..	0.7	..	..	..	4.4	2.1
80	0.3	0.1	..	..	..	..	..	0.3	..	0.7
83
Numbers	291	352	965	..	138	172	..	338	184	566	..
Mean length (cm)	59.7	58.4	59.9	..	62.1	57.1	..	57.0	61.4	61.7	..
Mean weight (lb)	5.56	5.19	5.34	..	6.29	4.85	..	4.82	6.07	6.16	..

Table 9.1. Pacific cod - Strait of Georgia (Area 4B)
Cape Lazo to French Creek Grounds - January to March
Length frequency distribution in per cent

Length group	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1954-66 mean
cm														
38	..	0.2	..	..	0.2	..	..	0.3	..	..	0.2	..	..	0.1
41	..	1.8	..	0.3	0.4	0.6	..	2.1	1.1	2.6	5.1	..	..	1.1
44	0.8	4.3	..	2.5	5.7	2.1	1.5	1.4	2.2	12.6	10.0	3.6	18.0	5.1
47	3.1	4.0	1.5	8.5	19.4	3.6	3.1	3.8	2.0	17.6	4.5	9.5	23.5	8.0
50	4.9	3.2	2.3	7.8	22.8	4.9	2.4	13.5	4.4	10.0	8.7	8.3	12.8	8.2
53	9.8	5.7	8.0	9.0	8.1	13.5	2.4	13.2	7.0	7.3	9.1	3.6	5.1	7.8
56	16.0	11.5	12.8	15.9	7.8	16.9	11.4	14.6	11.1	7.1	19.8	9.5	5.5	12.3
59	15.4	16.4	21.7	17.4	9.5	20.5	16.5	11.5	12.8	13.1	14.5	13.1	10.6	14.8
62	14.4	16.1	14.8	12.6	9.7	16.0	19.7	10.8	16.3	7.6	11.4	20.2	7.8	13.7
65	11.1	12.5	12.2	10.3	5.6	11.1	19.3	8.0	17.5	9.2	7.0	8.3	9.2	10.9
68	7.8	11.2	12.5	7.9	5.7	6.2	13.8	9.7	11.9	6.0	4.7	7.2	3.7	8.3
71	7.7	6.7	6.5	4.6	2.5	2.6	5.5	4.9	7.1	3.7	2.3	8.3	2.8	5.0
74	3.8	3.1	6.1	1.5	1.8	1.1	2.8	4.5	3.8	2.1	0.9	7.2	0.5	3.0
77	2.3	2.4	0.8	0.9	0.6	0.7	1.2	0.7	2.2	0.8	0.9	1.2	0.5	1.2
80	1.9	0.6	0.8	0.2	..	..	..	1.0	0.4	0.3	0.7	..	..	0.5
83	0.8	0.3	..	0.6	..	..	0.4	..	0.2	..	0.2	..	..	0.2
86	0.2	..	..	..	0.2	0.2	..	..	..	..	..	..	..	..
89	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Numbers														
Mean length (cm)	61.4	60.6	62.0	58.7	54.8	58.8	62.1	58.7	61.6	55.3	56.0	60.1	54.4	58.8
Mean weight (lb)	6.07	5.83	6.26	5.28	4.27	5.31	6.29	5.28	6.13	4.39	4.56	5.68	4.18	5.31

Table 9.2. Pacific cod - Strait of Georgia (Area 4B)
Nanose Bay Ground - January to March
 Length frequency distribution in per cent

Length group	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1954-66 mean
cm																	
38	..	..	..	..	..	..	..	..	..	..	..	0.1	..	0.1	..	..	..
41	0.1	..	..	..	..	1.2	..	0.2	0.5	0.4	0.2	0.7	0.2	0.6	0.4	..	0.4
44	1.3	..	0.9	0.2	1.0	3.7	0.4	2.2	1.1	1.3	2.7	2.2	3.1	4.7	1.5	..	2.0
47	3.5	1.1	9.8	1.1	3.2	4.9	0.8	5.2	2.6	4.9	4.1	6.5	9.4	7.1	3.7	..	4.5
50	5.4	1.4	11.3	5.6	5.5	5.7	4.3	4.3	6.2	5.3	6.4	8.3	9.4	7.0	6.3	..	6.2
53	10.4	5.1	7.1	11.7	11.2	10.2	8.6	4.8	16.1	5.4	8.9	10.0	9.9	8.8	11.3	..	9.7
56	16.1	7.8	6.5	18.0	11.8	17.6	18.7	12.3	24.9	9.5	12.4	16.0	12.7	13.1	15.3	..	15.2
59	17.2	20.5	10.5	18.4	16.9	16.7	26.8	17.3	23.5	18.2	18.4	19.7	15.9	17.5	17.4	..	18.9
62	16.8	22.6	15.6	15.7	18.7	15.0	17.6	20.9	14.7	20.1	18.6	19.5	16.9	14.1	16.1	..	17.3
65	10.9	17.5	17.9	9.0	10.7	10.0	9.0	13.9	5.5	17.1	12.5	8.4	12.0	11.8	12.0	..	11.0
68	9.1	10.5	8.3	9.8	9.2	8.4	6.6	10.6	2.5	9.8	7.7	5.3	5.6	6.9	7.8	..	7.5
71	4.3	6.5	6.3	5.7	6.5	3.1	3.8	5.5	1.6	5.1	5.5	1.9	2.8	5.1	4.1	..	4.2
74	3.7	4.3	3.3	2.7	3.7	2.3	2.5	2.3	0.6	2.4	1.7	1.0	1.6	2.3	2.4	..	2.1
77	0.8	2.4	2.1	1.6	0.7	0.4	0.9	0.4	0.2	0.4	0.8	0.4	0.4	0.5	1.3	..	0.7
80	0.3	0.3	0.4	0.5	0.4	0.4	..	0.1	..	0.1	0.1	..	0.1	0.1	0.2	..	0.2
83	0.1	..	..	..	0.5	0.4	..	..	..	..	..	..	..	0.3	0.2	..	0.1
86	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
89	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Numbers	698	371	563	710	678	611	555	897	864	1,068	1,062	1,045	1,410	1,246	460	..	..
Mean length (cm)	60.1	62.8	60.1	60.5	60.7	58.8	60.1	60.4	57.2	60.8	59.7	58.0	58.0	58.7	59.6	..	59.4
Mean weight (lb)	5.68	6.51	5.68	5.80	5.86	5.31	5.68	5.77	4.88	5.89	5.56	5.08	5.08	5.28	5.53	..	5.48

Table 9.3. Pacific cod - Strait of Georgia (Area 4B)
Gulf Islands Grounds - January to March
Length frequency distribution in per cent

Length group	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1954-66 mean
cm																	
38	1.1	..	..	..	..	..	..	..	0.1	..	0.2	3.1	1.6	3.3	..	0.5	0.7
41	8.8	..	3.5	0.2	(0.04)	2.2	0.9	0.3	0.5	0.1	1.3	13.3	1.7	6.1	0.4	14.5	3.2
44	23.6	..	12.8	3.0	0.4	17.4	8.9	4.6	4.3	2.6	9.7	23.3	4.7	17.1	0.8	33.8	10.0
47	23.7	..	18.7	8.6	3.0	24.9	17.7	17.3	13.0	16.6	11.8	18.6	7.6	18.7	3.5	25.7	14.4
50	13.4	..	12.6	14.2	8.1	12.7	12.5	25.4	12.2	18.6	4.2	6.6	11.9	9.8	15.8	7.5	12.3
53	5.5	..	6.1	19.0	10.4	6.9	13.4	11.3	13.3	11.1	4.2	2.7	15.3	7.3	18.2	2.1	10.4
56	4.3	..	3.5	17.3	17.1	8.7	15.4	7.9	16.2	6.7	5.5	7.5	9.3	7.8	14.2	1.6	10.4
59	4.7	..	6.4	13.4	17.1	8.5	15.0	9.8	17.0	9.1	14.6	9.0	13.6	8.3	19.8	3.8	12.2
62	4.8	..	10.2	9.1	14.6	5.5	8.2	10.9	11.2	11.9	16.3	6.4	14.0	7.8	10.7	3.8	10.0
65	3.8	..	8.7	4.4	11.9	4.7	4.8	5.3	6.3	10.6	13.3	4.0	11.4	6.1	8.7	3.8	7.3
68	2.3	..	7.6	3.6	8.3	3.2	1.1	3.9	3.0	7.4	6.3	1.9	4.2	4.3	4.3	2.1	4.1
71	1.9	..	6.1	3.9	4.4	2.7	1.1	1.8	1.4	2.5	5.1	2.1	3.0	1.7	2.0	0.5	2.5
74	1.2	..	2.0	1.1	2.4	0.8	0.5	1.0	0.7	1.6	4.2	1.2	1.7	1.3	1.6	0.3	1.4
77	0.6	..	..	1.4	1.5	0.9	..	0.3	0.4	0.8	2.5	..	..	0.3	..	..	0.6
80	0.2	..	1.2	0.3	0.5	0.8	0.5	0.2	0.3	0.1	0.8	0.3	..	0.1	..	..	0.3
83	0.1	..	0.6	0.5	0.2	0.1	..	..	..	0.3	..	..	..	..	..	..	0.1
86	..	..	..	..	0.1	..	..	..	0.1	..	..	..	..	..	..	..	..
89	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Numbers	3,209	..	343	659	2,076	786	440	622	1,748	1,186	474	777	236	1,430	253	373	..
Mean length (cm)	50.3	..	55.5	56.5	60.0	52.7	53.9	54.4	55.7	56.5	58.8	50.3	56.5	52.3	57.2	47.9	54.8
Mean weight (lb)	3.28	..	4.44	4.69	5.65	3.79	4.06	4.18	4.49	4.69	5.31	3.28	4.69	3.70	4.88	2.81	4.27

Table 9.4. Pacific cod - Strait of Georgia (Area 4B)
Gulf Islands Grounds - October to December
Length frequency distribution in per cent

Length group	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
cm																
38	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13.0
41	0.6	..	..	0.1	0.8	..	..	0.2	..	..	..	2.8	3.3	2.0	..	35.4
44	1.0	..	1.7	0.8	1.3	..	..	3.4	..	2.5	..	14.3	8.5	6.2	4.1	27.0
47	1.0	..	3.3	1.9	0.8	..	..	6.7	..	2.5	..	16.1	6.2	5.7	2.7	9.8
50	5.7	..	1.7	4.9	3.7	..	..	9.9	..	2.2	..	5.1	1.5	4.5	3.4	2.8
53	9.1	..	1.7	11.0	7.9	..	..	14.3	..	6.4	..	2.4	3.8	11.9	2.7	0.4
56	15.6	..	8.4	18.3	13.2	..	..	23.9	..	11.4	..	4.4	14.1	20.5	8.2	2.4
59	12.6	..	15.8	16.8	18.2	..	..	17.5	..	20.8	..	11.6	22.1	14.8	23.1	2.4
62	10.2	..	17.5	13.3	12.9	..	..	10.7	..	17.9	..	23.2	20.3	6.6	15.6	2.4
65	9.9	..	17.5	11.9	12.9	..	..	5.4	..	12.8	..	11.3	8.2	9.8	10.9	1.7
68	10.8	..	7.5	7.1	14.0	..	..	3.6	..	10.3	..	5.5	3.8	7.8	10.2	0.4
71	9.9	..	3.3	5.6	6.9	..	..	1.8	..	8.5	..	2.0	2.6	5.3	11.6	0.4
74	6.1	..	8.3	4.2	3.2	..	..	2.0	..	3.8	..	0.3	3.5	3.7	4.1	1.1
77	4.7	..	8.3	2.2	1.8	..	..	0.4	..	0.7	..	0.3	0.9	0.4	1.4	0.4
80	1.8	..	2.5	1.5	1.6	..	..	..	..	..	..	0.7	1.2	0.8	2.0	0.4
83	1.0	..	2.5	0.3	0.8	..	..	0.2	..	..	..	..	..	..	..	..
86	..	..	..	0.1	..	..	..	..	..	0.2	..	..	..	..	..	..
89	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Numbers	507	..	120	1,231	379	..	..	447	..	447	..	293	340	244	147	285
Mean length (cm)	62.5	..	64.4	60.8	61.9	..	..	56.8	..	61.4	..	56.1	58.3	58.2	62.1	44.8
Mean weight (lb)	6.42	..	7.03	5.89	6.23	..	..	4.77	..	6.07	..	4.59	5.16	5.14	6.29	2.29