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FOR THE

NORTHWEST ATLANTIC FISHERIES



SAMPLING YEARBOOK

VOLUME 15

for the year 1970

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PREFACE

This volume of the Sampling Yearbook contains length, age and weight data for cod, haddock, redfish, silver hake, herring, American plaice, Greenland halibut, witch, yellowtail, pollock, white hake, red hake, argentine and butterfish, and a listing of available data on *Gadus ogac*, *G. sarda* (polar cod), Arctic char, sea scallops and squid, all collected during the calendar year 1970 in the ICNAF Area. These data were contributed by Canada, Denmark, France, Fed. Rep. Germany, Japan, Poland, Portugal, Spain, USSR, UK and USA. Also included are herring length and age data from a non-member country for the years 1967 to 1970.

Presentation of the length and age data for all species, except herring, follows the 1964 recommendation of the Sampling Subcommittee (*Redbook* 1964, Pt. I, p.36-37):

- a) that length composition data be reported as numbers per mille by month, division, gear and vessel category, and that they be broken down by sex for redfish and species of flounders and also by 50-fathom depth zones for redfish. Other items of relevant information should be reported and published in accordance with earlier recommendations (*Redbook* 1962, Pt. I, p.39-41). The importance of continuing to supply data on the number and weight of fish measured and the number and weight of fish caught or landed in the sampled fishery is particularly stressed.
- b) that age data for cod and haddock be reported and published in the form of age-length keys on actual numbers basis, grouped by quarters, division, gear and vessel category. For other species, age composition data should be reported as numbers per mille as in the past.
- c) that when both length and age composition data are available for cod and haddock, they should be reported and published in a composite, tabular form called age-length table which consists of:
 - (i) the age-length key, in actual numbers, of the composite quarterly age samples,
 - (ii) the length composition, in per mille, of the composite monthly length samples, and
 - (iii) the age composition of landings in each month of the quarter by using the age-length key to calculate the proportion of ages in each length group in the composite length compositions.

Presentation of the length and age data for herring follows the 1969 recommendation of the Statistics and Sampling Subcommittee (*Redbook* 1969, Pt. I, p.50):

- a) that herring length data be published by country and by month for all ICNAF divisions, except Division 5Y for which the data be presented for a northern subdivision (from the Maine/New Brunswick border to the Maine/New Hampshire border) and for a southern subdivision (from Maine/New Hampshire border to Cape Cod);
- b) that herring lengths be published in cm to the cm below;
- c) that the herring sampling data not be reported by gear or vessel category;
- d) that the herring age-length keys be published by quarters for Divisions 4X, 5Y and 5Z only, on a trial basis, with frequent review.

In accordance with the requirements of the Statistics and Sampling Subcommittee (*Redbook* 1968, Pt. I, p.69-70), information on length and age data collected by countries but not reported on ICNAF sampling forms is presented in tabular form in the section on "Notes on Sampling Data".

The Appendix contains two tables showing, for each major species, division, country and gear, the numbers of fish sampled for length and age in relation to total catch for the years 1969 and 1970 (*Redbook* 1970, Pt. I, p.71). These data are summarized to show the "sampling efficiency" by country, gear and subarea in Tables A and B, which follows the section "Notes on Sampling Data".

The Secretariat is grateful to those scientists who have continued to support the Commission's needs for more and adequate sampling of the Northwest Atlantic fisheries with a view to providing better assessments of the state of the stocks and the effects of the fisheries and regulatory measures upon them.

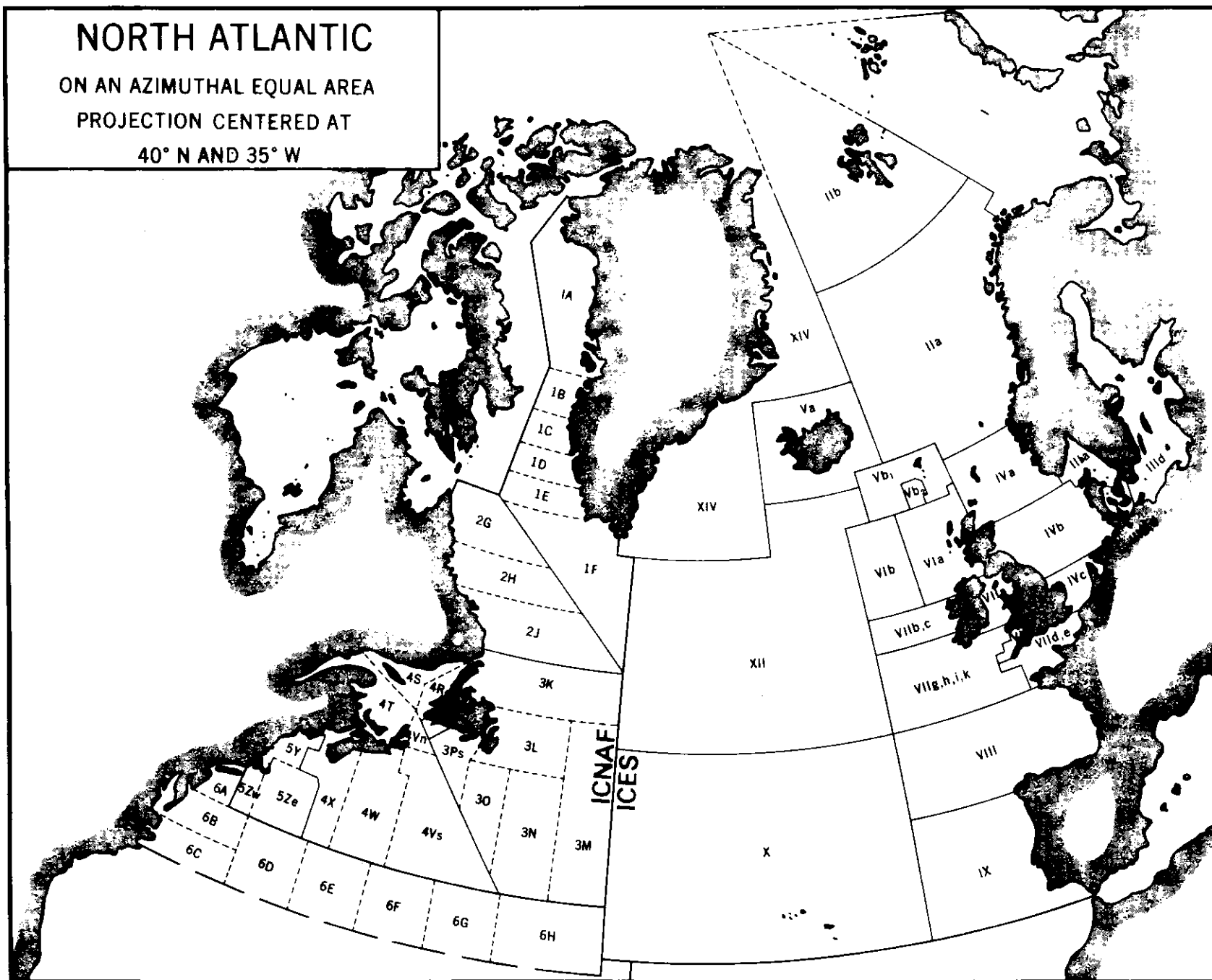
This volume of the Sampling Yearbook was produced in the Secretariat largely through the efforts of Mrs E. R. Cornford and Mrs V. C. Kerr who prepared the tabular material and Mr G. Moulton who did the multigraphing.

NORTH ATLANTIC

ON AN AZIMUTHAL EQUAL AREA

PROJECTION CENTERED AT

40° N AND 35° W



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NOTES ON THE SAMPLING DATA

The following notes on sampling, contributed by the reporting countries, contain information relating to the methods of collection and presentation of the length and age data. The notes also contain tabular information on length and age data which were collected by some countries but not reported on ICNAF sampling forms.

CANADA (Maritimes)

Reported by: A.C. Kohler, D.N. Fitzgerald

Commercial landings of groundfish in the provinces of Nova Scotia, New Brunswick and Prince Edward Island have been continuously sampled for size and age composition since 1945. Sampling emphasis has been placed on landings by offshore vessels at the largest groundfish ports, but has also included sampling from the inshore fleets. Length frequencies from routine sampling of the commercial catches and landings are reported to ICNAF. Age-frequency data are collected for most species but are not reported. Length frequencies by sex are usually given for redfish, American plaice, yellowtail, witch and winter flounder.

Landings of cod and haddock are normally culled by market category. Cod are divided into large (over 10 pounds, fresh gutted weight) and medium (2½ to 10 pounds). Small cod and haddock are mainly less than 2½ pounds. Small round haddock are sometimes landed in a separate market category. These market categories are usually sampled approximately in proportion to the relative numbers of each in the landed catch. When the weight of the landed catch becomes available, the length frequency of the landing is determined by applying weighing factors to each category. Other species reported are not usually culled by market category.

Length frequencies of haddock landings from the Bay of Fundy part of Division 4X differ markedly from those from the offshore banks, and these are reported separately as follows: (1) the area north of latitude 44°00'N, and (2) the area south of latitude 44°00'N.

Fork length measurements are recorded to the nearest centimetre. These are reported by 3-cm groups for cod and pollock, 2-cm groups for haddock, white hake and cusk, and 1-cm groups for redfish and flounders.

Actual mesh sizes of codends used by trawlers on the trips sampled are not available. The usual designation of mesh size for trips sampled is "large" for sizes of approximately 114 mm and "small" for sizes of approximately 76 mm, the latter being used for redfish trips only. Various brands and kinds of synthetics are used. Manila otter trawls have become obsolete. Hook size is given by number, No. 6/0 being the smallest commercial groundfish hook and No. 14 being the largest hook used on longlines.

CANADA (Newfoundland)A. Groundfish

Reported by: A.T. Pinhorn, R. Wells, T. Collier

Length frequencies are based on samples obtained from the landings of the commercial groundfish fishery. Research samples from Labrador are taken on commercial gears operated from a small research vessel.

Measurements are recorded to the nearest centimetre for fork lengths of cod, haddock and redfish, and for total lengths of flounders (American plaice, witch and yellowtail). Measurements are made on shore before appreciable culling has occurred in the processing plants. Samples of landing after discard indicate that some of the catch was discarded at sea prior to landing, whereas samples of landing before discard indicate that no fish were thrown away before landing. The sample frequencies are converted to numbers per mille, but are otherwise unadjusted.

For trawls the mesh size is designated as "large" or "small", the latter being permitted only for redfish fishing in the southern part of Subarea 3 and westward. For gillnets and traps the approximate mesh sizes are given in inches. For handlines and longlines hook sizes are given by number.

The following table gives the number of pairs of otoliths collected for ageing during the course of sampling the commercial landings of groundfish in 1970. Length frequencies, corresponding to the listed age samples, are included in the length frequency tables.

Div	Gear	Month	Pairs of Otoliths
<u>COD (Commercial)</u>			
3K	Trap	Jun-Jul	610
	Jig.	Jun-Jul	244
	LL	Jun-Jul	292
	GN	Jun-Jul	253
3L	Trap	Jun-Jul	529
	GN	Jun-Jul	1059
	HL	Jul	186
	OT	May	200
	OT	Nov	200
30	OT	Aug	200
3Ps	Trap	Jun-Jul	707
	GN	May	211
	GN	Jun-Jul	404
	LL	Aug	172
	OT	Feb	188
3Pn	LL	Mar	354
4R	Trap	Jun	231
	LL	Jun	188
	GN	Jun-Jul	118

Div	Gear	Month	Pairs of Otoliths
<u>HADDOCK (Commercial)</u>			
3Ps	OT	Feb	203
<u>AMERICAN PLAICE (Commercial)</u>			
3L	OT	Feb	212
	OT	May	204
	OT	Nov	418
3N	OT	Aug	200
30	OT	Aug	200
3Ps	OT	Feb	201
<u>YELLOWTAIL (Commercial)</u>			
3L	OT	May	200
<u>GREENLAND HALIBUT (Commercial)</u>			
3K	GN	Jul	179

Jig. = Jigger; GN = gillnet; LL = longline;
HL = handline; OT = otter trawl

B. Herring

Reported by: V.M. Hodder, R. Chaulk

The commercial herring fishery in Newfoundland has been sampled for size and age composition since 1965. Sampling emphasis has been placed on the catches of purse seiners landed at the major ports along the south coast of Newfoundland where most of the herring are caught. Purse seine catches are not culled and, consequently, there are no discards of small fish. The catches are sampled during the unloading of the vessels while the herring are in a relatively fresh condition.

In the Newfoundland area two or more distinct herring stocks may be exploited within the same ICNAF Division and the combining of data for these stocks is not very meaningful. In Div. 3Ps length compositions are reported separately for two areas: (1) Burgeo to Pass Island, and (2) Fortune Bay. In Div. 4R (west coast of Newfoundland) length compositions are reported for three areas: (1) Bonne Bay, (2) Hawke's Bay, and (3) St. Georges Bay.

Measurements are total lengths tabulated to the $\frac{1}{2}$ cm below; *i.e.* all fish whose actual total lengths fall within the range 30.0 to 30.9 cm are tabulated as 30 cm. Mean lengths were calculated directly from the length frequencies and mean weights were obtained by applying the appropriate length-weight curve for each stock to the corresponding frequencies.

Otoliths samples for age determinations are collected routinely during the course of sampling for lengths, but these data are not reported to ICNAF.

C. Salmon

Reported by: A.W. May

Commercial samples of Atlantic salmon collected during 1970 are as follows:

Div	Gear	Month	Lengths & Scales
1B	DGN	Sep	7
	SGN	Sep	25
1D	SGN	Sep-Nov	61
2J	SGN	Jun-Jul	334
3K	SGN	Jun-Jul	578
3L	SGN	May-Jul	23
	SGN,TR	Jun	541
3Pn	DGN	May-Jun	1121
	SGN	May-Jun	155

Div	Gear	Month	Lengths & Scales
4R	OT	Jul	1
4T	SGN	Jun	252
	DGN	Jun	133
	TRN	Jun	42
4X	SGN	Jun	10
	DGN	Jun-Jul	134

OT = otter trawl
DGN = drift gillnet
SGN = set gillnet
TR = trap
TRN = trap net

DENMARK (Greenland)

Reported by: Sv. Aa. Horsted

Length measurements are made of total length (end of tail lobes) and are reported to the centimetre below.

The following table presents data on measurement of capelin, Atlantic salmon, Queen crab and shrimp in 1970:

Div	Gear	Month	Number measured
<u>CAPELIN</u> (<i>Mallotus villosus</i>)			
1B	LN	Jun	300
	LN	Jul	300
1D	LN	May-Jun	1274
	LN	Jul	150
	PT	Jan	82
	PT	Apr-Jun	22
	PT	Jul	10
	PT	Dec	14
1F	PT	Feb	6
	BS	Aug	1

SALMON (*Salmo salar*)

1A	DN	Aug-Sep	2062
1B	DN	Aug	244
	GN	Oct	51
1A-B	DN	Oct	63
	GN	Oct	7
1C	GN	Sep	50
1D	NK	Jul-Aug	83
1E	DN	Sep	800
2G	Hook	Mar	187
NK	DN	Sep	272
	NK	Sep	55

Div	Gear	Month	Number measured
<u>SHRIMP</u> (<i>Pandalus borealis</i>)			
1B	PT	Jun	1
1C	PT	Jun	1
	PT	Jul	3
1D	PT	Jan	2
	PT	Apr-Jun	13
	PT	Jul	1
	PT	Dec	1
1E	PT	Mar	1
	PT	Nov	1
1F	PT	Feb-Mar	2

QUEEN CRAB (*Chionoecetes opilio*)

1B	PT	Jun	834
1D	PT	May	557
	PT	Dec	344

LN = landing net
BS = beach seine
DN = drift net
GN = gillnet
PT = prawn trawl with 18 mm mesh
NK = not known

FRANCE (St. Pierre and Miquelon)

Reported by: J. Morice

All species are measured as total length and recorded to the centimetre below for species greater than 20 centimetres.

GERMANY (Federal Republic)

Reported by: A. Meyer

Length measurements are made of the total length (end of tail lobes) and recorded to the centimetre below.

ICELAND

No fishing in ICNAF area.

ITALY

No fishing in ICNAF area.

JAPAN

Reported by: I. Ikeda

Samples were collected from the exploratory catches in the spring and commercial catches in the summer and autumn.

Length measurements are fork lengths for fish with forked caudal fins and total lengths for others. For squid the mantle length was measured.

Data on cod, redfish, silver hake, herring, American plaice, witch, white hake, argentine, butterflyfish, alewife, shad, mackerel and squid are reported.

NORWAY

No data submitted.

POLAND

Reported by: E. Stanek, B. Draganik

Measurements are made of the total length to the nearest centimetre. The measuring board is offset 0.5 cm to permit measuring to the nearest centimetre.

Data are reported for cod and herring.

PORTUGAL

Reported by: R. Monteiro

Length measurements are made of total length and recorded to the nearest centimetre.

ROMANIA

No data submitted.

SPAIN

Reported by: M.G. Larrañeta, J. Rucabado

Length measurements are made of the total length (end of tail lobes) and are recorded to the centimetre below.

UNION OF SOVIET SOCIALIST REPUBLICS

Reported by: K.G. Konstantinov, A.S. Noskov,
V.A. Richter, A.P. Senina

Length measurements are made of the total length and recorded to the nearest centimetre.

UNITED KINGDOM

Reported by: C. Whiting, A. Callan

Measurements are made of the total length to the centimetre below.

UNITED STATES

Reported by: H.C. Boyar, V. Anthony, F.A. Dreyer

The length measurements were made of the fork length to the nearest centimetre for cod and haddock and to the nearest millimetre for redfish and herring. For scale and otolith samples, measurements are made to the nearest millimetre.

EFFICIENCY OF SAMPLING

In order to assess the adequacy of sampling the various fish stocks for length and age by the countries fishing in the Northwest Atlantic, the Statistics and Sampling Subcommittee recommended in 1970 that tables be prepared showing for each species, division, country and gear the number of fish sampled for length and age in relation to total catch (*Redbook* 1970, Pt. I, p.71). Data for the years 1969 and 1970 are presented in the Appendix.

Tables A and B present summaries of the 1969 and 1970 data in terms of the sampling efficiency by country and subarea. The "sampling efficiency" is defined as the ratio of "number measured" to "product of the catch in '000 tons times 200". Sampling efficiency values less than 1.0 indicate that the minimum ICNAF sampling requirement (200 length measurements for each 1000 tons of a species caught) has not been carried out.

Table A. Summary of sampling in relation to catch for 1969 by species, country, gear and subarea.

Species	Country	Gear	Catch ('000 tons) by Subarea with sampling efficiency in parentheses						Total
			1	2	3	4	5	6	
Cod	Can (M)	OT	-	-	3(-)	56(0.9)	5(0.9)	-	64 (0.8)
		LL	-	-	-	15(0.7)	1(-)	-	16 (0.7)
		HL	-	-	-	12(-)	-	-	12 (-)
		GN	-	-	-	13(0.1)	-	-	13 (0.1)
		Oth	-	-	-	10(0.3)	-	-	10 (0.3)
		Total	-	-	3(-)	106(0.6)	6(0.8)	-	115 (0.6)
	Can (N)	OT	-	+	24(1.2)	9(-)	-	-	33 (0.9)
		LL	-	+	14(2.1)	4(-)	-	-	18 (1.6)
		HL	-	+	12(0.9)	2(-)	-	-	14 (0.8)
		GN	-	2(1.5)	26(2.3)	11(1.7)	-	-	39 (2.1)
		Oth	-	3(5.1)	65(1.1)	7(1.6)	-	-	75 (1.3)
		Total	-	5(3.7)	141(1.4)	33(0.9)	-	-	179 (1.4)
	Den (G)	Mix	24(4.9) ¹	-	-	-	-	-	24 (4.9) ¹
	Den (F)	Mix	18(-)	2(-)	19(-)	-	-	-	39 (-)
	Fr (M)	OT	25(-)	30(-)	33(-)	17(-)	-	-	105 (-)
	Fr (SP)	OT	-	-	1(61.)	1(39.)	-	-	2 (50.)
		Oth	-	-	1(14.)	-	-	-	1 (14.)
	Ger (FR)	OT	79(0.9) ²	72(-)	+	+	+	-	151 (0.5) ²
	Norway	OT	3(-)	3(-)	-	-	-	-	6 (-)
		LL	15(0.4) ³	4(-)	26(-)	-	-	-	45 (0.1) ³
Poland	OT	+	62(1.3)	14(-)	+	+	+	77 (1.0)	
Portugal	OT	13(1.2)	66(0.1)	61(0.1)	2(-)	-	-	142 (0.2)	
	DV	2(-)	-	38(-)	-	-	-	40 (-)	
Romania	OT	-	3(-)	-	-	-	-	3 (-)	
Spain	OT	2(-)	33(-)	31(-)	4(-)	-	-	70 (-)	
	PT	22(-)	-	140(0.6)	41(0.5)	14(-)	-	217 (0.5)	
USSR	OT	-	131(2.8) ³	57(1.1) ³	3(-)	+	-	191 (2.2) ³	
UK	OT	1(8.7)	2(12.)	3(2.0)	-	-	-	6 (6.5)	
USA	OT	+	+	+	+	22(0.9)	+	22 (0.9)	
	Oth	-	-	-	-	3(-)	+	3 (-)	
Non-m A	OT	...	...	...	...	...	-	55 (-)	
TOTAL			204(0.9)	413(1.2)	568(0.8)	207(0.7)	45(0.5)	+	1490 (0.9)

Continued

Table A. (continued)

Species	Country	Gear	Catch ('000 tons) by Subarea with sampling efficiency in parentheses						Total
			1	2	3	4	5	6	
Haddock	Can (M)	OT	-	-	+	33(2.7)	4(0.9)	-	37 (2.5)
		Oth	-	-	-	4(0.3)	+	-	4 (0.3)
	Can (N)	OT	-	-	2(3.0)	+	-	-	2 (3.0)
	Fr (SP)	OT	-	-	1(67.)	+ ⁴	-	-	1 (67.)
	Spain	PT	-	-	2(-)	2(-)	1(-)	-	5 (-)
	USA	OT	-	-	-	2(-)	18(3.7)	-	20 (3.3)
		Oth	-	-	-	-	1(-)	-	1 (-)
	TOTAL		-	-	5(15.)	41(2.2)	24(2.9)	-	70 (3.4)
Redfish	Can (M)	OT	-	-	+	63(0.5)	+	-	63 (0.5)
	Can (N)	OT	-	-	9(-)	23(0.4)	-	-	32 (0.3)
	Fr (SP)	OT	-	-	1(54.)	2(83.)	-	-	3 (73.)
	Ger (FR)	OT	4(-)	+	-	+	-	-	4 (-)
	Japan	OT	-	-	1(-)	+	+	-	1 (-)
	Poland	OT	-	1(4.1)	6(3.5)	7(0.4)	+	-	14 (2.0)
	USSR	OT	+	5(1.4)	70(0.4)	2(-)	-	-	77 (0.5)
	USA	OT	-	-	+	13(0.8)	12(1.4)	-	25 (1.1)
	Non-m A	OT	...	...	...	...	...	-	9 (-)
	TOTAL		4(-)	6(1.8)	87(1.2)	110(1.2)	12(1.4)	-	228 (1.1)
S. hake	Ger (FR)	OT	-	-	-	- ⁵	- ⁵	-	-
	USSR	OT	-	-	-	46(0.6)	67(4.5)	7(2.4)	120 (2.9)
	USA	OT	-	-	-	-	20(0.6)	3(-)	23 (0.5)
	Non-m	OT	-	-	-	-	1(-)	+	1 (-)
	TOTAL		-	-	-	46(0.6)	88(3.5)	10(1.7)	144 (2.5)
Herring	Can (M)	-	-	-	-	311(1.4)	8(2.9)	-	319 (1.4)
	Can (N)	-	-	-	145(0.4)	18(0.6)	-	-	163 (0.4)
	Ger (FR)	-	-	-	-	23(0.3)	73(0.6)	-	96 (0.5)
	Iceland	-	-	-	-	-	13(-)	-	13 (-)
	Japan	-	-	-	-	-	1(-)	-	1 (-)
	Norway	-	-	-	-	-	1(-)	-	1 (-)
	Poland	-	-	-	-	5(1.2)	32(2.6)	13(-)	50 (1.8)
	USSR	-	-	-	-	66(1.5)	100(4.3)	38(0.7)	204 (2.7)
	USA	-	-	-	-	- ⁶	31(3.0)	1(-)	32 (2.9)
	Non-m A	-	-	-	-	...	...	...	87 (0.6)
	Non-m B	-	-	-	-	...	...	...	1 (-)
	TOTAL		-	-	145(0.4)	423(1.3)	259(2.6)	52(0.5)	967 (1.4)

Continued

Table A. (continued)

Species	Country	Gear	Catch ('000 tons) by Subarea with sampling efficiency in parentheses						Total
			1	2	3	4	5	6	
American Plaice	Can (M)	-	-	-	7(0.2)	15(0.1)	+	-	22 (0.1)
	Can (N)	-	-	-	64(0.4)	2(-)	-	-	66 (0.4)
	Den (G)	-	⁷	-	-	-	-	-	-
	Fr (SP)	-	-	-	⁸	-	-	-	-
	Poland	-	-	1(21.) ⁹	1(8.5) ⁹	-	+	-	2 (15.) ⁹
	USSR	-	-	2(-) ¹⁰	17(-) ¹⁰	5(-) ¹⁰	-	-	24 (-) ¹⁰
	USA	-	-	-	-	+	3(-)	-	3 (-)
	TOTAL		-	-	3(7.0)	89(0.4)	22(0.1)	3(-)	-	117 (0.5)
Yellowtail	Can (M)	-	-	-	5(0.4)	3(0.3)	+	-	8 (0.4)
	Can (N)	-	-	-	6(1.7)	-	-	-	6 (1.7)
	USSR	-	-	-	3(-) ¹⁰	6(-) ¹⁰	19(-)	-	28 (-)
	USA	-	-	-	-	+	33(3.1)	4(-)	37 (2.8)
	TOTAL		-	-	14(0.9)	9(0.1)	52(2.0)	4(-)	79 (1.5)
Witch	Can (M)	-	-	-	+	9(0.4)	+	-	9 (0.4)
	Can (N)	-	-	-	4(-)	2(-)	-	-	6 (-)
	Fr (SP)	-	-	-	¹¹	¹¹	-	-	¹¹
	Ger (FR)	-	-	-	¹²	-	-	-	¹²
	Poland	-	-	-	¹³	-	-	-	¹³
	USSR	-	-	5(-) ¹⁰	12(-) ¹⁰	3(-) ¹⁰	1(-)	-	21 (-) ¹⁰
	USA	-	-	-	-	+	3(-)	-	3 (-)
	TOTAL		-	-	5(-)	16(1.9)	14(0.3)	4(-)	-	39 (0.9)

¹ Research samples included; value is 3.2 for commercial samples only.

² Research samples included; values are 0.2 and 0.1 for commercial samples only.

³ Based on research samples.

⁴ Insignificant catch; 831 length measurements.

⁵ Research samples (161 length measurements in 4W, 734 in 5Ze).

⁶ No catches reported; 17240 length measurements.

⁷ No catches reported; 2525 length measurements.

⁸ Insignificant catch; 1710 length measurements.

⁹ Catches reported as Flounders (NK).

¹⁰ Catches reported as Flounders (NK) and allocated to species in proportion to 1970 catches.

¹¹ Insignificant catch; 3749 length measurements.

¹² Research samples (431 measurements); no catch reported.

¹³ No catch reported; 2216 length measurements.

Table B. Summary of sampling in relation to catch for 1970 by species, country, gear and subarea.

Species	Country	Gear	Catch ('000 tons) by Subarea with sampling efficiency in parentheses						Total	
			1	2	3	4	5	6		
Cod	Can (M)	OT	-	-	6(0.5)	53(0.9)	3(-)	-	62 (0.8)	
		LL	-	-	+	17(0.5)	1(-)	-	18 (0.5)	
		HL	-	-	-	9(-)	-	-	9 (-)	
		GN	-	-	-	12(-)	-	-	12 (-)	
		Oth	-	-	-	9(1.0)	-	-	9 (1.0)	
		Total	-	-	6(0.5)	100(0.6)	4(-)	-	110 (0.6)	
	Can (N)	OT	-	-	20(0.8)	12(-)	-	-	32 (0.5)	
		LL	-	-	14(3.8)	5(3.5)	-	-	19 (3.7)	
		HL	-	+	9(1.7)	2(-)	-	-	11 (1.4)	
		GN	-	1(-)	27(2.7)	4(3.4)	-	-	32 (2.7)	
		Oth	-	1(-)	52(2.5)	5(3.3)	-	-	58 (2.5)	
		Total	-	2(-)	122(2.3)	28(1.7)	-	-	152 (2.2)	
	Den (F)	NK	8(-)	+	9(-)	8(-)	-	-	25 (-)	
	Den (G)	NK	20(3.9) ¹	-	-	-	-	-	20 (3.9)	
	Fr (M)	OT	5(3.4) ²	16(-)	11(-)	34(-)	-	-	66 (0.2)	
	Fr (SP)	OT	-	-	1(8.2)	+() ³	-	-	1 (8.2)	
		Oth	-	-	1(-)	-	-	-	1 (-)	
	Ger (FR)	OT	41(1.8) ⁴	50(-)	12(-)	-	-	-	103 (0.7) ⁴	
	Japan	OT	-	-	+() ⁵	+	+	-	+() ⁵	
	Norway	OT	-	3(-)	1(-)	-	-	-	4 (-)	
		LL	+	-	34(-)	-	-	-	34 (-)	
		GN	6(-)	-	-	-	-	-	6 (-)	
	Poland	OT	-	36(1.4)	13(5.6)	+	1(-)	-	50 (2.4)	
	Portugal	OT	3(-)	42(0.1)	66(0.3)	21(0.2)	-	-	132 (0.2)	
		DV	5(-)	-	25(-)	+	-	-	30 (-)	
	Romania	OT	-	3(-)	1(-)	-	+	-	4 (-)	
	Spain	OT	1(-)	11(2.7)	18(1.4)	18(0.8)	-	-	48 (1.4)	
PT		17(-)	+	147(-)	48(-)	7(-)	-	219 (-)		
USSR	OT	1(61.) ²	50(3.1) ²	60(0.0) ²	3(-)	+	-	114 (1.6) ²		
UK	OT	3(3.1)	3(2.1)	+	-	-	-	6 (2.6)		
USA	OT	+	1(-)	+	1(-)	18(1.3)	+	20 (1.2)		
	Oth	-	-	-	-	4(-)	+	4 (-)		
Non-m A	OT	4(-)	8(-)	+	...	5(-) ⁶	-	17 (-)		
TOTAL			114(2.1)	225(1.1)	528(0.8)	262(0.5)	39(0.6)	-	1168 (0.9)	
Haddock	Can (M)	OT	-	-	1(1.0)	17(2.6)	2(3.3)	-	20 (2.6)	
		Oth	-	-	-	5(0.6)	+	-	5 (0.6)	
	Can (N)	OT	-	-	2(2.5)	+	-	-	2 (2.5)	
	Fr (SP)	OT	-	-	1(8.8) ⁷	+	-	-	1 (8.8) ⁷	
	Spain	PT	-	-	3(-)	3(-)	1(-)	-	7 (-)	
	USSR	OT	-	-	+	1(-)	+	-	1 (-)	
	USA	OT	-	-	-	2(-)	9(4.4)	-	11 (3.6)	
		Oth	-	-	-	-	1(-)	-	1 (-)	
	TOTAL			-	-	7(2.1)	28(1.7)	13(3.6)	-	48 (2.3)

Continued

Table B. (Continued)

Species	Country	Gear	Catch ('000 tons) by Subarea with sampling efficiency in parentheses						Total	
			1	2	3	4	5	6		
Redfish	Can (M)	OT	-	-	1(-)	64(0.6)	+	-	65 (0.6)	
	Can (N)	OT	-	-	11(-)	31(0.2)	-	-	42 (0.1)	
	Den (G)	OT	+(-) ⁹	-	-	-	-	-	-	
	Fr (SP)	OT	-	-	1(-)	+	-	-	1 (-)	
	Ger (FR)	OT	4(-)	+	+	-	-	-	4 (-)	
	Japan	OT	-	-	3(7.3) ⁸	1(6.5) ⁸	-	-	4 (7.1)	
	Poland	OT	-	2(-)	4(-)	-	-	-	6 (-)	
	Romania	OT	-	1(-)	+	-	-	-	1 (-)	
	USSR	OT	+	4(-)	58(0.1)	14(-)	-	-	76 (0.1)	
	USA	OT	-	-	-	9(1.6)	16(0.7)	-	25 (2.1)	
	Non-m A	OT	+	4(-)	6(-)	-	-	-	10 (-)	
	TOTAL			4(-)	11(-)	84(0.3)	119(0.6)	16(0.7)	-	234 (0.6)
	S. Hake	Japan	-	-	-	-	+() ¹⁰	+() ¹⁰	+	+ (-) ¹⁰
USSR		-	-	-	-	169(4.4)	29(10.)	3(0.7)	201 (5.2)	
USA		-	-	-	-	-	19(0.6)	2(-)	21 (0.6)	
TOTAL			-	-	-	169(4.4)	48(6.3)	5(0.4)	222 (4.8)	
Herring	Can (M)	-	-	-	-	315(1.4)	5(7.9)	-	320 (1.6)	
	Can (N)	-	-	-	135(0.8)	23(0.5)	-	-	158 (0.8)	
	Den (G)	-	+() ¹¹	-	-	-	-	-	+ (-)	
	Ger (FR)	-	-	-	-	6(-)	88(1.6)	+	94 (1.5)	
	Fr (SP)	-	-	-	- ¹²	- ¹²	-	-	-	
	Japan	-	-	-	-	+(-) ¹³	1(2.0)	+	1 (2.0)	
	Poland	-	-	-	-	1(5.8)	55(1.0)	16(1.5)	72 (1.2)	
	Romania	-	-	-	-	-	1(-)	-	1 (-)	
	USSR	-	-	-	-	72(4.4)	39(4.0)	22(1.0)	133 (3.7)	
	USA	-	-	-	-	-() ¹⁴	30(1.2)	1(-)	31 (1.2)	
	Non-m A	-	-	-	-	...	39(2.5)	...	39 (2.5)	
	TOTAL		-	-	135(0.8)	417(1.9)	258(2.0)	39(1.2)	849 (1.7)	
	American Plaice	Can (M)	-	-	-	9(0.6)	15(0.2)	+	-	24 (0.4)
Can (N)		-	-	-	61(0.6)	2(-)	-	-	63 (0.6)	
Fr (SP)		-	-	-	1(3.1)	+() ¹⁵	-	-	1 (3.1)	
Romania		-	-	+	1(-)	+	1(-)	-	2 (-)	
USSR		-	+	2(-)	17(-)	2(-)	1(-)	-	22 (-)	
USA		-	-	-	-	+	3(-)	-	3 (-)	
TOTAL			+	2(-)	89(0.5)	19(0.2)	5(-)	-	115 (0.5)	
Yellowtail	Can (M)	-	-	-	3(0.7)	1(-)	+	-	4 (0.5)	
	Can (N)	-	-	-	20(0.3)	+	-	-	20 (0.3)	
	USSR	-	-	-	3(-)	3(-)	3(-)	+	9 (-)	
	USA	-	-	-	-	-	32(4.4)	4(-)	36 (3.9)	
	TOTAL		-	-	26(0.3)	4(-)	35(4.0)	4(-)	69 (2.1)	

Continued

Table B. (Continued)

Species	Country	Gear	Catch ('000 tons) by Subarea with sampling efficiency in parentheses						Total
			1	2	3	4	5	6	
Witch	Can (M)	-	-	-	1(-)	7(1.1)	-	-	8 (1.0)
	Can (N)	-	-	-	7(-)	2(-)	-	-	9 (-)
	Fr (SP)	-	-	-	+(-) ¹⁶	-	-	-	-
	Poland	-	-	1(-)	2(-)	-	-	-	3 (-)
	USSR	-	-	4(-)	12(-)	1(-)	-	-	17 (-)
	USA	-	-	-	-	+	3(-)	-	3 (-)
	TOTAL		-	-	5(-)	22(-)	10(0.8)	3(-)	-	40 (0.2)

¹ Research samples included; value is 2.9 for commercial samples.

² Based on research samples.

³ Research samples (4322 length measurements).

⁴ Research samples included; values are 0.2 and 0.1 for commercial samples only.

⁵ Exploratory samples (637 length measurements).

⁶ Catch reported taken in 4V-5Z.

⁷ Includes research samples; value is 4.8 for commercial samples.

⁸ Japanese samples reported as "Exploratory and Commercial".

⁹ Research samples (4420 length measurements).

¹⁰ Exploratory samples (1300 length measurements).

¹¹ Research samples (2478 length measurements).

¹² No landings reported, 569 and 977 length measurements (research) reported for Subareas 3 and 4 respectively.

¹³ Exploratory samples (100 length measurements).

¹⁴ No landings reported, 9560 herring were measured.

¹⁵ Research samples (3600 length measurements).

¹⁶ Research samples (1604 length measurements).

TABLE 1 LENGTH FREQUENCIES - COD - 1C, 1D - 1970 (FREQUENCIES IN ‰ - 3 CM GROUPS)

DIVISION	1C		1D			
	Otter Trawl		Otter Trawl		Pound Net	
GEAR	Research		Research		Research	
CATCHES/LANDINGS	Catches		Catches		Catches	
MONTH	July	July	Feb	Aug	June	July
COUNTRY	Fr (M)	Fr (M)	USSR		Den (G)	
TONNAGE	1500	1500	3600		< 50	
18	-	-	-	-	14	-
21	5	1	-	1	119	-
24	2	1	-	-	225	55
27	5	1	-	-	236	343
30	14	4	-	-	110	311
33	53	3	-	-	63	116
36	74	10	9	-	79	58
39	109	33	29	12	92	74
42	106	42	78	17	38	26
45	106	45	150	28	20	16
48	139	38	124	48	2	-
51	55	46	97	65	-	-
54	53	61	113	70	-	-
57	28	70	140	93	-	-
60	51	92	94	82	-	-
63	23	74	61	91	-	-
66	35	75	26	80	-	-
69	9	61	10	64	-	-
72	16	48	13	68	-	-
75	16	54	13	63	-	-
78	18	62	13	83	-	-
81	21	52	11	35	-	-
84	23	37	8	34	-	-
87	12	28	6	21	-	-
90	9	30	3	22	-	-
93	9	14	2	11	-	-
96	7	7	-	2	-	-
99	-	6	-	1	-	-
102	2	2	-	6	-	-
105	-	1	-	1	-	-
108	-	1	-	-	-	-
111	-	1	-	1	-	-
114	-	-	-	-	-	-
117	-	1	-	1	-	-
Total ‰	1000	1001	1000	1000	998	999
Serial Numbers	-	-	-	-	-	-
Number of Samples	12	28	-	-	-	-
Number of Fish Measured	433	2990	3827	1027	444	309
Mean Length (cm)	51.9	65.5	54.8	66.4	30.0	31.6
Mean Weight (kg)	1.53	2.38	1.51	2.36	-	-
Total Weight Landed (tons)	-	-	113	4	-	-
Estimated Number Landed	-	-	74587	1692	-	-
Mesh(mm) or Hook(no.) Size	30	30	110	110	-	-
Range of Depths (fm)	90-295	23-196	103-114	73-86	-	-

TABLE 2

LENGTH FREQUENCIES - COD - 1E, 1F - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

DIVISION	1E			1F		
	Otter Trawl		Handline	Otter Trawl	Pound Net	Hand Seine
GEAR	Research	Commercial	Research	Commercial	Commercial	Research
CATCHES/LANDINGS	Catches		Catches	Landings	Landings	Catches
MONTH	May	May	Aug	Nov	Aug	Aug
COUNTRY	USSR	Den (G)		UK	Den (G)	
TONNAGE	3600	433	167	501-900	< 50	167
12	-	-	-	-	-	84
15	-	-	-	-	-	135
18	-	-	-	-	-	212
21	-	-	-	-	-	206
24	-	-	-	-	-	79
27	-	-	-	-	-	43
30	-	-	-	-	-	17
33	-	-	-	-	-	4
36	1	-	-	-	-	-
39	3	-	-	1	-	-
42	6	3	-	4	4	4
45	21	12	-	9	11	2
48	42	25	8	29	34	2
51	67	48	8	56	47	17
54	93	67	58	112	100	13
57	129	89	150	126	181	34
60	152	144	150	160	183	41
63	158	155	150	131	183	56
66	129	125	217	156	146	30
69	79	109	142	89	71	6
72	48	76	42	65	19	6
75	37	62	42	29	8	-
78	18	39	33	15	7	2
81	9	22	-	10	1	-
84	4	16	-	4	4	2
87	3	6	-	1	-	-
90	1	-	-	2	-	-
93	-	-	-	1	-	-
96	-	-	-	1	-	-
99	-	1	-	-	-	-
102	-	-	-	-	-	-
105	-	-	-	-	-	2
Total ‰	1000	999	1000	1001	999	997
Serial Numbers	-	-	-	-	-	-
Number of Samples	-	-	-	7	-	-
Number of Fish Measured	7357	672	120	1833	728	466
Mean Length (cm)	62.3	65.2	64.9	62.9	61.4	29.2
Mean Weight (kg)	-	-	-	-	-	-
Total Weight Landed (tons)	246	100	-	1305	-	-
Estimated Number Landed	-	-	-	545000	-	-
Mesh(mm) or Hook(no.) Size	110	-	-	-	-	-
Range of Depths (fm)	76-200	-	39	-	-	11

TABLE 3 LENGTH FREQUENCIES - COD - 2J - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

GEAR	Otter Trawl					
	Research				Commercial	
	Catches				Landings	Catches
	Jan	Feb	Mar	Apr	Feb	Mar
CATCHES/LANDINGS	USSR				UK	Poland
MONTH	3600				901-1800	2800
COUNTRY						
TONNAGE						
18	-	-	-	1	-	-
21	1	1	5	14	-	18
24	4	5	35	34	-	87
27	5	10	60	18	-	66
30	16	25	77	17	-	52
33	35	51	82	21	-	64
36	58	74	93	33	-	76
39	106	93	93	45	8	102
42	100	87	75	50	24	92
45	95	89	60	56	70	74
48	113	108	71	92	122	61
51	106	111	75	112	205	67
54	111	118	78	135	228	66
57	98	87	68	120	166	61
60	64	63	46	94	99	43
63	38	37	33	61	37	31
66	23	20	19	42	29	18
69	16	10	13	25	5	10
72	6	6	6	12	3	5
75	3	2	4	8	2	3
78	2	2	3	6	1	1
81	-	-	1	1	-	1
84	-	1	1	1	-	1
87	-	-	1	1	-	1
90	-	-	1	1	-	-
93	-	-	-	-	1	-
Total ‰	1000	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-	-
Number of Samples	-	-	-	-	2	8
Number of Fish Measured	7487	10022	9978	3905	1255	10013
Mean Length (cm)	49.7	48.9	45.0	51.9	54.6	43.0
Mean Weight (kg)	-	-	-	-	-	1.29
Total Weight Landed (tons)	5757	26854	12521	3552	2088	-
Estimated Number Landed	-	-	-	-	1380 ¹	-
Mesh(mm) or Hook(no.) Size	110	110	110	110	-	114
Range of Depths (fm)	114-229	154-220	114-274	117-216	-	195-275

¹ Numbers in 1000's

TABLE 4

LENGTH FREQUENCIES - COD - 3K - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

GEAR	Stern Trawl	Otter Trawl		Jigger		Hand Line	
	Exploratory	Research		Commercial			
CATCHES/LANDINGS	Catches			Catches			
MONTH	Mar	Apr	Mar	June	July	June	July
COUNTRY	Japan	USSR	Poland	Can (N)			
TONNAGE	>1800	3600	2800	0-50			
24	-	4	2	-	-	-	-
27	-	2	6	-	-	-	-
30	-	7	12	2	1	-	-
33	-	29	35	9	2	4	-
36	24	53	57	15	16	56	42
39	62	85	66	39	53	111	94
42	33	134	96	68	74	74	143
45	100	105	96	97	105	63	164
48	114	159	105	154	125	85	157
51	133	116	124	166	150	67	139
54	153	134	135	143	116	126	129
57	129	76	111	111	109	115	49
60	105	51	69	84	93	107	21
63	95	22	37	58	60	89	35
66	33	13	20	23	33	56	10
69	14	4	13	9	26	22	10
72	5	4	6	10	16	7	-
75	-	-	4	2	9	7	3
78	-	2	2	3	6	-	3
81	-	-	2	1	4	11	-
84	-	-	1	-	-	-	-
87	-	-	1	1	-	-	-
90	-	-	-	2	1	-	-
93	-	-	-	2	1	-	-
Total ‰	1000	1000	1000	999	1000	1000	999
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	1	-	12	8	16	2	2
Number of Fish Measured	210	449	14458	987	1645	270	287
Mean Length (cm)	54.4	49.1	51.3	53.1	53.8	53.5	49.3
Mean Weight (kg)	-	-	1.53	1.41	1.52	1.59	1.17
Total Weight Landed (tons)	-	3461	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	110	114	-	-	-	-
Range of Depths (fm)	148	143-160	142-213	12-25	10-25	5-10	5-10

TABLE 4
(continued)

LENGTH FREQUENCIES - COD - 3K - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

GEAR	Trap		Long line		Gillnet	
	Commercial					
CATCHES/LANDINGS	Catches					
MONTH	June	July	June	July	June	July
COUNTRY	Can (N)					
TONNAGE	0-50					
27	-	4	-	-	-	-
30	-	58	-	-	-	-
33	6	91	2	-	3	-
36	40	109	2	6	4	1
39	103	134	9	11	14	5
42	133	129	14	17	33	5
45	138	108	19	43	55	12
48	125	94	28	38	45	21
51	114	79	54	71	46	24
54	89	63	90	90	53	35
57	84	47	124	124	70	37
60	63	40	139	167	50	39
63	50	21	130	105	46	44
66	25	10	105	83	32	55
69	13	6	87	62	29	72
72	10	1	61	51	32	98
75	3	2	46	38	55	105
78	2	2	29	34	74	100
81	1	1	21	24	60	82
84	-	-	12	11	64	67
87	-	-	9	6	52	55
90	-	-	3	4	60	29
93	-	-	4	6	30	24
96	-	-	4	-	23	17
99	-	-	3	2	12	16
102	-	-	1	2	8	16
105	-	-	2	2	15	8
108	-	-	1	2	10	13
111	-	-	-	-	6	6
114	-	-	-	-	6	7
117	-	-	-	-	6	3
120	-	-	1	-	2	2
123	-	-	-	-	-	1
126	-	-	-	-	-	-
129	-	-	-	-	-	1
132	-	-	-	-	3	-
135	-	-	-	-	-	1
Total ‰	999	999	1000	999	998	1001
Serial Numbers	-	-	-	-	-	-
Number of Samples	11	13	11	2	11	43
Number of Fish Measured	6198	3427	4627	468	1445	2711
Mean Length (cm)	50.6	45.2	63.8	62.5	71.9	76.0
Mean Weight (kg)	1.24	0.96	2.44	2.34	3.97	4.33
Total Weight Landed (tons)	-	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	95-102	95-102	6/0	6/0	150-215	150-215
Range of Depths (fm)	9-17	6-18	140-170	140-155	130-225	10-225

TABLE 5

LENGTH FREQUENCIES - COD - 3L - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

GEAR	Otter Trawl		Trap		Gillnet		Handline
	Landings		Commercial Landings		Before Discards		
CATCHES/LANDINGS							
MONTH	May	Nov	June	July	June	July	July
COUNTRY	Can (N)						
TONNAGE	501-900		0-50				
30	-	-	1	-	-	-	-
33	-	-	10	5	-	-	6
36	-	6	31	16	-	1	55
39	4	11	98	63	-	3	114
42	28	50	144	112	-	4	128
45	81	98	177	143	1	5	136
48	154	141	158	145	1	9	140
51	122	176	127	128	2	13	123
54	110	150	87	116	4	16	96
57	95	94	71	101	17	24	77
60	89	70	42	65	60	40	62
63	86	43	27	50	118	56	29
66	67	43	15	25	164	63	15
69	47	32	7	15	176	76	8
72	22	21	3	8	109	82	6
75	25	26	1	2	94	82	2
78	20	9	-	2	69	83	2
81	6	8	-	1	58	76	1
84	8	3	-	1	38	68	-
87	6	3	-	-	25	50	-
90	4	1	-	-	17	42	-
93	3	1	-	-	10	38	-
96	3	-	-	-	6	34	-
99	-	2	-	-	10	31	-
102	5	2	-	-	4	22	-
105	2	3	-	-	6	18	-
108	3	-	-	-	3	15	-
111	2	3	-	-	3	14	-
114	1	-	-	-	-	11	-
117	2	2	-	-	1	7	-
120	4	3	-	-	2	6	-
123	1	-	-	-	-	6	-
126	-	-	-	-	-	1	-
129	-	1	-	-	-	3	-
132	1	1	-	-	-	1	-
Total ‰	1001	1003	999	998	998	999	1000
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	1	1	10	10	6	18	10
Number of Fish Measured	1031	1198	3502	3433	2296	3364	2521
Mean Length (cm)	59.2	56.4	49.2	51.8	73.0	80.1	49.6
Mean Weight (kg)	2.17	1.85	1.14	1.35	3.72	5.13	1.19
Total Weight Landed (tons)	2576	578	-	-	-	-	-
Estimated Number Landed	1185 ¹	313 ¹	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	Large	Large	90-250	90-250	165-178	165-190	3020
Range of Depths (fm)	70-80	65	7-11	9-18	20-90	25-150	4-10

¹ Numbers in 1000's

TABLE 6 LENGTH FREQUENCIES - COD - 3M, 3N, 30, 3Pn - 1970 (FREQUENCIES IN ‰ - 3 CM GROUPS)

DIVISION	3M	3N	30	3Pn
GEAR	Otter Trawl (Stern)			Longline
CATCHES/LANDINGS	Exploratory Catches		Commercial Landings	
MONTH	Feb	Mar	Jan	Aug
COUNTRY	Japan		Can (M)	Can (N)
TONNAGE	>1800		501-900	<50
18	-	31	-	-
21	-	116	-	-
24	-	52	-	-
27	-	63	-	-
30	-	52	-	-
33	-	115	-	1
36	-	94	-	5
39	6	104	7	23
42	9	52	49	40
45	27	63	127	57
48	82	42	148	63
51	145	52	147	72
54	151	31	85	92
57	127	31	70	88
60	63	10	96	64
63	88	21	86	60
66	79	10	48	60
69	79	10	32	66
72	33	10	29	65
75	42	21	29	61
78	36	10	14	56
81	12	10	15	41
84	6	-	4	32
87	6	-	4	20
90	9	-	2	10
93	-	-	1	5
96	-	-	1	5
99	-	-	-	3
102	-	-	1	3
105	-	-	1	1
108	-	-	-	2
111	-	-	1	1
114	-	-	-	1
117	-	-	-	1
120	-	-	-	1
123	-	-	-	1
126	-	-	-	-
129	-	-	-	-
132	-	-	-	-
Total ‰	1000	1000	997	1000
Serial Numbers	-	-	7	-
Number of Samples	3	1	1	12
Number of Fish Measured	331	96	310	4311
Mean Length (cm)	61.2	40.5	56.9	63.9
Mean Weight (kg)	-	-	1.91	2.73
Total Weight Landed (tons)	-	-	370	-
Estimated Number Landed	-	-	193 ¹	-
Mesh(mm) or Hook(no.) Size	-	-	114	6/0
Range of Depths (fm)	208-257	142	-	20-82

¹ Numbers in 1000's

TABLE 7

LENGTH FREQUENCIES - COD - 3Ps - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

GEAR	Otter Trawl		Gillnets			Longline	Trap	
	Commercial Landings							
CATCHES/LANDINGS	Landings							
MONTH	Jan	Feb	May	June	July	Aug	June	July
COUNTRY	Can (M)		Can (N)					
TONNAGE	151-500	501-900	0-50					
27	-	-	-	-	-	-	2	2
30	-	-	-	-	-	-	8	14
33	-	-	-	-	-	-	32	61
36	-	3	2	1	-	5	91	131
39	3	1	2	1	1	26	153	187
42	16	4	9	2	-	49	199	211
45	65	44	4	3	1	66	153	159
48	136	72	5	3	1	97	124	99
51	158	161	11	9	6	98	84	67
54	82	149	16	17	11	131	55	35
57	134	138	42	50	44	105	37	18
60	98	90	96	121	93	87	25	6
63	76	93	142	171	138	99	19	5
66	80	66	145	171	185	64	7	2
69	44	57	141	170	167	44	4	1
72	47	49	127	126	126	44	3	1
75	7	24	88	67	87	26	2	-
78	18	18	57	33	56	23	-	-
81	22	12	29	22	34	11	-	-
84	-	7	26	11	17	10	-	-
87	4	5	19	7	7	7	-	-
90	-	2	12	5	10	5	-	-
93	-	2	9	5	6	2	-	-
96	2	2	7	1	3	1	-	-
99	-	-	6	1	4	-	-	-
102	2	-	2	2	1	1	-	-
105	-	1	1	1	1	-	-	-
108	-	-	1	1	-	1	-	-
111	2	-	1	1	-	-	-	-
114	-	-	-	-	-	-	-	-
117	2	-	-	-	1	1	-	-
120	-	-	-	1	-	-	-	-
123	2	-	-	1	-	-	-	-
Total ‰	1000	1000	1000	1004	1000	1003	998	999
Serial Numbers	-	-	-	-	-	-	-	-
Number of Samples	1	2	6	5	3	3	9	6
Number of Fish Measured	307	129	1411	1715	1409	1126	4295	2830
Mean Length (cm)	58.9	59.8	69.8	68.2	69.7	58.8	46.1	43.6
Mean Weight (kg)	2.13	2.08	3.18	2.97	3.05	2.04	0.93	0.82
Total Weight Landed (tons)	106	2137	-	-	-	-	-	-
Estimated Number Landed	49 ¹	1027 ¹	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	114	114	150-180	150-180	150-180	15,16,6/0	100-250	100-250
Range of Depths (fm)	80-95	50-900	26-65	25-60	25-60	15-20	9-13	9-14

¹ Numbers in 1000's

TABLE 8

LENGTH FREQUENCIES - COD - 4R - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

GEAR	Longline			Gill Net		Trap
	Commercial Catches					
CATCHES/LANDINGS	Catches					
MONTH	Mar	June	July	June	July	June
COUNTRY	Can (N)					
TONNAGE	0-50					
30	-	-	-	1	-	-
33	-	2	-	-	-	-
36	-	3	-	1	1	1
39	2	6	-	3	7	9
42	8	11	5	3	6	34
45	17	16	-	11	8	85
48	40	32	5	12	9	136
51	45	39	20	13	21	162
54	67	63	54	10	13	158
57	97	78	49	11	17	122
60	94	105	88	12	14	108
63	102	108	64	19	15	71
66	131	110	118	30	29	50
69	129	105	103	47	36	29
72	91	103	137	93	63	18
75	70	72	93	124	101	8
78	44	56	108	151	128	6
81	21	34	64	104	131	3
84	18	21	39	98	121	1
87	9	8	15	79	83	1
90	6	8	15	46	61	-
93	6	6	5	31	36	-
96	2	5	10	35	34	-
99	2	3	-	17	25	-
102	2	3	-	13	12	-
105	-	1	-	13	6	-
108	-	-	10	10	5	-
111	-	1	-	7	7	-
114	-	-	-	1	5	-
117	-	-	-	2	2	-
120	-	-	-	-	2	-
123	-	-	-	-	1	-
Total ‰	1003	999	1002	997	999	1002
Serial Numbers	-	-	-	-	-	-
Number of Samples	2	9	2	6	12	5
Number of Fish Measured	1260	2013	204	895	1798	3252
Mean Length (cm)	65.9	66.8	71.1	79.8	80.4	55.8
Mean Weight (kg)	2.77	2.74	3.38	4.91	5.13	1.63
Total Weight Landed (tons)	-	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	6/0	6/0, 15/0	-	165-190	165-190	100
Range of Depths (fm)	28-40	15-125	35-40	30-140	40-165	7

TABLE 9

LENGTH FREQUENCIES - COD - 4R, 4S - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

DIVISION	4R				4S
	Otter Trawl (Stern)		Otter Trawl (Side)		Shrimp Trawl
GEAR	Commercial				
CATCHES/LANDINGS	Landings				
MONTH	Feb	Apr	Apr	May	Oct
COUNTRY	Can (M)				
TONNAGE	501-900		151-500		151-500
36	-	3	-	-	-
39	4	7	3	-	-
42	60	21	35	19	26
45	155	52	58	45	73
48	211	82	94	73	111
51	157	115	115	128	120
54	121	108	184	149	137
57	113	102	134	144	87
60	81	102	107	126	128
63	35	121	65	98	102
66	41	80	59	70	76
69	15	80	51	46	38
72	6	54	21	26	50
75	-	28	21	16	23
78	3	21	24	23	15
81	-	4	9	8	3
84	-	4	1	11	6
87	-	3	3	5	3
90	-	2	4	3	3
93	-	2	2	2	-
96	-	1	2	2	-
99	-	-	2	2	-
102	-	1	-	1	-
105	-	1	-	1	-
108	-	-	-	1	-
111	-	-	1	1	-
114	-	-	-	1	-
117	-	1	-	-	-
Total ‰	1002	995	995	1001	1001
Serial Numbers	-	-	-	-	-
Number of Samples	1	3	1	2	2
Number of Fish Measured	310	1067	355	710	343
Mean Length (cm)	53.1	60.2	58.4	59.8	58.6
Mean Weight (kg)	1.47	2.25	2.05	2.17	2.03
Total Weight Landed (tons)	2619	472	234	657	26
Estimated Number Landed	1781 ¹	209 ¹	114 ¹	302 ¹	12 ¹
Mesh(mm) or Hook(no.) Size	114	114	114	114	25
Range of Depths (fm)	80-130	40-140	42-140	35-142	135-150

¹ Numbers in 1000's

TABLE 10

LENGTH FREQUENCIES - COD - 4T - 1970

(FREQUENCIES IN ‰ -3 CM GROUPS)

GEAR	Otter Trawl (Side)					
	Commercial					
CATCHES/LANDINGS	Landings					
MONTH	Jan	May	June	July	Aug	Sep
COUNTRY	Can (M)					
TONNAGE	151-500	51-150				
30	5	-	-	-	-	-
33	10	-	-	-	-	-
36	46	-	4	-	-	-
39	137	123	57	33	80	-
42	223	194	139	146	205	25
45	157	204	172	198	210	130
48	162	160	179	165	225	190
51	112	88	132	142	90	230
54	56	68	121	146	85	145
57	36	54	91	80	55	140
60	30	51	46	52	10	60
63	15	7	22	24	15	30
66	5	14	15	9	-	10
69	5	7	5	-	15	25
72	-	14	5	-	-	15
75	-	1	5	5	-	-
78	-	8	2	-	5	-
81	-	-	4	-	-	-
84	-	3	2	-	5	-
87	-	1	-	-	-	-
90	-	1	-	-	-	-
93	-	2	-	-	-	-
96	-	1	-	-	-	-
Total ‰	999	1001	1001	1000	1000	1000
Serial Numbers	-	-	-	-	-	-
Number of Samples	1	1	2	1	1	1
Number of Fish Measured	197	315	547	212	200	200
Mean Length (cm)	46.9	49.3	50.8	50.5	48.7	53.5
Mean Weight (kg)	1.01	1.22	1.30	1.25	1.14	1.48
Total Weight Landed (tons)	1057	1490	860	775	461	334
Estimated Number Landed	1046 ¹	1221 ¹	661 ¹	620 ¹	404 ¹	225 ¹
Mesh(mm) or Hook(no.) Size	114	114	114	114	114	114
Range of Depths (fm)	50	45-50	32-48	42	41-44	15-20

¹ Numbers in 1000's

TABLE 10
(continued)

LENGTH FREQUENCIES - COD - 4T - 1970

(FREQUENCIES IN ‰ -3 CM GROUPS)

GEAR	Otter Trawl (Side)			Danish Seine			
	Commercial Landings						
CATCHES/LANDINGS							
MONTH	Oct	Nov	June	July	Aug	Sep	Oct
COUNTRY	Can (M)						
TONNAGE	51-150			26-50			
36	-	-	10	43	-	-	5
39	-	-	30	224	5	20	10
42	48	121	89	217	165	47	135
45	139	204	212	150	272	132	245
48	193	170	148	108	244	155	216
51	176	165	158	102	122	173	125
54	123	131	108	63	105	136	135
57	96	78	94	39	47	156	29
60	48	73	59	26	20	95	38
63	43	19	30	14	7	48	29
66	27	10	25	8	5	4	29
69	21	29	10	2	-	7	5
72	11	-	5	2	-	9	-
75	16	-	10	-	2	6	-
78	-	-	-	-	-	2	-
81	11	-	10	-	-	2	-
84	16	-	5	-	-	2	-
87	-	-	-	-	2	-	-
90	5	-	-	-	-	-	-
93	-	-	-	-	-	4	-
96	-	-	-	-	-	-	-
99	5	-	-	-	-	-	-
102	-	-	-	-	2	-	-
105	5	-	-	-	-	-	-
108	-	-	-	-	-	-	-
111	-	-	-	-	-	2	-
114	11	-	-	-	-	-	-
Total ‰	999	1000	1003	1000	998	1000	1001
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	1	1	1	2	2	3	1
Number of Fish Measured	187	206	203	492	401	537	208
Mean Length (cm)	56.2	51.6	52.1	46.6	49.2	53.8	50.3
Mean Weight (kg)	2.04	1.34	1.42	1.02	1.17	1.55	1.23
Total Weight Landed (tons)	492	700	256	321	258	162	198
Estimated Number Landed	241 ¹	522 ¹	180 ¹	314 ¹	220 ¹	104 ¹	161 ¹
Mesh(mm) or Hook(no.) Size	114	114	114	114	114	114	114
Range of Depths (fm)	40-50	45	35	31-41	32-44	12-20	15

¹ Numbers in 1000's

TABLE 11 LENGTH FREQUENCIES - COD - 4Vn - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

GEAR	Otter Trawl			Longline				
	Commercial Landings							
CATCHES/LANDINGS								
MONTH	Jan	Apr	June	July	June	July	Sep	Nov
COUNTRY	Can (M)							
TONNAGE	151-500			501-900	26-50			
36	6	17	3	-	-	-	-	-
39	26	83	8	-	4	-	32	45
42	71	130	54	59	15	50	101	104
45	112	222	121	280	50	87	48	87
48	84	130	166	206	124	92	156	142
51	146	100	186	182	72	89	89	104
54	160	70	188	137	106	108	146	135
57	133	83	97	72	111	78	93	125
60	91	65	75	38	94	96	57	69
63	30	30	14	16	57	52	93	35
66	47	26	27	3	56	82	50	31
69	12	26	14	-	56	63	50	24
72	14	-	27	-	33	41	18	10
75	16	1	7	6	28	26	21	10
78	14	5	7	-	17	30	14	17
81	7	8	-	-	26	15	5	14
84	5	2	-	-	19	22	1	10
87	5	1	-	-	27	4	4	5
90	4	-	7	-	18	17	3	5
93	5	-	-	-	18	15	6	9
96	3	-	-	-	20	15	4	6
99	3	-	-	-	22	9	3	7
102	3	-	-	-	4	9	3	-
105	3	-	-	-	14	-	1	3
108	1	-	-	-	2	2	1	1
111	-	-	-	-	6	-	1	-
Total ‰	1001	999	1001	999	999	1002	1000	998
Serial Numbers	-	-	-	-	-	-	-	-
Number of Samples	1	1	1	1	2	1	1	1
Number of Fish Measured	344	252	273	278	639	298	300	300
Mean Length (cm)	56.0	50.9	54.0	50.7	64.6	62.0	56.8	55.9
Mean Weight (kg)	1.85	1.35	1.57	1.25	3.04	2.61	1.95	1.91
Total Weight Landed (tons)	268	111	480	217	212	138	142	159
Estimated Number Landed	144 ¹	82 ¹	305 ¹	173 ¹	69 ¹	52 ¹	72 ¹	83 ¹
Mesh(mm) or Hook(no.) Size	114	114	114	114	6/0	6/0	6/0	6/0
Range of Depths (fm)	90-140	98	80-100	90	12-35	15-35	24-44	20-40

¹ Numbers in 1000's

TABLE 12

LENGTH FREQUENCIES - COD - 4Vs, 4W - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

DIVISION	4Vs			4W			
	Otter Trawl			Otter Trawl			Longline
GEAR	Commercial			Commercial			
CATCHES/LANDINGS	Landings			Landings			
MONTH	Jan	Feb	Apr	Jan	May	Apr	Mar
COUNTRY	Can (M)			Can (M)			
TONNAGE	151-500	501-900		151-500	501-900		51-150
36	4	-	-	1	-	3	-
39	-	5	5	13	-	30	23
42	15	23	27	76	13	75	33
45	29	41	170	124	82	91	90
48	76	91	164	186	150	148	153
51	63	108	125	172	137	146	137
54	122	95	106	124	121	120	137
57	155	107	124	65	111	88	130
60	108	130	102	55	105	63	93
63	88	126	77	36	46	38	53
66	88	126	14	32	49	42	33
69	81	54	23	27	56	25	50
72	40	32	27	26	36	21	10
75	39	22	2	14	20	29	13
78	22	8	5	7	20	8	20
81	25	16	14	10	13	18	3
84	9	4	5	12	16	4	7
87	9	4	-	5	13	25	3
90	6	-	-	5	3	-	3
93	4	4	5	5	3	2	3
96	4	4	-	1	3	4	3
99	4	-	2	2	-	4	-
102	4	-	2	3	3	8	-
105	3	-	-	1	-	2	-
108	-	-	2	-	-	4	-
111	1	-	-	-	-	-	-
114	-	-	-	-	-	2	-
Total ‰	999	1000	1001	1002	1000	1002	997
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	1	1	1	3	1	1	1
Number of Fish Measured	310	311	307	1014	306	306	300
Mean Length (cm)	62.5	60.2	55.6	55.2	58.9	57.3	56.4
Mean Weight (kg)	2.54	2.20	1.76	1.76	2.13	2.09	1.84
Total Weight Landed (tons)	295	311	100	535	36	257	114
Estimated Number Landed	116 ¹	141 ¹	56 ¹	304 ¹	17 ¹	123 ¹	62 ¹
Mesh(mm) or Hook(no.) Size	114	114	114	114	114	114	6/0
Range of Depths (fm)	130-65	40-120	40-120	25-90	40-90	53-70	48-50

¹ Numbers in 1000's

TABLE 13

LENGTH FREQUENCIES - COD - 4X - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

GEAR	Otter Trawl		
	Commercial		
CATCHES/LANDINGS	Landings		
MONTH	July ¹	July ²	Dec ²
COUNTRY	Can (M)		
TONNAGE	501-900	151-500	
36	6	-	30
39	24	5	30
42	125	10	30
45	220	10	66
48	285	65	72
51	133	90	91
54	77	139	97
57	43	75	66
60	37	95	60
63	15	65	42
66	8	65	36
69	10	70	54
72	5	75	54
75	2	85	48
78	1	39	64
81	1	40	16
84	5	12	31
87	1	21	21
90	1	17	26
93	-	8	21
96	1	8	5
99	1	-	-
102	-	-	16
105	-	-	5
108	-	-	-
111	-	-	5
114	-	-	-
117	-	-	-
120	-	-	5
123	-	4	5
126	-	4	-
Total ‰	1001	1002	996
Serial Numbers	-	-	-
Number of Samples	1	1	1
Number of Fish Measured	301	205	170
Mean Length (cm)	50.2	65.3	64.1
Mean Weight (kg)	1.25	2.97	3.07
Total Weight Landed (tons)	43	79	11
Estimated Number Landed	34 ³	26 ³	3 ³
Mesh(mm) or Hook(no.) Size	114	114	114
Range of Depths (fm)	50-60	50-90	38-75

¹ Southern part of 4X

² Northern part of 4X

³ Numbers in 1000's

TABLE 14

LENGTH FREQUENCIES - COD - 5Y, 5Zw - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

DIVISION	5Y		5Zw	
GEAR	Otter Trawl			
	Commercial			
CATCHES/LANDINGS	Landings			
MONTH	Jan	Feb	Mar	Apr
COUNTRY	USA			
TONNAGE	0-310		0-150	
39	30	10	7	8
42	43	70	34	17
45	85	130	43	40
48	155	150	56	69
51	132	170	126	109
54	109	180	218	190
57	147	200	182	193
60	95	50	141	174
63	62	40	76	138
66	37	-	56	45
69	35	-	41	-
72	34	-	13	17
75	10	-	7	-
78	17	-	-	-
81	9	-	-	-
<hr/>				
Total ‰	1000	1000	1000	1000
Serial Numbers	-	-	-	-
Number of Samples	2	1	1	1
Number of Fish Measured	287	100	143	109
Mean Length (cm)	55.9	52.7	57.1	57.3
Mean Weight (kg)	2.08	1.68	2.13	2.15
Total Weight Landed (tons)	671	518	228	260
Estimated Number Landed	3219 ¹	3078 ¹	1072 ¹	1211 ¹
Mesh(mm) or Hook(no.) Size	114	114	114	114
Range of Depths (fm)	10-19	24-50	12-15	7-8

¹ Numbers in 100's

TABLE 15

LENGTH FREQUENCIES - COD - 5Ze - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

GEAR	Otter Trawl					
	Commercial					
CATCHES/LANDINGS	Landings					
MONTH	Jan	Feb	Mar	Apr	May	June
COUNTRY	USA					
TONNAGE	0-458					
39	-	1	-	-	-	2
42	6	13	-	3	-	12
45	31	24	5	73	28	23
48	62	24	45	100	75	37
51	34	29	45	53	69	110
54	64	11	83	120	93	79
57	110	22	115	102	131	80
60	124	54	119	144	109	116
63	138	55	140	105	96	155
66	64	59	98	89	102	142
69	53	48	91	82	94	104
72	76	36	57	29	102	61
75	46	25	38	27	17	20
78	38	42	26	27	37	14
81	27	94	24	20	8	9
84	27	122	24	-	10	9
87	26	96	19	14	10	4
90	19	49	7	6	8	5
93	17	47	7	6	2	3
96	15	29	-	-	5	5
99	-	42	-	-	2	3
102	6	7	-	-	2	4
105	11	7	-	-	-	3
108	6	16	-	-	-	-
111	-	14	-	-	-	-
114	-	14	-	-	-	-
117	-	7	-	-	-	-
120	-	3	-	-	-	-
123	-	7	-	-	-	-
126	-	3	-	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-	-
Number of Samples	2	3	2	2	3	5
Number of Fish Measured	238	406	225	242	316	560
Mean Length (cm)	66.8	79.5	66.0	61.2	63.3	63.1
Mean Weight (kg)	3.56	5.88	3.34	2.69	2.95	2.90
Total Weight Landed (tons)	486	721	855	950	1417	1593
Estimated Number Landed	1365 ¹	1226 ¹	2563 ¹	3527 ¹	4799 ¹	5483 ¹
Mesh(mm) or Hook(no.) Size	114	114	114	114	114	114
Range of Depths (fm)	18-28	6-30	5-35	10-28	18-52	10-32

¹ Numbers in 100's

TABLE 15
(continued)

LENGTH FREQUENCIES - COD - 52e - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

GEAR	Otter Trawl					
	Commercial Landings					
CATCHES/LANDINGS						
MONTH	July	Aug	Sep	Oct	Nov	Dec
COUNTRY	USA					
TONNAGE	0-458					
39	-	-	-	-	12	-
42	20	-	-	-	46	-
45	36	9	6	9	33	26
48	60	46	4	39	48	88
51	115	72	40	69	176	96
54	116	84	56	111	147	149
57	103	65	79	83	128	114
60	98	140	84	139	102	123
63	160	183	198	116	75	79
66	128	153	167	116	48	62
69	35	99	169	83	35	62
72	47	72	82	72	69	62
75	37	45	69	67	27	18
78	9	22	18	30	12	9
81	17	3	6	16	10	26
84	9	1	7	9	11	17
87	-	5	2	9	4	-
90	5	1	4	16	11	-
93	-	-	2	12	-	-
96	-	-	7	2	2	17
99	5	-	-	2	4	9
102	-	-	-	-	-	-
105	-	-	-	-	-	17
108	-	-	-	-	-	-
111	-	-	-	-	-	17
114	-	-	-	-	-	9
Total ‰	1000	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-	-
Number of Samples	3	4	2	2	3	1
Number of Fish Measured	369	538	234	275	448	114
Mean Length (cm)	61.1	63.6	66.2	64.9	59.5	63.8
Mean Weight (kg)	2.64	2.89	3.21	2.75	2.50	3.26
Total Weight Landed (tons)	1865	1420	1211	1320	954	646
Estimated Number Landed	7061 ¹	4910 ¹	3775 ¹	4399 ¹	3814 ¹	1983 ¹
Mesh(mm) or Hook(no.) Size	114	114	114	114	114	114
Range of Depths (fm)	13-50	18-36	23-25	18-80	13-30	9-15

¹ Numbers in 100's

TABLE 16

AGE/LENGTH TABLE - COD - 1B - 1970 (2nd QUARTER)

GEAR		Longline (Commercial)																	
CATCHES OR LANDINGS		Landings																	
COUNTRY		Denmark (G)																	
TONNAGE		0-50																	
STRUCTURES USED IN AGE DETERMINATION		Otoliths																	
Length Group (3 cm)	Age	66	65	64	63	62	61	60	59	58	57	56	55	54	53	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
		4	5	6	7	8	9	10	11	12	13	14	15	16	17		Months Within Quarter		
																Apr	May	June	
42		3	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	13	
45		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
48		6	2	-	-	-	-	-	-	-	-	-	-	-	8	-	-	36	
51		6	7	1	-	-	-	-	-	-	-	-	-	-	14	-	-	63	
54		3	2	-	-	-	-	-	-	-	-	-	-	-	5	-	-	22	
57		-	6	-	-	-	-	-	-	-	-	-	-	-	6	-	-	27	
60		-	6	-	-	-	-	-	-	-	-	-	-	-	6	-	-	27	
63		-	2	1	3	-	-	1	-	-	-	-	-	-	7	-	-	31	
66		-	2	1	1	2	1	1	-	-	-	-	-	-	8	-	-	36	
69		-	-	2	4	1	3	4	-	1	-	-	-	-	15	-	-	67	
72		-	2	-	3	1	3	2	-	-	-	-	-	-	11	-	-	49	
75		-	-	-	7	1	1	2	-	-	2	-	-	-	13	-	-	58	
78		-	-	-	2	2	-	4	2	-	1	-	-	-	11	-	-	49	
81		-	-	-	3	3	6	4	-	-	-	-	-	-	16	-	-	72	
84		-	-	-	1	5	10	5	-	1	6	-	-	-	28	-	-	126	
87		-	-	-	-	3	9	6	1	-	2	-	-	-	21	-	-	94	
90		-	-	-	-	-	7	11	1	1	1	-	-	-	22	-	-	99	
93		-	-	-	1	2	4	4	2	1	-	-	-	-	14	-	-	63	
96		-	-	-	-	-	1	4	1	1	1	1	-	-	9	-	-	40	
99		-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	4	
102		-	-	-	-	-	-	1	1	-	1	-	-	-	3	-	-	13	
105		-	-	-	-	-	-	-	-	-	1	1	-	-	2	-	-	9	
Total No. of Ages Read		18	29	5	25	20	45	49	8	5	15	2	-	-	2	223	998		
Serial Numbers		St. 4387, 4388											No. of Age Samples						
X		Number of fish measured each month													-	-	223		
		Mean length of fish (cm) each month													-	-	77.6		
		Mean weight of fish (kg) each month													-	-	-		
		Total weight caught or landed (tons) each month													-	-	-		
		Estimated number caught or landed (whole numbers) each month													-	-	-		
		Range of depths (m) each month													-	-	-		
		Mesh size (mm)													-	-	-		

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total
Apr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June	80	130	22	112	90	202	219	36	22	67	9	-	-	9	998

TABLE 16
(continued)

AGE/LENGTH TABLE - COD - 1B - 1970 (3RD QUARTER)

GEAR		Greenlanders (Commercial)																	
CATCHES OR LANDINGS		Landings																	
COUNTRY		Denmark (G)																	
TONNAGE		0-50																	
STRUCTURES USED IN AGE DETERMINATION		Otoliths																	
Length Group (3 cm)	Age	66	65	64	63	62	61	60	59	58	57	56	55	54	53	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
		4	5	6	7	8	9	10	11	12	13	14	15	16	17		Months Within Quarter		
															Jul	Aug	Sep		
48	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2	-	7	-	
51	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	3	-	
54	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2	-	7	-	
57	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2	-	7	-	
60	-	12	1	-	1	-	-	-	-	-	-	-	-	-	14	-	48	-	
63	-	11	1	1	-	-	-	-	-	-	-	-	-	-	13	-	45	-	
66	-	10	2	1	-	-	-	-	-	-	-	-	-	-	13	-	45	-	
69	-	3	-	4	1	2	2	-	-	-	-	-	-	-	12	-	41	-	
72	-	-	1	3	-	9	2	1	-	-	-	-	-	-	16	-	55	-	
75	-	-	2	4	-	11	2	-	-	-	-	-	-	-	19	-	65	-	
78	-	-	1	4	4	18	10	1	-	-	-	-	-	-	38	-	131	-	
81	-	-	-	-	3	19	16	-	2	-	-	-	-	-	40	-	137	-	
84	-	-	-	2	1	10	17	2	2	1	-	-	-	-	35	-	120	-	
87	-	-	-	1	-	10	12	1	-	2	-	-	-	-	26	-	89	-	
90	-	-	-	-	1	6	15	3	-	3	-	-	-	1	29	-	100	-	
93	-	-	-	-	-	3	8	1	-	2	-	-	-	-	14	-	48	-	
96	-	-	-	-	-	1	5	-	-	-	-	-	-	-	6	-	21	-	
99	-	-	-	-	-	-	4	1	1	1	-	1	-	1	9	-	31	-	
Total No. of Ages Read		1	42	8	20	11	89	93	10	5	9	-	1	-	2	291	X		
Serial Numbers		No. of Age Samples																	
X		Number of fish measured each month													-	291	-		
		Mean length of fish (cm) each month													-	80.3	-		
		Mean weight of fish (kg) each month													-	-	-		
		Total weight caught or landed (tons) each month													-	-	-		
		Estimated number caught or landed (whole numbers) each month													-	-	-		
		Range of depths (m) each month													-	-	-		
		Mesh size (mm)													-	-	-		
AGE COMPOSITIONS OF LANDINGS (PER MILLE)																			
Month	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total				
Jul	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Aug	3	145	27	69	38	305	320	34	17	31	-	3	-	7	999				
Sep	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				

TABLE 17

AGE/LENGTH TABLE - COD - 1C - 1970 (1st QUARTER)

GEAR		Otter Trawl (Research)											
CATCHES OR LANDINGS		Catches											
COUNTRY		Germany, Fed. Rep.											
TONNAGE		2000											
STRUCTURES USED IN AGE DETERMINATION		Otoliths											
Length Group (3 cm)	Age	4	5	6	7	8	9	10	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
										Months Within Quarter	Jan	Feb	Mar
33	-	-	-	-	-	-	-	-	-	-	-	-	1
36	2	-	-	-	-	-	-	-	2	-	-	-	14
39	12	-	-	-	-	-	-	-	12	-	-	-	46
42	37	6	-	-	-	-	-	-	43	-	-	-	140
45	24	8	-	-	-	-	-	-	32	-	-	-	170
48	18	12	-	-	-	-	-	-	30	-	-	-	142
51	3	18	1	-	-	-	-	-	22	-	-	-	131
54	-	17	1	-	-	-	-	-	18	-	-	-	97
57	-	16	3	2	-	-	-	-	21	-	-	-	108
60	-	5	4	-	1	-	-	-	10	-	-	-	81
63	-	6	-	1	-	-	-	-	7	-	-	-	31
66	-	1	-	-	-	1	-	-	2	-	-	-	16
69	-	-	1	-	1	-	-	-	2	-	-	-	7
72	-	-	-	1	-	-	-	-	1	-	-	-	5
75	-	-	-	-	-	-	-	1	1	-	-	-	3
78	-	-	-	-	-	-	-	-	-	-	-	-	4
81	-	-	-	-	-	-	-	-	-	-	-	-	4
Total No. of Ages Read									203	1000			
Serial Numbers		St. 38,40,57						No. of Age Samples		3			
X		Number of fish measured each month							-	-	926		
		Mean length of fish (cm) each month							-	-	51.8		
		Mean weight of fish (kg) each month							-	-	-		
		Total weight caught or landed (tons) each month							-	-	1		
		Estimated number caught or landed (whole numbers) each month							-	-	926		
		Range of depths (m) each month							-	-	210-250		
		Mesh size (mm)							-	-	130		

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	Total
Jan	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-
Mar	414	476	61	23	11	8	7	1000

TABLE 18

AGE/LENGTH TABLE - COD - 1C & 1D - 1970 (1ST QUARTER)

GEAR		Otter Trawl (Commercial)																	
CATCHES OR LANDINGS		Landings																	
COUNTRY		Denmark (G)																	
TONNAGE		433																	
STRUCTURES USED IN AGE DETERMINATION		Oroliths																	
Length Group (3 cm)	Age	1966	65	64	63	62	61	60	59	58	57	56	55	54	53	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
		4	5	6	7	8	9	10	11	12	13	14	15	16	17		Months Within Quarter		
																	Jan	Feb	Mar
39		2	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	3
42		11	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	15
45		14	1	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	42
48		13	7	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	69
51		7	21	1	-	-	-	-	-	-	-	-	-	-	-	29	-	-	96
54		1	27	2	-	-	-	-	-	-	-	-	-	-	-	30	-	-	175
57		-	28	2	-	-	-	-	-	-	-	-	-	-	-	30	-	-	190
60		-	30	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	182
63		-	20	4	4	2	-	-	-	-	-	-	-	-	-	30	-	-	99
66		-	12	8	8	1	1	-	-	-	-	-	-	-	-	30	-	-	74
69		-	2	12	4	1	-	1	-	-	-	-	-	-	-	20	-	-	28
72		-	-	-	3	1	-	-	-	-	-	-	-	-	-	4	-	-	6
75		-	-	-	2	3	-	1	-	-	-	-	-	-	-	6	-	-	8
78		-	1	-	1	3	-	-	-	-	-	-	-	-	-	5	-	-	7
81		-	-	-	2	-	-	1	-	-	-	-	-	-	-	3	-	-	4
84		-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	1
--		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
111		-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1
Total No. of Ages Read		48	149	29	25	11	1	3	-	-	-	-	-	-	1	267	1000		
Serial Numbers		st. 2250														No. of Age Samples			
X		Number of fish measured each month														-	-	720	
		Mean length of fish (cm) each month														-	-	58.3	
		Mean weight of fish (kg) each month														-	-	1.6	
		Total weight caught or landed (tons) each month														-	-	56 ¹	
		Estimated number caught or landed (whole numbers) each month														-	-	-	
		Range of depths (m) each month														-	-	-	
Mesh size (mm)																-	-	-	

Month	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total
Jan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mar	131	713	76	51	24	3	4	-	-	-	-	-	-	1	1003

¹ Gutted weight

TABLE 18
(continued)

AGE/LENGTH TABLE - COD - 1C & 1D - 1970 (2ND QUARTER)

GEAR		Otter Trawl (Commercial)												
CATCHES OR LANDINGS		Landings												
COUNTRY		Denmark (G)												
TONNAGE		433												
STRUCTURES USED IN AGE DETERMINATION		Otoliths												
Length Group (3 cm)	Age	1966	65	64	63	62	61	60	59	58	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
		4	5	6	7	8	9	10	11	12		Months Within Quarter		
												Apr	May	Jun
39		1	-	-	-	-	-	-	-	-	1	1	-	-
42		11	1	-	-	-	-	-	-	-	12	14	-	-
45		11	3	1	-	-	-	-	-	-	15	39	-	-
48		8	8	4	-	-	-	-	-	-	20	80	-	-
51		2	24	2	2	-	-	-	-	-	30	134	-	-
54		-	20	9	1	-	-	-	-	-	30	148	-	-
57		-	16	11	2	-	-	-	-	-	29	156	-	-
60		-	17	9	3	-	1	-	-	-	30	147	-	-
63		-	3	9	17	-	-	-	-	-	29	100	-	-
66		-	2	5	19	3	1	-	-	-	30	90	-	-
69		-	-	5	16	5	1	-	-	-	27	35	-	-
72		-	-	2	17	1	-	-	-	-	20	24	-	-
75		-	-	-	10	1	2	-	-	-	13	14	-	-
78		-	-	-	1	1	1	-	-	-	3	3	-	-
81		-	-	-	4	2	2	2	-	-	10	12	-	-
84		-	-	-	-	1	-	-	-	1	2	2	-	-
87		-	-	-	-	-	1	-	-	-	1	1	-	-
96		-	-	-	-	-	1	-	-	-	1	1	-	-
Total No. of Ages Read		33	94	57	92	14	10	2	-	1	303	1001	-	-
Serial Numbers		st. 2252										No. of Age Samples		
X		Number of fish measured each month										934	-	-
		Mean length of fish (cm) each month										58.7	-	-
		Mean weight of fish (kg) each month										1.6	-	-
		Total weight caught or landed (tons) each month										87 ¹	-	-
		Estimated number caught or landed (whole numbers) each month										-	-	-
		Range of depths (m) each month										-	-	-
Mesh size (mm)										-	-	-		

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	11	12	Total
Apr	83	433	230	213	22	17	2	-	1	1001
May	-	-	-	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-	-	-	-

¹ Gutted weight

TABLE 19

AGE/LENGTH TABLE - COD - 1D - 1970 (1st QUARTER)

GEAR		Otter Trawl (Research)											
CATCHES OR LANDINGS		Catches											
COUNTRY		USSR											
TONNAGE		3600											
STRUCTURES USED IN AGE DETERMINATION		Otoliths											
Length Group (cm)	Age								Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
	3	4	5	6	7	8	9	Months Within Quarter					
		Jan	Feb	Mar									
39	-	5	-	-	-	-	-	5	-	17	-		
42	-	11	-	-	-	-	-	11	-	37	-		
45	1	53	-	-	-	-	-	54	-	180	-		
48	-	32	3	-	-	-	-	35	-	119	-		
51	-	13	14	-	-	-	-	27	-	90	-		
54	-	4	27	-	-	-	-	31	-	103	-		
57	-	-	50	3	1	-	-	54	-	179	-		
60	-	-	42	1	-	-	-	43	-	143	-		
63	-	-	23	4	-	-	-	27	-	90	-		
66	-	-	7	2	1	-	-	10	-	33	-		
69	-	-	-	1	-	-	-	1	-	3	-		
72	-	-	-	-	-	-	1	1	-	3	-		
75	-	-	-	-	1	-	-	1	-	3	-		
									-	1000	-		
Total No. of Ages Read		1	118	166	11	3	-	1	300	X			
Serial Numbers	No. of Age Samples										1	X	
X	Number of fish measured each month								-	300	-		
	Mean length of fish (cm) each month								-	54.5	-		
	Mean weight of fish (kg) each month								-	1.52	-		
	Total weight caught or landed (tons) each month								-	113	-		
	Estimated number caught or landed (whole numbers) each month								-	74587	-		
	Range of depths (m) each month								-	90-200	-		
Mesh size (mm)								-	110	-			

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	3	4	5	6	7	8	9	Total
Feb	3	394	553	37	10	-	3	1000

TABLE 19
(continued)

AGE/LENGTH TABLE - COD - 1D - 1970 (1st QUARTER)

GEAR		Otter Trawl (Research)															
CATCHES OR LANDINGS		Catches															
COUNTRY		Germany, Fed. Rep.															
TONNAGE		2000															
STRUCTURES USED IN AGE DETERMINATION		Otoliths															
Length Group (3 cm)	Age	3	4	5	6	7	8	9	10	11	12	13	14	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
															Months Within Quarter		
														Jan	Feb	Mar	
33	-	3	-	-	-	-	-	-	-	-	-	-	3	-	-	4	
36	1	6	-	-	-	-	-	-	-	-	-	-	7	-	-	9	
39	-	10	-	-	-	-	-	-	-	-	-	-	10	-	-	30	
42	-	8	1	-	-	-	-	-	-	-	-	-	9	-	-	56	
45	-	18	4	-	-	-	-	-	-	-	-	-	22	-	-	94	
48	-	5	5	-	-	-	-	-	-	-	-	-	10	-	-	104	
51	-	2	16	1	-	-	-	-	-	-	-	-	19	-	-	123	
54	-	1	21	2	4	-	-	-	-	-	-	-	28	-	-	126	
57	-	1	16	5	-	-	-	-	-	-	-	-	22	-	-	119	
60	-	-	9	8	-	-	-	-	-	-	-	-	17	-	-	110	
63	-	-	10	5	1	-	-	-	-	-	-	-	16	-	-	68	
66	-	-	2	9	6	-	-	-	-	-	-	-	17	-	-	47	
69	-	-	2	5	6	1	-	-	-	-	-	-	14	-	-	25	
72	-	-	-	3	2	-	-	-	-	-	-	-	5	-	-	20	
75	-	-	2	1	5	-	1	1	1	-	-	-	11	-	-	25	
78	-	-	-	-	3	5	-	1	-	-	-	-	9	-	-	19	
81	-	-	-	-	1	1	1	1	-	-	-	-	4	-	-	8	
84	-	-	-	-	-	1	-	-	-	-	-	1	2	-	-	8	
87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
90	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	2	
93	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	
96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Total No. of Ages Read		1	54	88	39	28	8	2	5	1	-	-	1	227	1000		
Serial Numbers		St. 22,23,24,52										No. of Age Samples 4					
X		Number of fish measured each month												-	-	2331	
		Mean length of fish (cm) each month												-	-	56.8	
		Mean weight of fish (kg) each month												-	-	-	
		Total weight caught or landed (tons) each month												-	-	4	
		Estimated number caught or landed (whole numbers) each month												-	-	2331	
		Range of depths (m) each month												-	-	215-300	
		Mesh size (mm)												-	-	130	

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	3	4	5	6	7	8	9	10	11	12	13	14	Total
Jan	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-	-
Mar	1	244	474	164	79	19	4	9	2	-	-	4	1000

TABLE 19
(continued)

AGE/LENGTH TABLE - COD - 1D - 1970 (2nd QUARTER)

GEAR		Otter trawl (Research)												
CATCHES OR LANDINGS		Catches												
COUNTRY		Denmark (G)												
TONNAGE		150-500												
STRUCTURES USED IN AGE DETERMINATION		Otoliths												
Length Group (3 cm)	Age	68	67	66	65	64	63	62	61	60	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
		2	3	4	5	6	7	8	9	10		Months Within Quarter		
												Apr	May	June
15		2	-	-	-	-	-	-	-	-	2	-	-	12
18		4	-	-	-	-	-	-	-	-	4	-	-	25
21		7	-	-	-	-	-	-	-	-	7	-	-	43
24		4	1	-	-	-	-	-	-	-	5	-	-	31
27		1	1	-	-	-	-	-	-	-	2	-	-	12
30		-	7	4	-	-	-	-	-	-	11	-	-	68
33		-	3	7	-	-	-	-	-	-	10	-	-	62
36		-	1	19	-	-	-	-	-	-	20	-	-	123
39		-	3	31	-	-	-	-	-	-	34	-	-	210
42		-	-	15	2	-	-	-	-	-	17	-	-	105
45		-	-	15	-	-	-	-	-	-	15	-	-	93
48		-	-	8	3	-	-	-	-	-	11	-	-	68
51		-	-	1	6	-	-	-	-	-	7	-	-	43
54		-	-	-	4	-	-	-	-	-	4	-	-	25
57		-	-	-	1	-	-	-	-	-	1	-	-	6
60		-	-	-	2	2	-	-	-	-	4	-	-	25
63		-	-	-	2	1	-	-	-	-	3	-	-	19
66		-	-	-	-	-	1	-	-	-	1	-	-	6
78		-	-	-	-	-	1	-	2	-	3	-	-	19
81		-	-	-	-	-	-	-	-	-	-	-	-	-
84		-	-	-	-	-	-	-	-	-	-	-	-	-
87		-	-	-	-	-	-	-	-	1	1	-	-	6
												-	-	1001
Total No. of Ages Read		18	16	100	20	3	2	-	2	1	162			
Serial Numbers	St. 4376	No. of Age Samples												
X	Number of fish measured each month											-	-	162
	Mean length of fish (cm) each month											-	-	41.7
	Mean weight of fish (kg) each month											-	-	-
	Total weight caught or landed (tons) each month											-	-	-
	Estimated number caught or landed (whole numbers) each month											-	-	-
	Range of depths (m) each month											-	-	300
	Mesh size (mm)											-	-	18

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	2	3	4	5	6	7	8	9	10	Total
Apr	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-
June	111	99	618	124	19	12	-	13	6	1002

TABLE 19
(continued)

AGE/LENGTH TABLE - COD - 1D - 1970 (2nd QUARTER)

GEAR		Otter Trawl (Commercial)														
CATCHES OR LANDINGS		Landings														
COUNTRY		Denmark (G)														
TONNAGE		433														
STRUCTURES USED IN AGE DETERMINATION		Otoliths														
Length Group (3 cm)	Age	66	65	64	63	62	61	60	59	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE					
		4	5	6	7	8	9	10	11		Months Within Quarter					
											Apr	May	Jun			
42		1	-	1	-	-	-	-	-	2	-	-	8			
45		1	-	5	-	-	-	-	-	6	-	-	24			
48		-	1	13	3	-	-	-	-	17	-	-	68			
51		-	5	21	8	2	-	-	-	36	-	-	143			
54		-	1	11	23	3	-	-	-	38	-	-	151			
57		-	1	10	19	2	1	-	-	33	-	-	131			
60		-	-	4	29	7	1	-	-	41	-	-	163			
63		-	1	-	21	6	1	1	-	30	-	-	120			
66		-	-	-	16	4	3	-	-	23	-	-	92			
69		-	-	1	10	1	2	-	-	14	-	-	56			
72		-	-	-	3	3	-	-	-	6	-	-	24			
75		-	-	-	1	1	1	-	-	3	-	-	12			
78		-	-	-	1	-	-	-	-	1	-	-	4			
102		-	-	-	-	-	-	-	1	1	-	-	4			
Total No. of Ages Read		2	9	66	134	29	9	1	1	251	1000					
Serial Numbers		st. 2259														
		No. of Age Samples														
X		Number of fish measured each month												-	-	251
		Mean length of fish (cm) each month												-	-	59.2
		Mean weight of fish (kg) each month												-	-	1.6
		Total weight caught or landed (tons) each month												-	-	24 ¹
		Estimated number caught or landed (whole numbers) each month												-	-	-
		Range of depths (m) each month												-	-	-
		Mesh size (mm)												-	-	-

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	11	Total
Apr	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-
Jun	8	36	263	534	116	36	4	4	1001

¹ Gutted weight

TABLE 19
(continued)

AGE/LENGTH TABLE - COD - 1D - 1970 (2nd QUARTER)

GEAR		Longline (Research)														Total	LENGTH COMPOSITION				
CATCHES OR LANDINGS		Catches														No. of	PER MILLE				
COUNTRY		Denmark (G)														Ages	Months Within Quarter				
TONNAGE		150-500														Read	Apr May June				
STRUCTURES USED IN AGE DETERMINATION		Otoliths																			
Length Group (3 cm)	Age	66	65	64	63	62	61	60	59	58	57	56	55	-	53	-	50				
		4	5	6	7	8	9	10	11	12	13	14	15	-	17	-	20				
42		6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	11	
45		10	1	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	20	
48		7	4	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	20	
51		9	7	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	29	
54		4	14	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	37	
57		-	29	-	-	-	-	-	-	-	-	-	-	-	-	-	29	-	-	68	
60		-	25	2	1	-	-	-	-	-	-	-	-	-	-	-	28	-	-	88	
63		-	22	1	6	1	-	-	-	-	-	-	-	-	-	-	30	-	-	66	
66		-	5	5	6	-	2	-	-	-	-	-	-	-	-	-	18	-	-	33	
69		-	1	4	7	1	1	1	-	-	1	-	-	-	-	-	16	-	-	29	
72		-	-	3	5	5	4	3	-	-	-	-	-	-	-	-	20	-	-	37	
75		-	-	1	8	5	6	2	-	-	-	-	-	-	-	-	22	-	-	40	
78		-	-	-	2	5	13	9	1	-	-	-	-	-	-	-	30	-	-	97	
81		-	-	-	1	2	16	8	2	1	-	-	-	-	-	-	30	-	-	81	
84		-	-	-	-	1	8	19	1	-	1	-	-	-	-	-	30	-	-	90	
87		-	-	-	-	1	5	14	2	2	1	-	1	-	1	-	27	-	-	59	
90		-	-	-	-	-	7	13	-	2	6	-	1	-	-	-	29	-	-	73	
93		-	-	-	-	-	1	14	1	1	4	-	-	-	-	1	22	-	-	42	
96		-	-	-	-	-	2	7	1	-	6	1	-	-	-	-	17	-	-	31	
99		-	-	-	-	-	-	6	2	-	5	2	-	-	1	-	16	-	-	29	
102		-	-	-	-	-	-	4	-	-	3	-	-	-	-	-	7	-	-	13	
105		-	-	-	-	-	-	1	-	-	2	-	-	-	-	-	3	-	-	6	
Total No. of Ages Read		36	108	16	36	21	65	101	10	6	29	3	2	-	2	-	1	436	999		
Serial Numbers	St. 4383	No. of Age Samples																			
X	Number of fish measured each month															-	-	545			
	Mean length of fish (cm) each month															-	-	75.1			
	Mean weight of fish (kg) each month															-	-	38.4			
	Total weight caught or landed (tons) each month															-	-	-			
	Estimated number caught or landed (whole numbers) each month															-	-	-			
	Range of depths (m) each month															-	-	240-310			
Mesh size (mm)															-	-	-				

AGE COMPOSITIONS OF LANDINGS (PER MILLE)														Total			
Month	4	5	6	7	8	9	10	11	12	13	14	15	-	17	-	20	
Apr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June	66	257	32	73	49	167	242	23	14	59	5	5	-	4	-	2	998

TABLE 19
(continued)

AGE/LENGTH TABLE - COD - 1D - 1970 (3RD QUARTER)

GEAR		Otter Trawl (Commercial)																			
CATCHES OR LANDINGS		Landings																			
COUNTRY		Denmark (G)																			
TONNAGE		433																			
STRUCTURES USED IN AGE DETERMINATION		Otoliths																			
Length Group (3 cm)	Age	66	65	64	63	62	61	60	59	58	57	56	55	54	53	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE				
		4	5	6	7	8	9	10	11	12	13	14	15	16	17		Months Within Quarter				
																Jul			Aug	Sep	
42		1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-		
45		8	2	-	-	-	-	-	-	-	-	-	-	-	-	10	18	-	-		
48		13	5	-	-	-	-	-	-	-	-	-	-	-	-	18	39	-	-		
51		6	12	1	-	-	-	-	-	-	-	-	-	-	-	19	34	-	-		
54		6	13	2	3	-	-	-	-	-	-	-	-	-	-	24	46	-	-		
57		1	14	7	4	-	-	-	-	-	-	-	-	-	-	26	69	-	-		
60		-	17	4	8	1	-	-	-	-	-	-	-	-	-	30	87	-	-		
63		-	9	7	10	4	-	-	-	-	-	-	-	-	-	30	93	-	-		
66		-	2	9	15	2	-	-	-	-	-	-	-	-	-	28	78	-	-		
69		-	-	6	20	3	1	-	-	-	-	-	-	-	-	30	94	-	-		
72		-	-	2	20	3	2	-	-	-	-	-	-	-	-	27	62	-	-		
75		-	-	1	19	5	5	-	-	-	-	-	-	-	-	30	73	-	-		
78		-	-	1	16	8	4	2	-	-	-	-	-	-	-	31	78	-	-		
81		-	-	-	9	8	8	4	-	-	-	-	-	-	-	29	80	-	-		
84		-	-	-	4	6	8	7	-	-	-	-	-	-	-	25	55	-	-		
87		-	-	-	-	6	5	5	-	1	-	-	-	1	-	18	32	-	-		
90		-	-	-	-	-	4	3	1	1	-	-	1	-	-	10	18	-	-		
93		-	-	-	-	-	5	3	1	2	2	-	-	-	-	13	23	-	-		
96		-	-	-	-	-	1	1	-	-	-	-	-	-	-	2	4	-	-		
99		-	-	-	-	-	-	2	1	1	-	-	-	-	-	4	7	-	-		
102		-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2	-	-		
105		-	-	-	-	-	-	-	-	-	1	-	1	-	-	2	4	-	-		
Total No. of Ages Read		35	74	40	128	46	43	27	3	4	5	-	1	1	1	408	998			-	
Serial Numbers		st. 2283														No. of Age Samples					
X		Number of fish measured each month														561					
		Mean length of fish (cm) each month														70.1					
		Mean weight of fish (kg) each month														2.6					
		Total weight caught or landed (tons) each month														25 ¹					
		Estimated number caught or landed (whole numbers) each month																			
		Range of depths (m) each month																			
		Mesh size (mm)																			

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total
Jul	70	181	111	341	116	97	57	5	7	9	-	2	2	2	1000
Aug	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

¹ Gutted weight

TABLE 19
(continued)

AGE/LENGTH TABLE - COD - 1D - 1970 (3rd QUARTER)

GEAR		Otter Trawl (Research)													
CATCHES OR LANDINGS		Catches													
COUNTRY		USSR													
TONNAGE		3600													
STRUCTURES USED IN AGE DETERMINATION		Otoliths													
Length Group (3 cm)	Age	4	5	6	7	8	9	10	11	12	13	Total No. of Ages Read	LENGTH COMPOSITION PER MILE		
													Months Within Quarter		
												July	Aug	Sep	
39		3	-	-	-	-	-	-	-	-	-	3	-	10	-
42		4	-	-	-	-	-	-	-	-	-	4	-	13	-
45		14	1	-	-	-	-	-	-	-	-	15	-	50	-
48		3	15	2	-	-	-	-	-	-	-	20	-	67	-
51		3	19	5	1	-	-	-	-	-	-	28	-	93	-
54		-	20	8	1	-	-	-	-	-	-	29	-	97	-
57		-	17	11	11	2	-	-	-	-	-	44	-	137	-
60		-	13	11	4	1	-	-	-	-	-	29	-	97	-
63		-	1	11	8	2	-	-	-	-	-	22	-	73	-
66		-	2	7	4	4	-	-	-	-	-	17	-	57	-
69		-	-	2	13	4	-	-	-	-	-	19	-	63	-
72		-	-	1	12	2	1	-	-	-	-	16	-	53	-
75		-	-	1	11	2	1	1	-	-	-	16	-	53	-
78		-	-	-	8	3	7	-	-	-	-	18	-	60	-
81		-	-	-	4	-	1	-	-	-	-	5	-	17	-
84		-	-	-	1	2	3	1	1	-	-	8	-	27	-
87		-	-	-	-	-	4	-	-	-	-	4	-	13	-
90		-	-	-	-	-	1	1	-	-	-	3	-	10	-
93		-	-	-	-	-	1	1	-	-	-	2	-	7	-
96		-	-	-	-	-	-	-	-	-	-	-	-	-	-
99		-	-	-	-	-	-	-	-	-	-	-	-	-	-
102		-	-	-	-	-	-	1	-	-	-	1	-	3	-
Total No. of Ages Read		27	88	59	78	22	19	5	1	-	1	300	1000		
Serial Numbers		No. of Age Samples											1		
X		Number of fish measured each month											-	300	-
		Mean length of fish (cm) each month											-	62.8	-
		Mean weight of fish (kg) each month											-	2.36	-
		Total weight caught or landed (tons) each month											-	4	-
		Estimated number caught or landed (whole numbers) each month											-	1692	-
		Range of depths (m) each month											-	135-160	-
		Mesh size (mm)											-	110	-

AGE COMPOSITIONS OF LANDINGS (PER MILE)

Month	4	5	6	7	8	9	10	11	12	13	Total
Aug	90	293	197	260	74	63	17	3	-	3	1000

TABLE 19
(continued)

AGE/LENGTH TABLE - COD - 1D - 1970 (4TH QUARTER)

GEAR		Otter Trawl (Commercial)													
CATCHES OR LANDINGS		Landings													
COUNTRY		Denmark (G)													
TONNAGE		433													
STRUCTURES USED IN AGE DETERMINATION		Otoliths													
Length Group (3 cm)	Age	66	65	64	63	62	61	60	59	58	57	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
		4	5	6	7	8	9	10	11	12	13		Months Within Quarter		
													Oct	Nov	Dec
39		1	-	-	-	-	-	-	-	-	-	1	-	-	2
42		7	-	-	-	-	-	-	-	-	-	7	-	-	14
45		14	-	-	-	-	-	-	-	-	-	14	-	-	66
48		20	-	-	-	-	-	-	-	-	-	20	-	-	68
51		24	2	-	-	-	-	-	-	-	-	26	-	-	72
54		16	13	1	-	-	-	-	-	-	-	30	-	-	78
57		5	20	-	-	-	-	-	-	-	-	25	-	-	51
60		-	25	3	1	-	-	-	-	-	-	29	-	-	72
63		-	15	4	6	1	2	-	-	-	-	28	-	-	57
66		1	7	11	10	1	-	-	-	-	-	30	-	-	102
69		-	9	7	9	4	1	-	-	-	-	30	-	-	74
72		-	4	9	12	3	-	-	-	-	-	28	-	-	62
75		-	-	5	18	3	2	-	-	-	-	28	-	-	70
78		-	-	2	11	6	3	-	-	-	-	22	-	-	59
81		-	-	-	8	5	5	-	-	-	1	19	-	-	39
84		-	-	-	11	5	1	1	-	-	1	19	-	-	45
87		-	-	-	2	3	5	5	-	-	-	15	-	-	29
90		-	-	-	-	2	1	4	-	-	-	7	-	-	14
93		-	-	-	-	1	1	3	-	-	-	5	-	-	10
96		-	-	-	-	1	2	-	-	1	-	4	-	-	8
99		-	-	-	-	-	1	-	1	-	-	2	-	-	4
102		-	-	-	-	-	-	1	-	-	-	1	-	-	2
105		-	-	-	-	-	-	1	-	-	-	1	-	-	2
Total No. of Ages Read		88	95	42	88	35	24	15	1	1	2	391			1000
Serial Numbers	st. 2294	No. of Age Samples													
X	Number of fish measured each month											-	-	512	
	Mean length of fish (cm) each month											-	-	66.0	
	Mean weight of fish (kg) each month											-	-	2.7	
	Total weight caught or landed (tons) each month											-	-	39 ¹	
	Estimated number caught or landed (whole numbers) each month											-	-	-	
	Range of depths (m) each month											-	-	-	
Mesh size (mm)											-	-	-		

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	11	12	13	Total
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	272	228	111	218	81	52	30	2	2	5	1001

¹ Gutted weight

TABLE 20

AGE/LENGTH TABLE - COD - 1D & 1E - 1970 (1ST QUARTER)

GEAR		Otter Trawl (Commercial)																		
CATCHES OR LANDINGS		Landings																		
COUNTRY		Denmark (G)																		
TONNAGE		433																		
STRUCTURES USED IN AGE DETERMINATION		Otoliths																		
Length Group (3 cm)	Age	66	65	64	63	62	61	60	59	58	57	56	55	54	53	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		4	5	6	7	8	9	10	11	12	13	14	15	16	17		Months Within Quarter			
																	Jan	Feb	Mar	
45		1	3	-	-	-	-	-	-	-	-	-	-	-	-	4	-	5	-	
48		-	12	3	-	-	-	-	-	-	-	-	-	-	-	15	-	23	-	
51		-	18	5	-	-	-	-	-	-	-	-	-	-	-	23	-	38	-	
54		-	19	8	2	1	-	-	-	-	-	-	-	-	-	30	-	106	-	
57		-	17	12	1	-	-	-	-	-	-	-	-	-	-	30	-	95	-	
60		-	15	10	5	-	-	-	-	-	-	-	-	-	-	30	-	110	-	
63		-	8	12	8	1	1	-	-	-	-	-	-	-	-	30	-	129	-	
66		-	1	9	19	1	-	-	-	-	-	-	-	-	-	30	-	107	-	
69		-	-	6	15	7	1	-	-	1	-	-	-	-	-	30	-	76	-	
72		-	-	2	17	7	2	2	-	-	-	-	-	-	-	30	-	66	-	
75		-	-	1	11	4	8	3	-	-	1	-	-	-	-	28	-	65	-	
78		-	-	-	8	9	8	4	-	-	1	-	-	-	-	30	-	52	-	
81		-	-	-	4	10	10	3	-	-	-	-	-	-	-	27	-	47	-	
84		-	-	-	-	4	9	6	1	-	-	-	-	-	-	20	-	27	-	
87		-	-	-	2	3	5	4	2	-	1	-	-	-	-	18	-	25	-	
90		-	-	-	-	-	2	5	-	1	3	-	-	-	-	11	-	15	-	
93		-	-	-	-	-	-	2	-	-	1	-	-	-	-	4	-	5	-	
96		-	-	-	-	-	1	1	-	-	-	-	-	-	-	2	-	3	-	
99		-	-	-	-	-	-	1	1	-	2	-	-	-	-	4	-	5	-	
Total No. of Ages Read		1	93	68	92	47	47	31	4	2	9	-	-	-	2	396				
Serial Numbers	at. 2249	No. of Age Samples																		
X	Number of fish measured each month														-	728	-			
	Mean length of fish (cm) each month														-	67.1	-			
	Mean weight of fish (kg) each month														-	2.6	-			
	Total weight caught or landed (tons) each month														-	60 ¹	-			
	Estimated number caught or landed (whole numbers) each month														-	-	-			
	Range of depths (m) each month														-	-	-			
Mesh size (mm)														-	-	-				

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total
Jan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb	1	268	222	254	96	84	49	4	4	13	-	-	-	3	998
Mar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

¹ Gutted weight

TABLE 21
(continued)

AGE/LENGTH TABLE - COD - 1E - 1970 (2ND QUARTER)

GEAR		Otter Trawl (Commercial)															
CATCHES OR LANDINGS		Landings															
COUNTRY		Denmark (G)															
TONNAGE		433															
STRUCTURES USED IN AGE DETERMINATION		Otoliths															
Length Group (3 cm)	Age	56	65	64	63	62	61	60	59	58	57	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE				
		4	5	6	7	8	9	10	11	12	13		Months Within Quarter				
												Apr	May	Jun			
39		1	-	-	-	-	-	-	-	-	1	-	-	1			
42		1	1	-	-	-	-	-	-	-	2	-	-	3			
45		3	2	1	-	-	-	-	-	-	6	-	-	9			
48		1	12	2	-	-	-	-	-	-	15	-	-	21			
51		-	12	12	4	-	-	-	-	-	28	-	-	40			
54		-	6	14	6	-	-	-	-	-	26	-	-	74			
57		-	5	14	12	2	-	-	-	-	33	-	-	99			
60		-	4	5	17	4	-	-	-	-	30	-	-	106			
63		-	-	2	25	3	1	-	-	-	31	-	-	130			
66		-	5	5	16	5	-	-	-	-	31	-	-	121			
69		-	-	2	20	7	1	-	-	-	30	-	-	71			
72		-	-	2	11	12	1	4	-	-	30	-	-	86			
75		-	-	-	17	5	5	2	-	-	29	-	-	76			
78		-	-	-	8	10	8	4	1	-	31	-	-	61			
81		-	-	-	10	8	6	3	1	-	28	-	-	41			
84		-	-	-	1	1	10	4	-	1	17	-	-	24			
87		-	-	-	1	4	4	4	-	-	13	-	-	19			
90		-	-	-	-	-	4	2	-	-	6	-	-	9			
93		-	-	-	-	-	-	-	-	-	-	-	-	-			
96		-	-	-	-	-	-	1	-	-	2	-	-	3			
99		-	-	-	-	-	-	2	-	-	2	-	-	3			
102		-	-	-	-	-	-	-	-	-	1	-	-	1			
105		-	-	-	-	-	-	-	1	-	1	-	-	1			
Total No. of Ages Read		6	47	59	148	61	40	26	3	1	2	393					
Serial Numbers	2272	No. of Age Samples															
X		Number of fish measured each month											-	-	700		
		Mean length of fish (cm) each month											-	-	67.0		
		Mean weight of fish (kg) each month											-	-	2.2		
		Total weight caught or landed (tons) each month											-	-	54 ¹		
		Estimated number caught or landed (whole numbers) each month											-	-	-		
		Range of depths (m) each month											-	-	-		
X		Mesh size (mm)											-	-	-		

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	11	12	13	Total
Apr	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-
Jun	8	104	159	443	155	73	48	5	1	3	999

¹ Gutted weight

TABLE 21
(continued)

AGE/LENGTH TABLE - COD - 1E - 1970 (3RD QUARTER)

GEAR		Otter Trawl (Commercial)													
CATCHES OR LANDINGS		Landings													
COUNTRY		Denmark (G)													
TONNAGE		433													
STRUCTURES USED IN AGE DETERMINATION		Otoliths													
Length Group (3 cm)	Age	66	65	64	63	62	61	60	59	58	57	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
		4	5	6	7	8	9	10	11	12	13		Months Within Quarter	Jul	Aug	Sep
45		4	1	-	-	-	-	-	-	-	-	5	-	7	-
48		2	5	5	1	-	-	-	-	-	-	13	-	21	-
51		-	8	15	2	-	-	-	-	-	-	25	-	50	-
54		-	11	8	12	-	-	-	-	-	-	31	-	92	-
57		-	9	10	11	-	-	-	-	-	-	30	-	101	-
60		-	3	9	19	-	-	-	-	-	-	31	-	154	-
63		-	3	4	16	6	-	-	-	-	-	29	-	114	-
66		-	1	4	18	7	-	-	-	-	-	30	-	113	-
69		-	1	1	18	7	3	-	-	-	-	30	-	88	-
72		-	-	-	17	7	5	-	-	-	-	29	-	60	-
75		-	-	-	13	8	7	1	-	-	1	30	-	63	-
78		-	-	-	4	15	4	5	-	-	-	28	-	51	-
81		-	-	-	5	7	2	4	-	-	-	18	-	25	-
84		-	-	-	4	3	6	3	-	-	-	16	-	24	-
87		-	-	-	-	1	3	2	-	-	-	6	-	8	-
90		-	-	-	-	-	4	2	1	-	-	7	-	10	-
93		-	-	-	1	-	-	-	-	-	1	2	-	3	-
96		-	-	-	-	-	-	3	-	-	-	3	-	4	-
99		-	-	-	-	-	2	1	2	-	1	6	-	8	-
102		-	-	-	-	-	-	-	-	-	1	1	-	1	-
105		-	-	-	-	-	-	-	-	-	1	1	-	1	-
---		-	-	-	-	-	-	-	-	-	-	-	-	-	-
117		-	-	-	-	-	-	-	-	-	1	1	-	1	-
Total No. of Ages Read		6	42	56	141	61	36	21	3	-	6	372	999		
Serial Numbers st. 2289		No. of Age Samples													
X		Number of fish measured each month											-	719	-
		Mean length of fish (cm) each month											-	66.0	-
		Mean weight of fish (kg) each month											-	2.2	-
		Total weight caught or landed (tons) each month											-	109 ¹	-
		Estimated number caught or landed (whole numbers) each month											-	-	-
		Range of depths (m) each month											-	-	-
Mesh size (mm)													-	-	-

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	11	12	13	Total
Jul	-	-	-	-	-	-	-	-	-	-	-
Aug	9	122	174	440	145	65	32	4	-	7	998
Sep	-	-	-	-	-	-	-	-	-	-	-

¹ Gutted weight

TABLE 21
(continued)

AGE/LENGTH TABLE - COD -- 1E - 1970 (4TH QUARTER)

GEAR		Otter Trawl (Commercial)													
CATCHES OR LANDINGS		Landings													
COUNTRY		Denmark (G)													
TONNAGE		150-500													
STRUCTURES USED IN AGE DETERMINATION		Otoliths													
Length Group (3 cm)	Age	66	65	64	63	62	61	60	59	58	57	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
		4	5	6	7	8	9	10	11	12	13		Months Within Quarter		
												Oct	Nov	Dec	
42	10	-	-	-	-	-	-	-	-	-	10	13	-	-	
45	8	-	1	-	-	-	-	-	-	-	9	12	-	-	
48	9	5	-	-	-	-	-	-	-	-	14	24	-	-	
51	5	6	3	-	-	-	-	-	-	-	14	18	-	-	
54	2	13	12	1	-	-	-	-	-	-	28	41	-	-	
57	-	15	9	4	-	-	-	-	-	-	28	47	-	-	
60	-	6	10	13	-	-	-	-	-	-	29	86	-	-	
63	-	4	5	20	1	-	-	-	-	-	30	120	-	-	
66	-	5	4	18	2	1	-	-	-	-	30	151	-	-	
69	-	-	7	17	6	-	-	-	-	-	30	132	-	-	
72	-	-	4	23	4	-	-	-	-	-	31	109	-	-	
75	-	-	3	20	5	2	-	-	-	-	30	95	-	-	
78	-	-	2	21	5	2	-	-	-	-	30	56	-	-	
81	-	-	-	7	4	10	1	-	-	-	22	28	-	-	
84	-	-	-	4	4	9	6	1	-	-	24	31	-	-	
87	-	-	-	2	3	5	3	-	-	-	13	20	-	-	
90	-	-	-	1	1	-	-	-	-	-	2	3	-	-	
93	-	-	-	-	-	2	-	-	-	2	4	5	-	-	
96	-	-	-	-	-	1	2	-	-	-	3	4	-	-	
99	-	-	-	-	-	1	-	-	-	1	2	3	-	-	
102	-	-	-	-	-	1	-	-	-	-	1	1	-	-	
105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
108	-	-	-	-	-	-	1	-	-	-	1	1	-	-	
Total No. of Ages Read		34	54	60	151	35	34	13	1	-	3	385	1000		
Serial Numbers	st.2291	No. of Age Samples													
X	Number of fish measured each month												781	-	-
	Mean length of fish (cm) each month												68.4	-	-
	Mean weight of fish (kg) each month												2.7	-	-
	Total weight caught or landed (tons) each month												51 ¹	-	-
	Estimated number caught or landed (whole numbers) each month												-	-	-
	Range of depths (m) each month												-	-	-
	Mesh size (mm)												-	-	-

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	11	12	13	Total
Oct	48	120	167	494	96	53	17	1	-	4	1000
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-

¹ Gutted weight

TABLE 22
(continued)

AGE/LENGTH TABLE - COD - 1F - 1970 (2nd QUARTER)

GEAR		Otter Trawl (Research)												
CATCHES OR LANDINGS		Catches												
COUNTRY		Germany, Fed. Rep.												
TONNAGE		850												
STRUCTURES USED IN AGE DETERMINATION		Otoliths												
Length Group (3 cm)	Age										Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
		5	6	7	8	9	10	11	12	13		Months Within Quarter	Apr	May	June
48		-	2	-	-	-	-	-	-	-	2	-	-	10
51		-	7	2	-	-	-	-	-	-	9	-	-	9
54		1	4	5	1	-	-	-	-	-	11	-	-	19
57		-	3	12	1	-	-	-	-	-	16	-	-	24
60		-	4	23	4	-	-	-	-	-	31	-	-	31
63		1	1	15	2	1	-	-	-	-	20	-	-	40
66		-	2	14	6	3	-	-	-	-	25	-	-	64
69		-	-	7	5	1	-	-	-	-	13	-	-	97
72		-	-	2	1	1	-	-	-	-	4	-	-	114
75		-	-	3	2	2	-	1	-	-	8	-	-	137
78		-	-	-	1	3	3	-	-	-	7	-	-	143
81		-	-	2	3	1	1	-	-	-	7	-	-	102
84		-	-	-	-	3	2	-	-	-	5	-	-	76
87		-	-	-	-	2	1	-	-	-	3	-	-	49
90		-	-	-	-	6	6	-	-	1	13	-	-	30
93		-	-	-	-	2	1	1	-	3	7	-	-	22
96		-	-	-	-	1	3	2	-	1	7	-	-	33
												-	-	1000
Total No. of Ages Read		2	23	85	26	26	17	4	-	5	188			
Serial Numbers	H22, H23														No. of Age Samples	2
		Number of fish measured each month										-	-	674
		Mean length of fish (cm) each month										-	-	76.7
		Mean weight of fish (kg) each month										-	-	-
		Total weight caught or landed (tons) each month										-	-	3
		Estimated number caught or landed (whole numbers) each month										-	-	674
		Range of depths (m) each month										-	-	280-300
		Mesh size (mm)										-	-	130

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	5	6	7	8	9	10	11	12	13	Total
Apr	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-
June	4	40	306	190	261	152	30	-	17	1000

TABLE 22
(continued)

AGE/LENGTH TABLE - COD - 1F - 1970 (2nd QUARTER)

GEAR		Otter Trawl (Research)											Total	LENGTH COMPOSITION		
CATCHES OR LANDINGS		Catches											No. of	PER MILLE		
COUNTRY		Germany, Fed. Rep.											Ages	Months Within Quarter		
TONNAGE		1222											Read	Apr May June		
STRUCTURES USED IN AGE DETERMINATION		Otoliths														
Length Group (3 cm)	Age	5	6	7	8	9	10	11	12	13	14	Total No. of Ages Read	PER MILLE			
													Months Within Quarter			
													Apr	May	June	
42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
45	-	3	-	-	-	-	-	-	-	-	-	3	-	-	6	
48	-	9	1	-	-	-	-	-	-	-	-	10	-	-	19	
51	1	13	2	2	-	-	-	-	-	-	-	18	-	-	30	
54	1	6	18	1	-	-	-	-	-	-	-	26	-	-	41	
57	-	6	25	1	-	-	-	-	-	-	-	32	-	-	57	
60	1	7	27	2	-	-	-	-	-	-	-	37	-	-	73	
63	-	2	23	12	1	-	-	-	-	-	-	38	-	-	92	
66	-	7	26	11	2	2	-	-	-	-	-	42	-	-	116	
69	-	2	24	14	4	-	-	-	-	-	-	44	-	-	124	
72	-	2	22	11	3	-	-	-	-	-	-	38	-	-	116	
75	-	-	20	10	12	1	-	-	-	-	1	44	-	-	94	
78	-	-	13	7	10	6	-	-	-	-	-	36	-	-	73	
81	-	-	4	7	10	3	-	-	-	-	-	24	-	-	49	
84	-	-	2	5	7	5	-	-	-	-	1	20	-	-	36	
87	-	-	1	2	9	4	-	-	1	1	-	18	-	-	26	
90	-	-	1	-	6	3	-	1	1	-	-	12	-	-	18	
93	-	-	-	-	2	1	1	1	2	1	-	7	-	-	12	
96	-	-	-	-	-	2	1	-	-	1	-	4	-	-	7	
99	-	-	-	-	1	-	1	-	-	1	-	3	-	-	4	
102	-	-	-	-	-	-	-	-	-	1	-	1	-	-	2	
105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
111	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Total No. of Ages Read		3	51	209	85	67	27	3	1	5	6	457	1000			
Serial Numbers	H11-H21											No. of Age Samples 11				
X	Number of fish measured each month											-	-	3920		
	Mean length of fish (cm) each month											-	-	70.8		
	Mean weight of fish (kg) each month											-	-	-		
	Total weight caught or landed (tons) each month											-	-	12		
	Estimated number caught or landed (whole numbers) each month											-	-	3920		
	Range of depths (m) each month											-	-	300-400		
Mesh size (mm)											-	-	130			

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	5	6	7	8	9	10	11	12	13	14	Total
Apr	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-
June	6	101	477	204	133	51	5	2	9	12	1000

TABLE 22
(continued)

AGE/LENGTH TABLE - COD - 1F - 1970 (3RD QUARTER)

GEAR		Greenlanders (Commercial)											
CATCHES OR LANDINGS		Landings											
COUNTRY		Denmark (G)											
TONNAGE		0-50											
STRUCTURES USED IN AGE DETERMINATION		Otoliths											
Length Group (3 cm)	Age	66	65	64	63	62	61	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE				
		4	5	6	7	8	9		Months Within Quarter	Jul	Aug	Sep	
39	-	2	-	-	-	-	-	2	-	10	-		
42	-	-	2	-	-	-	-	2	-	10	-		
45	-	2	2	-	-	-	-	4	-	15	5		
48	1	1	6	8	-	-	-	16	-	60	18		
51	-	-	16	20	2	1	-	39	-	131	68		
54	-	2	20	20	5	-	-	47	-	121	119		
57	-	1	14	40	5	-	-	60	-	246	205		
60	-	-	15	37	4	1	-	57	-	156	219		
63	-	-	2	34	10	1	-	47	-	116	142		
66	-	1	3	21	10	6	-	41	-	75	123		
69	-	-	1	13	3	3	-	20	-	30	64		
72	-	-	-	1	5	3	-	9	-	15	27		
75	-	-	-	1	-	1	-	2	-	10	-		
78	-	-	-	1	-	-	-	1	-	5	-		
81	-	-	-	-	-	-	-	-	-	-	-		
84	-	-	-	-	-	1	-	1	-	-	5		
87	-	-	-	1	-	-	-	1	-	-	5		
Total No. of Ages Read								349	-			1000	1000
Serial Numbers		No. of Age Samples											
X		Number of fish measured each month						-	199	219			
		Mean length of fish (cm) each month						-	58.4	61.0			
		Mean weight of fish (kg) each month						-	-	-			
		Total weight caught or landed (tons) each month						-	-	-			
		Estimated number caught or landed (whole numbers) each month						-	-	-			
		Range of depths (m) each month						-	-	-			
		Mesh size (mm)						-	-	-			

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	Total
Jul	-	-	-	-	-	-	-
Aug	4	32	256	568	107	34	1001
Sep	1	15	211	587	134	50	998

TABLE 22
(continued)

AGE/LENGTH TABLE - COD - 1F - 1970 (4th QUARTER)

GEAR							Otter Trawl (Commercial)			
CATCHES OR LANDINGS							Landings			
COUNTRY							Germany, Fed. Rep.			
TONNAGE							649			
STRUCTURES USED IN AGE DETERMINATION							Otoliths			
Length Group (3 cm)	Age					Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
	6	7	8	9	10		Months Within Quarter			
							Oct	Nov	Dec	
45	-	-	-	-	-	-	1	-	-	
48	-	-	-	-	-	-	9	-	-	
51	1	-	-	-	-	1	38	-	-	
54	7	1	-	1	-	9	32	-	-	
57	7	6	-	-	-	13	87	-	-	
60	7	3	-	-	-	10	103	-	-	
63	5	18	-	2	-	25	116	-	-	
66	1	12	5	3	-	21	230	-	-	
69	3	10	5	2	-	20	135	-	-	
72	-	10	1	-	-	11	92	-	-	
75	-	2	6	1	-	9	65	-	-	
78	-	5	1	8	-	14	45	-	-	
81	-	3	1	4	-	8	18	-	-	
84	-	-	3	2	-	5	8	-	-	
87	-	-	-	3	-	3	11	-	-	
90	-	-	-	-	1	1	4	-	-	
93	-	1	-	1	-	2	3	-	-	
96	-	1	-	-	-	1	1	-	-	
99	-	-	-	-	-	-	-	-	-	
102	-	-	-	-	-	-	-	-	-	
105	-	-	-	1	-	1	1	-	-	
						1	1	-	-	
Total No. of Ages Read	31	72	22	28	1	154	1000	-	-	
Serial Numbers	No. of Age Samples									
	Number of fish measured each month						398	-	-	
	Mean length of fish (cm) each month						67.6	-	-	
	Mean weight of fish (kg) each month						-	-	-	
	Total weight caught or landed (tons) each month						19	-	-	
	Estimated number caught or landed (whole numbers) each month						8240	-	-	
	Range of depths (m) each month						?	-	-	
	Mesh size (mm)						130	-	-	

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	6	7	8	9	10	Total
Oct	246	481	151	117	5	1000
Nov	-	-	-	-	-	-
Dec	-	-	-	-	-	-

TABLE 22
(continued)

AGE/LENGTH TABLE - COD - 1F - 1970 (4th QUARTER)

GEAR		Otter Trawl (Commercial)									
CATCHES OR LANDINGS		Landings									
COUNTRY		Germany, Fed. Rep.									
TONNAGE		945									
STRUCTURES USED IN AGE DETERMINATION		Otoliths									
Length Group (3 cm)	Age	6	7	8	9	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE				
							Months Within Quarter				
							Oct	Nov	Dec		
45		1	-	-	-	1	-	7	-		
48		1	-	-	-	1	-	13	-		
51		6	-	-	-	6	-	62	-		
54		14	2	1	-	17	-	151	-		
57		15	9	-	1	25	-	174	-		
60		10	14	5	1	30	-	154	-		
63		2	20	1	-	23	-	132	-		
66		-	13	3	-	16	-	112	-		
69		-	13	3	1	17	-	109	-		
72		-	3	1	1	5	-	49	-		
75		-	2	-	-	2	-	18	-		
78		-	-	1	-	1	-	11	-		
81		-	-	-	-	-	-	5	-		
84		-	-	-	-	-	-	3	-		
							-	1000	-		
Total No. of Ages Read		49	76	15	4	144	X				
Serial Numbers		No. of Age Samples									
X		Number of fish measured each month					-	508	-		
		Mean length of fish (cm) each month					-	62.5	-		
		Mean weight of fish (kg) each month					-	-	-		
		Total weight caught or landed (tons) each month					-	114	-		
		Estimated number caught or landed (whole numbers) each month					-	68493	-		
		Range of depths (m) each month					-	?	-		
Mesh size (mm)					-	130	-				

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	6	7	8	9	Total
Oct	-	-	-	-	-
Nov	372	489	102	37	1000
Dec	-	-	-	-	-

TABLE 22
(continued)

AGE/LENGTH TABLE - COD - 1F - 1970 (4th QUARTER)

GEAR		Otter Trawl (Commercial)															
CATCHES OR LANDINGS														Landings			
COUNTRY														UK			
TONNAGE														501-900			
STRUCTURES USED IN AGE DETERMINATION														Otoliths			
Length Group (3 cm)	Age	4	5	6	7	8	9	10	11	12	13	14	15+	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
															Months Within Quarter		
													Oct	Nov	Dec		
39		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
42		3	2	1	-	-	-	-	-	-	-	-	-	6	-	4	-
45		2	1	6	1	-	-	-	-	-	-	-	10	-	8	-	
48		-	2	8	1	-	-	-	-	-	-	-	11	-	29	-	
51		2	-	8	1	-	-	-	-	-	-	-	11	-	56	-	
54		-	-	7	2	-	-	-	-	-	-	-	9	-	112	-	
57		-	-	5	7	1	1	-	-	-	-	-	14	-	126	-	
60		-	-	1	6	1	-	-	-	-	-	-	8	-	160	-	
63		-	-	2	10	-	-	-	-	-	-	-	12	-	131	-	
66		-	-	-	9	2	-	-	-	-	-	-	11	-	156	-	
69		-	-	1	4	5	-	-	-	-	-	-	10	-	89	-	
72		-	-	-	7	2	1	-	-	-	-	-	10	-	65	-	
75		-	-	-	2	3	6	-	-	-	-	-	11	-	29	-	
78		-	-	-	2	2	3	-	-	-	1	-	8	-	15	-	
81		-	-	-	2	3	5	-	-	-	1	-	11	-	10	-	
84		-	-	-	2	-	4	1	-	1	-	-	8	-	4	-	
87		-	-	-	1	2	7	-	-	-	3	-	13	-	1	-	
90		-	-	-	-	-	3	1	1	-	1	-	6	-	2	-	
93		-	-	-	-	-	2	1	-	1	1	-	6	-	1	-	
96		-	-	-	-	-	1	-	2	-	1	-	5	-	1	-	
99		-	-	-	-	-	-	-	-	1	1	-	3	-	-	-	
102		-	-	-	-	-	2	1	-	1	1	1	6	-	-	-	
105		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
108		-	-	-	-	-	2	1	-	-	-	-	3	-	-	-	
111		-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	
123		-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	
Total No. of Ages Read		7	5	39	57	21	37	6	3	4	10	2	3	194	1000		
Serial Numbers		No. of Age Samples															
X		Number of fish measured each month												-	1833	-	
		Mean length of fish (cm) each month												-	62.9	-	
		Mean weight of fish (kg) each month												-	-	-	
		Total weight caught or landed (tons) each month												-	1088 ¹	-	
		Estimated number caught or landed (whole numbers) each month												-	545 ²	-	
		Range of depths (m) each month												-	-	-	
		Mesh size (mm)												-	-	-	

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	11	12	13	14	15+	Total
Oct	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov	14	7	250	547	130	45	1	1	1	4	-	0	1000
Dec	-	-	-	-	-	-	-	-	-	-	-	-	-

¹ Metric tons gutted
² Numbers in 1000's

TABLE 23
(continued)

AGE/LENGTH TABLE - COD - SOUTH EAST GREENLAND - 1970 (1st QUARTER)

GEAR		Otter Trawl (Research)													Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES OR LANDINGS		Catches														Months Within Quarter		
COUNTRY		Germany, Fed. Rep.																
TONNAGE		2000																
STRUCTURES USED IN AGE DETERMINATION		Otoliths																
Length Group (3 cm)	Age	5	6	7	8	9	10	11	12	13	14	15	16	Jan	Feb	Mar		
		45	-	1	-	-	-	-	-	-	-	-	-				-	1
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8		
57	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-		
60	1	-	4	2	-	-	-	-	-	-	-	-	4	-	-	24		
63	-	1	8	3	-	-	-	-	-	-	-	-	7	-	-	36		
66	1	-	9	4	4	-	-	-	-	-	-	-	12	-	-	52		
69	-	1	11	8	5	1	-	-	-	-	-	-	18	-	-	95		
72	-	-	5	9	5	2	-	-	-	-	-	-	26	-	-	108		
75	-	-	9	5	7	3	-	-	-	-	-	-	21	-	-	95		
78	-	-	5	10	13	1	-	-	-	-	-	-	24	-	-	127		
81	-	-	3	9	11	1	1	-	1	-	-	-	30	-	-	135		
84	-	-	-	5	8	3	1	-	1	-	-	-	27	-	-	120		
87	-	-	-	-	6	5	-	1	-	-	-	-	18	-	-	80		
90	-	-	-	1	1	3	-	-	-	-	-	-	12	-	-	52		
93	-	-	-	-	3	-	-	-	-	-	-	-	5	-	-	24		
96	-	-	-	-	-	-	-	-	-	2	-	-	3	-	-	16		
99	-	-	-	-	-	1	-	-	-	-	-	-	2	-	-	8		
102	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	4		
105	-	-	-	-	-	-	-	-	-	1	-	-	2	-	-	8		
108	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	4		
Total No. of Ages Read		2	3	56	52	62	30	2	1	4	1	-	1	214	-	-	1000	
Serial Numbers St.62,67,68,69		No. of Age Samples											4					
X		Number of fish measured each month											-	-	251			
		Mean length of fish (cm) each month											-	-	76.5			
		Mean weight of fish (kg) each month											-	-	-			
		Total weight caught or landed (tons) each month											-	-	1			
		Estimated number caught or landed (whole numbers) each month											-	-	251			
		Range of depths (m) each month											-	-	310-340			
		Mesh size (mm)											-	-	130			

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	5	6	7	8	9	10	11	12	13	14	15	16	Total
Jan	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-	-
Mar	10	20	268	241	287	136	10	4	16	4	-	4	1000

TABLE 23
(continued)

AGE/LENGTH TABLE - COD - SOUTH EAST GREENLAND - 1970 (4th QUARTER)

GEAR		Otter Trawl (Commercial)									
CATCHES OR LANDINGS		Landings									
COUNTRY		Germany, Fed. Rep.									
TONNAGE		945									
STRUCTURES USED IN AGE DETERMINATION		Otoliths									
Length Group (3 cm)	Age					Total No. of Ages Read	LENGTH COMPOSITION PER MILE				
	6	7	8	9	Months Within Quarter						
						Oct	Nov	Dec			
42	-	-	-	-	-	2	-	-			
45	-	-	-	-	-	2	-	-			
48	3	-	-	-	3	9	-	-			
51	2	-	-	-	2	8	-	-			
54	13	1	-	-	14	56	-	-			
57	13	12	-	-	25	106	-	-			
60	10	8	2	-	20	109	-	-			
63	4	21	5	1	31	201	-	-			
66	6	15	1	2	24	161	-	-			
69	1	15	2	1	19	156	-	-			
72	-	11	4	2	17	116	-	-			
75	-	4	2	-	6	52	-	-			
78	-	-	2	1	3	13	-	-			
81	-	-	-	1	1	4	-	-			
84	-	-	-	-	-	1	-	-			
87	-	-	-	-	-	4	-	-			
Total No. of Ages Read		52	87	18	8	165	1000	-	-		
Serial Numbers		45				No. of Age Samples		1			
X		Number of fish measured each month				465	-	-			
		Mean length of fish (cm) each month				662	-	-			
		Mean weight of fish (kg) each month				-	-	-			
		Total weight caught or landed (tons) each month				72	-	-			
		Estimated number caught or landed (whole numbers) each month				37213	-	-			
		Range of depths (m) each month				-	-	-			
Mesh size (mm)				130	-	-					

AGE COMPOSITIONS OF LANDINGS (PER MILE)

Month	6	7	8	9	Total
Oct	256	569	120	55	1000
Nov	-	-	-	-	-
Dec	-	-	-	-	-

TABLE 24
(continued)

AGE/LENGTH TABLE - COD - EAST GREENLAND - 1970 (1st QUARTER)

GEAR		Otter Trawl (Commercial)															
CATCHES OR LANDINGS		Landings															
COUNTRY		Germany, Fed. Rep.															
TONNAGE		670															
STRUCTURES USED IN AGE DETERMINATION		Otoliths															
Length Group (3 cm)	Age	4	5	6	7	8	9	10	11	12	13	14	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		Months Within Quarter			Jan	Feb	Mar										
42	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	
45	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	
48	2	-	-	1	-	-	-	-	-	-	-	-	3	6	-	-	
51	5	-	-	-	-	-	-	-	-	-	-	-	5	15	-	-	
54	-	3	2	1	-	1	-	-	-	-	-	-	7	15	-	-	
57	-	-	6	2	-	-	-	-	-	-	-	-	8	18	-	5	
60	1	3	10	2	-	-	-	-	-	-	-	-	16	29	-	14	
63	-	3	10	5	1	2	-	-	-	-	-	-	21	42	-	33	
66	-	-	14	7	3	3	-	-	-	-	-	-	27	48	-	59	
69	-	2	6	12	9	19	-	-	-	-	-	-	48	84	-	119	
72	-	-	2	9	6	14	-	-	-	-	-	-	31	90	-	110	
75	-	-	5	14	11	25	-	-	-	-	-	-	55	106	-	119	
78	-	-	-	11	17	30	-	-	1	-	-	-	59	108	-	157	
81	-	-	-	7	17	32	3	-	1	-	-	-	60	96	-	122	
84	-	-	-	4	7	31	4	-	-	-	-	-	46	81	-	129	
87	-	-	-	6	-	15	-	-	-	-	-	-	21	65	-	48	
90	-	-	-	1	3	14	2	-	-	1	-	-	21	53	-	37	
93	-	-	-	-	1	25	-	-	3	-	-	-	29	57	-	28	
96	-	-	-	1	-	6	3	-	1	-	-	-	11	37	-	15	
99	-	-	-	-	-	-	-	-	1	-	-	-	1	17	-	3	
102	-	-	-	-	-	-	-	1	3	-	1	-	5	15	-	-	
105	-	-	-	-	-	-	-	-	-	1	-	-	1	6	-	-	
108	-	-	-	-	-	1	1	-	1	-	-	-	3	7	-	2	
Total No. of Ages Read		8	11	55	83	75	218	14	-	11	2	1	478				
Serial Numbers	1,3,13											No. of Age Samples	3				
	Number of fish measured each month												756	-	366		
	Mean length of fish (cm) each month												79.2	-	78.7		
	Mean weight of fish (kg) each month												-	-	-		
	Total weight caught or landed (tons) each month												75	-	98		
	Estimated number caught or landed (whole numbers) each month												17047	-	29731		
	Range of depths (m) each month												-	-	-		
Mesh size (mm)												130	-	130			

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	11	12	13	14	Total
Jan	20	32	135	187	138	389	40	-	50	6	3	1000
Feb	-	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	20	173	205	579	21	-	2	-	-	1000

TABLE 24
(continued)

AGE/LENGTH TABLE - COD - EAST GREENLAND - 1970 (1st QUARTER)

GEAR		Otter Trawl (Research)																			
CATCHES OR LANDINGS		Catches																			
COUNTRY		Germany, Fed. Rep.																			
TONNAGE		2000																			
STRUCTURES USED IN AGE DETERMINATION		Otoliths																			
Length Group (3cm)	Age	4	5	6	7	8	9	10	11	12	13	14	15	-	17	-	20	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
																	Months Within Quarter				
																		Jan	Feb	Mar	
45		-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	4
48		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
51		-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	3
54		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
57		1	-	-	3	-	1	-	-	-	-	-	-	-	-	-	-	8	-	-	13
60		-	-	1	5	5	1	-	-	-	-	-	-	-	-	-	-	12	-	-	32
63		-	-	-	5	4	5	-	-	-	-	-	-	-	-	-	-	14	-	-	55
66		-	-	1	7	6	9	-	-	-	-	-	-	-	-	-	-	23	-	-	77
69		-	-	2	10	10	12	1	-	-	-	-	-	-	-	-	-	35	-	-	94
72		-	-	1	8	12	16	-	-	-	-	-	-	-	-	-	-	37	-	-	120
75		-	-	-	9	18	22	2	-	-	-	-	-	-	-	-	-	51	-	-	140
78		-	-	-	7	9	26	1	-	-	-	-	-	-	-	-	-	43	-	-	117
81		-	-	1	11	14	21	1	-	2	-	-	-	-	-	-	-	50	-	-	130
84		-	-	-	5	4	18	1	-	-	-	-	-	-	-	-	-	28	-	-	74
87		-	-	-	2	5	15	2	-	1	-	-	-	-	-	-	-	25	-	-	62
90		-	-	-	1	3	13	1	-	-	-	2	-	-	-	-	-	21	-	-	62
93		-	-	-	-	-	3	-	-	-	1	1	-	-	-	-	-	5	-	-	13
96		-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-	4
99		-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	2	-	-	9
102		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
105		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
108		-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	4
111		-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1
114		-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	0
Total No. of Ages Read		4	2	6	73	90	165	9	-	3	2	4	1	-	1	-	1	361	1020		
Serial Numbers		St.73,83,84,88,89,91															No. of Age Samples		7		
X		Number of fish measured each month															-	-	-	675	
		Mean length of fish (cm) each month															-	-	-	75.5	
		Mean weight of fish (kg) each month															-	-	-	-	
		Total weight caught or landed (tons) each month															-	-	-	14	
		Estimated number caught or landed (whole numbers) each month															-	-	-	3743	
		Range of depths (m) each month															-	-	-	300-500	
		Mesh size (mm)															-	-	-	130	

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	11	12	13	14	15	-	17	-	20	Total
Jan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mar	6	11	17	207	251	456	24	-	7	7	11	0	-	1	-	2	1000

TABLE 24
(continued)

AGE/LENGTH TABLE - COD - EAST GREENLAND - 1970 (2nd QUARTER)

GEAR		Otter Trawl (Research)												
CATCHES OR LANDINGS		Catches												
COUNTRY		Germany, Fed. Rep.												
TONNAGE		1000												
STRUCTURES USED IN AGE DETERMINATION		Otoliths												
Length Group (3 cm)	Age	4	5	6	7	8	9	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE					
									Months Within Quarter					
									Apr	May	June			
42		2	-	-	-	-	-	2	26	-	-			
45		1	-	-	-	-	-	1	13	-	-			
48		1	2	-	-	-	-	3	38	-	-			
51		1	-	-	-	-	-	1	13	-	-			
54		-	1	1	-	-	-	2	26	-	-			
57		-	-	1	2	1	1	5	64	-	-			
60		-	-	2	2	-	2	6	77	-	-			
63		-	-	-	2	3	4	9	115	-	-			
66		-	-	1	1	1	3	6	77	-	-			
69		-	-	-	2	1	5	8	103	-	-			
72		-	-	1	4	1	3	9	115	-	-			
75		-	-	-	3	2	6	11	141	-	-			
78		-	-	-	-	3	4	7	90	-	-			
81		-	-	-	-	-	3	3	38	-	-			
84		-	-	-	-	-	3	3	38	-	-			
87		-	-	-	-	-	1	1	13	-	-			
90		-	-	-	-	-	-	-	-	-	-			
93		-	-	-	1	-	-	1	13	-	-			
Total No. of Ages Read		5	3	6	17	12	35	78	1000	-	-			
Serial Numbers	AD St. 323	No. of Age Samples												
X	Number of fish measured each month											82	-	-
	Mean length of fish (cm) each month											69.3	-	-
	Mean weight of fish (kg) each month											-	-	-
	Total weight caught or landed (tons) each month											0	-	-
	Estimated number caught or landed (whole numbers) each month											82	-	-
	Range of depths (m) each month											430-450	-	-
Mesh size (mm)											130	-	-	

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	Total
Apr	65	38	76	219	155	447	1000
May	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-

TABLE 25
(continued)

AGE/LENGTH TABLE - COD - 2J - 1970 (1st QUARTER)

GEAR		Otter Trawl (Commercial)													Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES OR LANDINGS		Landings														Months Within Quarter		
COUNTRY		UK																
TONNAGE		901-1800																
STRUCTURES USED IN AGE DETERMINATION		Otoliths																
Length Group (3 cm)	Age	3	4	5	6	7	8	9	10	11	12	13	14	15+	Total No. of Ages Read	PER MILLE		
		3	4	5	6	7	8	9	10	11	12	13	14	15+		Jan	Feb	Mar
24		1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
39		-	1	-	1	-	-	-	-	-	-	-	-	-	2	-	8	-
42		-	-	1	2	-	-	-	-	-	-	-	-	-	3	-	24	-
45		-	-	1	4	1	-	-	-	-	-	-	-	-	6	-	70	-
48		-	-	1	2	2	-	-	-	-	-	-	-	-	5	-	122	-
51		-	-	-	3	1	1	-	-	-	-	-	-	-	5	-	205	-
54		-	-	-	2	3	1	-	-	-	-	-	-	-	6	-	228	-
57		-	-	-	1	2	1	1	-	-	-	-	-	-	5	-	166	-
60		-	-	-	-	3	1	-	-	-	-	-	-	-	4	-	99	-
63		-	-	-	-	2	-	2	-	-	-	-	-	-	4	-	37	-
66		-	-	-	-	4	1	-	-	-	-	-	-	-	5	-	29	-
69		-	-	-	1	-	-	2	2	-	-	-	-	-	5	-	5	-
72		-	-	-	-	-	-	1	2	1	-	-	-	1	5	-	4	-
75		-	-	-	-	-	2	-	3	-	-	-	-	-	5	-	2	-
78		-	-	-	-	-	-	1	1	-	1	-	-	-	3	-	1	-
81		-	-	-	-	-	1	-	-	1	-	-	-	1	3	-	0	-
84		-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-
87		-	-	-	-	-	-	1	1	-	-	-	-	-	2	-	-	-
90		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93		-	-	-	-	-	-	-	-	-	1	-	1	-	2	-	0	-
96		-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-
99		-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
102		-	-	-	-	-	-	-	-	1	-	1	1	-	3	-	0	-
117		-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
120		-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-
Total No. of Ages Read		1	1	3	16	18	8	8	9	2	2	1	3	7	79			
Serial Numbers		No. of Age Samples																
X		Number of fish measured each month													-	1255	-	
		Mean length of fish (cm) each month													-	54.6	-	
		Mean weight of fish (kg) each month													-	-	-	
		Total weight caught or landed (tons) each month													-	1740 ¹	-	
		Estimated number caught or landed (whole numbers) each month													-	1380 ²	-	
		Range of depths (m) each month													-	-	-	
		Mesh size (mm)													-	-	-	

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	3	4	5	6	7	8	9	10	11	12	13	14	15+	Total
Jan	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	4	44	349	398	143	55	5	1	0	0	0	1	1000
Mar	-	-	-	-	-	-	-	-	-	-	-	-	-	-

¹ Metric tons gutted

² Numbers in 1000's

TABLE 26

AGE/LENGTH TABLE - COD - 3K - 1970 (3RD QUARTER)

GEAR		Otter Trawl (Commercial)														
CATCHES OR LANDINGS		Catches														
COUNTRY		Spain														
TONNAGE		1359														
STRUCTURES USED IN AGE DETERMINATION		Otoliths														
Length Group (3 cm)	Age											Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		2	3	4	5	6	7	8	9	10	11		12	Jul	Aug	Sep
30		-	1	3	-	-	-	-	-	-	-	-	4	-	27	-
33		1	-	5	1	-	-	-	-	-	-	-	7	-	57	-
36		-	2	4	1	-	-	-	-	-	-	-	7	-	80	-
39		-	1	5	2	-	-	-	-	-	-	-	8	-	91	-
42		-	-	5	2	1	-	-	-	-	-	-	8	-	100	-
45		-	-	4	3	1	-	-	-	-	-	-	8	-	90	-
48		-	-	-	5	3	2	-	-	-	-	-	10	-	106	-
51		-	-	-	-	8	4	-	-	-	-	-	12	-	91	-
54		-	-	-	1	4	5	1	-	-	-	-	11	-	89	-
57		-	-	-	-	1	3	1	1	-	-	-	6	-	83	-
60		-	-	-	1	3	3	1	-	-	-	-	8	-	58	-
63		-	-	-	-	4	2	1	-	-	-	-	7	-	39	-
66		-	-	-	-	-	3	-	-	1	-	-	4	-	31	-
69		-	-	-	1	-	2	-	1	-	-	-	4	-	29	-
72		-	-	-	-	-	3	-	-	-	-	-	3	-	7	-
75		-	-	-	-	1	-	-	-	1	1	1	4	-	13	-
78		-	-	-	-	-	-	1	-	-	-	-	1	-	7	-
Total No. of Ages Read		1	4	26	17	26	27	5	2	2	1	1	112	-	998	-
Serial Numbers		No. of Age Samples														
X		Number of fish measured each month												-	2268	-
		Mean length of fish (cm) each month												-	49.7	-
		Mean weight of fish (kg) each month												-	-	-
		Total weight caught or landed (tons) each month												-	-	-
		Estimated number caught or landed (whole numbers) each month												-	-	-
		Range of depths (m) each month												-	235-235	-
		Mesh size (mm)												-	-	-
AGE COMPOSITIONS OF LANDINGS (PER MILLE)																
Month	2	3	4	5	6	7	8	9	10	11	12	Total				
Jul	-	-	-	-	-	-	-	-	-	-	-	-				
Aug	8	41	271	177	210	211	42	21	11	3	3	998				
Sep	-	-	-	-	-	-	-	-	-	-	-	-				

TABLE 27

AGE/LENGTH TABLE - COD - 3L - 1970 (2nd QUARTER)

GEAR		Otter Trawl (Commercial)													Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
CATCHES OR LANDINGS																Months Within Quarter			
COUNTRY		Portugal														Apr	May	June	
TONNAGE															1174				
STRUCTURES USED IN AGE DETERMINATION		Otoliths																	
Length Group (3 cm)	Age	3	4	5	6	7	8	9	10	11	12	13	14	16	30	Total No. of Ages Read	PER MILLE		
																	Apr	May	June
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	4
33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	9
36	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	9	5	15
39	-	9	3	-	-	-	-	-	-	-	-	-	-	-	-	12	17	18	39
42	-	8	28	1	-	-	-	-	-	-	-	-	-	-	-	37	50	39	68
45	-	11	44	11	-	-	-	-	-	-	-	-	-	-	-	66	80	71	120
48	-	-	73	51	1	-	-	-	-	1	-	-	-	-	-	126	102	93	151
51	-	-	24	90	25	-	-	-	-	-	-	-	-	-	-	139	109	116	130
54	-	-	6	82	50	5	-	-	-	-	-	-	-	-	-	143	136	134	125
57	-	-	-	62	72	5	1	-	-	-	-	-	-	-	-	140	123	130	104
60	-	-	-	24	84	17	-	-	-	-	-	-	-	-	-	125	105	110	89
63	-	-	-	9	56	25	3	-	-	-	-	-	-	-	-	93	102	83	58
66	-	-	-	1	31	25	4	-	-	-	-	-	-	-	-	61	55	70	35
69	-	-	-	-	12	20	4	1	1	2	-	-	-	-	-	40	44	40	22
72	-	-	-	-	1	8	10	5	1	-	-	-	-	-	-	25	30	31	11
75	-	-	-	-	1	7	5	4	1	1	-	-	-	-	-	19	16	18	7
78	-	-	-	-	-	1	3	1	1	-	-	-	-	-	-	6	5	8	4
81	-	-	-	-	-	-	1	2	1	-	-	-	-	-	-	4	4	7	2
84	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	4	2	6	2
87	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	1	1	2
90	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	1	2	1
93	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	1	2	-
96	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	3	1	2	-
99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
102	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	2	1	3	1
105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-
108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
111	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
114	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	1	-
117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
Total No. of Ages Read		1	28	178	331	333	113	33	15	6	6	3	1	1	1	1050	1005	1000	1000
Serial Numbers ¹		10,14,18,20,25,31,34,37,40,43,45													No. of Age Samples 11				
X		Number of fish measured each month															1724	897	1900
		Mean length of fish (cm) each month															56.7	58.3	53.5
		Mean weight of fish (kg) each month															-	-	-
		Total weight caught or landed (tons) each month															13325	5340	8701
		Estimated number caught or landed (whole numbers) each month															-	-	-
		Range of depths (m) each month															200-230	145-250	200-270
		Mesh size (mm)															114	114	114

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	3	4	5	6	7	8	9	10	11	12	13	14	16	30	Total
Apr	9	37	179	290	307	112	33	14	6	6	1	-	1	-	995
May	5	34	161	290	309	113	38	19	7	8	3	1	2	1	991
June	15	64	256	308	242	68	17	7	5	4	1	-	1	1	989

¹ Serial numbers 9, 11-13, 16-17, 19, 21, 26-28, 30,33,35,36,38,39,41,42,44, for length only.

TABLE 28

AGE/LENGTH TABLE - COD - 3Ps - 1970 (2nd QUARTER)

GEAR		Otter Trawl (Research)													
CATCHES OR LANDINGS		Catches													
COUNTRY		France (SP)													
TONNAGE		880-1500													
STRUCTURES USED IN AGE DETERMINATION		Otoliths													
Length Group (3 cm)	Age	1	2	3	4	5	6	7	8	9	10	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
													Months Within Quarter		
											Apr	May	June		
9		4	3	-	-	-	-	-	-	-	-	7	-	10	-
12		4	10	-	-	-	-	-	-	-	-	14	-	48	-
15		1	12	2	-	-	-	-	-	-	-	15	-	86	-
18		-	8	1	-	-	-	-	-	-	-	9	-	265	-
21		-	12	3	-	-	-	-	-	-	-	15	-	190	-
24		-	17	6	-	-	-	-	-	-	-	23	-	66	-
27		-	6	22	1	-	-	-	-	-	-	29	-	54	-
30		-	1	27	2	-	-	-	-	-	-	30	-	58	-
33		-	-	16	12	1	-	-	-	-	-	29	-	71	-
36		-	-	11	18	1	-	-	-	-	-	30	-	48	-
39		-	-	2	24	3	-	-	-	-	-	29	-	51	-
42		-	-	-	17	8	-	-	-	-	-	25	-	29	-
45		-	-	-	10	7	1	-	-	-	-	18	-	13	-
48		-	-	-	1	4	1	-	-	-	-	6	-	5	-
51		-	-	-	-	2	2	-	-	-	-	4	-	3	-
54		-	-	-	-	-	2	-	-	-	-	2	-	1	-
--		-	-	-	-	-	-	-	-	-	-	-	-	-	-
66		-	-	-	-	-	-	-	-	1	-	1	-	1	-
Total No. of Ages Read		9	69	90	85	26	6	-	-	1	-	286	999		
Serial Numbers		No. of Age Samples 2													
X		Number of fish measured each month											-	1638	-
		Mean length of fish (cm) each month											-	24.9	-
		Mean weight of fish (kg) each month											-	0.17	-
		Total weight caught or landed (tons) each month											-	-	-
		Estimated number caught or landed (whole numbers) each month											-	-	-
		Range of depths (m) each month											-	140	-
		Mesh size (mm)											-	100 ¹	-

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	1	2	3	4	5	6	7	8	9	10	Total
Apr	-	-	-	-	-	-	-	-	-	-	-
May	25	556	249	133	28	4	-	-	1	-	996
June	-	-	-	-	-	-	-	-	-	-	-

¹ Stretch mesh

TABLE 29

AGE/LENGTH TABLE - COD - 4R - 1970 (1st QUARTER)

GEAR		Otter Trawl (Commercial)													
CATCHES OR LANDINGS															
COUNTRY		Portugal													
TONNAGE		1174													
STRUCTURES USED IN AGE DETERMINATION		Otoliths													
Length Group (3 cm)	Age	4	5	6	7	8	9	10	11	12	13	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
													Months Within Quarter		
												Jan	Feb	Mar	
36		2	3	1	-	-	-	-	-	-	-	6	-	-	8
39		1	9	6	-	-	-	-	-	-	-	16	-	-	26
42		1	5	9	1	-	-	-	-	-	-	16	-	-	35
45		-	8	14	-	-	-	-	-	-	-	22	-	-	62
48		-	8	21	2	-	-	-	-	-	-	31	-	-	104
51		-	-	16	17	-	-	-	-	-	-	33	-	-	130
54		-	-	9	25	3	1	-	-	-	-	38	-	-	180
57		-	-	6	19	7	-	-	-	-	-	32	-	-	145
60		-	-	1	14	8	1	1	1	-	-	26	-	-	193
63		-	-	-	8	2	3	-	1	-	1	15	-	-	73
66		-	-	-	2	2	1	2	-	-	-	7	-	-	50
69		-	-	-	-	-	3	1	1	1	1	7	-	-	41
72		-	-	-	-	-	-	-	-	1	-	1	-	-	19
75		-	-	-	-	-	-	-	-	-	-	-	-	-	19
78		-	-	-	-	-	-	-	-	-	-	-	-	-	4
81		-	-	-	-	-	-	-	-	-	-	-	-	-	1
Total No. of Ages Read		4	33	83	88	22	9	4	3	2	2	250	1000		
Serial Numbers 3,4*,5*,6,7 (* lengths only)												No. of Age Samples 3			
X		Number of fish measured each month											-	-	739
		Mean length of fish (cm) each month											-	-	56.3
		Mean weight of fish (kg) each month											-	-	-
		Total weight caught or landed (tons) each month											-	-	4819
		Estimated number caught or landed (whole numbers) each month											-	-	-
		Range of depths (m) each month											-	-	200-300
		Mesh size (mm)											-	-	114

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	4	5	6	7	8	9	10	11	12	13	Total
Jan	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-
Mar	7	79	278	389	102	48	24	15	25	11	978

TABLE 29
(continued)

AGE/LENGTH TABLE - COD - 4R - 1970 (2nd QUARTER)

GEAR		Otter Trawl (Research)																		Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES OR LANDINGS		Catches																			Months	Within	Quarter
COUNTRY		France (SP)																					
TONNAGE		850-1500																					
STRUCTURES USED IN AGE DETERMINATION		Otoliths																					
Length Group (3 cm)	Age	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	21	Apr	May	June		
	15	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				-	4	16	-	-
18	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	36	-	-	
21	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	8	-	-	
24	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	10	-	-	
27	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	14	-	-	
30	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	26	-	-	
33	-	-	3	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	63	-	-	
36	-	-	3	8	1	-	-	-	-	-	-	-	-	-	-	-	-	-	12	79	-	-	
39	-	-	-	9	5	-	-	-	-	-	-	-	-	-	-	-	-	-	14	53	-	-	
42	-	-	-	12	6	-	-	-	-	-	-	-	-	-	-	-	-	-	18	47	-	-	
45	-	-	-	7	14	1	-	-	-	-	-	-	-	-	-	-	-	-	22	67	-	-	
48	-	-	-	4	11	-	-	-	-	-	-	-	-	-	-	-	-	-	15	34	-	-	
51	-	-	-	1	6	7	1	-	-	-	-	-	-	-	-	-	-	-	15	41	-	-	
54	-	-	-	-	7	6	-	-	-	-	-	-	-	-	-	-	-	-	13	36	-	-	
57	-	-	1	-	6	6	1	1	-	-	-	-	-	-	-	-	-	-	15	34	-	-	
60	-	-	-	-	3	3	1	1	-	1	-	-	-	-	-	-	-	-	9	49	-	-	
63	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	3	32	-	-	
66	-	-	-	-	2	-	1	1	-	1	-	-	-	-	-	-	-	-	5	30	-	-	
69	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	-	3	51	-	-	
72	-	-	-	-	-	-	2	4	-	-	-	-	-	-	-	-	-	-	6	45	-	-	
75	-	-	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	-	3	32	-	-	
78	-	-	-	-	-	-	-	5	-	-	1	2	-	-	-	-	-	-	8	53	-	-	
81	-	-	-	-	-	-	-	1	1	1	-	1	-	-	-	-	-	-	4	26	-	-	
84	-	-	-	-	-	2	-	1	-	1	-	-	-	-	-	-	-	-	4	26	-	-	
87	-	-	-	-	-	3	1	1	-	-	-	-	-	-	-	-	-	-	5	14	-	-	
90	-	-	-	-	-	-	4	-	2	-	-	-	-	-	1	-	-	-	7	16	-	-	
93	-	-	-	-	-	-	-	1	1	2	1	-	-	-	-	1	-	-	5	12	-	-	
96	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	2	4	-	-	
99	-	-	-	-	-	-	-	1	1	-	1	-	1	-	1	-	-	-	5	10	-	-	
102	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	2	-	-	
105	-	-	-	-	-	-	-	1	1	-	1	-	-	-	-	-	-	-	3	6	-	-	
108	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	2	4	-	-	
111	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	2	4	-	-	
114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	2	-	-	
117	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	2	-	-	
120	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	2	4	-	-	
126	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	2	-	-	
129	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	2	-	-	
132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	2	-	-	
137	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	2	-	-	
146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	-	-	
Total No. of Ages Read		11	4	8	49	62	26	11	24	7	7	8	7	2	3	5	1	1	236	998			
Serial Numbers		No. of Age Samples 1																					
X		Number of fish measured each month																		494	-	-	
		Mean length of fish (cm) each month																		56.8	-	-	
		Mean weight of fish (kg) each month																		2.38	-	-	
		Total weight caught or landed (tons) each month																		-	-	-	
		Estimated number caught or landed (whole numbers) each month																		-	-	-	
		Range of depths (m) each month																		180	-	-	
		Mesh size (mm)																		100 ¹	-	-	

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	21	Total
Apr	59	29	51	218	197	113	53	124	33	27	26	43	4	6	10	2	2	997
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

¹ Stretch Mesh

TABLE 30

AGE/LENGTH TABLE - COD - 4T - 1970 (2nd QUARTER)

GEAR		Otter Trawl (Research)														Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES OR LANDINGS		Catches															Months Within Quarter		
COUNTRY		France (SP)																	
TONNAGE		850-1500																	
STRUCTURES USED IN AGE DETERMINATION		Otoliths																	
Length Group (3 cm)	Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Apr	May	June	
		15	1	-	-	-	-	-	-	-	-	-	-	-	-				-
18	-	2	7	-	-	-	-	-	-	-	-	-	-	-	9	29	-	-	
21	-	9	-	1	-	-	-	-	-	-	-	-	-	-	10	121	-	-	
24	-	4	5	-	1	-	-	-	-	-	-	-	-	-	10	60	-	-	
27	-	1	6	6	-	-	-	-	-	-	-	-	-	-	13	50	-	-	
30	-	1	6	11	1	-	-	-	-	-	-	-	-	-	19	94	-	-	
33	-	-	6	15	7	-	-	-	-	-	-	-	-	-	28	106	-	-	
36	-	-	3	12	12	2	-	-	-	-	-	-	-	-	29	79	-	-	
39	-	-	-	5	9	2	-	-	-	-	-	-	-	-	16	66	-	-	
42	-	-	-	1	3	3	-	-	-	-	-	-	-	-	7	53	-	-	
45	-	-	-	1	4	6	6	-	-	-	-	-	-	-	17	50	-	-	
48	-	-	-	1	3	8	2	2	1	-	-	-	-	-	17	65	-	-	
51	-	-	-	-	-	8	7	-	-	-	-	-	-	-	15	52	-	-	
54	-	-	-	-	1	10	1	-	-	-	1	-	-	-	13	50	-	-	
57	-	-	-	-	-	2	2	-	-	-	1	1	1	-	7	35	-	-	
60	-	-	-	-	-	5	2	-	-	-	1	1	-	-	9	31	-	-	
63	-	-	-	-	-	-	-	1	1	1	-	-	-	-	3	17	-	-	
66	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	15	-	-	
69	-	-	-	-	-	-	-	2	-	1	-	-	-	-	3	16	-	-	
72	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	6	-	-	
75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	
78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	
99	-	-	-	-	-	-	-	1	-	-	-	1	-	-	2	2	-	-	
Total No. of Ages Read		1	17	33	53	41	47	20	6	2	3	3	3	1	-	230	1002		
Serial Numbers		No. of Age Samples 2																	
X		Number of fish measured each month														2059	-	-	
		Mean length of fish (cm) each month														39.3	-	-	
		Mean weight of fish (kg) each month														0.65	-	-	
		Total weight caught or landed (tons) each month														-	-	-	
		Estimated number caught or landed (whole numbers) each month														-	-	-	
		Range of depths (m) each month														160	-	-	
		Mesh size (mm)														100 ¹	-	-	

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
Apr	1	149	136	214	157	193	71	25	10	17	12	10	5	-	1000
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

¹ Stretch mesh

TABLE 31

AGE/LENGTH TABLE - COD - 4Vn - 1970 (2nd QUARTER)

GEAR		Otter Trawl (Research)														Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES OR LANDINGS		Catches															Months	Within	Quarter
COUNTRY		France (SP)																	
TONNAGE		850-1500																	
STRUCTURES USED IN AGE DETERMINATION		Otoliths																	
Length Group (3 cm)	Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total No. of Ages Read	PER MILLE		
																	Apr	May	June
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	-
30	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
33	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3	6	-
36	-	8	4	-	-	-	-	-	-	-	-	-	-	-	-	-	12	20	12
39	-	16	15	3	-	-	-	-	-	-	-	-	-	-	-	-	34	60	20
42	2	18	29	6	-	-	-	-	-	-	-	-	-	-	-	-	55	96	64
45	1	12	45	12	2	-	-	-	-	-	-	-	-	-	-	-	72	183	99
48	-	8	26	38	5	-	-	-	-	-	-	-	-	-	-	-	77	141	165
51	-	8	23	37	4	-	-	-	-	-	-	-	-	-	-	-	72	126	182
54	-	5	11	36	16	-	1	-	-	-	-	-	-	-	-	-	69	110	147
57	-	-	8	35	20	8	-	-	-	-	-	-	-	-	-	-	71	98	102
60	-	1	5	12	23	8	-	-	-	-	-	-	-	-	-	-	49	53	70
63	-	-	-	9	10	5	2	-	-	-	-	-	-	-	-	-	26	42	46
66	-	1	1	6	7	8	1	3	-	-	-	-	-	-	-	-	27	27	30
69	-	-	1	6	6	4	-	-	-	-	-	-	-	-	-	-	17	20	14
72	-	-	-	4	3	1	-	1	-	-	-	-	-	-	-	-	9	6	14
75	-	-	-	-	-	2	1	1	-	-	-	-	-	-	-	-	4	3	5
78	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	2	2	4
81	-	-	1	-	3	2	-	-	-	-	1	-	-	-	-	-	7	2	7
84	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	2	-	3
87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90	-	-	-	-	-	2	1	-	1	-	-	-	-	-	-	-	4	-	7
93	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	1	1
96	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	1
99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
108	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	1
111	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-
117	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-
Total No. of Ages Read		4	80	170	205	100	43	6	6	2	-	1	1	-	1	619			
Serial Numbers		No. of Age Samples														3			
	Number of fish measured each month															1002	767	-	
	Mean length of fish (cm) each month															51.5	54.2	-	
	Mean weight of fish (kg) each month															1.20	1.44	-	
	Total weight caught or landed (tons) each month															-	-	-	
	Estimated number caught or landed (whole numbers) each month															-	-	-	
	Range of depths (m) each month															82-130	140	-	
Mesh size (mm)															100 ¹	100 ¹	-		

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Apr	7	122	280	211	262	104	11	-	-	-	-	-	-	-	997
May	4	125	288	339	153	60	12	8	3	-	1	1	-	1	995
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

¹ Stretch mesh

TABLE 32

AGE/LENGTH KEY - COD - 1E - 1970 (4th QUARTER)

COUNTRY		United Kingdom							Total	LENGTH COMPOSITION		
CATCHES/LANDINGS		Landings							No. of	PER MILLE		
COMMERCIAL/RESEARCH		Commercial							Ages	Months Within Quarter		
STRUCTURES USED IN AGE DETERMINATION		Otoliths							Read			
Year- Class	Age	66	65	64	63	62	61	60	Total No. of Ages Read			
Length Group (cm)		4	5	6	7	8	9	10				
39		1	-	-	-	-	-	-	1			
42		-	-	-	-	-	-	-	-			
45		-	-	1	-	-	-	-	1			
48		-	-	1	-	-	-	-	1			
51		-	-	2	-	-	-	-	2			
54		-	-	-	1	-	-	-	1			
57		-	-	1	-	-	-	-	1			
60		-	-	-	1	-	-	-	1			
63		-	-	-	1	-	-	-	1			
66		-	-	-	2	-	-	-	2			
69		-	-	-	1	-	-	-	1			
72		-	-	-	1	-	-	-	1			
75		-	-	-	1	-	-	-	1			
78		-	-	-	-	-	1	-	1			
81		-	-	-	-	-	1	-	1			
84		-	-	-	-	-	2	-	2			
87		-	-	-	-	-	-	1	1			
90		-	-	-	-	-	-	1	1			
93		-	-	-	-	-	1	-	1			
Total No. of Ages Read		1	-	5	8	-	5	2	21			
Serial Numbers		No. of Age Samples										
		Number of fish measured each month										
		Mean length of fish (cm) each month										
		Mean weight of fish (kg) each month										
		Total weight caught or landed (tons) each month										
		Estimated number caught or landed (whole numbers) each month										
		Range of depths (m) each month										
		Mesh size (mm)										

TABLE 33

AGE/LENGTH KEY - COD - 2J - 1970 (1st QUARTER)

COUNTRY		Poland															Total	LENGTH COMPOSITION			
CATCHES/LANDINGS		Catches															No. of	PER MILLE			
COMMERCIAL/RESEARCH		Commercial															Ages	Months Within Quarter			
STRUCTURES USED IN AGE DETERMINATION		Otoliths															Read	Jan	Feb	Mar	
Year- Class	Length Age Group (cm)	68	67	66	65	64	63	62	61	60	59	58	57	56	55	54	53				
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17				
18		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
21		2	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	30
24		2	31	7	-	-	-	-	-	-	-	-	-	-	-	-	-	40	-	-	40
27		-	31	8	2	-	-	-	-	-	-	-	-	-	-	-	-	41	-	-	41
30		-	7	26	9	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	42
33		-	1	34	17	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	52
36		-	-	12	30	4	-	-	-	-	-	-	-	-	-	-	-	46	-	-	46
39		-	1	10	48	8	-	-	-	-	-	-	-	-	-	-	-	67	-	-	67
42		-	-	1	46	14	3	-	1	-	-	-	-	-	-	-	-	65	-	-	65
45		-	-	-	28	52	22	3	1	-	-	-	-	-	-	-	-	106	-	-	106
48		-	-	-	27	73	71	8	1	-	-	-	-	-	-	-	-	180	-	-	180
51		-	-	1	9	53	99	27	1	-	-	-	-	-	-	-	-	190	-	-	190
54		-	-	-	-	42	91	43	15	4	2	-	-	-	-	-	-	197	-	-	197
57		-	-	-	2	34	80	34	14	3	1	-	-	-	-	-	-	168	-	-	168
60		-	-	-	1	15	38	34	15	4	3	3	-	-	-	-	-	113	-	-	113
63		-	-	-	-	5	24	26	15	7	7	4	3	-	-	-	-	91	-	-	91
66		-	-	-	-	1	10	11	11	3	1	-	1	-	1	-	-	39	-	-	39
69		-	-	-	-	-	3	4	3	2	2	-	2	1	-	-	-	17	-	-	17
72		-	-	-	-	-	-	3	2	3	4	-	-	-	-	-	-	12	-	-	12
75		-	-	-	-	1	-	-	4	3	-	1	-	-	-	-	-	9	-	-	9
78		-	-	-	-	-	-	-	1	-	-	1	1	-	-	-	1	4	-	-	4
81		-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	1
84		-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	1	3	-	-	3
Total No. of Ages Read		5	99	99	219	302	441	193	85	31	20	20	9	7	1	-	2	1514	1514		
Serial Numbers		No. of Age Samples															12				
	Number of fish measured each month																	-	-	10013	
	Mean length of fish (cm) each month																	-	-	43.0	
	Mean weight of fish (kg) each month																	-	-	1.29	
	Total weight caught or landed (tons) each month																	-	-	-	
	Estimated number caught or landed (whole numbers) each month																	-	-	-	
	Range of depths (m) each month																	-	-	-	
	Mesh size (mm)																	-	-	114	

TABLE 34

AGE/LENGTH KEY - COD - 3K - 1970 (1st QUARTER)

COUNTRY		Poland														Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
CATCHES/LANDINGS		Catches															Months Within Quarter	Jan	Feb	Mar
COMMERCIAL/RESEARCH		Commercial																		
STRUCTURES USED IN AGE DETERMINATION		Otoliths																		
Year- Length Group (cm)	Class Age	68	67	66	65	64	63	62	61	60	59	58	57	56	55	54	Total No. of Ages Read	PER MILLE		
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Jan	Feb	Mar
21		1	2	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	3	
24		1	4	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	5	
27		1	5	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	6	
30		-	5	9	3	-	-	-	-	-	-	-	-	-	-	17	-	-	17	
33		-	2	17	13	1	-	-	-	-	-	-	-	-	-	33	-	-	33	
36		-	2	26	26	6	-	-	-	-	-	-	-	-	-	60	-	-	60	
39		-	-	19	44	19	2	-	-	-	-	-	-	-	-	84	-	-	84	
42		-	2	12	58	30	4	1	-	-	-	-	-	-	-	107	-	-	107	
45		-	-	6	54	58	23	1	1	-	-	-	-	-	-	143	-	-	143	
48		-	-	5	32	80	40	6	1	-	-	-	-	-	-	164	-	-	164	
51		-	-	3	23	140	89	18	1	-	-	-	-	-	-	274	-	-	274	
54		-	-	-	13	115	102	23	7	2	1	-	-	-	-	263	-	-	263	
57		-	-	-	7	62	103	32	4	1	-	-	-	-	-	209	-	-	209	
60		-	-	-	1	35	75	33	10	3	-	-	-	-	-	157	-	-	157	
63		-	-	-	1	17	37	19	5	3	6	1	-	-	-	89	-	-	89	
66		-	-	-	-	1	8	14	6	3	2	1	-	-	-	35	-	-	35	
69		-	-	-	-	1	6	9	6	2	3	-	-	-	-	27	-	-	27	
72		-	-	-	-	-	4	2	1	1	2	-	-	-	-	10	-	-	10	
75		-	-	-	-	-	1	-	1	4	2	1	-	-	-	9	-	-	9	
78		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
81		-	-	-	-	-	-	-	1	-	1	1	1	-	-	4	-	-	4	
84		-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	1	
87		-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	1	
90		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
111		-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	
Total No. of Ages Read		3	22	97	275	565	490	160	46	19	17	6	1	-	-	1	1703	1703		
Serial Numbers		No. of Age Samples														10				
		Number of fish measured each month														-	-	14458		
		Mean length of fish (cm) each month														-	-	51.3		
		Mean weight of fish (kg) each month														-	-	1.52		
		Total weight caught or landed (tons) each month														-	-	-		
		Estimated number caught or landed (whole numbers) each month														-	-	-		
		Range of depths (m) each month														-	-	-		
		Mesh size (mm)														-	-	114		

TABLE 34
(continued)

AGE/LENGTH KEY - COD - 3K - 1970 (2nd QUARTER)

COUNTRY		United Kingdom													Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Landings														Months Within Quarter		
COMMERCIAL/RESEARCH		Commercial																
STRUCTURES USED IN AGE DETERMINATION		Otoliths																
Year- Class Length Age Group(cm)	66	65	64	63	62	61	60	59	58	57	56							
	4	5	6	7	8	9	10	11	12	13	14	15+						
45	1	1	-	-	-	-	-	-	-	-	-	-	-	2				
48	-	2	-	-	-	-	-	-	-	-	-	-	-	2				
51	-	-	1	-	-	-	-	-	-	-	-	-	-	1				
54	-	-	-	1	-	-	-	-	-	-	-	-	-	1				
57	-	-	-	-	2	-	-	-	-	-	-	-	-	2				
60	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
63	-	-	1	-	1	-	-	-	-	-	-	-	-	2				
66	-	-	-	1	-	-	-	-	-	-	-	-	-	1				
69	-	-	-	2	-	-	-	-	-	-	-	-	-	2				
72	-	-	-	-	1	-	-	-	-	-	-	-	-	1				
75	-	-	-	-	-	1	-	-	-	-	-	-	-	1				
78	-	-	-	1	-	-	-	-	1	-	-	-	-	2				
81	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
84	-	-	-	-	1	1	-	-	-	-	-	-	-	2				
87	-	-	-	-	1	-	-	1	-	-	-	-	-	2				
90	-	-	-	-	-	-	-	-	-	-	-	-	1	1				
93	-	-	-	-	-	-	-	-	1	-	-	-	-	1				
96	-	-	-	-	-	-	-	1	-	-	-	-	-	1				
--																		
108	-	-	-	-	-	-	-	-	1	-	-	-	-	1				
Total No. of Ages Read	1	3	2	5	6	2	1	2	2	-	-	1		25				
Serial Numbers	No. of Age Samples																	
	Number of fish measured each month																	
	Mean length of fish (cm) each month																	
	Mean weight of fish (kg) each month																	
	Total weight caught or landed (tons) each month																	
	Estimated number caught or landed (whole numbers) each month																	
	Range of depths (m) each month																	
	Mesh size (mm)																	

TABLE 35

LENGTH FREQUENCIES - HADDOCK - 3Ps - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl			
	Commercial	Research	Commercial	
CATCHES/LANDINGS	Landings	Catches	Landings	
MONTH	Feb	May	Feb	Apr
COUNTRY	Fr	(SP)	Can (N)	Can (M)
TONNAGE	151-500	850-1500	501-900	151-500
16	-	10	-	-
18	-	115	-	-
20	-	176	-	-
22	-	50	-	-
24	-	26	-	-
26	-	31	-	-
28	1	41	-	-
30	-	68	-	-
32	2	68	-	6
34	2	38	-	17
36	5	24	2	11
38	28	14	4	28
40	56	13	10	72
42	85	41	27	55
44	101	41	60	193
46	153	54	143	221
48	234	39	201	134
50	179	35	167	129
52	93	28	123	45
54	32	19	104	33
56	18	8	53	18
58	3	3	26	9
60	3	8	26	9
62	-	8	20	6
64	3	9	10	6
66	-	9	10	3
68	1	9	4	6
70	1	6	9	-
72	-	5	1	-
74	-	2	-	-
76	-	-	-	-
78	-	1	-	-
84	-	1	-	-
Total ‰	1000	1000	1000	1001
Serial Numbers	-	-	-	66
Number of Samples	-	-	1	1
Number of Fish Measured	965	799	1019	210
Mean Length (cm)	-	-	51.0	47.0
Mean Weight (kg)	-	-	1.27	1.15
Total Weight Landed (tons)	-	-	848	44
Estimated Number Landed	-	-	666 ²	38 ²
Mesh(mm) or Hook(no.) Size	-	100 ¹	Large	114
Range of Depths (fm)	-	75-110	100	60-70

¹ Stretched mesh

² Numbers in 1000's

TABLE 36

LENGTH FREQUENCIES - HADDOCK - 4Vn, 4Vs - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

DIVISION	4Vn	4Vs
GEAR	Longline	Otter Trawl
CATCHES/LANDINGS	Commercial Landings	
MONTH	Sep	Nov
COUNTRY	Can (M)	
TONNAGE	26-50	151-500
36	-	5
38	-	-
40	5	22
42	-	108
44	15	124
46	-	97
48	35	155
50	40	113
52	70	93
54	70	40
56	100	35
58	85	40
60	105	30
62	160	30
64	90	45
66	30	15
68	60	10
70	45	20
72	40	-
74	25	15
76	15	5
78	10	-
Total ‰	1000	1002
Serial Numbers	-	-
Number of Samples	1	1
Number of Fish Measured	200	191
Mean Length (cm)	60.5	51.4
Mean Weight (kg)	2.55	1.57
Total Weight Landed (tons)	409	3
Estimated Number Landed	160 ¹	2 ¹
Mesh(mm) or Hook(no.) Size	6/0	114
Range of Depths (fm)	35-45	75

¹ Numbers in 1000's

TABLE 37 LENGTH FREQUENCIES - HADDOCK - 4W - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl				Longline			
	Commercial							
CATCHES/LANDINGS	Landings							
MONTH	Jan	Mar	Apr	Jan	Apr	Aug	Oct	
COUNTRY	Can (M)							
TONNAGE	151-500			501-900		26-50		
32	-	4	1	-	-	-	-	
34	1	12	15	17	-	5	-	
36	6	62	33	20	16	-	-	
38	9	70	36	38	48	-	5	
40	23	119	57	58	38	5	5	
42	40	123	60	43	32	35	15	
44	67	91	91	55	46	30	50	
46	70	95	99	64	116	40	10	
48	78	95	91	66	181	20	45	
50	128	53	103	95	177	104	50	
52	109	53	109	99	144	109	90	
54	109	45	91	63	57	104	65	
56	87	58	63	63	42	129	130	
58	87	21	57	63	25	139	170	
60	48	25	27	56	29	99	105	
62	36	33	34	50	17	79	105	
64	28	12	15	19	8	40	50	
66	20	12	9	56	4	25	35	
68	25	4	3	25	8	20	40	
70	15	4	3	6	-	-	10	
72	7	4	-	19	-	15	-	
74	4	-	-	19	8	5	10	
76	3	4	-	-	-	-	-	
78	-	-	-	6	-	-	5	
80	-	-	-	-	-	-	-	
82	-	-	-	-	4	-	-	
84	-	-	-	-	-	-	5	
Total ‰	1000	999	997	1000	1000	1003	1000	
Serial Numbers	-	-	-	-	-	-	-	
Number of Samples	4	1	4	1	1	1	1	
Number of Fish Measured	764	243	667	229	210	202	200	
Mean Length (cm)	53.5	47.4	49.7	53.1	50.1	55.9	57.5	
Mean Weight (kg)	1.75	1.25	1.40	1.78	1.42	1.97	2.15	
Total Weight Landed (tons)	127	513	561	206	450	10	13	
Estimated Number Landed	72 ¹	410 ¹	400 ¹	115 ¹	317 ¹	5 ¹	6 ¹	
Mesh(mm) or Hook(no.) Size	114	114	114	114	114	6/0	6/0	
Range of Depths (fm)	27-90	45-55	40-80	38-70	40-65	40-60	40-65	

¹ Numbers in 1000's

TABLE 38

LENGTH FREQUENCIES - HADDOCK - 4X(NORTH) - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl (Stern)				
	Commercial				
CATCHES/LANDINGS	Landings				
MONTH	July	Oct	Sep	Nov	July
COUNTRY	Can (M)				
TONNAGE	51-150		26-50		0-25
24	-	-	2	-	-
26	-	-	7	-	-
28	-	-	5	-	-
30	-	-	2	-	-
32	-	-	18	-	28
34	-	-	46	-	298
36	-	-	101	-	363
38	-	-	131	-	163
40	14	-	106	-	19
42	7	-	50	16	23
44	14	-	14	-	14
46	28	-	14	-	9
48	42	21	28	-	5
50	42	21	37	-	5
52	56	21	18	16	19
54	56	63	23	16	14
56	69	83	30	32	14
58	63	125	28	65	14
60	104	63	46	97	-
62	28	250	67	177	5
64	181	104	80	177	9
66	139	42	53	194	-
68	56	146	55	97	-
70	7	42	25	32	-
72	14	21	7	16	-
74	42	-	5	16	-
76	14	-	2	32	-
78	7	-	-	16	-
80	21	-	2	-	-
Total ‰	1004	1002	1002	999	1002
Serial Numbers	-	-	-	-	-
Number of Samples	1	1	2	1	1
Number of Fish Measured	144	48	436	62	215
Mean Length (cm)	61.0	61.9	50.1	64.3	38.2
Mean Weight (kg)	2.61	2.64	1.62	2.96	0.63
Total Weight Landed (tons)	72	114	241	45	19
Estimated Number Landed	27 ¹	43 ¹	148 ¹	15 ¹	30 ¹
Mesh(mm) or Hook(no.) Size	114	114	114	114	114
Range of Depths (fm)	40	50	20-30	90	15

¹ Numbers in 1000's

TABLE 39

LENGTH FREQUENCIES - HADDOCK - 4X(SOUTH) - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl (Stern)					OT (Side)	
	Commercial Landings						
CATCHES/LANDINGS							
MONTH	Jan	June	Jan	Oct	Dec	Jan	Feb
COUNTRY	Can (M)						
TONNAGE	501-900		151-500				
32	-	3	4	-	-	2	-
34	4	3	49	71	-	8	5
36	8	3	49	63	-	27	19
38	27	9	67	55	21	50	38
40	33	17	67	55	34	99	52
42	55	21	89	16	49	79	79
44	74	49	103	47	73	71	90
46	92	73	83	87	83	87	73
48	81	61	47	47	116	71	76
50	102	134	104	31	86	101	118
52	126	169	119	110	116	112	133
54	99	143	67	39	101	83	105
56	86	154	76	87	89	75	85
58	90	62	38	126	76	54	64
60	39	46	24	71	61	31	43
62	47	46	14	47	31	28	7
64	30	4	-	39	40	14	9
66	4	4	-	-	9	3	1
68	-	-	-	-	6	3	1
70	-	-	-	-	3	1	-
72	4	-	-	8	3	-	-
74	-	-	-	-	3	-	-
76	-	-	-	-	-	1	-
Total ‰/oo	1001	1001	1000	999	1000	1000	998
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	1	1	1	1	2	4	3
Number of Fish Measured	331	326	217	127	327	1309	784
Mean Length (cm)	51.7	52.7	47.4	50.3	52.3	49.2	49.9
Mean Weight (kg)	1.56	1.62	1.22	1.51	1.62	1.36	1.41
Total Weight Landed (tons)	160	668	22	14	26	307	414
Estimated Number Landed	102 ¹	412 ¹	18 ¹	9 ¹	16 ¹	225 ¹	293 ¹
Mesh(mm) or Hook(no.) Size	114	114	114	114	114	114	114
Range of Depths (fm)	-	45-55	75-85	50-100	45-70	65-85	48-90

¹ Numbers in 1000's

TABLE 39
(continued)

LENGTH FREQUENCIES - HADDOCK - 4X(SOUTH) - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl (Side)						
	Commercial						
CATCHES/LANDINGS	Landings						
MONTH	Apr	May	June	July	Oct	Dec	May
COUNTRY	Can (M)						
TONNAGE	151-500						51-150
30	-	-	-	-	-	3	-
32	-	4	-	6	14	3	-
34	3	1	-	-	19	36	-
36	10	11	-	-	53	86	-
38	40	16	-	6	76	137	-
40	17	34	-	30	84	85	17
42	30	29	21	30	53	73	17
44	50	31	35	36	79	53	55
46	57	67	63	119	93	66	83
48	75	108	134	113	122	61	99
50	121	123	106	173	85	90	155
52	123	140	176	214	84	92	166
54	102	119	127	143	89	76	171
56	134	109	120	60	53	54	83
58	68	78	77	42	35	39	66
60	79	51	70	12	33	25	61
62	60	42	42	18	15	10	11
64	20	26	7	-	11	2	6
66	-	10	14	-	1	4	11
68	8	2	7	-	-	2	-
70	4	-	-	-	1	-	-
78	-	-	-	-	-	2	-
Total ‰	1001	1001	999	1002	1000	999	1001
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	1	2	1	1	2	2	1
Number of Fish Measured	271	445	142	168	553	571	181
Mean Length (cm)	52.8	52.4	53.5	50.9	47.8	46.5	52.4
Mean Weight (kg)	1.66	1.62	1.69	1.45	1.25	1.17	1.59
Total Weight Landed (tons)	275	1015	360	69	136	165	502
Estimated Number Landed	165 ¹	626 ¹	213 ¹	47 ¹	108 ¹	141 ¹	315 ¹
Mesh(mm) or Hook(no.) Size	114	114	114	114	114	114	114
Range of Depths (fm)	40-70	49-75	37-57	50-90	40-75	38-80	48-58

¹ Numbers in 1000's

TABLE 40 LENGTH FREQUENCIES - HADDOCK - 5Ze - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	OT (Stern)		Otter Trawl (Side)	
	Commercial			
CATCHES/LANDINGS	Landings			
MONTH	July	June	July	Oct
COUNTRY	Can (M)			
TONNAGE	501-900		151-500	
32	-	-	6	4
34	2	-	9	21
36	1	6	19	30
38	4	-	13	30
40	15	21	16	18
42	26	27	28	21
44	57	60	44	31
46	68	93	91	66
48	51	75	109	117
50	54	42	106	124
52	105	31	135	103
54	125	24	111	131
56	105	49	85	135
58	87	67	112	63
60	74	71	54	53
62	46	78	18	24
64	46	78	18	24
66	43	85	9	5
68	37	78	-	-
70	25	43	9	-
72	25	36	-	-
74	3	21	4	-
76	-	7	-	-
78	-	7	4	-
Total ‰	999	999	1000	1000
Serial Numbers	-	-	-	-
Number of Samples	2	1	1	1
Number of Fish Measured	551	210	261	304
Mean Length (cm)	55.8	58.1	52.3	51.6
Mean Weight (kg)	1.99	2.31	1.62	1.55
Total Weight Landed (tons)	45	73	49	52
Estimated Number Landed	22 ¹	31 ¹	30 ¹	33 ¹
Mesh(mm) or Hook(no.) Size	114	114	114	114
Range of Depths (fm)	30-65	35-70	42-55	-

¹ Numbers in 1000's

TABLE 41

AGE/LENGTH TABLE - HADDOCK - 5Ze - 1970 (1st QUARTER)

GEAR		Otter Trawl (Commercial)												Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES OR LANDINGS		Landings													Months Within Quarter		
COUNTRY		USA															
TONNAGE		0-458															
STRUCTURES USED IN AGE DETERMINATION		Scales															
Length Group (2 cm)	Age	1	2	3	4	5	6	7	8	9	10	11	12	Total No. of Ages Read	Jan	Feb	Mar
	38	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
40	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	4	-
42	-	2	-	-	-	-	-	-	-	-	-	-	-	2	2	9	-
44	-	1	-	1	1	-	-	-	-	-	-	-	-	3	2	11	-
46	-	-	-	3	1	-	3	-	-	-	-	-	-	7	5	25	15
48	-	-	-	5	-	1	5	1	-	-	-	-	-	12	3	48	3
50	-	-	-	7	-	1	8	1	-	-	-	-	-	17	25	57	6
52	-	-	-	13	1	-	11	1	-	-	-	-	-	26	29	78	34
54	-	-	-	7	1	1	9	-	-	-	-	-	-	18	60	78	48
56	-	-	-	3	2	4	13	1	-	-	-	-	-	23	50	67	81
58	-	-	-	3	1	1	26	2	-	1	-	-	-	34	90	58	136
60	-	-	-	5	1	1	24	8	2	1	-	-	-	42	149	85	118
62	-	-	-	-	1	1	19	6	1	-	-	-	-	28	172	87	124
64	-	-	-	1	-	1	11	5	-	1	1	-	-	20	122	85	125
66	-	-	-	-	-	-	12	6	-	1	1	-	-	20	109	80	94
68	-	-	-	-	-	-	4	3	2	3	-	1	-	13	72	89	80
70	-	-	-	-	-	-	1	-	-	1	1	-	-	3	45	51	47
72	-	-	-	-	-	-	4	1	-	1	-	1	-	7	38	38	41
74	-	-	-	-	-	-	-	1	-	1	1	2	-	5	12	23	31
76	-	-	-	-	-	-	-	-	-	1	-	2	-	3	6	8	7
78	-	-	-	-	-	-	-	-	1	-	2	-	-	3	8	15	2
80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	8
82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Total No. of Ages Read	-	4	-	48	9	11	150	36	6	11	6	6		287			
Serial Numbers	No. of Age Samples												16				
X	Number of fish measured each month												514	678	475		
	Mean length of fish (cm) each month												62.55	60.52	62.67		
	Mean weight of fish (kg) each month												2.65	2.36	2.46		
	Total weight caught or landed (tons) each month												480	418	409		
	Estimated number caught or landed (whole numbers) each month												1816	1774	1666		
	Range of depths (m) each month												49-192	51-201	48-256		
Mesh size (mm)												114	114	114			

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	1	2	3	4	5	6	7	8	9	10	11	12	Total
Jan	-	2	-	90	22	32	549	164	27	59	34	21	1000
Feb	-	16	-	156	27	35	483	128	26	62	40	27	1000
Mar	-	-	-	90	25	35	544	154	23	67	34	28	1000

¹ Numbers in 100's

TABLE 41
(continued)

AGE/LENGTH TABLE - HADDOCK - 52e - 1970 (2nd QUARTER)

GEAR		Otter Trawl (Commercial)														LENGTH COMPOSITION		
CATCHES OR LANDINGS		Landings														PER MILLE		
COUNTRY		USA														Months Within Quarter		
TONNAGE		0-458																
STRUCTURES USED IN AGE DETERMINATION		Scales																
Length Group (2 cm)	Age	1	2	3	4	5	6	7	8	9	10	11	12	Total No. of Ages Read	PER MILLE			
															Apr	May	June	
38		-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	
40		-	-	1	-	-	-	-	-	-	-	-	-	1	7	1	-	
42		-	1	-	3	1	-	-	-	-	-	-	-	5	4	3	9	
44		-	3	-	3	-	-	-	-	-	-	-	-	6	11	6	14	
46		-	-	1	9	-	-	4	-	-	-	-	-	14	14	12	18	
48		-	1	1	11	1	-	9	2	-	-	-	-	25	41	45	52	
50		-	-	-	12	-	1	12	-	1	-	-	-	26	81	57	57	
52		-	-	-	14	3	1	25	1	-	-	-	-	44	190	51	74	
54		-	-	-	11	2	2	18	-	2	-	-	-	35	129	84	81	
56		-	-	-	4	5	2	28	3	-	-	-	-	42	116	119	95	
58		-	-	-	3	6	6	23	2	-	-	-	1	41	50	96	91	
60		-	-	-	7	2	4	15	6	1	1	2	-	38	60	87	97	
62		-	-	-	2	-	2	14	8	1	1	-	-	28	67	89	78	
64		-	-	-	-	1	-	20	14	2	-	-	-	37	64	84	83	
66		-	-	-	1	1	1	15	9	2	1	1	2	33	53	86	91	
68		-	-	-	-	-	-	9	12	3	1	2	1	28	42	44	55	
70		-	-	-	-	-	1	6	5	1	-	1	-	14	32	53	39	
72		-	-	-	-	-	-	-	3	1	-	-	2	6	23	30	33	
74		-	-	-	-	-	-	2	2	2	2	-	-	8	9	22	15	
76		-	-	-	-	-	-	-	-	-	-	2	-	2	7	17	6	
78		-	-	-	-	-	-	-	-	-	-	1	1	2	4	5	10	
80		-	-	-	-	-	-	-	-	-	1	-	-	1	2	10	1	
82		-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	
84		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
86		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
88		-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
Total No. of Ages Read		-	5	4	80	22	20	200	67	16	7	9	7	437	1000 1000 1000			
Serial Numbers		No. of Age Samples 27																
X		Number of fish measured each month												818	690	1086		
		Mean length of fish (cm) each month												57.77	60.63	59.83		
		Mean weight of fish (kg) each month												2.14	2.35	2.15		
		Total weight caught or landed (tons) each month												1405	1718	1582		
		Estimated number caught or landed (whole numbers) each month												6564	7298	7346		
		Range of depths (m) each month												37-70	33-95	33-110		
		Mesh size (mm)												114	114	114		

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	1	2	3	4	5	6	7	8	9	10	11	12	Total
Apr	-	8	10	206	50	43	477	126	34	12	19	15	1000
May	-	5	3	144	48	50	457	171	41	25	33	23	1000
June	-	11	4	164	48	48	450	169	40	14	26	26	1000

¹ Numbers in 100's

TABLE 41
(continued)

AGE/LENGTH TABLE - HADDOCK - 52e - 1970 (3rd QUARTER)

GEAR		Otter Trawl (Commercial)												Total No. of Ages Read	LENGTH COMPOSITION PER MILE		
CATCHES OR LANDINGS		Landings													Months Within Quarter		
COUNTRY		USA															
TONNAGE		0-458															
STRUCTURES USED IN AGE DETERMINATION		Scales															
Length Group (2 cm)	Age	1	2	3	4	5	6	7	8	9	10	11	12	July	Aug	Sep	
		36	-	-	-	-	-	-	-	-	-	-	-				-
38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
42	-	5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
44	-	5	-	1	-	-	-	-	-	-	-	-	-	-	-	-	
46	-	14	-	1	-	-	2	-	-	-	-	-	-	-	-	-	
48	-	10	-	2	1	1	1	-	-	-	-	-	-	-	-	-	
50	-	12	2	2	2	1	14	-	-	-	-	-	-	-	-	-	
52	-	7	1	2	-	1	9	2	-	-	-	-	-	-	-	-	
54	-	1	-	9	2	2	10	1	-	-	-	-	-	-	-	-	
56	-	-	-	9	2	2	17	-	-	-	-	-	-	-	-	-	
58	-	-	-	5	3	3	29	1	1	-	-	-	-	-	-	-	
60	-	-	-	3	3	3	30	4	-	-	-	-	-	-	-	-	
62	-	-	-	4	4	2	43	12	-	-	1	-	-	-	-	-	
64	-	-	-	4	1	4	24	7	3	-	-	-	-	-	-	-	
66	-	-	-	-	1	1	45	9	2	2	1	-	-	-	-	-	
68	-	-	-	-	-	-	18	17	-	1	-	-	-	-	-	-	
70	-	-	-	-	-	-	7	9	4	1	-	-	-	-	-	-	
72	-	-	-	-	-	-	2	8	-	3	1	-	-	-	-	-	
74	-	-	-	-	-	-	-	2	1	4	-	-	-	-	-	-	
76	-	-	-	-	-	-	-	4	-	3	-	-	-	-	-	-	
78	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	
80	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	
82	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	
84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total No. of Ages Read	-	57	4	42	19	20	251	76	11	18	4	2	504				
Serial Numbers	No. of Age Samples												28				
X		Number of fish measured each month												739	1517	566	
		Mean length of fish (cm) each month												62.02	61.23	63.83	
		Mean weight of fish (kg) each month												2.43	2.43	2.72	
		Total weight caught or landed (tons) each month												1088	815	748	
		Estimated number caught or landed (whole numbers) each month												4472	3345	2749	
		Range of depths (m) each month												44-137	33-212	42-187	
Mesh size (mm)												114	114	114			

AGE COMPOSITIONS OF LANDINGS (PER MILE)

Month	1	2	3	4	5	6	7	8	9	10	11	12	Total
July	-	37	2	95	43	48	554	160	22	28	7	4	1000
Aug	-	91	6	90	37	42	487	165	27	42	7	1	1000
Sep	-	43	4	68	31	39	510	209	30	47	12	7	1000

TABLE 41
(continued)

AGE/LENGTH TABLE - HADDOCK - 52e - 1970 (4th QUARTER)

GEAR		Otter Trawl (Commercial)												Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES OR LANDINGS		Landings													Months Within Quarter		
COUNTRY		USA															
TONNAGE		0-458															
STRUCTURES USED IN AGE DETERMINATION		Scales															
Length Group (2 cm)	Age	1	2	3	4	5	6	7	8	9	10	11	12		Oct	Nov	Dec
		36	1	-	-	-	-	-	-	-	-	-	-		-	1	-	-	2
38	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-	5	
40	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	18	
42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	
44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	
46	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-	5	
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	
50	-	1	-	-	1	-	1	-	-	-	-	-	3	-	-	10	
52	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	12	
54	-	-	-	-	-	2	2	-	-	-	-	-	4	21	-	31	
56	-	-	-	5	1	2	8	-	1	-	-	-	17	52	-	70	
58	-	-	-	-	1	1	8	-	-	-	-	-	10	69	-	113	
60	-	-	-	3	2	2	9	1	-	-	-	-	17	94	-	101	
62	-	-	-	1	1	-	16	4	-	-	-	-	22	111	-	127	
64	-	-	-	1	-	2	19	6	-	-	-	-	28	143	-	122	
66	-	-	-	-	-	2	11	4	2	-	-	-	19	133	-	106	
68	-	-	-	-	-	-	9	5	-	1	1	-	16	105	-	95	
70	-	-	-	-	-	-	7	1	-	1	1	1	11	124	-	58	
72	-	-	-	-	-	-	2	2	-	-	-	1	5	76	-	37	
74	-	-	-	-	-	-	-	2	-	-	-	-	2	20	-	41	
76	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	5	
78	-	-	-	-	-	-	-	-	1	1	-	-	2	13	-	-	
80	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	11	
82	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	
Total No. of Ages Read													162	1000 - 1000			
Serial Numbers													No. of Age Samples 10				
Number of fish measured each month													622	-	228		
Mean length of fish (cm) each month													65.58	-	63.74		
Mean weight of fish (kg) each month													3.04	-	2.83		
Total weight caught or landed (tons) each month													799	-	205		
Estimated number caught or landed (whole numbers) each month													2626	-	724		
Range of depths (m) each month													37-274	-	44-174		
Mesh size (mm)													114	-	114		

AGE COMPOSITIONS OF LANDINGS (PER MILLE)

Month	1	2	3	4	5	6	7	8	9	10	11	12	Total
Oct	-	-	-	44	27	61	586	186	25	25	19	27	1000
Nov	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec	27	7	-	42	31	57	564	199	16	17	17	26	1000

¹ Numbers in 100's

TABLE 42

LENGTH FREQUENCIES - REDFISH - 1A, 1B, 1C - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	1A	1B	1C						
GEAR	Otter Trawl								
CATCHES/LANDINGS	Research								
MONTH	Catches								
COUNTRY	Aug	Jul	Jul			Jul			Jul
TONNAGE	France (M)								
TYPE	1500								
SEX	<i>Sebastes mentella</i>					<i>Sebastes marinus</i>			NK
	Mixed	Mixed	♂♂	♀♀	Total	♂♂	♀♀	Total	Mixed
5	-	1	-	-	-	-	-	-	-
6	-	1	-	-	-	-	-	-	-
7	-	4	-	-	-	-	-	-	4
8	-	7	-	-	-	-	-	-	-
9	3	16	-	-	-	-	-	-	-
10	3	94	-	-	-	-	-	-	-
11	3	148	-	-	-	-	-	-	7
12	12	56	-	-	-	-	-	-	7
13	38	22	-	-	-	-	-	-	-
14	107	82	-	1	1	-	-	-	4
15	243	84	-	1	1	2	-	2	-
16	281	120	3	-	3	11	2	13	-
17	142	84	9	6	15	5	4	9	-
18	83	61	11	15	26	15	13	28	7
19	51	64	28	39	67	41	21	62	-
20	25	36	14	44	58	43	50	93	7
21	5	31	19	16	35	48	30	78	11
22	3	21	4	11	15	33	30	63	14
23	1	12	8	5	13	30	30	60	-
24	-	13	8	10	18	26	32	58	14
25	-	16	13	11	24	36	35	71	11
26	-	10	14	8	22	46	46	92	36
27	-	7	15	15	30	39	35	74	61
28	-	5	11	9	20	35	30	65	94
29	-	-	18	3	21	29	19	48	72
30	-	-	9	5	14	27	19	46	130
31	-	-	3	4	7	7	9	16	97
32	-	-	8	11	19	7	7	14	79
33	-	-	5	16	21	6	2	8	79
34	-	1	19	13	32	6	9	15	32
35	-	-	24	8	32	6	2	8	40
36	-	-	22	21	43	1	1	2	25
37	-	1	29	28	57	4	-	4	29
38	-	1	31	21	52	5	5	10	25
39	-	-	26	33	59	4	2	6	11
40	-	-	20	30	50	2	4	6	29
41	-	-	33	31	64	1	2	3	18
42	-	-	28	25	53	5	1	6	14
43	-	-	28	20	48	-	4	4	14
44	-	-	19	19	38	-	8	8	4
45	-	-	8	16	24	4	2	6	11
46	-	-	3	9	12	1	2	3	-
47	-	-	-	5	5	2	-	2	4
48	-	-	1	3	4	1	5	6	-
49	-	-	-	-	-	1	1	2	-
50	-	-	-	-	-	1	-	1	-
51	-	-	-	-	-	-	1	1	-
52	-	-	-	-	-	-	-	-	4
53	-	-	1	1	2	-	-	-	-
54	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	1	1	-
56	-	-	-	-	-	-	-	-	4
61	-	-	-	-	-	-	1	1	-
63	-	-	-	-	-	-	1	1	-
Total ‰	1000	998	432	513	1005	530	466	996	998
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	4	5	-	-	5	-	-	-	-
Number of Fish Measured	1392	1400	388	409	797	452	401	853	227
Mean Length (cm)	15.9	15.4	33.2	32.7	32.9	25.3	26.3	25.8	31.3
Mean Weight (kg)	0.04	0.06	-	-	0.66	-	-	0.32	-
Total Weight Landed (tons)	-	-	-	-	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	30	30	-	-	30	-	-	30	18
Range of Depths (fm)	>150	>150	-	-	>150	-	-	100-150	253-297

TABLE 43

LENGTH FREQUENCIES - REDFISH - 1D - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl						
CATCHES/LANDINGS	Research						
MONTH	Catches						
COUNTRY	July	July				July	
TONNAGE	France (M)						
SPECIES OR TYPE	1500						
SEX	<i>S. Mentella</i>	<i>S. Marinus</i>			<i>S. Marinus</i>		
	Mixed	♂♂	♀♀	Total	♂♂	♀♀	Total
11	3	-	-	-	-	-	-
12	6	-	-	-	-	-	-
13	-	-	-	-	-	-	-
14	3	-	-	-	-	-	-
17	3	-	-	-	-	4	4
18	-	3	-	3	-	-	-
19	6	3	-	3	-	-	-
20	8	-	-	-	-	8	8
21	11	-	6	6	8	-	8
22	19	6	-	6	8	-	8
23	25	8	3	11	-	-	-
24	47	6	8	14	8	4	12
25	47	17	17	34	13	4	17
26	58	14	17	31	21	4	25
27	41	39	42	81	8	8	16
28	17	45	36	81	29	25	54
29	17	42	42	84	25	25	50
30	14	50	25	75	42	29	71
31	39	25	19	44	29	25	54
32	44	28	11	39	21	29	50
33	58	8	14	22	8	17	25
34	66	11	3	14	13	13	26
35	55	3	6	9	4	4	8
36	105	8	17	25	13	17	30
37	83	6	3	9	4	8	12
38	30	11	3	14	4	8	12
39	44	6	8	14	13	13	26
40	14	17	14	31	13	13	26
41	22	22	17	39	8	21	29
42	28	17	22	39	29	17	46
43	30	14	19	33	34	13	47
44	28	6	17	23	38	25	63
45	11	17	22	39	13	21	34
46	17	11	28	39	29	25	54
47	6	14	22	36	17	25	42
48	-	19	14	33	13	13	26
49	-	3	19	22	13	13	26
50	-	-	6	6	8	8	16
51	-	3	3	6	4	8	12
52	-	6	8	14	-	8	8
53	-	3	-	3	4	4	8
54	-	3	6	9	-	-	-
55	-	3	-	3	-	-	-
56	-	-	-	-	-	-	-
57	-	-	3	3	-	-	-
58	-	-	-	-	-	4	4
59	-	-	3	3	4	-	4
60	-	-	-	-	-	-	-
61	-	-	-	-	-	8	8
62	-	-	-	-	-	8	8
63	-	-	3	3	8	-	8
65	-	-	-	-	-	4	4
66	-	3	-	3	4	-	4
Total ‰	1005	498	506	1004	510	483	993
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	7	-	-	4	-	-	3
Number of Fish Measured	363	178	181	359	122	116	238
Mean Length (cm)	33.2	34.5	36.8	35.7	37.5	38.9	38.2
Mean Weight (kg)	0.54	-	-	0.81	-	-	1.01
Total Weight Landed (tons)	-	-	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	30	-	-	30	-	-	30
Range of Depths (fm)	150-200	-	-	100-150	-	-	150-200

TABLE 44

LENGTH FREQUENCIES - REDFISH - 1D, 1E, 1F - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	1D				1E	1F	
GEAR	Otter Trawl						
CATCHES/LANDINGS	Research						
MONTH	Catches						
COUNTRY	Apr	May	June	Dec	Nov	Feb	Mar
TONNAGE	Denmark (C)						
SPECIES OR TYPE	NK						
SEX	Mixed						
4	1	-	-	-	-	-	-
5	13	2	3	-	18	-	-
6	41	10	74	4	45	-	4
7	133	23	130	30	9	-	8
8	202	136	45	55	24	-	28
9	142	306	29	119	24	40	82
10	68	172	66	236	36	60	84
11	38	87	77	123	12	101	64
12	28	126	34	100	21	107	66
13	10	58	34	73	18	87	75
14	4	25	21	30	-	101	159
15	6	12	24	22	3	34	57
16	3	4	13	23	-	60	45
17	1	4	34	27	9	27	39
18	4	4	77	39	-	67	48
19	6	4	64	39	6	27	35
20	4	1	58	18	6	20	21
21	-	1	61	9	6	7	21
22	4	-	37	8	6	27	18
23	4	-	42	12	6	27	21
24	3	1	8	5	12	7	13
25	4	-	8	4	30	34	22
26	1	-	8	5	57	20	23
27	3	-	8	4	57	20	22
28	1	2	3	3	69	7	9
29	16	3	-	1	57	34	18
30	18	2	-	4	36	34	9
31	19	-	8	4	33	7	4
32	19	3	11	-	12	7	-
33	27	2	3	1	9	7	3
34	21	2	8	-	30	-	1
35	15	5	-	1	39	-	1
36	15	2	3	-	24	7	-
37	27	-	-	-	57	-	1
38	18	1	3	-	21	-	-
39	18	3	-	-	18	-	1
40	13	1	-	-	27	-	-
41	19	-	-	-	24	-	-
42	16	-	-	-	42	-	-
43	4	-	5	-	21	-	-
44	3	-	-	-	30	-	-
45	3	-	-	-	12	-	-
46	1	-	-	-	9	-	-
47	-	-	-	-	9	-	-
48	-	-	-	-	3	-	-
49	-	-	-	-	3	-	-
50	-	-	-	-	3	-	-
51	-	-	-	-	-	-	-
53	-	1	-	-	-	-	-
59	-	1	-	-	-	13	1
60	-	-	-	1	3	7	-
65	-	-	-	-	-	7	-
Total ‰	996	1004	1009	1000	996	1003	1003
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	-	-	-	-	-	-	-
Number of Fish Measured	678	1136	377	742	332	149	778
Mean Length (cm)	16.5	10.8	14.9	12.6	28.1	18.1	15.6
Mean Weight (kg)	-	-	-	-	-	-	-
Total Weight Landed (tons)	-	-	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	18	18	18	18	-	18	18
Range of Depths (fm)	143-336	143-303	165	165-286	-	157-165	198-182

TABLE 45

LENGTH FREQUENCIES - REDFISH - 3K, 3L - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	3K			3L					
GEAR	Otter Trawl (Stern)								
CATCHES/LANDINGS	Exploratory & Commercial								
MONTH	Mar			Mar			Sep		
COUNTRY	Japan								
TONNAGE	>1800								
SEX	♂	♀	Total	♂	♀	Total	♂	♀	Total
21	-	-	-	-	3	3	-	-	-
22	-	-	-	2	3	5	-	-	-
23	-	-	-	5	3	8	-	-	-
24	-	-	-	-	-	-	-	-	-
25	-	-	-	-	5	5	-	-	-
26	-	-	-	-	3	3	-	-	-
27	-	-	-	10	13	23	10	-	10
28	-	-	-	10	8	18	41	-	41
29	15	10	25	10	5	15	20	-	20
30	15	5	20	25	3	28	21	20	41
31	5	15	20	43	8	51	92	10	102
32	25	20	45	78	13	91	61	10	71
33	5	25	30	68	45	113	82	91	173
34	80	37	117	36	53	89	93	92	185
35	50	30	80	51	82	133	21	91	112
36	30	55	85	17	82	99	21	50	71
37	15	35	50	30	73	103	-	82	82
38	35	45	80	5	68	73	10	31	41
39	65	31	96	5	51	56	-	10	10
40	61	66	127	-	35	35	10	21	31
41	25	60	85	-	25	25	-	10	10
42	15	30	45	-	8	8	-	-	-
43	5	35	40	-	5	5	-	-	-
44	10	5	15	-	3	3	-	15	-
45	5	5	10	-	8	8	-	-	-
46	10	10	20	-	-	-	-	20	-
47	5	-	5	-	-	-	-	-	-
48	-	5	5	-	-	-	-	-	-
Total ‰	476	524	1000	395	605	1000	482	518	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	1	-	-	2	-	-	2
Number of Fish Measured	95	104	199	158	237	395	47	51	98
Mean Length (cm)	37.6	38.5	38.0	33.3	36.5	35.2	32.8	35.6	34.3
Mean Weight (kg)	-	-	-	-	-	-	-	-	-
Total Weight Landed (tons)	-	-	-	-	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	-	-	-	-	-	-	-	-
Range of Depths (fm)	-	-	310	-	-	300-335	-	-	220-235

TABLE 46

LENGTH FREQUENCIES - REDFISH - 3L, 3M - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	3L			3M					
GEAR	Otter Trawl (Stern)								
CATCHES/LANDINGS	Exploratory & Commercial								
MONTH	Catches								
COUNTRY	Aug	Sep	Feb	Feb	Mar				
TONNAGE	Japan								
SEX	>1800			♂♂	♀♀	Total	♂♂	♀♀	Total
	Mixed								
14	-	9	-	-	-	-	-	-	-
15	-	9	-	-	-	-	-	-	-
16	-	9	-	-	-	-	-	-	-
17	8	9	-	-	-	-	-	-	-
18	10	-	-	-	-	-	-	-	-
19	15	-	-	-	-	-	-	-	-
20	10	9	-	-	4	4	-	5	5
21	28	-	3	2	4	6	-	-	-
22	18	28	-	6	8	14	-	-	-
23	48	9	-	-	2	2	-	5	5
24	28	65	3	2	-	2	-	5	5
25	18	65	-	-	2	2	24	19	43
26	38	74	-	10	12	22	72	33	105
27	56	37	10	27	22	49	72	43	115
28	102	83	10	45	33	78	87	76	163
29	89	103	13	47	33	80	53	28	81
30	66	112	42	44	31	75	10	14	24
31	51	56	75	36	31	67	14	-	14
32	64	46	75	37	14	51	43	-	43
33	106	9	52	64	25	89	38	24	62
34	79	93	75	47	39	86	29	52	81
35	69	83	101	25	59	84	19	81	100
36	54	83	161	34	33	67	5	48	53
37	23	9	160	27	49	76	5	43	48
38	10	-	92	16	29	45	-	33	33
39	10	-	39	8	37	45	-	10	10
40	-	-	23	2	16	18	-	10	10
41	-	-	26	-	6	6	-	-	-
42	-	-	23	-	20	20	-	-	-
43	-	-	7	-	8	8	-	-	-
44	-	-	7	-	2	2	-	-	-
45	-	-	3	-	2	2	-	-	-
Total ‰	1000	1000	1000	479	521	1000	471	529	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	9	2	2	-	-	4	-	-	1
Number of Fish Measured	392	108	306	244	266	510	98	111	209
Mean Length (cm)	30.2	29.7	35.8	32.4	34.2	33.3	29.7	32.5	31.2
Mean Weight (kg)	-	-	-	-	-	-	-	-	-
Total Weight Landed (tons)	-	-	-	-	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	-	-	-	-	-	-	-	-
Range of Depths (fm)	225-245	210	210-225	-	-	235-270	-	-	260

TABLE 47

LENGTH FREQUENCIES - REDFISH - 3M - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Stern)						
	Exploratory and Commercial						
CATCHES/LANDINGS	Catches						
MONTH	Aug				Sep		
COUNTRY	Japan						
TONNAGE	> 1800						
SEX	♂♂	♀♀	Mixed	Total	♂♂	♀♀	Total
18	-	-	-	-	4	-	4
19	-	-	-	-	-	-	-
20	4	-	-	4	-	-	-
21	8	-	-	8	-	-	-
22	36	-	-	36	-	19	19
23	28	-	-	28	11	42	53
24	36	-	8	44	-	23	23
25	57	-	16	73	4	11	15
26	48	-	-	48	11	39	50
27	32	-	65	97	23	19	42
28	20	-	73	93	35	30	65
29	20	20	49	89	65	46	111
30	12	45	40	97	65	34	99
31	16	65	37	118	65	52	117
32	-	32	24	56	69	42	111
33	-	16	32	48	88	19	107
34	-	37	28	65	54	53	107
35	-	20	24	44	23	19	42
36	-	32	-	32	-	4	4
37	-	16	-	16	-	4	4
38	-	-	4	4	-	-	-
39	-	-	-	-	-	4	4
40	-	-	-	-	-	4	4
41	-	-	-	-	-	8	8
42	-	-	-	-	-	11	11
Total ‰	317	283	400	1000	517	483	1000
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	-	-	-	3	-	-	3
Number of Fish Measured	79	70	99	248	135	127	262
Mean Length (cm)	26.0	33.0	30.3	29.7	31.7	30.3	30.8
Mean Weight (kg)	-	-	-	-	-	-	-
Total Weight Landed (tons)	-	-	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	-	-	-	-	-	-
Range of Depths (fm)	-	-	-	225-235	-	-	215-235

TABLE 48

LENGTH FREQUENCIES - REDFISH - 3N, 30 - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	3N				30			
	Otter Trawl (Stern)		Otter Trawl (Stern)		Otter Trawl (Stern)			
GEAR	Exploratory	Research		Exploratory and Commercial				
CATCHES/LANDINGS	Catches				Catches			
MONTH	Mar	June		Feb	Mar			
COUNTRY	Japan	USSR		Japan				
TONNAGE	> 1800	3600		> 1800				
SEX	Mixed	♂♂	♀♀	Total	Mixed	♂♂	♀♀	Total
12	-	-	-	-	3	-	-	-
13	-	-	-	-	-	-	-	-
14	19	-	-	-	-	-	-	-
15	174	-	-	-	3	5	-	5
16	194	-	-	-	13	-	-	-
17	-	-	-	-	33	20	35	55
18	38	-	-	-	68	20	55	75
19	38	-	1	1	119	30	15	45
20	19	5	1	6	102	15	5	20
21	19	5	2	7	93	50	10	60
22	38	17	10	27	172	55	40	95
23	19	26	25	51	109	65	40	105
24	58	32	20	52	102	40	60	100
25	58	36	23	59	73	45	30	75
26	19	18	20	38	35	20	15	35
27	-	24	31	55	23	25	15	40
28	58	28	27	55	15	45	30	75
29	58	20	29	49	23	25	35	60
30	38	28	39	67	3	5	20	25
31	19	9	52	61	-	-	25	25
32	58	9	94	103	3	-	35	35
33	38	3	81	84	-	-	30	30
34	19	4	81	85	5	-	25	25
35	19	2	73	75	3	-	5	5
36	-	3	37	40	-	-	5	5
37	-	4	27	31	-	-	5	5
38	-	3	17	20	-	-	-	-
39	-	-	9	9	-	-	-	-
40	-	-	8	8	-	-	-	-
41	-	1	7	8	-	-	-	-
42	-	-	5	5	-	-	-	-
43	-	-	3	3	-	-	-	-
--	-	-	-	-	-	-	-	-
48	-	-	1	1	-	-	-	-
Total ‰	1000	277	723	1000	1000	460	540	1000
Serial Numbers	-	-	-	-	-	-	-	-
Number of Samples	1	-	-	-	4	-	-	1
Number of Fish Measured	52	292	764	1056	400	92	108	200
Mean Length (cm)	22.8	26.9	31.8	30.4	22.5	23.9	26.0	35.0
Mean Weight (kg)	-	-	-	0.45	-	-	-	-
Total Weight Landed (tons)	-	-	-	3709	-	-	-	-
Estimated Number Landed	-	-	-	8242 ¹	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	-	-	110	-	-	-	-
Range of Depths (fm)	130	-	-	95-240	125-170	-	-	170

¹ Numbers in 1000's

TABLE 49

LENGTH FREQUENCIES - REDFISH - 3P - 1970

(FREQUENCIES IN % - 1 CM GROUPS)

GEAR	Otter Trawl (Stern)							
	Exploratory and Commercial							
CATCHES/LANDINGS	Catches							
MONTH	Feb	Mar	May	Jun	Oct	Sep		
COUNTRY	Japan							
TONNAGE	> 1800							
SEX	Mixed					♂	♀	Total
9	-	-	-	4	-	-	-	-
10	-	-	-	2	-	-	-	-
11	-	40	-	8	-	-	-	-
12	-	-	-	8	-	-	-	-
13	-	30	-	30	-	-	-	-
14	-	70	-	18	-	-	-	-
15	-	50	-	12	-	-	-	-
16	10	90	-	18	-	-	-	-
17	10	120	-	49	-	7	-	7
18	29	130	-	91	-	7	-	7
19	38	60	-	71	-	7	-	7
20	75	40	-	69	-	7	-	7
21	38	30	51	63	-	-	-	-
22	29	60	81	73	-	7	-	7
23	38	60	30	77	-	-	-	-
24	48	90	51	75	-	14	-	14
25	48	40	40	102	10	42	-	42
26	38	50	100	67	10	125	7	132
27	10	10	91	43	83	98	7	105
28	10	10	51	32	136	63	35	98
29	19	-	71	24	136	49	35	84
30	56	-	51	14	209	35	49	84
31	85	-	81	10	104	-	70	70
32	85	-	40	8	83	7	49	56
33	10	-	20	10	83	14	105	119
34	57	20	40	14	63	28	49	77
35	75	-	51	4	21	-	70	70
36	29	-	20	2	42	7	-	7
37	19	-	61	-	10	-	-	-
38	48	-	20	2	-	7	-	7
39	29	-	30	-	10	-	-	-
40	19	-	10	-	-	-	-	-
41	29	-	10	-	-	-	-	-
42	19	-	-	-	-	-	-	-
Total %	1000	1000	1000	1000	1000	524	476	1000
Serial Numbers	-	-	-	-	-	-	-	-
Number of Samples	1	1	1	5	2	-	-	2
Number of Fish Measured	105	100	99	494	96	75	68	143
Mean Length (cm)	28.7	18.8	28.7	21.7	31.0	27.9	32.3	30.0
Mean Weight (kg)	-	-	-	-	-	-	-	-
Total Weight Landed (tons)	-	-	-	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	-	-	-	-	-	-	-
Range of Depths (fm)	215	100	170	110-140	165	-	-	170-230

TABLE 50

LENGTH FREQUENCIES - REDFISH - 4R - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Stern)						Otter Trawl (Side)					
	Commercial Landings											
CATCHES/LANDINGS												
MONTH	June			Oct			Jan			Nov		
COUNTRY	Canada (M)											
TONNAGE	501-900						151-500					
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
18	-	-	-	-	-	-	?	?	4	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-
22	-	2	2	-	-	-	-	-	-	-	-	-
23	2	-	2	-	-	-	?	?	4	-	-	-
24	-	-	-	-	-	-	4	-	4	-	-	-
25	2	-	2	-	1	1	8	4	12	-	-	-
26	-	2	2	-	3	3	8	8	16	-	-	-
27	23	10	33	-	9	9	67	17	84	11	6	17
28	22	4	26	51	14	65	118	97	215	61	17	78
29	96	30	126	83	18	101	122	55	177	67	39	106
30	120	83	203	103	66	169	92	97	189	122	39	161
31	82	56	138	62	61	123	46	71	117	133	78	211
32	88	68	156	38	66	104	8	76	84	72	61	133
33	34	68	102	8	107	115	17	25	42	39	67	106
34	27	52	79	12	71	83	17	8	25	22	61	83
35	10	44	54	7	96	103	4	8	12	11	39	50
36	4	22	26	6	57	63	-	-	-	6	17	23
37	2	11	13	1	44	45	-	-	-	-	6	6
38	2	14	16	-	11	11	4	-	4	-	6	6
39	-	17	17	-	5	5	-	4	4	-	6	6
40	-	2	2	-	1	1	-	4	4	-	6	6
41	-	4	4	-	1	1	-	-	-	-	6	6
42	-	-	-	-	-	-	-	-	-	-	-	-
43	-	-	-	-	-	-	-	-	-	-	-	-
44	-	-	-	-	-	-	-	-	-	-	6	6
Total ‰	514	489	1003	371	631	1002	515	474	997	544	460	1004
Serial Numbers	-	-	102,131	-	-	103-105	-	-	130	-	-	106
Number of Samples	-	-	2	-	-	3	-	-	1	-	-	1
Number of Fish Measured	268	256	524	177	431	608	123	113	238	98	82	180
Mean Length (cm)	30.7	32.6	31.6	30.3	33.1	32.1	29.2	30.2	29.6	30.6	32.6	31.5
Mean Weight (kg)	0.42	0.51	0.46	0.40	0.53	0.48	0.36	0.40	0.38	0.42	0.51	0.46
Total Weight Landed (tons)	-	-	292	-	-	578	-	-	282	-	-	1046
Estimated Number Landed ¹	-	-	634	-	-	1204	-	-	742	-	-	2273
Mesh(mm) or Hook(no.) Size	-	-	76	-	-	76	-	-	76	-	-	76
Range of Depths (fm)	-	-	130-140	-	-	135-150	-	-	115-135	-	-	140-200

¹ Numbers in 1000's

TABLE 51 LENGTH FREQUENCIES - REDFISH - 4R, 4S - 1970 (FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	4R						4S					
GEAR	Otter Trawl (Side)											
CATCHES/LANDINGS	Commercial Landings											
MONTH	Nov			Aug			June			Aug		
COUNTRY	Canada (N)						Canada (M)					
TONNAGE	151-500						51-150					
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
19	-	-	-	1	-	1	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	1	-	1	5	5	10	-	-	-
22	-	-	-	-	-	-	15	-	15	-	-	-
23	-	-	-	-	-	-	5	-	5	-	-	-
24	-	-	-	-	1	1	-	-	-	-	-	-
25	-	-	-	-	-	-	10	-	10	2	3	5
26	-	-	-	3	1	4	25	5	30	7	-	7
27	4	1	5	12	5	17	75	25	100	27	5	32
28	14	5	19	32	10	42	100	40	140	62	22	84
29	43	16	59	87	31	118	95	70	165	93	40	133
30	104	37	141	106	52	158	115	65	180	105	65	170
31	73	46	119	85	59	154	65	65	130	85	101	186
32	151	68	219	108	90	198	20	60	80	43	87	130
33	88	78	166	54	82	136	15	30	45	18	63	81
34	37	68	105	25	40	65	20	20	40	18	50	68
35	23	39	62	16	33	49	-	10	10	17	27	44
36	9	24	33	8	15	23	5	-	5	13	19	32
37	8	18	26	3	8	11	-	10	10	5	-	5
38	1	11	12	5	3	8	-	10	10	3	3	6
39	3	7	10	6	6	12	-	10	10	-	10	10
40	2	8	10	3	-	3	-	-	-	-	3	3
41	1	1	2	-	1	1	-	5	5	-	3	3
42	2	9	11	-	-	-	-	-	-	-	-	-
43	-	1	1	-	-	-	-	-	-	-	-	-
44	-	1	1	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-	-	-	-
46	-	1	1	-	-	-	-	-	-	-	-	-
47	-	-	-	-	1	1	-	-	-	-	-	-
Total ‰	563	439	1002	565	438	1003	570	430	1000	498	501	999
Serial Numbers	-	-	-	-	-	-	-	-	107	-	-	108,109
Number of Samples	-	-	1	-	-	-	-	-	1	-	-	2
Number of Fish Measured	574	447	1021	565	438	1003	114	86	200	202	198	400
Mean Length (cm)	31.8	33.4	32.5	31.1	32.3	31.6	28.9	31.0	29.8	30.4	32.0	31.2
Mean Weight (kg)	-	-	0.44	-	-	0.54	0.35	0.44	0.39	0.41	0.48	0.44
Total Weight Landed (tons)	-	-	340	-	-	1266	-	-	1180	-	-	3377
Estimated Number Landed ¹	-	-	767	-	-	2354	-	-	3025	-	-	7675
Mesh(mm) or Hook(no.) Size	-	-	Large	-	-	Large	-	-	76	-	-	76
Range of Depths (fm)	-	-	170-220	-	-	140-160	-	-	140-150	-	-	135-150

¹ Numbers in 1000's

TABLE 52

LENGTH FREQUENCIES - REDFISH - 4S - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Side)									OT (Stern)		
	Commercial Landings											
CATCHES/LANDINGS	Landings											
MONTH	Sep			Oct			Nov			Oct		
COUNTRY	Canada (M)											
TONNAGE	51-150									501-900		
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
17	-	-	-	-	-	-	?	?	3	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	4	-	4
22	-	-	-	-	-	-	-	-	-	4	-	4
23	-	-	-	-	-	-	-	-	-	-	-	-
24	5	-	5	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-
26	12	-	12	10	-	10	8	-	8	9	-	9
27	21	-	21	25	-	25	19	-	19	27	-	27
28	57	14	71	110	5	115	51	10	61	80	27	107
29	113	31	144	120	30	150	88	33	121	120	36	156
30	94	47	141	70	45	115	101	60	161	129	71	200
31	87	87	174	90	115	205	83	99	182	93	102	195
32	42	95	137	30	135	165	69	101	170	36	102	138
33	20	74	94	-	65	65	10	80	90	13	89	102
34	16	69	85	20	65	85	20	68	88	-	27	27
35	14	55	69	-	25	25	8	31	39	9	18	27
36	2	26	28	-	10	10	5	15	20	-	-	-
37	-	9	9	-	20	20	2	3	5	-	-	-
38	-	3	3	5	-	5	3	3	6	-	-	-
39	-	2	2	-	5	5	4	8	12	-	4	4
40	-	2	2	-	-	-	-	3	3	-	-	-
41	-	2	2	-	-	-	-	3	3	-	-	-
42	-	-	-	-	-	-	-	5	5	-	-	-
43	-	-	-	-	-	-	-	-	-	-	-	-
44	-	-	-	-	-	-	-	3	3	-	-	-
Total ‰	483	516	999	480	520	1000	471	525	999	524	476	1000
Serial Numbers	-	-	110,111	-	-	112	-	-	114,115	-	-	113
Number of Samples	-	-	2	-	-	1	-	-	2	-	-	1
Number of Fish Measured	194	207	401	96	104	200	190	214	405	118	107	225
Mean Length (cm)	30.0	32.5	31.3	29.6	32.3	31.0	30.4	32.4	31.5	29.6	31.5	30.5
Mean Weight (kg)	0.39	0.50	0.45	0.38	0.49	0.43	0.41	0.50	0.46	0.37	0.45	0.41
Total Weight Landed (tons)	-	-	3568	-	-	3004	-	-	1030	-	-	208
Estimated Number Landed	-	-	7928	-	-	6986	-	-	2239	-	-	507
Mesh(mm) or Hook(no.) Size	-	-	76	-	-	76	-	-	76	-	-	76
Range of Depths (fm)	-	-	130-140	-	-	135-145	-	-	158-250	-	-	120-140

¹ Numbers in 1000's

TABLE 53

LENGTH FREQUENCIES - REDFISH - 4RST - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl											
	Commercial											
CATCHES/LANDINGS	Landings											
MONTH	Jan			June			July			Aug		
COUNTRY	United States											
TONNAGE	34-440											
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
22	-	-	-	-	-	-	1	1	2	-	-	-
23	-	-	-	-	-	-	1	-	1	-	1	1
24	-	-	-	-	10	10	5	5	10	2	-	2
25	-	-	-	10	-	10	15	7	23	5	2	7
26	-	-	-	70	20	90	28	15	43	14	2	16
27	50	-	50	70	30	100	53	30	83	53	12	65
28	100	40	140	100	40	140	80	49	139	83	28	111
29	170	30	200	50	60	110	73	75	147	110	54	164
30	160	50	210	60	50	110	72	89	161	100	92	192
31	120	90	210	20	100	120	50	98	148	57	97	154
32	10	40	50	-	70	70	16	74	90	20	100	120
33	20	20	40	20	80	100	6	47	54	8	63	71
34	10	60	70	-	30	30	4	35	39	5	33	38
35	-	20	20	-	50	50	3	23	25	2	24	26
36	-	10	10	-	40	40	3	17	20	2	9	11
37	-	-	-	-	20	20	-	5	5	1	4	5
38	-	-	-	-	-	-	-	3	3	-	5	5
39	-	-	-	-	-	-	-	2	2	-	7	7
40	-	-	-	-	-	-	-	2	2	-	2	2
41	-	-	-	-	-	-	-	1	1	-	-	-
48	-	-	-	-	-	-	-	-	-	-	1	1
49	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	-	-
52	-	-	-	-	-	-	-	-	-	-	-	-
53	-	-	-	-	-	-	-	1	1	-	-	-
54	-	-	-	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-	-	1	1
56	-	-	-	-	-	-	-	2	2	-	1	1
Total ‰	640	360	1000	400	600	1000	420	580	1000	462	538	1000
Serial Numbers	-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	1	-	-	1	-	-	11	-	-	10
Number of Fish Measured	64	36	100	40	60	100	462	638	1100	462	538	1000
Mean Length (cm)	29.6	31.4	30.2	28.2	31.4	30.2	28.8	30.9	30.0	29.2	31.6	30.5
Mean Weight (kg)	0.40	0.48	0.43	0.34	0.49	0.43	0.37	0.47	0.43	0.39	0.49	0.44
Total Weight Landed (tons)	319	217	536	235	489	724	641	1107	1748	639	946	1585
Estimated Number Landed ¹	7973	4485	12458	6688	10032	16720	17127	23652	40779	16450	19156	35606
Mesh(mm) or Hook(no.) Size	-	-	64	-	-	64	-	-	64	-	-	64
Range of Depths (fm)	-	-	101-150	-	-	101-150	-	-	101-150	-	-	101-150

¹ Numbers in 100's

TABLE 54

LENGTH FREQUENCIES - REDFISH - 4RST, 4T - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	4RST			4T		
GEAR	Otter Trawl			Otter Trawl (Side)		
CATCHES/LANDINGS	Commercial Landings			Commercial Landings		
MONTH	Nov			Nov		
COUNTRY	United States			Canada (M)		
TONNAGE	34-440			151-500		
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total
26	15	-	15	9	-	9
27	20	-	20	5	-	5
28	80	20	100	63	14	77
29	75	60	135	113	54	167
30	95	125	220	127	59	186
31	70	130	200	127	100	227
32	35	130	165	41	68	109
33	20	45	65	27	63	90
34	5	30	35	9	59	68
35	5	20	25	9	23	32
36	10	-	10	-	5	5
37	5	-	5	-	5	5
38	-	-	-	-	9	9
39	-	-	-	-	-	-
40	-	-	-	-	-	-
41	-	-	-	-	5	5
42	-	-	-	-	-	-
43	-	-	-	-	-	-
44	-	-	-	-	-	-
45	-	-	-	-	9	9
Total ‰	435	565	1000	530	473	1003
Serial Numbers	-	-	-	-	-	116
Number of Samples	2	2	2	-	-	1
Number of Fish Measured	87	113	200	117	104	221
Mean Length (cm)	30.0	31.2	30.7	30.2	32.1	31.1
Mean Weight (kg)	0.42	0.47	0.45	0.40	0.49	0.44
Total Weight Landed (tons)	290	420	710	-	-	234
Estimated Number Landed	6893 ¹	8953 ¹	15846 ¹	-	-	531 ²
Mesh(mm) or Hook(no.) Size	-	-	64	-	-	76
Range of Depths (fm)	-	-	110-164	-	-	200-220

¹ Numbers in 100's

² Numbers in 1000's

TABLE 55

LENGTH FREQUENCIES - REDFISH - 4Vn, 4Vs - 1970

(FREQUENCIES IN % - 1 CM GROUPS)

DIVISION	4Vn									4Vs		
GEAR	Otter Trawl (Side)											
CATCHES/LANDINGS	Commercial Landings											
MONTH	Feb			Mar			June			Dec		
COUNTRY	Canada (M)											
TONNAGE	151-500											
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	♀♀	♀♀	Total
20	4	-	4	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	22	-	22	5	-	5	-	-	-
23	-	-	-	35	-	35	5	-	5	-	-	-
24	-	-	-	35	4	39	-	-	-	-	-	-
25	-	-	-	31	13	44	9	9	18	4	-	4
26	9	-	9	22	9	31	5	5	10	-	-	-
27	17	-	17	49	4	53	5	5	10	4	-	4
28	30	-	30	88	9	97	-	-	-	12	-	12
29	61	-	61	62	18	80	57	-	57	12	-	12
30	122	26	148	53	13	66	100	19	119	20	-	20
31	117	13	130	40	27	67	76	38	114	32	-	32
32	122	26	148	44	44	88	81	38	119	56	-	56
33	87	35	122	13	71	84	47	43	90	52	16	68
34	17	35	52	4	66	70	28	52	80	28	24	52
35	4	57	61	4	58	62	33	71	104	28	28	56
36	4	52	56	4	40	44	28	52	80	52	87	139
37	-	52	52	4	31	35	28	47	75	24	99	123
38	-	43	43	-	44	44	19	33	52	36	111	147
39	-	35	35	-	22	22	-	14	14	12	95	107
40	-	13	13	-	4	4	-	24	24	-	91	91
41	-	17	17	-	4	4	-	9	9	-	36	36
42	-	-	-	-	4	4	-	5	5	-	16	16
43	-	-	-	-	-	-	-	5	5	-	8	8
44	-	-	-	-	-	-	-	-	-	-	4	4
45	-	-	-	-	-	-	-	-	-	-	8	8
46	-	-	-	-	-	-	-	-	-	-	4	4
47	-	-	-	-	-	-	-	5	5	-	-	-
48	-	-	-	-	-	-	-	-	-	-	4	4
Total %	594	404	998	510	485	995	526	474	1000	372	631	1003
Serial Numbers	-	-	117	-	-	118	-	-	119	-	-	120
Number of Samples	-	-	1	-	-	1	-	-	1	-	-	1
Number of Fish Measured	137	93	230	116	110	226	111	100	211	93	159	252
Mean Length (cm)	30.8	35.6	32.7	28.1	33.8	30.9	31.9	34.9	33.3	33.7	38.2	36.5
Mean Weight (kg)	0.42	0.66	0.52	0.33	0.57	0.45	0.48	0.63	0.55	0.56	0.81	0.72
Total Weight Landed (tons)	-	-	109	-	-	151	-	-	106	-	-	45
Estimated Number Landed ¹	-	-	209	-	-	335	-	-	192	-	-	62
Mesh(mm) or Hook(no.) Size	-	-	76	-	-	76	-	-	76	-	-	76
Range of Depths (fm)	-	-	90-140	-	-	140-160	-	-	185-190	-	-	125-140

¹ Numbers in 1000's

TABLE 56

LENGTH FREQUENCIES - REDFISH - 4V - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Stern)						
	Exploratory						
CATCHES/LANDINGS	Catches						
MONTH	Jan				Mar		
COUNTRY	Japan						
TONNAGE	> 1800						
SEX	♂	♀	Mixed	Total	♂	♀	Total
21	2	-	-	2	-	-	-
26	-	-	-	-	-	2	2
27	-	3	2	5	-	-	-
28	2	-	8	10	14	2	16
29	2	-	30	32	12	10	22
30	2	5	25	32	26	6	32
31	8	2	32	42	48	30	78
32	12	10	45	67	54	38	92
33	13	15	74	102	87	42	129
34	23	25	98	146	68	59	127
35	13	5	68	86	78	48	126
36	8	7	71	86	36	36	72
37	-	25	60	85	18	38	56
38	-	13	67	80	2	56	58
39	-	27	53	80	4	68	72
40	-	5	47	52	2	42	44
41	-	15	27	42	-	34	34
42	-	3	17	20	2	16	18
43	-	5	17	22	-	12	12
44	-	-	5	5	-	2	2
45	-	-	2	2	-	2	2
46	-	-	2	2	-	2	2
47	-	-	-	-	2	-	2
48	-	-	-	-	-	2	2
Total ‰	85	165	750	1000	453	547	1000
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	-	-	-	4	-	-	3
Number of Fish Measured	34	66	301	401	226	273	499
Mean Length (cm)	33.3	36.9	36.1	36.0	33.8	36.9	35.5
Mean Weight (kg)	-	-	-	-	-	-	-
Total Weight Landed (tons)	-	-	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	-	-	-	-	-	-
Range of Depths (fm)	-	-	-	235-240	-	-	230-240

TABLE 57 LENGTH FREQUENCIES - REDFISH - 4W - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Side)											
	Commercial Landings											
CATCHES/LANDINGS	June				July				Aug			
MONTH	Canada (M)											
COUNTRY	151-500											
TONNAGE	♂♂	♀♀	Mixed	Total	♂♂	♀♀	Mixed	Total	♂♂	♀♀	Mixed	Total
SEX	♂♂	♀♀	Mixed	Total	♂♂	♀♀	Mixed	Total	♂♂	♀♀	Mixed	Total
19	-	-	-	-	-	-	13	13	-	-	3	3
20	-	-	-	-	10	-	10	20	-	-	-	-
21	3	-	3	6	10	-	5	15	25	-	9	34
22	12	-	3	15	21	10	13	44	25	15	9	49
23	17	3	5	25	31	26	8	65	37	28	-	65
24	15	8	-	23	31	26	-	57	46	34	-	80
25	6	8	-	14	15	15	-	30	37	25	-	62
26	16	7	-	23	31	15	-	46	19	15	-	34
27	25	10	-	35	31	15	-	46	28	12	-	40
28	32	13	-	45	28	5	-	33	40	15	-	55
29	31	9	-	40	41	8	-	49	34	19	-	53
30	34	12	-	46	46	8	-	54	31	22	-	53
31	42	15	-	57	23	34	-	57	34	34	-	68
32	42	15	-	57	39	23	-	62	34	22	-	56
33	19	40	-	59	28	41	-	69	22	22	-	44
34	24	60	-	84	36	64	-	100	34	31	-	65
35	5	60	-	65	15	44	-	59	25	43	-	68
36	3	100	-	103	15	49	-	64	15	40	-	55
37	6	76	-	82	8	31	-	39	-	28	-	28
38	3	96	-	99	-	34	-	34	-	28	-	28
39	-	70	-	70	3	26	-	29	-	34	-	34
40	-	40	-	40	-	5	-	5	-	6	-	6
41	-	12	-	12	3	3	-	6	-	12	-	12
42	-	-	-	-	-	3	-	3	-	6	-	6
43	-	3	-	3	-	-	-	-	-	-	-	-
44	-	2	-	2	-	-	-	-	-	-	-	-
Total ‰	335	659	11	1005	465	485	49	999	486	491	21	998
Serial Numbers	-	-	-	121,128	-	-	-	122	-	-	-	123
Number of Samples	-	-	-	2	-	-	-	1	-	-	-	1
Number of Fish Measured	179	320	6	505	181	188	19	388	157	159	7	323
Mean Length (cm)	29.4	35.5	22.2	33.3	28.8	32.4	20.8	30.2	28.2	31.9	21.1	29.8
Mean Weight (kg)	0.38	0.67	0.15	0.56	0.37	0.52	0.13	0.43	0.34	0.51	0.13	0.42
Total Weight Landed (tons)	-	-	-	790	-	-	-	1303	-	-	-	619
Estimated Number Landed ¹	-	-	-	1410	-	-	-	3030	-	-	-	1473
Mesh(mm) or Hook(no.) Size	-	-	-	76	-	-	-	76	-	-	-	76
Range of Depths (fm)	-	-	-	180-260	-	-	-	220-250	-	-	-	220-260

¹ Numbers in 1000's

TABLE 57
(continued)

LENGTH FREQUENCIES - REDFISH - 4W - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Side)			Otter Trawl					
				Commercial Landings					
CATCHES/LANDINGS				July			Sep		
MONTH	Sep								
COUNTRY	Canada (M)			United States					
TONNAGE	151-500			51-440					
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
19	-	-	-	-	5	5	-	-	-
20	10	-	10	-	-	-	-	-	-
21	21	-	21	9	18	27	-	-	-
22	26	-	26	9	14	23	-	-	-
23	21	10	31	33	23	55	-	-	-
24	26	21	47	81	51	132	-	-	-
25	26	15	41	54	20	74	-	-	-
26	26	15	41	93	45	138	-	-	-
27	31	10	41	45	40	85	20	-	20
28	36	5	41	35	55	90	50	-	50
29	31	5	36	25	53	78	80	-	80
30	52	15	67	11	16	27	40	20	60
31	36	26	62	-	62	62	40	-	40
32	72	26	98	-	25	25	30	-	30
33	41	10	51	-	58	58	30	30	60
34	26	21	47	-	41	41	10	90	100
35	26	36	62	-	48	48	-	70	70
36	10	52	62	-	21	21	-	70	70
37	-	52	52	-	5	5	-	50	50
38	-	46	46	-	-	-	-	130	130
39	-	15	15	-	-	-	-	70	70
40	-	21	21	-	-	-	-	60	60
41	-	36	36	-	-	-	-	50	50
42	-	26	26	-	-	-	-	20	20
43	-	5	5	-	-	-	-	10	10
44	-	10	10	-	-	-	-	20	20
45	-	5	5	-	-	-	-	10	10
Total ‰	517	483	1000	395	605	1000	300	700	1000
Serial Numbers	-	-	124	-	-	-	-	-	-
Number of Samples	-	-	1	2	2	2	1	1	1
Number of Fish Measured	100	94	194	80	120	200	30	70	100
Mean Length (cm)	28.8	34.9	31.8	25.6	29.3	27.8	30.0	37.4	35.2
Mean Weight (kg)	0.36	0.66	0.50	0.26	0.41	0.35	0.42	0.81	0.69
Total Weight Landed (tons)	-	-	898	84	199	283	60	270	330
Estimated Number Landed	-	-	1796 ¹	3173 ²	4854 ²	8027 ²	1428 ²	3332 ²	4759 ²
Mesh(mm) or Hook(no.) Size	-	-	76	-	-	64	-	-	64
Range of Depths (fm)	-	-	190-240	-	-	61-149	-	-	210-260

¹ Numbers in 1000's
² Numbers in 100's

TABLE 58

LENGTH FREQUENCIES - REDFISH - 4W, 4X - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	4W			4X	
	Otter Trawl (Stern)				
GEAR	Exploratory and Commercial				
CATCHES/LANDINGS	Catches				
MONTH	Mar		Jun	Jun	
COUNTRY	Japan				
TONNAGE	> 1800				
SEX	♂	♀	Total	Mixed	Mixed
10	-	-	-	10	-
11	-	-	-	-	-
12	10	-	10	29	-
13	-	-	-	29	-
14	-	-	-	39	-
15	-	20	20	78	-
16	10	10	20	87	-
17	-	-	-	117	-
18	19	10	29	117	-
19	-	-	-	97	-
20	19	10	29	126	5
21	49	-	49	107	35
22	39	49	88	87	89
23	10	10	20	58	74
24	19	20	39	19	35
25	10	10	20	-	54
26	10	-	10	-	40
27	49	20	69	-	35
28	19	10	29	-	20
29	39	10	49	-	40
30	88	10	98	-	89
31	166	10	176	-	133
32	108	-	108	-	74
33	29	-	29	-	64
34	20	29	49	-	69
35	10	29	39	-	74
36	10	10	20	-	45
37	-	-	-	-	15
38	-	-	-	-	5
41	-	-	-	-	5
Total ‰	733	267	1000	1000	1000
Serial Numbers	-	-	-	-	-
Number of Samples	-	-	1	1	2
Number of Fish Measured	75	27	102	103	202
Mean Length (cm)	28.7	26.6	28.1	18.9	29.7
Mean Weight (kg)	-	-	-	-	-
Total Weight Landed (tons)	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	-	-	-	-
Range of Depths (fm)	-	-	130	90	120-155

TABLE 59

LENGTH FREQUENCIES - REDFISH - 4X - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Stern)						Otter Trawl		
	Commercial						Commercial		
CATCHES/LANDINGS	Landings								
MONTH	July			Aug			Sep		
COUNTRY	Canada (M)						U.S.A.		
TONNAGE	501-900			151-500			51-440		
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
21	-	-	-	2	-	2	-	-	-
22	-	-	-	4	-	4	10	-	10
23	-	-	-	6	2	8	20	-	20
24	-	-	-	12	4	16	30	10	40
25	5	-	5	16	3	19	30	20	50
26	-	-	-	18	6	24	10	20	30
27	5	-	5	23	9	32	60	20	80
28	45	-	45	34	11	45	20	30	50
29	50	25	75	32	10	42	30	40	70
30	35	45	80	32	9	41	80	30	110
31	20	40	60	39	10	49	20	30	50
32	35	45	80	48	15	63	20	30	50
33	15	100	115	48	19	67	10	60	70
34	-	165	165	55	31	86	20	70	90
35	-	185	185	34	33	67	-	70	70
36	-	80	80	24	25	49	-	90	90
37	-	60	60	14	34	48	-	30	30
38	-	30	30	8	47	55	-	40	40
39	-	15	15	6	48	54	-	-	-
40	-	-	-	2	64	66	-	40	40
41	-	-	-	2	53	55	-	10	10
42	-	-	-	2	54	56	-	-	-
43	-	-	-	-	27	27	-	-	-
44	-	-	-	1	12	13	-	-	-
45	-	-	-	-	7	7	-	-	-
46	-	-	-	-	4	4	-	-	-
47	-	-	-	-	-	-	-	-	-
48	-	-	-	-	1	1	-	-	-
Total ‰	210	790	1000	462	538	1000	360	640	1000
Serial Numbers	-	-	125	-	-126,-7,-9	-	-	-	-
Number of Samples	-	-	1	-	-	3	-	-	1
Number of Fish Measured	42	158	200	513	593	1106	36	64	100
Mean Length (cm)	29.8	34.1	33.2	31.3	37.5	34.6	28.1	33.3	31.4
Mean Weight (kg)	0.38	0.58	0.54	0.46	0.79	0.64	0.35	0.59	0.50
Total Weight Landed (tons)	-	-	274	-	-	836	21	63	84
Estimated Number Landed	-	-	507 ¹	-	-	1306 ¹	601 ²	1069 ²	1670 ²
Mesh(mm) or Hook(no.) Size	-	-	76	-	-	76	-	-	64
Range of Depths (fm)	-	-	-	-	-	210-280	-	-	140-200

¹ Numbers in 1000's

² Numbers in 100's

TABLE 60

LENGTH FREQUENCIES - REDFISH - 5Y - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Mar			Apr			Jun		
COUNTRY	United States								
TONNAGE	34-440								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
16	-	-	-	3	-	3	-	-	-
17	-	-	-	5	-	5	-	-	-
18	-	-	-	5	-	5	-	-	-
19	-	-	-	7	2	9	-	10	10
20	-	-	-	5	2	7	-	-	-
21	-	-	-	16	3	20	-	-	-
22	-	10	10	17	20	37	10	-	10
23	50	40	90	48	3	51	20	10	30
24	80	30	110	31	22	53	10	49	59
25	60	60	120	34	39	73	49	20	69
26	70	70	140	44	21	65	59	10	69
27	30	60	90	45	40	85	89	10	98
28	50	40	90	57	31	88	50	40	89
29	70	60	130	86	22	109	60	10	71
30	10	80	90	27	37	63	11	50	60
31	-	20	20	47	61	108	32	30	62
32	-	30	30	25	28	53	10	109	119
33	-	30	30	4	62	66	10	30	40
34	-	20	20	-	51	51	10	90	99
35	-	10	10	-	37	37	-	31	31
36	-	20	20	-	4	4	-	41	41
37	-	-	-	-	-	-	-	11	11
38	-	-	-	-	-	-	-	1	1
39	-	-	-	-	-	-	-	1	1
40	-	-	-	-	-	-	-	10	10
41	-	-	-	-	-	-	10	10	20
42	-	-	-	-	8	8	-	-	-
Total ‰	420	580	1000	502	498	1000	429	571	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	1	-	-	3	-	-	2
Number of Fish Measured	42	58	100	157	143	300	83	117	200
Mean Length (cm)	26.0	28.2	27.3	27.6	29.8	28.6	27.8	31.2	29.7
Mean Weight (kg)	0.23	0.30	0.27	0.25	0.36	0.31	0.29	0.41	0.36
Total Weight Landed (tons)	690	1267	1957	933	1313	2246	417	804	1221
Estimated Number Landed ¹	30539	42173	72711	36745	36396	73142	14637	19448	34084
Mesh(mm) or Hook(no.) Size	-	-	64	-	-	64	-	-	64
Range of Depths (fm)	-	-	60-100	-	-	60-150	-	-	60-150

¹ Numbers in 100's

TABLE 60
(continued)

LENGTH FREQUENCIES - REDFISH - 5Y - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	July			Sep			Nov		
COUNTRY	U.S.A.								
TONNAGE	34-440								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
20	-	-	-	20	30	50	-	-	-
21	10	-	10	-	20	20	-	-	-
22	20	-	20	30	70	100	-	-	-
23	70	80	150	70	10	80	-	-	-
24	30	20	50	100	40	140	-	-	-
25	60	60	120	90	40	130	-	-	-
26	70	80	150	110	40	150	-	-	-
27	40	60	100	60	50	110	-	-	-
28	10	80	90	10	40	50	20	-	20
29	20	80	100	10	30	40	30	10	40
30	-	30	30	10	30	40	60	20	80
31	10	30	40	-	20	20	100	30	130
32	-	50	50	-	10	10	100	40	140
33	-	30	30	-	-	-	40	70	110
34	-	10	10	-	10	10	50	70	120
35	-	20	20	-	30	30	-	50	50
36	-	20	20	-	20	20	-	100	100
37	-	-	-	-	-	-	-	90	90
38	-	10	10	-	-	-	-	30	30
39	-	-	-	-	-	-	-	80	80
40	-	-	-	-	-	-	-	10	10
Total ‰	340	660	1000	510	490	1000	400	600	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	1	-	-	1	-	-	1
Number of Fish Measured	34	66	100	51	49	100	40	60	100
Mean Length (cm)	25.2	28.2	27.2	24.8	26.7	25.8	30.4	34.2	32.7
Mean Weight (kg)	0.20	0.30	0.27	0.20	0.26	0.23	0.36	0.53	0.46
Total Weight Landed (tons)	48	138	186	102	131	233	143	314	457
Estimated Number Landed ¹	2347	4555	6902	5200	4996	10196	3934	5902	9836
Mesh(mm) or Hook(no.) Size	-	-	64	-	-	64	-	-	64
Range of Depths (fm)	-	-	60-150	-	-	60-150	-	-	80-110

¹ Numbers in 100's

TABLE 61 LENGTH FREQUENCIES - REDFISH - 52e - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Jan			Apr			May		
COUNTRY	U.S.A.								
TONNAGE	51-440								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
15	-	-	-	5	-	5	-	-	-
16	-	-	-	-	5	5	-	-	-
17	-	-	-	5	-	5	5	-	5
18	-	-	-	5	5	10	10	-	10
19	10	-	10	45	5	50	15	5	20
20	10	10	20	20	5	25	15	5	20
21	10	10	20	15	40	55	20	5	25
22	60	20	80	35	15	50	5	5	10
23	80	20	100	50	30	80	20	20	40
24	140	-	140	95	55	150	55	30	85
25	90	40	130	75	70	145	35	40	75
26	80	70	150	95	55	150	55	40	95
27	40	80	120	55	45	100	55	45	100
28	20	70	90	10	35	45	110	45	155
29	10	30	40	15	10	25	40	25	65
30	-	30	30	10	45	55	30	35	65
31	-	10	10	5	25	30	30	50	80
32	20	20	40	5	10	15	-	25	25
33	-	-	-	-	-	-	-	10	10
34	-	10	10	-	-	-	-	10	10
35	-	-	-	-	-	-	-	35	35
36	-	-	-	-	-	-	-	35	35
37	-	-	-	-	-	-	-	5	5
38	-	10	10	-	-	-	-	15	15
39	-	-	-	-	-	-	-	10	10
40	-	-	-	-	-	-	-	5	5
Total ‰	570	430	1000	545	455	1000	500	500	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	1	-	-	2	-	-	2
Number of Fish Measured	57	43	100	109	91	200	100	100	200
Mean Length (cm)	24.6	27.2	25.7	25.2	26.6	25.8	26.0	29.5	27.8
Mean Weight (kg)	0.19	0.27	0.22	0.21	0.25	0.23	0.23	0.35	0.29
Total Weight Landed (tons)	61	65	126	610	607	1217	137	208	345
Estimated Number Landed ¹	3210	2422	5632	29170	24350	53520	5872	5872	11744
Mesh(mm) or Hook(no.) Size	-	-	64	-	-	64	-	-	64
Range of Depths (fm)	-	-	60-150	-	-	60-150	-	-	60-150

¹ Numbers in 100's

TABLE 61
(continued)

LENGTH FREQUENCIES - REDFISH - 52e - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	July			Aug			Sep		
COUNTRY	U.S.A.								
TONNAGE	51-440								
SEX	♂	♀	Total	♂	♀	Total	♂	♀	Total
19	-	3	3	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-
21	7	3	10	6	-	6	-	-	-
22	13	20	33	13	5	18	-	-	-
23	24	23	47	3	20	23	2	2	5
24	33	10	43	13	16	29	5	2	7
25	43	43	87	34	18	52	20	-	20
26	77	53	130	31	15	46	42	30	72
27	67	97	163	37	30	67	62	18	80
28	40	93	133	53	12	65	59	45	105
29	17	87	103	59	17	77	70	25	95
30	20	77	97	71	19	90	83	22	105
31	-	50	50	42	21	63	48	80	128
32	3	33	36	34	48	82	35	58	93
33	-	30	30	13	49	62	5	88	92
34	-	13	13	6	76	82	-	58	58
35	-	3	3	3	73	76	-	50	50
36	-	7	7	-	46	46	-	10	10
37	-	7	7	-	33	33	-	30	30
38	-	3	3	-	24	24	-	22	22
39	-	-	-	-	27	27	-	12	12
40	-	-	-	-	27	27	-	8	8
41	-	-	-	-	4	4	-	8	8
42	-	-	-	-	-	-	-	-	-
43	-	-	-	-	2	2	-	-	-
Total ‰	343	657	1000	419	581	1000	432	568	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	3	-	-	4	-	-	2
Number of Fish Measured	103	107	300	165	235	400	89	111	200
Mean Length (cm)	26.1	28.4	27.6	28.5	32.9	31.0	28.7	32.4	30.8
Mean Weight (kg)	0.23	0.30	0.28	0.30	0.49	0.41	0.31	0.45	0.39
Total Weight Landed (tons)	219	557	776	141	315	456	296	579	875
Estimated Number Landed ¹	9610	18380	27990	4651	6443	11094	9659	12709	22368
Mesh(mm) or Hook(no.) Size	-	-	64	-	-	64	-	-	64
Range of Depths (fm)	-	-	60-150	-	-	60-150	-	-	60-150

¹ Numbers in 100's

TABLE 62

AGE FREQUENCIES²- REDFISH - 3N - 1970

(FREQUENCIES IN ‰)

GEAR		Otter Trawl					
CATCHES/LANDINGS		Research					
MONTH		Catches					
COUNTRY		2nd Quarter (June)					
TONNAGE		U.S.S.R.					
		3600					
YEAR-CLASS	AGE	‰ Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1963	7	4	-	4	23.0	-	23.0
62	8	18	18	36	22.8	22.6	22.7
61	9	75	36	111	24.1	24.1	24.1
60	10	75	57	132	25.5	25.4	25.5
59	11	36	75	111	28.2	27.8	27.9
58	12	38	150	188	29.6	30.3	30.1
57	13	11	156	167	31.0	32.4	32.3
56	14	7	110	117	37.0	33.9	34.1
55	15	4	61	65	36.0	36.2	36.2
54	16	-	28	28	-	36.0	36.0
53	17	-	7	7	-	39.0	39.0
52	18	-	11	11	-	40.0	40.0
51	19	-	4	4	-	41.0	41.0
50	20	-	11	11	-	41.0	41.0
49	21	-	-	-	-	-	-
48	22	-	4	4	-	43.0	43.0
47	23	-	4	4	-	42.0	42.0
Total ‰		268	732	1000	26.5	31.5	30.1
Serial Numbers		-	-	-	-	-	-
Number of Samples		-	-	1	-	-	-
Number of Fish Aged		75	206	281	-	-	-
Mean Age		10.3	12.8	12.2	-	-	-
Mean Weight (kg)		0.30	0.50	0.45	-	-	-
Total Weight Landed (tons)		-	-	3709	-	-	-
Estimated Number Landed		-	-	82422 ¹	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	110	-	-	-
Range of Depths (fm)		-	-	173-238	-	-	-

¹ Numbers in 1000's

² Age-Length Key available on request from Secretariat

TABLE 63

LENGTH FREQUENCIES - SILVER HAKE - 4V - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl			
	Commercial			
CATCHES/LANDINGS	Catches			
MONTH	Feb	Mar	May	Jun
COUNTRY	USSR			Japan
TONNAGE	BMRT, SRIM			> 1800
16	-	-	16	-
18	-	-	3	-
20	-	+	3	-
22	-	-	35	10
24	-	1	314	95
26	10	61	381	258
28	90	286	102	253
30	300	300	92	159
32	340	201	22	90
34	150	86	16	60
36	80	37	10	50
38	30	17	3	25
40	-	7	-	-
42	-	2	-	-
44	-	1	3	-
46	-	+	-	-
48	-	1	-	-
50	-	+	-	-
52	-	+	-	-
54	-	+	-	-
Total ‰	1000	1000	1000	1000
Serial Numbers	-	-	-	-
Number of Samples	1	35	1	2
Number of Fish Measured	100	6939	315	201
Mean Length (cm)	32.3	30.9	26.6	29.8
Mean Weight (kg)	0.226	0.213	0.123	-
Total Weight Landed (tons)	-	448	664	-
Estimated Number Landed	-	-	-	-
Mesh(mm) or Hook(no.) Size	40	40	40	-
Range of Depths (fm)	50-110	65-125	-	105-135

TABLE 64

LENGTH FREQUENCIES - SILVER HAKE - 4W - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl						
	Commercial						
CATCHES/LANDINGS	Catches						
MONTH	Jan	Mar	Apr	May	June	July	Aug
COUNTRY	U.S.S.R.						
TONNAGE	BMRT, SRM						
10	-	+	1	-	-	-	-
12	-	+	4	1	-	-	+
14	-	1	5	4	-	1	1
16	-	1	2	12	-	22	15
18	-	1	+	4	-	61	59
20	-	7	2	4	-	58	119
22	20	65	26	29	3	11	111
24	189	193	166	132	29	40	57
26	240	234	340	256	185	238	174
28	292	155	226	211	188	283	251
30	222	135	139	181	219	179	151
32	26	88	58	98	196	65	43
34	8	48	15	37	100	24	10
36	3	31	8	16	50	12	6
38	-	21	4	7	21	3	2
40	-	10	2	4	5	2	1
42	-	6	1	2	3	-	+
44	-	2	1	1	-	1	+
46	-	1	+	1	-	-	+
48	-	1	+	+	-	-	-
50	-	+	+	+	-	-	-
52	-	+	+	+	1	-	-
54	-	-	+	+	-	-	-
56	-	+	+	-	-	-	-
58	-	+	-	-	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	1	88	148	61	4	8	46
Number of Fish Measured	350	17702	29525	12290	800	1610	14655
Mean Length (cm)	27.8	28.4	27.6	28.3	30.6	27.4	26.1
Mean Weight (kg)	0.12	0.21	0.13	0.18	0.23	0.18	0.15
Total Weight Landed (tons)	-	3496	15327	16795	16528	33382	40233
Estimated Number Landed	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	40	40	40	40	40	40	40
Range of Depths (fm)	80-85	65-155	55-130	60-145	75-110	25-110	70-155

TABLE 64
(continued)

LENGTH FREQUENCIES - SILVER HAKE - 4W - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl					
	Commercial				Exploratory	
CATCHES/LANDINGS	Catches					
MONTH	Sep	Oct	Nov	Dec	Jan	Mar
COUNTRY	U.S.S.R.				Japan	
TONNAGE	BMRT, SRTM				>1800	
14	+	-	-	-	-	-
16	5	1	-	-	-	-
18	23	9	-	-	-	-
20	66	41	2	1	-	-
22	97	129	29	21	-	-
24	62	119	134	83	-	-
26	164	138	154	93	51	35
28	310	293	194	153	337	325
30	212	228	310	284	377	360
32	42	32	136	198	184	205
34	9	6	29	92	31	60
36	6	2	7	34	10	15
38	2	1	3	18	10	-
40	1	1	1	9	-	-
42	1	+	1	7	-	-
44	+	+	+	1	-	-
46	+	+	+	2	-	-
48	+	+	+	1	-	-
50	+	-	+	3	-	-
52	+	+	-	+	-	-
54	-	-	-	+	-	-
56	-	+	-	+	-	-
58	-	-	-	+	-	-
Total ‰	1000	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-	-
Number of Samples	45	84	39	18	1	1
Number of Fish Measured	14006	21264	7800	3600	98	200
Mean Length (cm)	27.3	27.2	28.9	30.5	30.8	30.9
Mean Weight (kg)	0.13	0.15	0.15	0.23	-	-
Total Weight Landed (tons)	16386	5428	4115	999	-	-
Estimated Number Landed	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	40	40	40	40	-	-
Range of Depths (fm)	70-155	60-110	65-130	75-105	120	145

TABLE 65

LENGTH FREQUENCIES - SILVER HAKE - 4X - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl							
	Commercial						Exploratory	
CATCHES/LANDINGS	Catches							
MONTH	Jan	Feb	Mar	May	June	Aug	Jan	Feb
COUNTRY	U. S. S. R.						Japan	
TONNAGE	BMRT, SRTM						>1800	
10	-	-	-	-	-	-	-	10
12	-	-	-	-	-	-	-	35
14	-	-	5	1	-	-	-	25
16	-	-	5	5	-	-	-	5
18	-	-	15	13	-	-	-	20
20	4	-	95	5	-	-	-	50
22	60	10	235	20	5	+	-	285
24	290	62	380	121	74	5	23	300
26	456	203	135	322	250	137	167	95
28	148	196	50	219	248	513	264	35
30	30	199	35	139	143	246	127	35
32	6	114	15	75	81	56	57	45
34	2	92	10	38	68	20	50	20
36	2	60	5	18	44	10	63	25
38	2	29	10	12	37	9	103	-
40	-	19	5	6	20	2	57	5
42	-	4	-	3	13	1	40	5
44	-	6	-	2	5	1	13	5
46	-	4	-	1	4	-	23	-
48	-	1	-	+	3	-	13	-
50	-	-	-	+	3	-	-	-
52	-	1	-	-	2	-	-	-
54	-	-	-	+	+	-	-	-
56	-	-	-	-	+	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-	-	-	-
Number of Samples	2	6	1	25	11	50	3	1
Number of Fish Measured	500	1296	200	5076	2200	9643	300	200
Mean Length (cm)	26.2	30.4	24.7	28.2	30.2	29.3	33.0	24.9
Mean Weight (kg)	0.11	0.18	0.10	0.17	0.23	0.18	-	-
Total Weight Landed (tons)	-	-	-	1924	1618	631	-	-
Estimated Number Landed	-	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	40	40	40	40	40	40	-	-
Range of Depths (fm)	85-95	95-125	90-100	70-165	95-135	85-120	95-120	95

TABLE 66

LENGTH FREQUENCIES - SILVER HAKE - 5Y - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	May			June			July		
COUNTRY	U.S.A.								
TONNAGE	0-150								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
14	-	-	-	-	9	9	-	-	-
16	-	-	-	-	-	-	1	4	6
18	-	-	-	-	-	-	1	14	15
20	-	-	-	-	18	18	3	7	10
22	-	-	-	18	-	18	-	3	3
24	10	-	10	36	-	36	8	1	10
26	96	10	106	45	18	62	87	8	95
28	58	19	77	18	54	71	161	41	202
30	10	19	29	62	54	116	78	66	144
32	38	19	58	80	62	143	46	67	113
34	106	10	115	9	54	62	4	88	92
36	115	48	163	-	98	98	-	66	66
38	-	183	183	-	143	143	-	34	34
40	-	144	144	-	71	71	-	15	15
42	-	77	77	-	98	98	-	7	7
44	-	-	-	-	36	36	-	7	7
46	-	19	19	-	18	18	-	-	-
48	-	10	10	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
52	-	10	10	-	-	-	-	-	-
Total ‰	433	567	1000	268	732	1000	499	501	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	1	-	-	1	-	-	8
Number of Fish Measured	45	59	104	30	84	114	356	359	715
Mean Length (cm)	32.0	39.1	36.0	29.1	36.3	34.4	30.3	35.3	32.8
Mean Weight (kg)	0.24	0.44	0.35	0.19	0.39	0.34	0.20	0.31	0.25
Total Weight Landed (tons)	83	203	286	238	1373	1611	1648	2642	4290
Estimated Number Landed ¹	3519	4614	8133	12743	34830	47573	84505	84980	169485
Mesh(mm) or Hook(no.) Size	-	-	64	-	-	64	-	-	64
Range of Depths (fm)	-	-	90-110	-	-	70-75	-	-	40-95

¹ Numbers in 100's

TABLE 66
(continued)

LENGTH FREQUENCIES - SILVER HAKE - 5Y - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Aug			Oct			Nov		
COUNTRY	U.S.A.								
TONNAGE	0-150								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
20	-	-	-	-	-	-	13	-	13
22	-	9	9	-	-	-	-	-	-
24	5	14	19	50	20	70	53	-	53
26	23	9	33	50	100	150	107	80	187
28	121	42	164	70	30	100	173	147	320
30	89	136	224	40	20	60	40	53	93
32	23	65	89	30	60	90	53	40	93
34	51	33	84	20	10	30	27	53	80
36	14	33	47	50	30	80	53	40	93
38	5	112	117	20	70	90	-	27	27
40	-	121	121	-	160	160	-	-	-
42	-	61	61	-	90	90	-	13	13
44	-	23	23	-	60	60	-	-	-
46	-	5	5	-	10	10	-	27	27
48	-	5	5	-	-	-	-	-	-
50	-	-	-	-	10	10	-	-	-
Total ‰	332	668	1000	330	670	1000	520	480	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	2	-	-	4	-	-	3
Number of Fish Measured	71	143	214	33	67	100	39	36	75
Mean Length (cm)	30.5	35.7	34.0	30.4	36.8	34.7	29.2	32.0	30.5
Mean Weight (kg)	0.18	0.30	0.26	0.19	0.34	0.29	0.17	0.17	0.17
Total Weight Landed (tons)	586	2006	2592	179	656	835	281	267	548
Estimated Number Landed	33022	66509	99531	9670	19633	29304	16784	15493	32276
Mesh(mm) or Hook(no.) Size	-	-	64	-	-	64	-	-	64
Range of Depths (fm)	-	-	35-55	-	-	50-85	-	-	35-50

Numbers in 100's

TABLE 67

LENGTH FREQUENCIES - SILVER HAKE - 5Ze - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl					
	Commercial					
CATCHES/LANDINGS	Catches					
MONTH	Mar	Apr	May	June	July	Aug
COUNTRY	U.S.S.R.					
TONNAGE	BMRT, SRTM					
10	157	-	-	-	-	-
12	263	-	-	-	-	-
14	70	-	-	-	-	-
16	3	-	-	-	-	8
18	-	-	-	-	-	87
20	-	-	-	-	-	131
22	-	+	-	-	-	103
24	-	3	-	-	-	75
26	50	44	15	22	16	43
28	163	241	135	175	128	135
30	115	332	251	242	352	187
32	92	199	337	212	219	124
34	35	88	130	137	98	56
36	17	43	51	78	55	29
38	12	18	30	47	46	11
40	5	12	24	28	55	8
42	5	8	12	22	13	3
44	-	6	7	13	9	+
46	5	3	6	3	6	-
48	-	1	2	3	1	+
50	-	2	-	7	1	-
52	-	+	-	6	1	-
54	-	+	-	3	-	-
56	-	+	-	1	-	-
58	-	+	-	1	-	-
Total ‰	1000	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-	-
Number of Samples	2	21	5	6	3	28
Number of Fish Measured	400	5500	1300	1100	900	5614
Mean Length (cm)	21.5	31.4	32.5	33.1	32.7	27.2
Mean Weight (kg)	0.12	0.23	0.29	0.28	0.34	0.16
Total Weight Landed (tons)	124	1695	444	535	614	6813
Estimated Number Landed	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	40	40	40	40	40	40
Range of Depths (fm)	75-120	75-140	65-140	60-100	35-40	25-50

TABLE 67
(continued)

LENGTH FREQUENCIES - SILVER HAKE - 5Ze - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl				
	Commercial			Exploratory & Commercial	
CATCHES/LANDINGS	Catches				
MONTH	Sep	Nov	Dec	Feb	June
COUNTRY	U.S.S.R.			Japan	
TONNAGE	BMRT, SRM			>1800	
16	12	-	-	-	-
18	58	61	+	-	-
20	84	221	5	-	-
22	97	232	148	-	-
24	62	188	481	10	10
26	29	91	272	121	10
28	65	53	53	377	30
30	148	38	14	256	70
32	203	35	12	151	110
34	112	32	5	15	150
36	61	19	4	25	240
38	31	10	3	20	190
40	19	8	2	10	140
42	10	1	1	15	20
44	6	6	-	-	30
46	2	1	+	-	-
48	1	2	+	-	-
50	+	2	+	-	-
52	+	-	-	-	-
Total ‰	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-
Number of Samples	35	5	52	2	1
Number of Fish Measured	8416	1000	10400	199	100
Mean Length (cm)	29.3	24.8	25.3	30.7	36.8
Mean Weight (kg)	0.19	0.10	0.10	-	-
Total Weight Landed (tons)	4264	106	2144	-	-
Estimated Number Landed	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	40	40	40	-	-
Range of Depths (fm)	25-55	30-40	70-190	75-95	150

TABLE 67
(continued)

LENGTH FREQUENCIES - SILVER HAKE - 5Ze - 1970

(FREQUENCIES IN %/oo - 2 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	May			Aug			Sep		
COUNTRY	U.S.A.								
TONNAGE	0-150								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
16	3	-	3	-	-	-	-	-	-
18	13	-	13	-	-	-	-	-	-
20	70	6	76	3	-	3	-	-	-
22	47	22	70	6	-	6	5	-	5
24	25	28	54	10	-	10	9	5	14
26	35	19	54	45	3	48	26	5	31
28	66	28	95	135	71	206	123	26	149
30	152	25	177	158	174	331	170	168	338
32	108	47	155	29	193	222	109	220	329
34	54	104	158	19	61	80	9	69	78
36	6	63	70	3	39	42	2	21	24
38	3	28	32	-	26	26	-	24	24
40	-	3	3	-	10	10	-	7	7
42	-	13	13	-	13	13	-	-	-
44	-	13	13	-	3	3	-	2	2
46	-	3	3	-	-	-	-	-	-
48	-	3	3	-	-	-	-	-	-
50	-	6	6	-	-	-	-	-	-
52	-	-	-	-	-	-	-	-	-
54	-	-	-	-	-	-	-	-	-
56	-	3	3	-	-	-	-	-	-
Total %/oo	582	418	1000	408	592	1000	454	546	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	3	-	-	3	-	-	4
Number of Fish Measured	184	132	316	127	184	311	192	231	413
Mean Length (cm)	28.4	33.5	30.6	29.4	32.5	31.3	30.1	32.4	31.4
Mean Weight (kg)	0.17	0.29	0.22	0.15	0.22	0.20	0.16	0.22	0.20
Total Weight Landed (tons)	456	565	1021	885	1833	2718	529	840	1369
Estimated Number Landed ¹	26658	19124	45783	56948	82508	139456	32114	38637	70750
Mesh(mm) or Hook(no.) Size	-	-	64	-	-	64	-	-	64
Range of Depths (fm)	-	-	110-150	-	-	20-100	-	-	50-90

¹ Numbers in 100's

TABLE 68

LENGTH FREQUENCIES - SILVER HAKE - 5Zw - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl					
	Commercial					
CATCHES/LANDINGS	Catches					
MONTH	Mar	Apr	July	Aug	Sep	Oct
COUNTRY	U.S.S.R.					
TONNAGE	BMRT, SRTM					
8	-	1	-	-	+	-
10	-	26	1	-	-	-
12	-	92	24	-	1	-
14	-	68	154	-	9	-
16	-	30	141	3	42	-
18	-	4	83	12	76	-
20	-	1	20	49	87	5
22	-	-	3	40	99	65
24	7	4	6	32	58	142
26	60	61	3	106	26	108
28	168	170	14	382	57	125
30	197	259	99	226	126	200
32	216	162	167	82	199	190
34	122	52	116	33	110	93
36	102	28	70	17	63	35
38	53	14	30	10	30	22
40	38	16	30	5	8	5
42	25	2	13	2	6	5
44	5	4	10	1	2	5
46	5	2	6	+	1	-
48	2	1	4	-	+	-
50	-	1	3	-	-	-
52	-	-	1	-	-	-
54	-	1	1	-	-	-
56	-	1	1	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-	-
Number of Samples	4	4	9	75	34	2
Number of Fish Measured	600	900	1824	14938	6680	400
Mean Length (cm)	32.7	27.3	26.6	28.7	28.3	29.7
Mean Weight (kg)	0.28	0.21	0.18	0.16	0.16	0.19
Total Weight Landed (tons)	676	1222	1494	56	342	180
Estimated Number Landed	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	40	40	40	40	40	40
Range of Depths (fm)	115-170	40-90	20-35	25-45	35-55	35-45

TABLE 69

LENGTH FREQUENCIES - SILVER HAKE - 6A - 1970

(FREQUENCIES IN 0/00 - 2 CM GROUPS)

GEAR	Otter Trawl
CATCHES/LANDINGS	Commercial
MONTH	Apr
COUNTRY	U.S.S.R.
TONNAGE	BMRT, SRM
28	5
30	182
32	385
34	95
36	70
38	93
40	53
42	28
44	38
46	20
48	13
50	8
52	8
54	1
56	1
Total 0/00	1000
Serial Numbers	-
Number of Samples	2
Number of Fish Measured	400
Mean Length (cm)	35.2
Mean Weight (kg)	0.35
Total Weight Landed (tons)	1174
Estimated Number Landed	-
Mesh(mm) or Hook(no.) Size	40
Range of Depths (fm)	25-65

TABLE 70

AGE FREQUENCIES - SILVER HAKE - 4V - 1970

(FREQUENCIES IN %/oo)

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		1st Quarter (Feb-Mar)											
COUNTRY		U.S.S.R.											
TONNAGE		BMRT, SRTM											
YEAR-CLASS	AGE	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		68	69	Tot.	68	69	Tot.	68	69	Tot.	68	69	Tot.
1967	3	72	40	112	29.3	30.8	29.8						
66	4	201	102	303	29.2	31.1	29.9						
65	5	58	358	416	31.0	32.9	32.6						
64	6	-	112	112	-	35.8	35.8						
63	7	3	48	51	36.5	39.3	39.3						
62	8	-	-	-	-	-	-						
61	9	-	3	3	-	46.5	46.5						
60	10	-	3	3	-	48.5	48.5						
Total %oo		334	666	1000	29.6	33.6	32.3						
Serial Numbers		-	-	-	-	-	-						
Number of Samples		-	-	3	-	-	-						
Number of Fish Aged		98	196	294	-	-	-						
Mean Age		3.98	5.08	4.71	-	-	-						
Mean Weight (kg)		-	-	0.21	-	-	-						
Total Weight Landed (tons)		-	-	448	-	-	-						
Estimated Number Landed		-	-	-	-	-	-						
Mesh(mm) or Hook(no.) Size		-	-	40	-	-	-						
Range of Depths (fm)		-	-	65-130	-	-	-						

TABLE 71

AGE FREQUENCIES - SILVER HAKE - 4W - 1970

(FREQUENCIES IN ‰)

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		1st Quarter (Jan)						2nd Quarter (Apr)					
COUNTRY		U.S.S.R.											
TONNAGE		BMRT, SRM											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1968	2	14	14	28	23.3	23.7	23.5	33	20	53	24.8	24.5	24.7
67	3	133	100	233	25.7	25.9	25.7	239	240	479	26.8	26.9	26.8
66	4	127	209	336	28.5	29.7	29.3	198	173	371	29.1	29.6	29.3
65	5	16	225	241	32.0	33.0	32.9	20	58	78	31.8	33.0	32.7
64	6	2	99	101	36.5	36.3	36.4	-	7	7	-	38.5	38.5
63	7	-	51	51	-	39.3	39.3	-	4	4	-	42.5	42.5
62	8	-	10	10	-	41.3	41.3	-	6	6	-	45.2	45.2
61	9	-	-	-	-	-	-	-	2	2	-	48.5	48.5
Total ‰		292	708	1000	27.2	31.9	30.5	490	510	1000	27.8	29.0	28.4
Serial Numbers		-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples		-	-	5	-	-	-	-	-	5	-	-	-
Number of Fish Aged		147	356	503	-	-	-	220	230	450	-	-	-
Mean Age		3.52	4.69	4.35	-	-	-	3.42	3.68	3.55	-	-	-
Mean Weight (kg)		-	-	0.18	-	-	-	-	-	0.18	-	-	-
Total Weight Landed (tons)		-	-	3496	-	-	-	-	-	48650	-	-	-
Estimated Number Landed		-	-	-	-	-	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	40	-	-	-	-	-	40	-	-	-
Range of Depths (fm)		-	-	60-150	-	-	-	-	-	55-145	-	-	-

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		3rd Quarter (July)						4th Quarter (Oct-Dec)					
COUNTRY		U.S.S.R.											
TONNAGE		BMRT, SRM											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1969	1	-	-	-	-	-	-	28	18	65	23.0	23.7	23.4
68	2	11	-	11	24.5	-	24.5	91	102	206	25.2	25.4	25.3
67	3	219	73	292	27.1	28.3	27.4	177	203	382	29.1	29.7	29.4
66	4	251	283	534	28.9	30.1	29.6	63	184	247	30.4	31.7	31.3
65	5	24	116	140	31.3	33.1	32.7	9	76	85	34.1	34.6	34.4
64	6	-	19	19	-	37.8	37.8	-	11	11	-	37.8	37.8
63	7	-	-	-	-	-	-	-	2	2	-	38.5	38.5
62	8	-	4	4	-	40.5	40.5	-	2	2	-	44.5	44.5
Total ‰		505	495	1000	28.1	30.9	29.5	368	598	1000	28.0	30.2	29.2
Serial Numbers		-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples		-	-	3	-	-	-	-	-	5	-	-	-
Number of Fish Aged		139	136	275	-	-	-	169	274	459	-	-	-
Mean Age		3.57	4.20	3.88	-	-	-	2.82	3.42	3.13	-	-	-
Mean Weight (kg)		-	-	0.19	-	-	-	-	-	0.16	-	-	-
Total Weight Landed (tons)		-	-	90001	-	-	-	-	-	10542	-	-	-
Estimated Number Landed		-	-	-	-	-	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	40	-	-	-	-	-	40	-	-	-
Range of Depths (fm)		-	-	25-110	-	-	-	-	-	60-130	-	-	-

TABLE 72

AGE FREQUENCIES - SILVER HAKE - 4X - 1970

(FREQUENCIES IN ‰)

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		1st Quarter (Jan)						3rd Quarter (Aug)					
COUNTRY		U.S.S.R.											
TONNAGE		BMRT, SRM											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		85	90	Tot.	85	90	Tot.	85	90	Tot.	85	90	Tot.
1968	2	177	130	307	24.0	24.8	24.3	12	-	12	26.0	-	26.0
67	3	302	287	589	26.1	26.4	26.2	408	267	675	28.3	29.7	28.9
66	4	42	52	94	28.5	28.5	28.5	88	153	241	29.9	31.7	31.0
65	5	-	-	-	-	-	-	15	12	27	33.7	34.5	34.1
64	6	5	-	5	28.5	-	28.5	-	9	9	-	38.5	38.5
63	7	-	5	5	-	38.5	38.5	-	24	24	-	40.0	40.0
62	8	-	-	-	-	-	-	-	9	9	-	43.2	43.2
61	9	-	-	-	-	-	-	-	3	3	-	44.5	44.5
Total ‰		526	474	1000	25.6	26.3	25.9	523	477	1000	28.6	31.5	30.0
Serial Numbers		-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples		-	-	1	-	-	-	-	-	2	-	-	-
Number of Fish Aged		101	91	192	-	-	-	180	164	344	-	-	-
Mean Age		2.77	2.88	2.82	-	-	-	3.20	3.76	3.47	-	-	-
Mean Weight (kg)		-	-	0.11	-	-	-	-	-	0.18	-	-	-
Total Weight Landed (tons)		-	-	-	-	-	-	-	-	888	-	-	-
Estimated Number Landed		-	-	-	-	-	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	40	-	-	-	-	-	40	-	-	-
Range of Depths (fm)		-	-	70-110	-	-	-	-	-	100-105	-	-	-

TABLE 73

AGE FREQUENCIES - SILVER HAKE - 52e - 1970

(FREQUENCIES IN ‰)

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		1st Quarter (Mar)						2nd Quarter (Apr-May)					
COUNTRY		U.S.S.R.											
TONNAGE		BMRT, SRTM											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		88	99	Tot.	88	99	Tot.	88	99	Tot.	88	99	Tot.
1967	3	149	73	222	27.2	29.2	27.8	47	16	63	28.3	29.7	28.7
66	4	297	210	507	29.4	29.8	29.6	260	91	351	30.5	31.0	30.6
65	5	111	86	197	32.9	32.8	32.9	162	200	362	32.8	33.9	33.4
64	6	-	25	25	-	38.5	38.5	12	79	91	34.2	36.7	36.3
63	7	-	37	37	-	39.8	39.8	2	72	74	36.5	40.5	40.4
62	8	-	12	12	-	42.5	42.5	-	51	51	-	41.9	41.9
61	9	-	-	-	-	-	-	-	8	8	-	45.5	45.5
Total ‰		557	443	1000	29.5	31.9	30.6	483	517	1000	31.2	35.6	33.5
Serial Numbers		-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples		-	-	1	-	-	-	-	-	4	-	-	-
Number of Fish Aged		45	36	81	-	-	-	227	244	471	-	-	-
Mean Age		3.93	4.50	4.15	-	-	-	4.30	5.55	4.95	-	-	-
Mean Weight (kg)		-	-	0.17	-	-	-	-	-	0.22	-	-	-
Total Weight Landed (tons)		-	-	124	-	-	-	-	-	2674	-	-	-
Estimated Number Landed		-	-	-	-	-	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	40	-	-	-	-	-	40	-	-	-
Range of Depths (fm)		-	-	75-120	-	-	-	-	-	65-140	-	-	-

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		3rd Quarter (Aug-July)						4th Quarter (Dec)					
COUNTRY		U.S.S.R.											
TONNAGE		BMRT, SRTM											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		88	99	Tot.	88	99	Tot.	88	99	Tot.	88	99	Tot.
1969	1	31	27	82	20.0	21.1	20.7	75	68	246	23.6	23.5	23.4
68	2	53	18	71	25.2	24.5	25.0	268	296	629	25.6	25.5	25.4
67	3	183	85	268	29.0	30.5	29.5	37	55	92	27.9	27.9	27.9
66	4	110	151	261	31.1	32.3	31.8	16	8	24	31.4	33.7	32.2
65	5	32	104	136	34.2	35.4	35.1	3	3	6	32.5	36.5	34.5
64	6	7	51	58	35.1	38.0	37.6	-	3	3	-	40.5	40.5
63	7	9	75	84	37.0	40.6	40.2	-	-	-	-	-	-
62	8	-	31	31	-	42.1	42.1	-	-	-	-	-	-
61	9	-	5	5	-	46.5	46.5	-	-	-	-	-	-
60	10	-	2	2	-	50.5	50.5	-	-	-	-	-	-
59	11	-	2	2	-	52.5	52.5	-	-	-	-	-	-
Total ‰		425	551	1000	29.0	34.3	31.7	399	433	1000	25.7	25.8	25.4
Serial Numbers		-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples		-	-	4	-	-	-	-	-	4	-	-	-
Number of Fish Aged		189	244	444	-	-	-	159	172	398	-	-	-
Mean Age		3.27	4.73	4.02	-	-	-	2.02	2.11	1.92	-	-	-
Mean Weight (kg)		-	-	0.22	-	-	-	-	-	0.10	-	-	-
Total Weight Landed (tons)		-	-	11691	-	-	-	-	-	3433	-	-	-
Estimated Number Landed		-	-	-	-	-	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	40	-	-	-	-	-	40	-	-	-
Range of Depths (fm)		-	-	25-50	-	-	-	-	-	75-190	-	-	-

TABLE 75

AGE FREQUENCIES - SILVER HAKE - 6A - 1970

(FREQUENCIES IN ‰)

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		2nd Quarter (Apr)											
COUNTRY		U.S.S.R.											
TONNAGE		BMRT. SRIM											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		86	99	Tot.	86	99	Tot.	86	99	Tot.	86	99	Tot.
1967	3	-	10	10	-	32.5	32.5						
66	4	273	121	394	31.1	31.8	31.3						
65	5	273	173	446	32.6	33.7	33.0						
64	6	10	50	60	34.5	36.9	36.5						
63	7	-	60	60	-	39.2	39.2						
62	8	-	30	30	-	43.8	43.8						
Total ‰		556	444	1000	31.9	35.0	33.3						
Serial Numbers		-	-	-	-	-	-						
Number of Samples		-	-	.1	-	-	-						
Number of Fish Aged		55	44	99	-	-	-						
Mean Age		4.53	5.24	4.86	-	-	-						
Mean Weight (kg)		-	-	0.22	-	-	-						
Total Weight Landed (tons)		-	-	1475	-	-	-						
Estimated Number Landed		-	-	-	-	-	-						
Mesh(mm) or Hook(no.) Size		-	-	40	-	-	-						
Range of Depths (fm)		-	-	25.65	-	-	-						

TABLE 76

AGE/LENGTH KEYS - SILVER HAKE - 1970

(Available on request from the Secretariat)

In accordance with a recommendation made by the Research and Statistics Committee at their Annual Meeting in 1962 and reaffirmed in 1965, Age/Length Keys and Frequencies will not be published but are to be deposited in the Secretariat and made available to Member Countries on request. The following Age/Length Keys and Frequencies for silver hake are now on file in the Secretariat:

GEAR: Otter Trawl

U.S.S.R.

DIVISION	QUARTER
4V	I. February-March
4W	I. January-March II. April III. July IV. October-December
4X	I. January III. August
5Ze	I. March II. April-May III. July-September IV. December
5Zw	I. February-March II. April IV. November
6A	II. April

TABLE 77 LENGTH FREQUENCIES - AMERICAN PLAICE - 1C, 1D, 1E - 1970 (FREQUENCIES IN %/oo - 1 CM GROUPS)

DIVISION	1C		1D			1E	
GEAR			Prawn Trawl	Research	Longline	Prawn Tr.	
CATCHES/LANDINGS	Catches						
MONTH	June	July	May	June	July	June	Nov
COUNTRY	Denmark (G)						
TONNAGE	167						
5	-	-	-	2	3	-	-
6	-	-	-	-	17	-	-
7	-	-	-	-	-	-	-
8	-	-	10	-	3	-	-
9	-	1	12	13	7	-	8
10	4	1	28	7	20	-	33
11	4	1	10	15	43	-	8
12	-	3	16	56	46	-	33
13	-	6	2	84	139	-	33
14	2	8	6	58	96	-	24
15	2	10	4	9	23	-	33
16	15	9	22	9	7	-	73
17	8	13	46	13	20	-	41
18	8	13	59	28	23	-	49
19	17	18	53	19	33	-	24
20	23	32	48	7	33	-	41
21	44	37	24	15	23	-	73
22	59	51	36	35	30	-	33
23	77	69	44	39	40	-	33
24	103	106	40	32	30	-	8
25	113	106	73	56	23	-	16
26	105	98	71	48	26	-	16
27	94	95	51	19	50	-	16
28	86	70	57	41	26	-	33
29	42	54	38	22	17	-	33
30	42	30	53	41	17	8	41
31	21	21	30	32	17	15	16
32	23	14	16	24	13	61	41
33	25	14	16	30	53	53	24
34	17	29	32	37	36	144	24
35	21	18	20	35	33	167	33
36	21	14	16	35	13	144	16
37	13	18	14	37	17	106	8
38	4	19	16	24	-	106	16
39	2	8	6	32	3	15	24
40	4	6	12	11	3	30	33
41	2	3	4	11	3	23	8
42	-	3	6	7	7	30	24
43	-	1	2	2	3	15	8
44	-	1	2	2	-	30	8
45	-	-	2	4	-	30	8
46	-	-	-	-	-	-	8
47	-	-	-	2	-	-	-
48	-	-	-	2	3	8	-
49	-	-	-	-	-	15	-
50	-	-	-	2	-	-	-
--	-	-	-	-	-	-	-
55	-	-	-	2	-	-	-
Total %/oo	1001	1000	997	999	999	1000	1001
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	-	-	-	-	-	-	-
Number of Fish Measured	478	1195	495	537	302	132	123
Mean Length (cm)	26.1	26.2	24.6	25.4	21.3	36.7	24.8
Mean Weight (kg)	-	-	-	-	-	-	-
Total Weight Landed (tons)	-	-	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	-	-	-	-	-	-
Range of Depths (fm)	-	-	-	-	-	-	-

TABLE 78

LENGTH FREQUENCIES - AMERICAN PLAICE - 3L - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Stern)									OT (Side)					
	Commercial Landings														
CATCHES/LANDINGS	Feb			May			Nov			June					
MONTH	Canada (N)												Canada (M)		
COUNTRY	501-900												151-500		
TONNAGE	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total			
26	-	-	-	1	1	2	-	-	-	-	-	-			
27	2	-	2	-	1	1	-	-	-	-	-	-			
28	2	-	2	1	2	3	-	-	-	-	-	-			
29	1	1	2	3	1	4	1	1	2	-	-	-			
30	7	1	8	4	-	4	7	3	10	-	-	-			
31	6	2	8	11	4	15	11	4	15	15	5	20			
32	11	2	13	13	4	17	11	6	17	20	5	25			
33	28	4	32	19	4	23	14	6	20	30	5	35			
34	21	5	26	27	8	35	17	11	28	65	10	75			
35	32	4	36	25	11	36	23	16	39	30	5	35			
36	29	9	38	22	15	37	27	14	41	35	15	50			
37	33	14	47	38	13	51	28	21	49	50	10	60			
38	43	15	58	35	15	50	28	27	55	40	15	55			
39	44	12	56	52	25	77	32	21	53	50	15	65			
40	49	12	61	43	26	69	35	27	62	35	20	75			
41	38	16	54	41	21	62	35	34	69	40	15	55			
42	36	15	51	42	34	76	30	33	63	30	10	40			
43	28	24	52	32	19	51	18	27	45	30	20	50			
44	26	26	52	32	20	52	17	32	49	20	45	65			
45	27	29	56	24	22	46	20	32	52	-	20	20			
46	20	20	40	23	26	49	13	31	44	5	45	50			
47	10	21	31	17	21	38	11	34	45	10	30	40			
48	8	26	34	10	34	44	8	29	37	-	20	20			
49	5	14	19	7	24	31	5	34	39	-	55	55			
50	1	19	20	2	23	25	2	22	24	-	45	45			
51	2	19	21	1	16	17	-	24	24	-	10	10			
52	2	21	23	1	20	21	-	13	13	-	25	25			
53	-	19	19	-	14	14	-	19	19	-	15	15			
54	-	21	21	-	11	11	-	18	18	-	5	5			
55	-	18	18	-	7	7	-	13	13	-	5	5			
56	-	19	19	-	7	7	-	12	12	-	5	5			
57	-	18	18	-	2	2	-	7	7	-	-	-			
58	-	15	15	-	5	5	-	6	6	-	5	5			
59	-	12	12	-	6	6	-	4	4	-	10	10			
60	-	11	11	-	4	4	-	7	7	-	-	-			
61	-	5	5	-	4	4	-	7	7	-	-	-			
62	-	6	6	-	1	1	-	4	4	-	-	-			
63	-	5	5	-	1	1	-	3	3	-	-	-			
64	-	4	4	-	1	1	-	2	2	-	-	-			
65	-	3	3	-	2	2	-	1	1	-	-	-			
66	-	1	1	-	-	-	-	2	2	-	-	-			
68	-	2	2	-	-	-	-	1	1	-	-	-			
69	-	1	1	-	-	-	-	-	-	-	-	-			
70	-	1	1	-	-	-	-	1	1	-	-	-			
71	-	1	1	-	-	-	-	-	-	-	-	-			
Total ‰/oo	511	493	1004	526	475	1001	393	609	1002	505	495	1000			
Serial Numbers	-	-	-	-	-	-	-	-	-	-	-	135			
Number of Samples	-	-	2	-	-	2	-	-	3	-	-	1			
Number of Fish Measured	570	550	1120	564	505	1069	895	1385	2280	101	99	200			
Mean Length (cm)	39.4	48.5	43.9	39.8	45.1	42.3	39.4	45.6	43.1	37.8	45.8	41.8			
Mean Weight (kg)	-	-	0.93	-	-	0.72	-	-	0.97	0.48	0.94	0.71			
Total Weight Landed (tons)	-	-	1011	-	-	3791	-	-	2936	-	-	355			
Estimated Number Landed ¹	-	-	1093	-	-	5272	-	-	3018	-	-	500			
Mesh(mm) or Hook(no.) Size	-	-	Large	-	-	Large	-	-	Large	-	-	114			
Range of Depths (fm)	-	-	50-75	-	-	50-80	-	-	35-90	-	-	42-44			

¹ Numbers in 1000's

TABLE 79

LENGTH FREQUENCIES - AMERICAN PLAICE - 3N - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Stern)				Otter Trawl (Side)		
	Exploratory	Commercial					
CATCHES/LANDINGS	Catches	Landings					
MONTH	Mar	Aug			July		
COUNTRY	Japan	Canada (N)			Canada (M)		
TONNAGE	>1800	501-900			151-500		
SEX	Mixed	♂♂	♀♀	Total	♂♂	♀♀	Total
20	10	-	-	-	-	-	-
21	10	-	-	-	-	-	-
22	-	-	-	-	-	-	-
23	10	-	-	-	-	-	-
24	31	-	-	-	-	-	-
25	31	-	-	-	-	-	-
26	41	-	-	-	-	-	-
27	52	-	-	-	-	-	-
28	114	-	-	-	-	-	-
29	72	-	-	-	-	-	-
30	145	-	-	-	-	-	-
31	62	3	1	4	-	-	-
32	104	3	2	5	10	5	15
33	72	1	1	2	15	-	15
34	10	7	3	10	25	-	25
35	21	7	6	13	35	-	35
36	62	9	4	13	30	-	30
37	31	15	8	23	10	10	20
38	21	15	11	26	30	5	35
39	10	15	11	26	45	5	50
40	10	30	10	40	35	20	55
41	10	20	13	33	35	30	65
42	-	30	15	45	40	15	55
43	-	40	24	64	40	-	40
44	-	38	31	69	40	20	60
45	10	40	24	64	30	40	70
46	10	23	23	46	20	45	65
47	10	33	35	68	10	25	35
48	10	14	31	45	5	30	35
49	-	12	42	54	5	25	30
50	21	14	43	57	5	30	35
51	10	5	47	52	15	35	40
52	-	3	37	40	-	50	50
53	-	-	38	38	-	15	15
54	-	1	34	35	-	30	30
55	-	1	27	28	-	15	15
56	-	-	23	23	-	5	5
57	-	-	13	13	-	5	5
58	-	-	13	13	-	-	-
59	-	-	16	16	-	15	15
60	-	-	14	14	-	20	20
61	-	-	4	4	-	-	-
62	-	-	4	4	-	-	-
63	-	-	1	1	-	-	-
64	-	-	4	4	-	-	-
65	-	-	3	3	-	10	10
66	-	-	2	2	-	10	10
67	-	-	5	5	-	5	5
68	-	-	1	1	-	-	-
69	-	-	1	1	-	-	-
70	-	-	2	2	-	-	-
Total ‰	1000	379	627	1006	480	520	1000
Serial Numbers	-	-	-	-	-	-	136
Number of Samples	1	-	-	1	-	-	1
Number of Fish Measured	97	379	627	1006	96	104	200
Mean Length (cm)	32.3	43.0	49.7	47.2	40.6	49.2	45.1
Mean Weight (kg)	-	-	-	0.97	0.61	1.20	0.92
Total Weight Landed (tons)	-	-	-	1226	-	-	389
Estimated Number Landed	-	-	-	1259	-	-	422
Mesh(mm) or Hook(no.) Size	-	-	-	Large	-	-	114
Range of Depths (fm)	130	-	-	40	-	-	43-44

TABLE 80 LENGTH FREQUENCIES - AMERICAN PLAICE - 30, 3Ps - 1970 (FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	30			3Ps		
GEAR	Otter Trawl (Stern)					
CATCHES/LANDINGS	Commercial Landings					
MONTH	Aug			Feb		
COUNTRY	Canada (N)					
TONNAGE	501-900					
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total
27	-	-	-	1	1	2
28	-	-	-	-	-	-
29	-	1	1	1	-	1
30	1	1	2	-	-	-
31	3	-	3	-	-	-
32	16	4	20	3	1	4
33	15	10	25	8	5	13
34	11	14	25	13	5	18
35	20	24	44	17	7	24
36	37	15	52	19	11	30
37	28	24	52	32	10	42
38	36	26	62	31	12	43
39	35	27	62	43	9	52
40	28	29	57	51	12	63
41	25	32	57	37	11	48
42	30	27	57	47	16	63
43	26	29	55	40	9	49
44	19	26	45	40	10	50
45	20	28	48	58	21	79
46	12	23	35	37	17	54
47	12	18	30	42	20	62
48	8	24	32	24	16	40
49	2	31	33	21	18	39
50	1	20	21	1	18	19
51	3	17	20	2	18	20
52	-	19	19	2	23	25
53	-	10	10	-	14	14
54	-	16	16	-	13	13
55	-	12	12	-	20	20
56	-	12	12	-	21	21
57	-	4	4	-	21	21
58	-	12	12	-	19	19
59	-	10	10	-	9	9
60	-	7	7	-	12	12
61	-	11	11	-	11	11
62	-	9	9	-	7	7
63	-	6	6	-	7	7
64	-	10	10	-	3	3
65	-	4	4	-	4	4
66	-	5	5	-	2	2
67	-	4	4	-	-	-
68	-	7	7	-	3	3
69	-	4	4	-	-	-
70	-	-	-	-	1	1
71	-	-	-	-	-	-
72	-	2	2	-	-	-
76	-	1	1	-	-	-
Total ‰	388	615	1003	570	437	1007
Serial Numbers	-	-	-	-	-	-
Number of Samples	-	-	2	-	-	1
Number of Fish Measured	434	689	1123	574	437	1011
Mean Length (cm)	39.6	46.7	44.0	41.9	49.5	45.2
Mean Weight (kg)	-	-	0.83	-	-	0.88
Total Weight Landed (tons)	-	-	796	-	-	1026
Estimated Number Landed	-	-	959	-	-	1172
Mesh(mm) or Hook(no.) Size	-	-	Large	-	-	Large
Range of Depths (fm)	-	-	45-85	-	-	75-110

TABLE 80
(continued)

LENGTH FREQUENCIES - AMERICAN PLAICE - 3Ps - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Side)								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Sep			Nov			Dec		
COUNTRY	Canada (M)								
TONNAGE	151-500								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
32	-	-	-	-	-	-	25	-	25
33	-	3	3	-	-	-	20	-	20
34	17	2	19	-	-	-	30	15	45
35	32	-	32	6	-	6	30	20	50
36	32	5	37	-	-	-	45	5	50
37	17	12	29	-	-	-	55	-	55
38	25	2	27	-	-	-	55	15	70
39	48	18	66	-	-	-	30	20	50
40	57	7	64	13	6	19	30	15	45
41	37	13	50	6	6	12	15	35	50
42	33	8	41	19	-	19	65	10	75
43	60	10	70	19	-	19	20	30	50
44	38	35	73	25	25	50	40	20	60
45	15	40	55	13	6	19	10	10	20
46	28	35	63	31	38	69	10	5	15
47	20	30	50	19	31	50	15	35	50
48	15	45	60	13	19	32	10	30	40
49	5	5	10	13	25	38	5	30	35
50	3	37	40	6	82	88	-	35	35
51	-	33	33	13	57	70	-	10	10
52	5	30	35	6	69	75	-	15	15
53	-	15	15	6	69	75	-	35	35
54	-	30	30	-	31	31	5	5	10
55	-	23	23	-	25	25	-	20	20
56	-	22	22	-	44	44	-	5	5
57	-	15	15	6	69	75	-	-	-
58	-	5	5	-	31	31	-	10	10
59	-	18	18	-	44	44	-	5	5
60	-	-	-	-	38	38	-	20	20
61	-	5	5	-	25	25	-	-	-
62	-	3	3	-	19	19	-	15	15
63	-	-	-	-	19	19	-	10	10
64	-	-	-	-	6	6	-	5	5
65	-	8	8	-	-	-	-	-	-
Total ‰	487	514	1001	214	784	998	515	485	1000
Serial Numbers	-	-	137,138	-	-	139	-	-	140
Number of Samples	-	-	2	-	-	1	-	-	1
Number of Fish Measured	195	205	400	34	125	159	103	97	200
Mean Length (cm)	41.1	48.9	45.1	45.8	53.4	51.8	39.3	47.6	43.3
Mean Weight (kg)	0.63	1.16	0.90	0.91	1.52	1.39	0.55	1.10	0.82
Total Weight Landed (tons)	-	-	1363	-	-	677	-	-	86
Estimated Number Landed ¹	-	-	1514	-	-	487	-	-	104
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	25-42	-	-	58.75	-	-	125-160

¹ Numbers in 1000's

TABLE 80
(continued)

LENGTH FREQUENCIES - AMERICAN PLAICE - 3Ps - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl		
CATCHES/LANDINGS	Research		
MONTH	Catches		
COUNTRY	May		
TONNAGE	France (SP)		
	850-1500		
		LENGTHS (CONT'D)	
8	8	51	5
9	8	52	6
10	5	53	6
11	13	54	15
12	26	55	5
13	38	56	3
14	30	57	5
15	38	58	6
16	50	59	3
17	53	60	5
18	66	61	3
19	88	62	2
20	79	63	3
21	69	64	3
22	63	65	2
23	32		
24	27		
25	27		
26	29		
27	16		
28	11		
29	19		
30	15		
31	16		
32	15		
33	8		
34	8		
35	2		
36	2		
37	-		
38	-		
39	-		
40	3		
41	6		
42	6		
43	2		
44	10		
45	11		
46	10		
47	3		
48	5		
49	5		
50	8		
Total ‰			1000
Serial Numbers			-
Number of Samples			11
Number of Fish Measured			624
Mean Length (cm)			-
Mean Weight (kg)			-
Total Weight Landed (tons)			-
Estimated Number Landed			-
Mesh(mm) or Hook(no.) Size			100
Range of Depths (fm)			25-200

TABLE 81 LENGTH FREQUENCIES - AMERICAN PLAICE - 4T - 1970 (FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Danish Seine		
CATCHES/LANDINGS	Commercial Landings		
MONTH	May		
COUNTRY	Canada (M)		
TONNAGE	151-500		
SEX	♂	♀	Total
32	5	-	5
33	30	-	30
34	40	10	50
35	40	15	55
36	35	15	50
37	20	25	45
38	65	40	105
39	45	65	110
40	15	50	65
41	5	60	65
42	30	75	105
43	5	70	75
44	-	40	40
45	5	55	60
46	-	65	65
47	-	15	15
48	-	15	15
49	-	25	25
50	-	-	-
51	-	-	-
52	-	-	-
53	-	5	5
54	-	-	-
55	-	10	10
56	-	5	5
57	-	-	-
58	-	5	5
Total ‰	340	665	1005
Serial Numbers	-	-	134
Number of Samples	-	-	1
Number of Fish Measured	68	133	201
Mean Length (cm)	37.2	42.5	40.7
Mean Weight (kg)	0.45	0.71	0.62
Total Weight Landed (tons)	-	-	143
Estimated Number Landed	-	-	230
Mesh(mm) or Hook(no.) Size	-	-	114
Range of Depths (fm)	-	-	90-100

TABLE 82

LENGTH FREQUENCIES - AMERICAN PLAICE - 4Vn - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl						
	Research						
CATCHES/LANDINGS	Catches						
MONTH	May						
COUNTRY	France (SP)						
TONNAGE	850-1500						
SEX	♂♂	♀♀	Total		♂♂	♀♀	Total
11	-	1	1	51	1	4	5
12	-	-	-	52	1	2	3
13	1	1	2	53	-	4	4
14	-	1	1	54	1	1	2
15	-	1	1	55	-	2	2
16	1	1	2	56	-	3	3
17	2	5	7	57	-	2	2
18	2	11	13	58	-	2	2
19	7	14	21	59	-	1	1
20	11	21	32	60	-	1	1
21	11	23	34	61	-	1	1
22	15	23	38	62	-	1	1
23	17	30	47	63	-	2	2
24	22	27	49	64	-	1	1
25	20	28	48	65	-	-	-
26	27	21	48	66	-	1	1
27	32	27	59				
28	36	26	62				
29	25	25	50				
30	32	27	59				
31	24	25	49				
32	21	20	41				
33	15	19	34				
34	16	18	34				
35	13	18	31				
36	11	18	29				
37	9	15	24				
38	7	17	24				
39	7	14	21				
40	6	14	20				
41	3	11	14				
42	3	12	15				
43	1	11	12				
44	2	8	10				
45	3	7	10				
46	2	6	8				
47	-	5	5				
48	-	6	6				
49	2	2	4				
50	1	3	4				
Total ‰					410	590	1000
Serial Numbers					-	-	-
Number of Samples					-	-	28
Number of Fish Measured					1480	2132	3612
Mean Length (cm)					-	-	-
Mean Weight (kg)					-	-	-
Total Weight Landed (tons)					-	-	-
Estimated Number Landed					-	-	-
Mesh(mm) or Hook(no.) Size					-	-	100
Range of Depths (fm)					-	-	25-200

TABLE 83

LENGTH FREQUENCIES - AMERICAN PLAICE - 4Vs - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Side)					
	Commercial					
CATCHES/LANDINGS	Landings					
MONTH	Jan			Feb		
COUNTRY	Canada (M)					
TONNAGE	151-500					
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total
29	20	-	20	-	-	-
30	35	5	40	5	-	5
31	20	-	20	5	-	5
32	45	-	45	15	5	20
33	20	5	25	30	-	30
34	40	5	45	15	5	20
35	45	5	50	35	15	50
36	30	10	40	20	20	40
37	60	15	75	45	10	55
38	40	25	65	60	20	80
39	40	20	60	50	10	60
40	15	25	40	65	35	100
41	30	10	40	30	15	45
42	35	10	45	30	40	70
43	25	10	35	10	10	20
44	10	25	35	5	15	20
45	5	20	25	35	-	35
46	15	-	15	20	35	55
47	25	35	60	20	10	30
48	5	10	15	10	15	25
49	-	20	20	5	5	10
50	5	15	20	-	10	10
51	-	-	-	5	-	5
52	-	20	20	-	10	10
53	-	15	15	-	15	15
54	-	25	25	-	15	15
55	-	20	20	-	15	15
56	-	15	15	-	5	5
57	-	20	20	-	25	25
58	-	10	10	-	30	30
59	-	10	10	-	25	25
60	-	5	5	-	5	5
61	-	-	-	-	15	15
62	-	10	10	-	15	15
63	5	-	5	-	15	15
64	-	5	5	-	-	-
67	-	-	-	-	10	10
68	-	5	5	-	5	5
69	-	-	-	-	5	5
Total ‰	570	430	1000	515	485	1000
Serial Numbers	132	132	132	133	133	133
Number of Samples	1	1	1	1	1	1
Number of Fish Measured	114	86	200	103	97	200
Mean Length (cm)	37.5	47.5	41.8	39.4	49.0	44.0
Mean Weight (kg)	0.49	1.11	0.76	0.56	1.26	0.90
Total Weight Landed (tons)	-	-	405	-	-	568
Estimated Number Landed ¹	-	-	537	-	-	631
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114
Range of Depths (fm)	-	-	100-150	-	-	145-165

¹ Numbers in 1000's

TABLE 84

LENGTH FREQUENCIES - GREENLAND HALIBUT - 1D - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Prawn Trawl				Otter Trawl	Longline	
	Research						
CATCHES/LANDINGS	Catches						
MONTH	Jan	Apr	May	Dec	Apr	Apr	May
COUNTRY	Denmark (G)						
TONNAGE	167 BRT						
7	-	1	-	-	-	-	-
8	-	4	-	7	-	-	-
9	-	21	-	3	-	-	-
10	-	98	11	-	-	-	-
11	-	57	10	-	17	-	-
12	-	24	30	-	17	-	-
13	-	7	17	14	8	-	-
14	-	10	-	28	-	-	-
15	6	13	-	49	8	-	-
16	13	23	6	52	-	-	-
17	20	61	13	52	8	-	-
18	-	36	25	3	25	-	-
19	-	42	23	14	-	-	-
20	13	11	17	35	-	-	-
21	-	4	4	52	-	-	-
22	13	11	2	31	17	-	-
23	-	15	2	52	25	-	-
24	6	17	10	14	17	-	-
25	6	22	6	14	8	-	-
26	-	10	10	10	-	-	-
27	20	4	8	45	8	-	-
28	52	1	4	52	-	-	-
29	26	1	6	14	8	-	-
30	13	4	4	17	17	-	-
31	6	3	6	7	17	-	-
32	20	4	11	7	25	-	-
33	33	5	2	3	8	-	-
34	6	6	2	7	8	-	-
35	6	1	10	14	8	-	-
36	13	7	11	24	17	-	-
37	13	5	10	7	8	-	-
38	20	6	10	7	8	-	-
39	39	10	6	14	17	-	-
40	26	9	10	3	-	-	-
41	20	7	6	3	42	-	-
42	33	8	10	-	8	-	-
43	20	8	15	10	-	-	-
44	6	11	8	17	34	-	3
45	20	13	25	14	25	-	-
46	6	12	27	10	8	-	-
47	39	16	15	10	17	-	-
48	33	10	17	7	17	-	-
49	26	14	46	7	25	15	6
50	33	20	36	14	25	7	-
51	13	17	53	10	8	-	3
52	13	16	46	3	8	7	6
53	13	15	19	10	34	-	9
54	20	11	29	7	17	4	9
55	20	19	21	-	34	26	15
56	26	8	23	17	17	4	18
57	-	4	27	10	-	4	12
58	20	15	21	-	50	19	24

CONTINUED

Total ‰
 Serial Numbers
 Number of Samples
 Number of Fish Measured
 Mean Length (cm)
 Mean Weight (kg)
 Total Weight Landed (tons)
 Estimated Number Landed
 Mesh(mm) or Hook(no.) Size
 Range of Depths (fm)

TABLE 84 . LENGTH FREQUENCIES - GREENLAND HALIBUT - 1D - 1970 (FREQUENCIES IN 0/00 - 1 CM GROUPS)
(continued) (CONT'D)

GEAR	Prawn Trawl				Otter Trawl	Longline	
	Research						
CATCHES/LANDINGS	Catches						
MONTH	Jan	Apr	May	Dec	Apr	Apr	May
COUNTRY	Denmark (G)						
TONNAGE	167 BRT						
59	13	12	19	-	17	30	15
60	13	10	25	21	-	15	15
61	-	7	25	-	25	19	12
62	13	10	27	7	8	22	21
63	6	13	19	3	-	37	37
64	6	14	17	3	17	30	40
65	26	19	30	28	17	26	52
66	20	21	11	10	-	33	18
67	6	11	11	7	17	37	67
68	-	11	8	7	17	56	40
69	13	10	10	7	34	59	40
70	20	11	13	7	-	37	58
71	-	13	10	3	-	33	37
72	-	5	11	10	17	26	46
73	20	8	6	3	8	56	46
74	-	7	4	10	-	63	55
75	13	7	6	7	8	22	46
76	6	5	-	-	-	19	21
77	-	1	6	-	17	30	15
78	-	5	-	10	34	41	15
79	13	3	2	-	-	30	18
80	6	3	-	3	-	30	6
81	-	1	2	-	8	11	12
82	6	-	4	-	8	22	21
83	20	-	2	3	25	11	9
84	6	4	-	7	8	19	12
85	-	2	-	-	8	22	15
86	6	2	2	10	-	11	9
87	6	-	-	-	-	-	9
88	6	1	2	-	8	11	15
89	-	1	-	-	8	7	3
90	13	1	-	-	-	15	12
91	-	1	-	-	-	11	3
92	-	-	4	-	-	4	6
93	-	2	2	-	8	7	9
94	-	1	-	3	-	-	3
95	-	1	-	3	-	4	9
96	6	-	-	-	-	-	3
97	-	-	-	3	-	-	6
98	-	1	-	-	-	4	-
99	-	1	-	3	-	4	3
100	-	-	-	3	-	-	6
101	-	-	-	3	8	-	6
102	-	1	-	-	-	4	-
103	-	-	-	-	-	-	-
104	-	-	-	-	-	-	-
105	-	1	-	3	-	-	-
Total 0/00	999	1004	1008	987	993	1004	996
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	-	-	-	-	-	-	-
Number of Fish Measured	153	1045	525	288	119	270	328
Mean Length (cm)	48.5	36.6	47.2	36.8	50.4	71.5	71.1
Mean Weight (kg)	-	-	-	-	-	-	-
Total Weight Landed (tons)	-	-	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	18	18	18	18	-	-	-
Range of Depths (fm)	220-340	143-336	143-336	165-294	176-294	85-165	83-303

TABLE 85

LENGTH FREQUENCIES - WITCH - 3Pn - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl
CATCHES/LANDINGS	Research
MONTH	Dec
COUNTRY	France (SP)
TONNAGE	500-800
13	2
14	1
15	-
16	1
17	1
18	1
19	4
20	6
21	11
22	19
23	16
24	42
25	44
26	50
27	48
28	42
29	33
30	44
31	36
32	37
33	27
34	37
35	39
36	41
37	42
38	47
39	49
40	41
41	42
42	37
43	34
44	25
45	18
46	18
47	15
48	16
49	9
50	9
51	5
52	6
53	4
54	1
55	1
56	-
57	-
58	1
Total ‰	1000
Serial Numbers	-
Number of Samples	13
Number of Fish Measured	1604
Mean Length (cm)	-
Mean Weight (kg)	-
Total Weight Landed (tons)	-
Estimated Number Landed	-
Mesh(mm) or Hook(no.) Size	100
Range of Depths (fm)	130-140

TABLE 86

LENGTH FREQUENCIES - WITCH - 4R, 4T - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	4R			4T		
	Otter Trawl (Stern)			Danish Seine		
GEAR	Commercial Landings					
CATCHES/LANDINGS	Apr			May		
MONTH	Canada (M)					
COUNTRY	501-900			25-50		
TONNAGE	♂♂	♀♀	Total	♂♂	♀♀	Total
31	5	-	5	-	-	-
32	5	-	5	-	-	-
33	5	-	5	-	5	5
34	5	5	10	-	-	-
35	49	24	73	-	-	-
36	19	29	48	-	-	-
37	24	34	58	5	10	15
38	53	58	111	25	-	25
39	34	83	117	50	10	60
40	44	53	97	35	15	50
41	24	87	111	55	25	80
42	19	78	97	60	45	105
43	10	34	44	85	30	115
44	15	10	25	45	45	90
45	10	29	39	50	35	85
46	-	19	19	30	60	90
47	-	24	24	10	85	95
48	10	19	29	15	30	45
49	-	15	15	20	30	50
50	5	24	29	-	15	15
51	-	5	5	-	25	25
52	-	5	5	-	20	20
53	-	5	5	-	-	-
54	-	-	-	-	5	5
55	-	5	5	-	-	-
56	-	-	-	-	15	15
57	-	10	10	-	-	-
58	-	-	-	-	-	-
59	-	5	5	-	-	-
60	-	-	-	-	10	10
67	-	5	5	-	-	-
Total ‰	336	665	1001	485	515	1000
Serial Numbers	-	-	145	-	-	146
Number of Samples	-	-	1	-	-	1
Number of Fish Measured	69	137	206	97	103	200
Mean Length (cm)	38.9	42.1	41.1	42.7	46.1	44.4
Mean Weight (kg)	0.41	0.56	0.51	0.55	0.74	0.65
Total Weight Landed (tons)	-	-	26	-	-	225
Estimated Number Landed	-	-	50 ¹	-	-	346 ¹
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114
Range of Depths (fm)	-	-	135-140	-	-	95

¹ Numbers in 1000's

TABLE 87

LENGTH FREQUENCIES - WITCH - 4Vn - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Side)			Danish Seine		
	Commercial Landings					
CATCHES/LANDINGS	Mar			Oct		
MONTH	Canada (M)					
COUNTRY	151-500			51-150		
TONNAGE	♂♂	♀♀	Total	♂♂	♀♀	Total
SEX						
31	-	-	-	10	5	15
32	-	-	-	5	-	5
33	5	-	5	5	5	10
34	-	-	-	40	20	60
35	15	-	15	80	15	95
36	20	-	20	90	20	110
37	30	-	30	85	35	120
38	15	5	20	80	75	155
39	65	5	70	40	55	95
40	35	10	45	40	40	80
41	30	5	35	25	50	75
42	50	10	60	5	45	50
43	55	15	70	15	30	45
44	45	35	80	-	10	10
45	25	40	65	-	20	20
46	35	35	70	-	10	10
47	25	65	90	-	10	10
48	20	25	45	-	10	10
49	5	45	50	-	5	5
50	-	40	40	-	5	5
51	-	65	65	-	-	-
52	-	15	15	-	15	15
53	-	20	20	-	-	-
54	-	25	25	-	-	-
55	-	25	25	-	-	-
56	-	10	10	-	-	-
57	-	15	15	-	-	-
--	-	-	-	-	-	-
60	-	5	5	-	-	-
61	-	5	5	-	-	-
--	-	-	-	-	-	-
67	-	5	5	-	-	-
Total ‰	475	525	1000	520	480	1000
Serial Numbers	-	-	144	-	-	147
Number of Samples	-	-	1	-	-	1
Number of Fish Measured	95	105	200	104	96	200
Mean Length (cm)	41.7	49.0	45.5	37.0	40.4	38.7
Mean Weight (kg)	0.52	0.92	0.73	0.33	0.47	0.40
Total Weight Landed (tons)	-	-	100	-	-	130
Estimated Number Landed	-	-	136 ¹	-	-	325 ¹
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114
Range of Depths (fm)	-	-	140-160	-	-	54-84

¹ Numbers in 1000's

TABLE 88

LENGTH FREQUENCIES - WITCH - 4vs - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Side)								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Jan			Feb			Mar		
COUNTRY	Canada (M)								
TONNAGE	151-500								
SEX	♂	♀	Total	♂	♀	Total	♂	♀	Total
29	5	-	5	-	-	-	-	-	-
30	25	-	25	-	-	-	-	-	-
31	45	5	50	-	-	-	-	-	-
32	30	5	35	-	-	-	-	-	-
33	60	-	60	-	-	-	10	-	10
34	10	10	20	-	-	-	5	-	5
35	35	15	50	25	-	25	5	-	5
36	25	10	35	5	-	5	5	-	5
37	20	5	25	15	5	20	15	-	15
38	50	25	75	10	-	10	30	-	30
39	15	10	25	5	5	10	55	5	60
40	25	30	55	5	-	5	30	10	40
41	25	5	30	25	5	30	40	10	50
42	30	10	40	15	-	15	40	5	45
43	10	5	15	15	-	15	70	25	95
44	30	35	65	35	15	50	50	50	100
45	15	65	80	60	15	75	50	40	90
46	20	30	50	15	20	35	30	35	65
47	15	50	65	35	15	50	30	45	75
48	-	40	40	5	55	60	10	55	65
49	-	65	65	35	70	105	10	70	80
50	-	30	30	-	60	60	5	45	50
51	-	35	35	5	55	60	-	20	20
52	-	5	5	-	55	55	5	25	30
53	-	5	5	-	35	35	-	15	15
54	-	-	-	5	60	65	-	25	25
55	-	5	5	-	60	60	-	15	15
56	-	5	5	-	50	50	-	5	5
57	-	5	5	-	45	45	-	-	-
58	-	-	-	-	15	15	-	-	-
59	-	-	-	-	20	20	-	-	-
60	-	-	-	-	25	25	-	-	-
--	-	-	-	-	-	-	-	-	-
63	-	-	-	-	-	-	-	5	5
Total ‰	490	510	1000	315	685	1000	495	505	1000
Serial Numbers	-	-	141	-	-	142	-	-	143
Number of Samples	-	-	1	-	-	1	-	-	1
Number of Fish Measured	98	102	200	63	137	200	99	101	200
Mean Length (cm)	37.3	45.2	41.3	43.6	52.0	49.3	42.3	48.0	45.2
Mean Weight (kg)	0.36	0.70	0.54	0.61	1.12	0.96	0.54	0.84	0.70
Total Weight Landed (tons)	-	-	176	-	-	127	-	-	178
Estimated Number Landed	-	-	325 ¹	-	-	132 ¹	-	-	254 ¹
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	145-155	-	-	145-165	-	-	100-130

¹ Numbers in 1000's

TABLE 89

LENGTH FREQUENCIES - WITCH - 4Vs, 4W - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	4Vs			4W
	Otter Trawl (Side)		Commercial	Otter Trawl (Stern)
CATCHES/LANDINGS	Landings			Catches
MONTH	Dec			Jun
COUNTRY	Canada (M)			Japan
TONNAGE	151-500			> 1800
SEX	♂ ^a	♀	Total	Mixed
24	-	-	-	20
25	-	-	-	30
26	-	-	-	20
27	-	-	-	59
28	-	-	-	59
29	-	-	-	59
30	-	-	-	40
31	-	-	-	69
32	15	-	15	20
33	15	-	15	79
34	5	-	5	89
35	-	-	-	50
36	10	-	10	40
37	5	-	5	30
38	5	-	5	30
39	30	-	30	50
40	55	-	55	79
41	30	-	30	79
42	60	5	65	40
43	25	-	25	30
44	45	25	70	30
45	10	40	50	-
46	25	15	40	-
47	40	35	75	-
48	10	65	75	-
49	-	45	45	-
50	5	65	70	-
51	5	50	55	-
52	-	50	50	-
53	5	25	30	-
54	-	50	50	-
55	-	15	15	-
56	-	40	40	-
57	-	20	20	-
58	-	20	20	-
59	-	-	-	-
60	-	25	25	-
61	-	5	5	-
62	-	-	-	-
63	-	5	5	-
Total ‰	400	600	1000	1002
Serial Numbers	-	-	148	-
Number of Samples	-	-	1	1
Number of Fish Measured	80	120	200	101
Mean Length (cm)	42.0	51.1	47.5	34.8
Mean Weight (kg)	0.53	1.06	0.85	-
Total Weight Landed (tons)	-	-	120	-
Estimated Number Landed	-	-	141 ¹	-
Mesh(mm) or Hook(no.) Size	-	-	114	-
Range of Depths (fm)	-	-	125-160	120

¹ Numbers in 1000's

TABLE 90

LENGTH FREQUENCIES - WITCH - 5Ze, 5Zw - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	5Ze	5Zw
GEAR	Otter Trawl (Stern)	
CATCHES/LANDINGS	Commercial	
MONTH	Jun	Jun
COUNTRY	Japan	
TONNAGE	> 1800	
20	-	84
21	-	47
22	-	103
23	-	112
24	-	130
25	-	75
26	-	112
27	-	75
28	-	84
29	-	84
30	43	47
31	75	19
32	129	19
33	161	9
34	160	-
35	86	-
36	108	-
37	75	-
38	54	-
39	43	-
40	-	-
41	22	-
42	11	-
--	-	-
45	11	-
--	-	-
48	11	-
--	-	-
52	11	-
Total ‰	1000	1000
Serial Numbers	-	-
Number of Samples	1	1
Number of Fish Measured	93	107
Mean Length (cm)	35.3	25.6
Mean Weight (kg)	-	-
Total Weight Landed (tons)	-	-
Estimated Number Landed	-	-
Mesh(mm) or Hook(no.) Size	-	-
Range of Depths (fm)	115	70

TABLE 91

LENGTH FREQUENCIES - YELLOWTAIL - 5Ze - 1969

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Jan			Feb			Mar		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
29	2	-	2	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-
31	-	-	-	2	-	2	4	-	4
32	5	2	7	5	2	7	6	1	7
33	16	9	25	12	2	13	26	17	43
34	23	23	46	32	30	62	24	24	48
35	44	30	74	45	42	87	50	47	98
36	48	55	102	50	50	100	47	85	132
37	44	55	99	42	60	102	50	52	102
38	56	62	118	45	35	80	56	43	99
39	41	58	99	42	48	90	42	37	79
40	26	57	83	27	38	65	36	42	77
41	18	49	67	27	40	67	24	39	63
42	21	55	76	25	47	72	19	46	65
43	9	60	69	15	52	67	13	37	50
44	5	39	54	8	40	48	10	37	47
45	5	25	30	2	33	35	6	23	29
46	4	18	21	2	32	33	1	21	22
47	-	11	11	2	27	28	-	11	11
48	-	19	19	-	18	18	-	11	11
49	-	2	2	-	7	7	-	3	3
50	-	2	2	-	8	8	-	6	6
51	-	4	4	-	5	5	-	3	3
52	-	-	-	-	2	2	-	-	-
53	-	-	-	-	-	-	-	-	-
54	-	2	2	-	-	-	-	-	-
Total ‰/oo	367	633	1000	381	619	1000	415	585	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	6	-	-	7	-	-	7
Number of Fish Measured	208	359	567	228	370	598	289	408	697
Mean Length (cm)	37.7	40.2	39.3	37.8	40.7	39.6	37.6	39.6	38.8
Mean Weight (kg)	0.49	0.64	0.59	0.50	0.67	0.60	0.49	0.61	0.56
Total Weight Landed (tons)	277	611	888	228	492	720	232	402	634
Estimated Number Landed ¹	5589	9647	15236	4535	7359	11893	4691	6622	11312
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	30-40	-	-	28-42	-	-	28-45

¹ Numbers in 100's

TABLE 91
(continued)

LENGTH FREQUENCIES - YELLOWTAIL - 5Ze - 1969

(FREQUENCIES IN %/oo - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Apr			May			June		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
29	-	-	-	-	-	-	1	-	1
30	-	-	-	-	-	-	-	-	-
31	3	-	3	1	-	1	1	-	1
32	7	-	7	5	5	10	8	-	8
33	8	4	13	15	7	22	16	4	20
34	24	4	28	43	15	58	50	13	63
35	51	32	83	65	48	113	75	31	106
36	50	56	106	58	53	112	56	72	129
37	62	46	108	77	76	153	62	71	133
38	47	61	108	52	50	102	54	91	144
39	36	58	94	29	63	92	46	64	110
40	46	69	115	20	56	76	26	46	72
41	25	64	89	15	47	62	18	49	67
42	21	49	69	12	46	58	7	38	45
43	3	47	50	5	46	51	5	37	42
44	3	36	39	-	26	26	1	22	24
45	3	36	39	-	29	29	1	10	12
46	1	15	17	-	16	16	-	13	13
47	-	15	15	-	6	6	-	5	5
48	-	7	7	-	5	5	-	1	1
49	-	3	3	-	2	2	-	4	4
50	-	3	3	-	-	-	-	-	-
51	-	3	3	-	1	1	-	-	-
52	-	1	1	-	1	1	-	-	-
53	-	-	-	-	-	-	-	-	-
54	-	-	-	-	1	1	-	-	-
Total %/oo	390	610	1000	400	600	1000	428	572	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	8	-	-	8	-	-	7
Number of Fish Measured	281	439	720	322	484	806	326	436	762
Mean Length (cm)	37.6	40.4	39.3	36.8	39.6	38.5	37.7	39.2	38.2
Mean Weight (kg)	0.48	0.76	0.65	0.45	0.71	0.60	0.44	0.68	0.58
Total Weight Landed (tons)	329	848	1177	403	965	1368	500	1023	1523
Estimated Number Landed ¹	7154	11177	18331	9034	13580	22614	11244	15037	26281
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	27-48	-	-	22-48	-	-	30-55

¹ Numbers in 100's

TABLE 91
(continued)

LENGTH FREQUENCIES - YELLOWTAIL - 5ze - 1969

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	July			Aug			Sep		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
30	-	-	-	2	-	2	1	-	1
31	3	-	3	4	-	4	5	1	7
32	2	3	5	18	4	21	14	5	19
33	8	8	16	21	11	32	14	19	33
34	19	48	67	37	11	48	47	62	110
35	16	84	99	49	34	83	49	54	103
36	19	82	101	40	49	89	47	57	104
37	8	107	115	49	74	123	37	47	84
38	12	104	116	49	60	109	37	66	103
39	3	109	112	46	68	113	41	68	109
40	2	98	99	28	57	85	23	64	87
41	-	84	84	35	46	81	12	54	66
42	-	54	54	13	49	62	11	42	53
43	-	42	42	8	35	43	5	26	31
44	-	34	34	4	27	30	3	22	24
45	-	22	22	2	23	25	-	23	23
46	-	8	8	-	14	14	-	9	9
47	-	11	11	1	12	13	-	7	7
48	-	3	3	-	7	7	-	11	11
49	-	8	8	-	5	5	-	5	5
50	-	-	-	-	7	7	-	5	5
51	-	-	-	-	2	2	-	1	1
52	-	2	2	-	1	1	-	1	1
53	-	-	-	-	-	-	-	-	-
54	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	1	1
Total ‰	90	910	1000	406	594	1000	346	654	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	7	-	-	8	-	-	7
Number of Fish Measured	58	586	644	347	508	855	255	482	737
Mean Length (cm)	35.5	39.0	38.6	37.2	39.9	38.8	36.7	39.0	38.2
Mean Weight (kg)	0.39	0.55	0.51	0.45	0.60	0.54	0.43	0.56	0.52
Total Weight Landed (tons)	113	1633	1746	636	1241	1877	600	1485	2085
Estimated Number Landed ¹	2908	29386	32294	14160	20730	34891	13912	26297	40209
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	31-36	-	-	28-53	-	-	26-45

¹ Numbers in 100's

TABLE 91
(continued)

LENGTH FREQUENCIES - YELLOWTAIL - 52e - 1969

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Oct			Nov			Dec		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
30	-	-	-	-	-	-	2	-	2
31	2	-	2	-	-	-	-	2	2
32	4	2	6	9	3	12	4	-	4
33	11	25	36	14	17	30	6	4	10
34	29	37	66	48	24	73	35	21	56
35	40	73	113	30	44	74	29	21	50
36	34	68	102	39	50	89	41	47	87
37	40	77	117	30	69	100	37	68	105
38	23	69	92	41	54	95	35	58	93
39	29	63	92	39	53	92	25	72	97
40	25	65	90	21	39	60	29	72	101
41	13	53	67	17	39	56	2	58	60
42	5	58	63	14	66	80	17	50	68
43	4	39	43	6	48	54	12	47	58
44	5	30	35	3	38	41	4	45	48
45	-	25	25	2	35	36	-	41	41
46	-	24	24	2	24	26	2	29	31
47	-	10	10	2	33	35	-	35	35
48	-	9	9	-	18	18	-	21	21
49	-	4	4	-	12	12	-	12	12
50	-	5	5	-	11	11	-	12	12
51	-	-	-	-	3	3	-	4	4
52	-	-	-	-	-	-	-	-	-
53	-	-	-	-	2	2	-	4	4
54	-	-	-	-	-	-	-	-	-
55	-	-	-	-	2	2	-	-	-
Total ‰	264	736	1000	316	684	1000	279	721	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	9	-	-	7	-	-	6
Number of Fish Measured	257	715	972	209	453	662	144	372	516
Mean Length (cm)	37.1	39.2	38.7	37.2	40.6	39.5	37.4	41.0	40.0
Mean Weight (kg)	0.42	0.54	0.51	0.42	0.61	0.55	0.43	0.63	0.57
Total Weight Landed (tons)	349	1263	1612	236	738	974	277	1049	1326
Estimated Number Landed ¹	8405	23385	31790	5595	12126	17721	6482	16745	23227
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	30-55	-	-	30-55	-	-	25-35

¹ Numbers in 100's

TABLE 92

LENGTH FREQUENCIES - YELLOWTAIL - 52w - 1969

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Jan			Feb			Mar		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
27	1	-	1	-	-	-	-	-	-
28	1	-	1	1	-	1	1	-	1
29	4	1	5	5	1	6	10	2	12
30	7	3	11	12	3	15	15	10	25
31	16	12	28	29	17	46	38	35	73
32	26	21	47	33	38	71	39	45	85
33	65	37	102	66	42	108	51	67	118
34	51	59	111	84	63	147	64	73	137
35	63	84	146	79	75	153	57	44	101
36	54	76	129	56	89	145	42	73	114
37	41	60	102	33	60	93	36	45	81
38	21	47	68	17	48	65	15	48	63
39	17	48	65	14	42	56	13	37	50
40	10	54	63	5	39	44	4	30	33
41	5	37	41	2	21	23	1	41	42
42	1	35	36	1	11	12	1	27	29
43	-	16	16	1	4	5	-	17	17
44	1	11	12	-	3	3	-	11	11
45	-	5	5	-	3	3	-	1	1
46	-	3	3	-	-	-	-	-	-
47	-	1	1	-	-	-	-	-	-
48	-	2	2	-	-	-	-	5	5
49	-	2	2	-	1	1	-	1	1
50	-	1	1	-	-	-	-	-	-
51	-	1	1	-	-	-	-	1	1
Total ‰	384	616	1000	441	559	1000	389	611	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	10	-	-	10	-	-	9
Number of Fish Measured	472	758	1230	408	518	926	326	513	839
Mean Length (cm)	34.9	37.3	36.4	34.4	36.2	35.4	34.1	36.4	35.5
Mean Weight (kg)	0.39	0.49	0.45	0.37	0.44	0.41	0.36	0.45	0.42
Total Weight Landed (tons)	713	1444	2157	374	561	935	408	804	1212
Estimated Number Landed ¹	18425	29589	48013	10094	12815	22909	11301	17784	29086
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	4-40	-	-	5-40	-	-	5-86

¹ Numbers in 100's

TABLE 92
(continued)

LENGTH FREQUENCIES - YELLOWTAIL - 5Zw - 1969

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Apr			May			June		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂	♀	Total	♂	♀	Total	♂	♀	Total
30	-	-	-	-	-	-	4	-	4
31	3	1	4	1	2	3	10	4	14
32	9	4	13	15	7	22	22	24	46
33	32	15	47	30	33	64	39	48	88
34	53	29	82	65	69	134	51	102	153
35	50	19	69	65	87	152	36	108	144
36	44	57	101	62	77	139	33	102	135
37	37	63	100	43	82	125	19	87	106
38	47	47	94	22	69	90	18	88	106
39	37	46	82	17	65	82	9	50	59
40	22	47	69	3	48	52	1	46	47
41	22	60	82	2	47	48	1	41	42
42	15	68	82	2	42	43	1	22	23
43	7	51	59	2	15	17	-	13	13
44	-	31	31	-	10	10	-	6	6
45	1	28	29	-	8	8	-	5	5
46	1	10	12	-	5	5	-	6	6
47	-	15	15	-	2	2	-	-	-
48	-	7	7	-	2	2	-	3	3
49	-	7	7	-	-	-	-	-	-
50	-	3	3	-	-	-	-	-	-
51	-	1	1	-	2	2	-	3	3
52	-	1	1	-	-	-	-	-	-
53	-	3	3	-	-	-	-	-	-
54	-	1	1	-	-	-	-	-	-
55	-	1	1	-	-	-	-	-	-
Total ‰	381	619	1000	329	671	1000	244	756	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	6	-	-	6	-	-	6
Number of Fish Measured	259	421	680	197	401	598	192	594	786
Mean Length (cm)	36.8	40.1	38.7	35.5	37.7	36.9	34.7	36.9	36.4
Mean Weight (kg)	0.45	0.75	0.64	0.39	0.59	0.53	0.37	0.56	0.51
Total Weight Landed (tons)	220	599	819	139	428	567	67	313	380
Estimated Number Landed	4917	7992	12909	3528	7181	10709	1817	5621	7438
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	4-22	-	-	18-40	-	-	16-35

¹ Numbers in 100's

TABLE 92
(continued)

LENGTH FREQUENCIES - YELLOWTAIL - 5Zw - 1969

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	July			Aug			Sep		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
28	-	-	-	-	-	-	1	-	1
29	1	1	2	-	-	-	14	3	16
30	3	1	4	4	1	5	21	7	28
31	17	8	25	7	9	16	39	29	68
32	56	32	88	41	38	79	50	66	116
33	53	55	107	57	71	128	61	96	157
34	68	62	130	84	119	203	54	116	169
35	38	101	138	51	146	198	26	100	126
36	43	105	148	30	100	131	19	82	101
37	16	84	100	15	79	94	8	61	69
38	9	61	70	3	73	75	5	56	61
39	5	43	48	1	36	37	2	32	34
40	6	39	45	1	17	18	1	24	25
41	3	30	33	-	8	8	-	13	13
42	2	16	18	-	3	3	-	6	6
43	-	17	17	-	3	3	-	3	3
44	-	8	8	-	-	-	-	3	3
45	-	5	5	-	1	1	-	4	4
46	-	1	1	-	-	-	-	-	-
47	-	3	3	-	-	-	-	-	-
48	-	2	2	-	-	-	-	-	-
49	-	4	4	-	-	-	-	-	-
50	-	2	2	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-
52	-	-	-	-	1	1	-	-	-
Total ‰	320	680	1000	294	706	1000	299	701	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	7	-	-	5	-	-	10
Number of Fish Measured	298	634	932	223	535	758	419	981	1400
Mean Length (cm)	34.2	36.8	36.0	34.0	35.6	35.1	33.0	35.2	34.5
Mean Weight (kg)	0.35	0.47	0.43	0.35	0.42	0.40	0.32	0.41	0.38
Total Weight Landed (tons)	160	448	608	233	673	906	259	769	1028
Estimated Number Landed ¹	4487	9547	14034	6711	16101	22812	8077	18910	26986
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	20-28	-	-	20-28	-	-	22-53

¹ Numbers in 100's

TABLE 92
(continued)

LENGTH FREQUENCIES - YELLOWTAIL - 5Zw - 1969

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Oct			Nov			Dec		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂	♀	Total	♂	♀	Total	♂	♀	Total
27	1	-	1	-	-	-	-	-	-
28	1	1	2	3	1	4	1	-	1
29	2	-	2	6	-	6	1	-	1
30	3	7	10	18	4	22	3	-	3
31	30	12	42	20	8	28	23	10	33
32	50	45	95	61	31	92	51	30	81
33	69	61	131	84	55	139	88	80	168
34	87	84	172	80	82	162	75	110	185
35	57	78	136	52	60	112	59	117	177
36	35	72	107	44	60	104	29	61	90
37	18	74	92	31	44	76	16	74	90
38	21	41	62	27	44	71	16	58	74
39	8	45	53	29	30	60	-	25	25
40	5	28	33	13	28	41	-	27	27
41	2	25	27	10	19	29	-	17	17
42	1	18	19	2	9	12	-	17	17
43	-	8	8	1	14	15	-	3	3
44	-	2	2	-	15	15	-	3	3
45	-	4	4	-	8	8	-	3	3
46	-	-	-	-	-	-	-	-	-
47	-	-	-	-	3	3	-	-	-
48	-	-	-	-	1	1	-	-	-
49	-	-	-	-	-	-	-	1	1
50	-	1	1	-	-	-	-	-	-
Total ‰	392	608	1000	483	517	1000	363	637	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	8	-	-	9	-	-	7
Number of Fish Measured	390	606	996	460	493	953	251	440	691
Mean Length (cm)	34.2	36.1	35.3	34.6	36.5	35.6	33.8	35.9	35.1
Mean Weight (kg)	0.33	0.41	0.38	0.34	0.43	0.39	0.32	0.40	0.37
Total Weight Landed (tons)	480	915	1395	649	857	1506	385	831	1216
Estimated Number Landed ¹	14463	22473	36936	18816	20166	38082	11932	20916	32848
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	18-30	-	-	18-37	-	-	18-43

¹ Numbers in 100's

TABLE 93 LENGTH FREQUENCIES - YELLOWTAIL - 3L, 3N - 1970 (FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	3L						3N		
	Otter Trawl (Stern)			Commercial			Otter Trawl (Side)		
GEAR	Landings								
CATCHES/LANDINGS	May			June			July		
MONTH	Canada (N)			Canada (M)					
COUNTRY	501-900			151-500					
TONNAGE	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
29	-	-	-	-	-	-	5	-	5
30	2	1	3	25	5	30	5	-	5
31	3	2	5	25	-	25	5	-	5
32	11	4	15	20	5	25	5	-	5
33	8	6	14	60	5	65	80	-	80
34	23	10	33	60	20	80	55	-	55
35	26	14	40	30	-	30	60	-	60
36	54	19	73	100	30	130	65	10	75
37	56	45	101	75	50	125	70	20	90
38	69	49	118	75	75	150	95	40	135
39	68	64	132	20	90	110	65	50	115
40	54	81	135	15	90	105	45	80	125
41	32	74	106	10	50	60	-	110	110
42	24	69	93	-	35	35	-	40	40
43	8	54	62	-	30	30	5	30	35
44	3	32	35	-	-	-	-	30	30
45	2	19	21	-	-	-	-	25	25
46	-	8	8	-	-	-	-	-	-
47	1	3	4	-	-	-	-	-	-
48	-	4	4	-	-	-	-	5	5
49	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-
52	-	1	1	-	-	-	-	-	-
Total ‰	444	559	1000	515	485	1000	560	440	1000
Serial Numbers	-	-	-	-	-	149	-	-	150
Number of Samples	-	-	1	-	-	1	-	-	1
Number of Fish Measured	449	566	1015	103	97	200	112	88	200
Mean Length (cm)	37.9	40.2	39.2	35.4	38.9	37.1	36.3	40.8	38.3
Mean Weight (kg)	-	-	0.55	0.37	0.49	0.43	0.40	0.57	0.47
Total Weight Landed (tons)	-	-	1925	-	-	314	-	-	669
Estimated Number Landed ¹	-	-	3500	-	-	730	-	-	1423
Mesh(mm) or Hook(no.) Size	-	-	Large	-	-	114	-	-	114
Range of Depths (fm)	-	-	42	-	-	42-44	-	-	39-43

¹ Numbers in 1000's

TABLE 94

LENGTH FREQUENCIES - YELLOWTAIL - 5ze - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Jan			Feb			Mar		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
29	-	-	-	4	-	4	-	-	-
30	1	-	1	1	1	3	-	-	-
31	4	-	4	7	-	7	2	-	2
32	18	4	21	16	11	27	8	-	8
33	29	9	38	28	11	39	17	7	24
34	48	43	91	52	21	74	28	11	39
35	34	48	83	47	40	87	46	21	67
36	40	45	85	56	40	97	61	50	110
37	43	45	87	42	46	87	44	51	94
38	22	48	71	47	44	90	51	62	113
39	38	38	76	36	40	76	35	54	90
40	38	48	86	39	47	86	40	53	93
41	20	44	64	21	50	71	21	53	74
42	12	35	47	9	39	48	18	38	56
43	11	52	63	11	44	55	13	46	59
44	4	40	44	3	31	34	5	36	41
45	2	34	37	4	38	42	5	33	38
46	-	27	27	1	27	28	1	28	29
47	-	25	25	-	15	15	-	27	27
48	-	17	17	-	19	19	-	11	11
49	-	14	14	-	4	4	-	7	7
50	-	11	11	-	4	4	-	7	7
51	-	1	1	-	1	1	-	2	2
52	-	5	5	-	-	-	-	7	7
53	-	4	4	-	3	3	-	1	1
Total ‰	363	637	1000	424	576	1000	395	605	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	9	-	-	8	-	-	9
Number of Fish Measured	307	539	846	316	430	746	326	500	826
Mean Length (cm)	36.9	40.6	39.3	36.8	40.4	38.8	37.6	40.9	39.6
Mean Weight (kg)	0.45	0.79	0.67	0.45	0.77	0.64	0.48	0.80	0.67
Total Weight Landed (tons)	196	599	795	303	705	1008	411	1056	1467
Estimated Number Landed ¹	4320	7585	11906	6737	9168	15905	8603	13195	21797
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	25-40	-	-	27-40	-	-	22-38

¹ Numbers in 100's

TABLE 94
(continued)

LENGTH FREQUENCIES - YELLOWTAIL - 5Ze - 1970

(FREQUENCIES IN % - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Apr			May			June		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
28	-	-	-	-	-	-	1	-	1
29	-	-	-	-	-	-	-	-	-
30	4	-	4	1	-	1	-	-	-
31	6	1	8	4	3	7	3	-	3
32	22	6	28	14	3	17	18	-	18
33	44	24	68	25	14	39	46	8	54
34	61	39	99	52	31	83	65	18	83
35	66	61	126	61	39	100	74	23	97
36	37	79	116	92	76	168	75	35	110
37	48	63	111	66	77	143	72	35	107
38	39	72	111	47	73	120	57	36	93
39	27	52	79	27	59	86	63	39	102
40	22	40	62	22	57	79	45	43	87
41	12	35	46	13	31	44	34	34	67
42	10	24	35	3	31	33	25	24	49
43	3	15	18	4	21	25	16	19	35
44	3	15	18	-	17	17	8	18	26
45	-	23	23	-	18	18	-	20	20
46	1	14	15	-	7	7	1	13	13
47	-	15	15	-	7	7	-	13	13
48	-	10	10	-	4	4	-	11	11
49	-	4	4	-	-	-	-	6	6
50	-	-	-	-	1	1	-	3	3
51	-	1	1	-	-	-	-	2	2
52	-	-	-	-	-	-	-	-	-
53	-	-	-	-	1	1	-	-	-
54	-	1	1	-	-	-	-	-	-
Total %	403	597	1000	430	570	1000	602	398	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	7	-	-	9	-	-	11
Number of Fish Measured	313	463	776	451	598	1049	717	474	1191
Mean Length (cm)	36.0	38.6	37.6	36.3	38.6	37.6	37.0	40.1	38.2
Mean Weight (kg)	0.42	0.66	0.56	0.43	0.65	0.55	0.46	0.75	0.57
Total Weight Landed (tons)	426	995	1421	552	1117	1669	595	642	1237
Estimated Number Landed ¹	10183	15063	25246	13006	17245	30251	13010	8601	21611
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	28-43	-	-	30-52	-	-	25-48

¹ Numbers in 100's

TABLE 94
(continued)

LENGTH FREQUENCIES - YELLOWTAIL - 5Ze - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	July			Aug			Sep		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
26	-	-	-	-	-	-	1	-	1
27	-	-	-	-	-	-	-	-	-
28	2	-	2	-	-	-	-	-	-
29	2	-	2	2	-	2	1	-	1
30	3	-	3	3	-	3	6	-	6
31	9	1	10	13	1	14	21	1	22
32	37	8	45	28	4	32	30	7	37
33	37	13	51	39	21	61	51	26	77
34	48	43	91	52	31	83	62	32	93
35	64	40	103	29	62	91	66	47	113
36	57	63	120	28	76	103	46	69	114
37	38	87	125	19	82	101	40	63	103
38	33	60	93	17	84	101	35	62	96
39	29	41	69	16	73	89	30	53	84
40	20	45	65	9	87	96	28	50	78
41	16	30	46	9	46	55	12	32	44
42	10	31	41	6	40	46	8	29	37
43	4	22	26	2	32	34	5	21	26
44	3	22	25	5	26	31	2	19	21
45	5	19	24	1	21	22	1	11	12
46	-	18	18	-	15	15	1	13	14
47	-	13	13	-	6	6	1	8	8
48	-	5	5	-	3	3	-	5	5
49	-	10	10	-	5	5	-	3	3
50	-	8	8	-	1	1	-	3	3
51	-	2	2	-	2	2	-	1	1
52	-	-	-	-	2	2	-	-	-
53	-	1	1	-	-	-	-	-	-
Total ‰	420	580	1000	278	722	1000	446	554	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	8	-	-	9	-	-	13
Number of Fish Measured	382	528	910	261	678	939	645	800	1445
Mean Length (cm)	36.0	39.1	37.8	35.4	38.9	37.9	35.8	38.6	37.3
Mean Weight (kg)	0.41	0.57	0.50	0.39	0.56	0.51	0.40	0.54	0.48
Total Weight Landed (tons)	369	707	1076	395	1454	1849	700	1169	1869
Estimated Number Landed ¹	8961	12386	21346	10059	26129	36188	17348	21517	38865
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	22-50	-	-	27-44	-	-	28-120

¹ Numbers in 100's

TABLE 94
(continued)

LENGTH FREQUENCIES - YELLOWTAIL - 5Ze - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Oct			Nov			Dec		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
26	-	-	-	-	-	-	1	-	1
27	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-
29	-	1	1	1	-	1	1	-	1
30	6	1	7	1	5	6	4	3	7
31	22	7	29	13	6	19	16	3	19
32	48	22	71	18	29	47	33	30	63
33	70	20	90	34	35	69	35	38	73
34	76	44	120	39	62	100	50	67	117
35	56	47	103	39	67	105	52	54	106
36	60	60	120	46	53	98	45	45	89
37	29	62	92	29	57	86	31	41	72
38	35	66	101	25	76	100	30	60	90
39	17	43	60	18	56	74	28	61	89
40	15	41	55	13	51	64	12	58	70
41	9	28	38	9	46	55	8	43	52
42	7	22	29	7	43	50	4	32	36
43	3	19	22	1	26	27	1	39	40
44	3	13	16	2	19	21	-	18	18
45	-	15	15	1	23	25	1	18	19
46	-	11	11	-	14	14	-	7	7
47	-	9	9	-	15	15	-	10	10
48	-	4	4	-	7	7	-	11	11
49	-	3	3	-	6	6	-	5	5
50	-	3	3	-	6	6	-	3	3
51	-	1	1	-	4	4	-	-	-
52	-	-	-	-	2	2	-	-	-
53	-	1	1	-	-	-	-	-	-
Total ‰	457	543	1000	294	706	1000	352	648	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	10	-	-	8	-	-	9
Number of Fish Measured	529	629	1158	252	605	857	340	626	966
Mean Length (cm)	35.1	38.2	36.8	35.8	38.5	37.7	35.4	38.4	37.3
Mean Weight (kg)	0.36	0.49	0.44	0.38	0.52	0.48	0.37	0.51	0.46
Total Weight Landed (tons)	550	906	1456	213	694	907	212	537	749
Estimated Number Landed ¹	15337	18236	33572	5602	13450	19053	5748	10583	16332
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	27-42	-	-	25-36	-	-	22-38

¹ Numbers in 100's

TABLE 95

LENGTH FREQUENCIES - YELLOWTAIL - 52w - 1970

(FREQUENCIES IN %/oo - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Jan			Feb			Mar		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	% ♂	% ♀	Total	% ♂	% ♀	Total	% ♂	% ♀	Total
28	2	-	2	1	-	1	2	-	2
29	4	-	4	4	-	4	5	-	5
30	9	1	10	13	1	14	8	6	14
31	17	3	20	24	1	25	25	14	39
32	39	10	50	47	13	60	46	31	77
33	54	27	81	80	25	105	67	78	105
34	69	62	131	89	31	120	85	52	136
35	68	65	133	80	51	132	75	62	138
36	60	64	123	91	79	170	60	67	128
37	49	45	94	36	61	97	35	58	92
38	51	46	97	23	53	75	21	58	79
39	23	43	65	24	38	62	11	47	58
40	21	44	64	12	41	53	12	43	55
41	16	29	45	4	23	26	2	18	20
42	5	31	35	6	8	14	1	20	22
43	1	22	22	-	20	20	-	12	12
44	-	10	10	1	10	11	-	10	10
45	-	9	9	-	6	6	-	5	5
46	-	2	2	-	1	1	-	3	3
47	-	1	1	-	1	1	-	1	1
48	-	1	1	-	1	1	-	-	-
Total %/oo	487	513	1000	534	466	1000	455	545	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	11	-	-	7	-	-	12
Number of Fish Measured	604	637	1241	446	389	835	671	803	1474
Mean Length (cm)	35.4	37.5	36.5	34.8	37.4	36.0	34.5	36.8	35.8
Mean Weight (kg)	0.39	0.59	0.49	0.37	0.59	0.47	0.36	0.55	0.47
Total Weight Landed (tons)	704	1107	1811	516	704	1220	460	840	1300
Estimated Number Landed ¹	17788	18760	36549	13844	12075	25919	12696	15194	27890
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	25-30	-	-	20-42	-	-	11-33

¹ Numbers in 100's

TABLE 95
(continued)

LENGTH FREQUENCIES - YELLOWTAIL - 52w - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Apr			May			June		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂	♀	Total	♂	♀	Total	♂	♀	Total
29	1	-	1	3	-	3	-	-	-
30	2	3	5	5	3	8	8	4	12
31	21	7	28	18	8	26	18	10	28
32	63	32	95	34	36	70	31	19	51
33	83	59	142	57	60	117	69	23	92
34	93	66	160	57	82	139	68	48	116
35	71	70	141	58	107	165	57	48	105
36	68	75	142	50	78	128	43	48	92
37	30	53	83	40	67	107	23	68	90
38	19	48	67	20	52	72	27	77	104
39	16	36	52	14	50	64	13	57	70
40	8	28	35	8	30	37	13	62	75
41	-	23	23	3	19	23	1	47	48
42	1	13	13	2	15	17	1	40	41
43	1	8	8	1	8	9	-	31	31
44	-	2	2	-	4	4	-	11	11
45	-	1	1	-	5	5	-	11	11
46	-	1	1	-	2	2	1	10	11
47	-	-	-	-	3	3	-	5	5
48	-	-	-	-	1	1	-	4	4
49	-	-	-	-	-	-	-	2	2
50	-	-	-	-	1	1	-	-	-
51	-	-	-	-	-	-	-	2	2
Total ‰	478	522	1000	369	631	1000	374	626	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	9	-	-	9	-	-	7
Number of Fish Measured	568	621	1189	436	746	1182	310	519	829
Mean Length (cm)	35.5	36.2	35.4	34.8	36.3	35.8	34.7	38.3	37.0
Mean Weight (kg)	0.36	0.52	0.44	0.37	0.53	0.47	0.37	0.64	0.54
Total Weight Landed (tons)	285	447	732	239	574	813	211	604	815
Estimated Number Landed ¹	7912	8650	16562	6390	10933	17323	5679	9508	15187
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	11-34	-	-	15-42	-	-	15-43

¹ Numbers in 100's

TABLE 95
(continued)

LENGTH FREQUENCIES - YELLOWTAIL - 52w - 1970

(FREQUENCIES IN 0/00 - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	July			Aug			Sep		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
25	-	-	-	1	-	1	-	-	-
26	-	-	-	1	-	1	-	-	-
27	1	-	1	2	-	2	-	-	-
28	1	-	1	3	3	6	1	-	1
29	3	1	3	13	6	19	15	2	17
30	8	3	11	24	22	46	30	8	38
31	27	13	39	43	51	94	42	37	80
32	42	35	78	48	73	121	85	64	150
33	56	48	104	41	98	139	72	86	158
34	67	80	146	48	95	144	62	92	154
35	49	75	125	37	104	141	50	69	119
36	36	76	112	21	63	84	26	68	95
37	20	76	96	21	49	70	21	48	68
38	11	82	93	11	34	44	6	42	48
39	6	62	68	5	39	44	2	30	32
40	2	50	53	1	17	18	1	18	18
41	-	30	30	1	11	12	-	13	13
42	-	17	17	-	5	5	-	6	6
43	-	9	9	-	6	6	-	2	2
44	-	6	6	-	2	2	-	2	2
45	-	3	3	-	1	1	-	-	-
46	1	1	2	-	-	-	-	1	1
47	-	2	2	-	-	-	-	-	-
48	-	1	1	-	1	1	-	-	-
Total 0/00	330	670	1000	322	678	1000	413	587	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	13	-	-	10	-	-	8
Number of Fish Measured	569	1154	1723	459	968	1427	519	738	1257
Mean Length (cm)	34.0	36.7	35.8	33.2	34.7	34.2	33.1	35.0	34.2
Mean Weight (kg)	0.35	0.46	0.43	0.33	0.39	0.37	0.32	0.40	0.37
Total Weight Landed (tons)	356	958	1314	214	539	753	284	498	782
Estimated Number Landed ¹	10232	20753	30985	6532	13775	20307	8773	12475	21248
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	15-30	-	-	18-33	-	-	23-45

¹ Numbers in 100's

TABLE 95
(continued)

LENGTH FREQUENCIES - YELLOWTAIL - 52w - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl								
	Commercial								
CATCHES/LANDINGS	Landings								
MONTH	Oct			Nov			Dec		
COUNTRY	U.S.A.								
TONNAGE	0-215								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
26	1	-	1	-	-	-	1	-	1
27	1	-	1	2	-	2	-	-	-
28	3	-	3	4	-	4	-	-	-
29	10	3	12	10	1	11	1	-	1
30	24	10	34	14	4	19	5	3	8
31	66	35	101	33	14	47	20	5	25
32	90	66	155	65	44	109	57	15	72
33	80	97	177	72	77	148	73	26	99
34	68	103	170	60	84	144	82	77	159
35	43	70	114	52	86	138	62	75	136
36	24	55	79	37	66	103	45	71	115
37	14	38	52	27	50	77	39	60	99
38	6	27	34	19	48	67	28	56	84
39	3	24	27	8	26	33	16	39	55
40	1	19	20	5	31	37	14	38	52
41	1	8	9	4	16	20	7	22	29
42	-	6	6	3	13	16	2	20	23
43	-	2	2	-	11	11	2	13	15
44	-	2	2	-	6	6	1	10	11
45	-	1	1	-	3	3	-	5	5
46	-	-	-	-	2	2	-	2	2
47	-	1	1	-	-	-	-	4	4
48	-	-	-	-	1	1	-	2	2
49	-	-	-	-	-	-	-	2	2
50	-	-	-	-	-	-	-	1	1
51	-	-	-	-	-	-	-	-	-
52	-	-	-	-	-	-	-	1	1
Total ‰	434	566	1000	417	583	1000	454	546	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	10	-	-	18	-	-	10
Number of Fish Measured	672	878	1550	986	1378	2364	560	673	1233
Mean Length (cm)	33.0	34.7	34.0	33.9	35.9	35.1	34.8	37.1	36.1
Mean Weight (kg)	0.30	0.36	0.34	0.33	0.40	0.37	0.35	0.45	0.40
Total Weight Landed (tons)	437	680	1117	642	1102	1744	558	859	1417
Estimated Number Landed ¹	14507	18954	33462	19659	27475	47135	15917	19129	35045
Mesh(mm) or Hook(no.) Size	-	-	114	-	-	114	-	-	114
Range of Depths (fm)	-	-	18-32	-	-	15-36	-	-	15-36

¹ Numbers in 100's

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		Jan-Mar						Apr-June					
COUNTRY		U.S.A.											
TONNAGE		0-215											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1967	2	1	2	3	39.0	35.0	36.3	2	2	4	33.0	41.0	37.0
66	3	134	257	391	35.4	36.9	36.4	180	339	519	35.5	38.0	37.1
65	4	172	251	423	38.0	41.7	40.2	177	200	377	38.0	41.2	39.7
64	5	55	63	118	40.4	44.0	42.3	34	33	67	38.8	43.5	41.1
63	6	18	20	38	41.8	45.9	43.9	11	10	21	40.3	45.0	42.6
62	7	6	14	20	43.0	45.1	44.5	4	4	8	40.9	49.1	45.0
61	8	2	4	6	43.5	48.0	46.5	1	2	3	46.0	50.0	48.7
60	9	-	1	1	-	48.0	48.0	1	-	1	44.0	-	44.0
Total ‰		388	612	1000	37.7	40.2	39.2	410	590	1000	37.4	39.8	38.8
Serial Numbers		-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples		-	-	19	-	-	-	-	-	22	-	-	-
Number of Fish Aged		355	389	744	-	-	-	325	340	665	-	-	-
Mean Age		3.95	3.85	3.89	-	-	-	3.73	3.58	3.64	-	-	-
Mean Weight (kg)		0.49	0.64	0.58	-	-	-	0.46	0.72	0.61	-	-	-
Total Weight Landed (tons)		737	1505	2242	-	-	-	1232	2836	4068	-	-	-
Estimated Number Landed ¹		1482	2363	3845	-	-	-	2743	3979	6722	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	114	-	-	-	-	-	114	-	-	-
Range of Depths (fm)		-	-	28.45	-	-	-	-	-	22-55	-	-	-

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		July-Sep						Oct-Dec					
COUNTRY		U.S.A.											
TONNAGE		0-215											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1967	2	44	54	98	33.6	35.0	34.4	69	184	253	34.6	36.3	35.8
66	3	109	416	525	35.6	37.8	37.3	111	261	372	36.4	39.1	38.3
65	4	81	168	249	37.8	41.3	40.2	73	149	222	39.1	42.6	41.4
64	5	34	51	85	38.5	43.6	41.6	24	75	99	40.6	45.1	44.0
63	6	9	14	23	41.2	46.1	44.2	7	25	32	41.9	46.8	45.7
62	7	2	10	12	40.3	47.0	45.9	3	13	16	45.1	47.0	46.6
61	8	-	3	3	-	49.5	49.5	-	5	5	-	49.6	49.6
60	9	-	4	4	-	50.4	50.4	-	1	1	-	49.0	49.0
59	10	-	1	1	-	56.0	56.0	-	-	-	-	-	-
Total ‰		279	721	1000	36.4	39.3	38.5	287	713	1000	37.2	40.3	39.4
Serial Numbers		-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples		-	-	21	-	-	-	-	-	22	-	-	-
Number of Fish Aged		376	420	796	-	-	-	360	412	772	-	-	-
Mean Age		3.41	3.49	3.48	-	-	-	3.29	3.39	3.36	-	-	-
Mean Weight (kg)		0.42	0.57	0.52	-	-	-	0.42	0.59	0.54	-	-	-
Total Weight Landed (tons)		1349	4359	5708	-	-	-	862	3050	3912	-	-	-
Estimated Number Landed ¹		3098	7642	10740	-	-	-	2048	5226	7274	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	114	-	-	-	-	-	114	-	-	-
Range of Depths (fm)		-	-	46-53	-	-	-	-	-	25-55	-	-	-

¹ Numbers in 1000's

TABLE 97

AGE FREQUENCIES -- YELLOWTAIL - 5Zw - 1969

(FREQUENCIES IN ‰)

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		Jan-Mar						Apr-June					
COUNTRY		U.S.A.											
TONNAGE		0-215											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1967	2	1	-	1	33.0	-	33.0	6	4	10	32.7	34.0	33.2
66	3	92	33	125	35.6	36.5	35.8	115	238	353	34.6	35.8	35.4
65	4	251	257	508	37.4	40.4	38.9	159	329	488	35.9	38.4	37.6
64	5	122	192	314	39.1	41.4	40.5	33	86	119	37.9	41.3	40.4
63	6	16	28	44	39.2	43.3	41.8	4	15	19	38.7	45.4	44.0
62	7	-	7	7	-	44.3	44.3	-	7	7	-	46.7	46.7
61	8	-	1	1	-	48.0	48.0	-	2	2	-	47.6	47.6
60	9	-	-	-	-	-	-	-	1	1	-	52.0	52.0
59	10	-	-	-	-	-	-	-	1	1	-	51.0	51.0
Total ‰		482	518	1000	34.5	36.6	35.6	317	683	1000	35.7	38.2	37.3
Serial Numbers		-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples		-	-	17	-	-	-	-	-	18	-	-	-
Number of Fish Aged		302	432	734	-	-	-	319	369	688	-	-	-
Mean Age		3.98	4.45	4.22	-	-	-	3.71	3.88	3.82	-	-	-
Mean Weight (kg)		0.37	0.46	0.42	-	-	-	0.40	0.63	0.56	-	-	-
Total Weight Landed (tons)		1495	2809	4304	-	-	-	426	1340	1766	-	-	-
Estimated Number Landed ¹		3982	6019	10001	-	-	-	1026	2080	3106	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	114	-	-	-	-	-	114	-	-	-
Range of Depths (fm)		-	-	5-40	-	-	-	-	-	16-40	-	-	-

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		July-Sep						Oct-Dec					
COUNTRY		U.S.A.											
TONNAGE		0-215											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1967	2	16	9	25	32.3	34.0	32.9	93	145	238	32.3	33.7	33.1
66	3	117	275	392	33.1	34.3	33.9	207	249	456	34.1	35.5	34.9
65	4	149	332	481	34.1	36.2	35.5	81	144	225	35.4	38.0	37.1
64	5	21	70	91	35.8	39.1	38.3	29	37	66	37.0	39.9	38.6
63	6	1	5	6	37.1	39.6	39.2	1	10	11	41.0	40.7	40.8
62	7	-	1	1	-	44.0	44.0	1	1	2	37.0	47.3	42.1
61	8	1	-	1	41.7	-	41.7	1	-	1	39.0	-	39.0
60	9	-	2	2	-	45.0	45.0	-	1	1	-	49.0	49.0
59	10	-	1	1	-	50.0	50.0	-	-	-	-	-	-
Total ‰		305	695	1000	33.7	35.9	35.2	413	587	1000	34.2	36.1	35.3
Serial Numbers		-	-	-	-	-	-	-	-	24	-	-	-
Number of Samples		-	-	22	-	-	-	-	-	24	-	-	-
Number of Fish Aged		383	472	855	-	-	-	276	404	680	-	-	-
Mean Age		3.60	3.72	3.68	-	-	-	3.13	3.20	3.17	-	-	-
Mean Weight (kg)		0.34	0.43	0.40	-	-	-	0.33	0.41	0.38	-	-	-
Total Weight Landed (tons)		652	1890	2542	-	-	-	1514	2603	4117	-	-	-
Estimated Number Landed ¹		1928	4456	6384	-	-	-	4521	6356	10877	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	114	-	-	-	-	-	114	-	-	-
Range of Depths (fm)		-	-	20-53	-	-	-	-	-	18-43	-	-	-

¹ Numbers in 1000's

TABLE 98

AGE FREQUENCIES - YELLOWTAIL - 52e - 1970

(FREQUENCIES IN ‰)

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		Jan-Mar						Apr-June					
COUNTRY		U.S.A.											
TONNAGE		0-215											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1968	2	3	-	3	30.4	-	30.4	9	1	10	32.3	31.0	32.1
67	3	132	202	334	34.9	36.6	35.9	175	263	438	34.6	36.7	35.9
66	4	145	212	357	37.0	40.4	39.0	186	164	350	36.8	39.8	38.2
65	5	76	112	188	39.8	43.8	42.2	84	67	151	38.8	43.4	40.8
64	6	26	49	75	40.0	45.4	43.5	18	14	32	39.9	44.9	42.1
63	7	5	17	22	42.5	47.8	46.6	6	6	12	41.9	46.4	44.2
62	8	4	4	8	42.3	47.6	44.9	-	4	4	-	48.2	48.2
61	9	1	6	7	46.0	50.0	49.4	-	1	1	-	46.3	46.3
60	10	1	5	6	45.0	50.4	49.5	-	1	1	-	49.5	49.5
59	11	-	-	-	-	-	-	-	1	1	-	52.0	52.0
Total ‰		393	607	1000	37.1	40.6	39.2	478	522	1000	36.4	39.1	37.8
Serial Numbers		-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples		-	-	26	-	-	-	-	-	26	-	-	-
Number of Fish Aged		613	641	1254	-	-	-	644	636	1280	-	-	-
Mean Age		4.04	4.21	4.15	-	-	-	3.87	3.79	3.82	-	-	-
Mean Weight (kg)		0.46	0.79	0.66	-	-	-	0.44	0.69	0.56	-	-	-
Total Weight Landed (tons)		910	2360	3270	-	-	-	1573	2754	4327	-	-	-
Estimated Number Landed		1966	2995	4961	-	-	-	3620	4091	7711	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	114	-	-	-	-	-	114	-	-	-
Range of Depths (fm)		-	-	22-40	-	-	-	-	-	25-52	-	-	-

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		July-Sep						Oct-Dec					
COUNTRY		U.S.A.											
TONNAGE		0-215											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1969	1	-	-	-	-	-	-	2	-	2	30.7	-	30.7
68	2	111	66	177	33.2	35.0	33.9	153	216	369	33.6	34.9	34.3
67	3	130	289	419	35.1	37.2	36.5	129	263	392	35.9	38.6	37.7
66	4	94	163	257	37.5	39.8	38.9	67	96	163	37.6	41.4	39.8
65	5	29	60	89	39.2	43.6	42.1	14	36	50	39.5	44.4	43.0
64	6	11	27	38	40.5	44.7	43.5	3	12	15	41.6	46.4	45.5
63	7	4	7	11	41.1	47.3	45.0	-	6	6	-	48.9	48.9
62	8	2	3	5	42.7	48.0	45.9	-	2	2	-	48.8	48.8
61	9	1	2	3	45.0	50.2	48.5	-	1	1	-	49.0	49.0
60	10	-	1	1	-	48.0	48.0	-	-	-	-	-	-
Total ‰		382	618	1000	35.7	38.9	37.7	368	632	1000	35.4	38.3	37.2
Serial Numbers		-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples		-	-	30	-	-	-	-	-	27	-	-	-
Number of Fish Aged		718	743	1461	-	-	-	636	672	1308	-	-	-
Mean Age		3.27	3.59	3.47	-	-	-	2.87	3.04	2.97	-	-	-
Mean Weight (kg)		0.40	0.56	0.50	-	-	-	0.37	0.51	0.46	-	-	-
Total Weight Landed (tons)		1464	3330	4794	-	-	-	975	2137	3112	-	-	-
Estimated Number Landed		3637	6003	9640	-	-	-	2669	4227	6896	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	114	-	-	-	-	-	114	-	-	-
Range of Depths (fm)		-	-	22-120	-	-	-	-	-	22-42	-	-	-

¹ Numbers in 1000's

TABLE 99

AGE FREQUENCIES - YELLOWTAIL - 52w - 1970

(FREQUENCIES IN ‰)

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		Jan-Mar						Apr-June					
COUNTRY		U.S.A.											
TONNAGE		0-215											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		88	92	Tot.	88	92	Tot.	88	92	Tot.	88	92	Tot.
1968	2	13	1	14	30.7	32.0	30.8	32	2	34	32.8	32.9	32.8
67	3	64	76	140	33.4	35.4	34.5	60	88	148	34.5	35.3	35.0
66	4	240	219	459	35.3	37.6	36.4	196	331	527	34.3	36.1	35.4
65	5	142	140	282	37.0	40.1	38.5	86	124	210	35.4	38.4	37.1
64	6	45	46	91	38.5	41.8	40.2	28	38	66	36.7	40.8	39.1
63	7	8	3	11	41.1	41.8	41.3	4	8	12	38.7	43.5	41.9
62	8	-	1	1	-	45.0	45.0	-	2	2	-	46.3	46.3
61	9	2	-	2	41.0	-	41.0	-	-	-	-	-	-
60	10	-	-	-	-	-	-	-	1	1	-	46.0	46.0
Total ‰		514	486	1000	34.9	37.2	36.0	406	594	1000	34.7	36.9	36.0
Serial Numbers		-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples		-	-	25	-	-	-	-	-	26	-	-	-
Number of Fish Aged		612	605	1217	-	-	-	643	649	1292	-	-	-
Mean Age		4.33	4.33	4.33	-	-	-	4.07	4.24	4.17	-	-	-
Mean Weight (kg)		0.37	0.58	0.48	-	-	-	0.37	0.56	0.48	-	-	-
Total Weight Landed (tons)		1680	2651	4331	-	-	-	735	1625	2360	-	-	-
Estimated Number Landed ¹		4433	4603	9036	-	-	-	1998	2909	4907	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	114	-	-	-	-	-	114	-	-	-
Range of Depths (fm)		-	-	11-42	-	-	-	-	-	11-43	-	-	-

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		July-Sep						Oct-Dec					
COUNTRY		U.S.A.											
TONNAGE		0-215											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		88	92	Tot.	88	92	Tot.	88	92	Tot.	88	92	Tot.
1969	1	-	-	-	-	-	-	1	-	1	28.5	-	28.5
68	2	75	77	152	32.4	32.8	32.6	67	111	178	32.9	34.6	34.0
67	3	83	173	256	32.3	34.2	33.6	183	234	417	33.4	35.2	34.4
66	4	151	295	446	34.0	35.9	35.3	149	178	327	34.5	36.6	35.6
65	5	40	89	129	35.2	37.8	37.0	29	32	61	36.0	39.6	37.9
64	6	5	11	16	36.7	40.4	39.1	5	8	13	38.5	42.0	40.5
63	7	1	-	1	-	39.0	39.0	1	1	2	41.0	41.0	41.0
62	8	-	-	-	-	-	-	-	1	1	-	42.3	42.3
Total ‰		355	645	1000	33.4	35.5	34.8	435	565	1000	33.9	35.9	35.0
Serial Numbers		-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples		-	-	31	-	-	-	-	-	39	-	-	-
Number of Fish Aged		746	765	1511	-	-	-	975	976	1951	-	-	-
Mean Age		3.48	3.67	3.60	-	-	-	3.32	3.29	3.30	-	-	-
Mean Weight (kg)		0.33	0.42	0.39	-	-	-	0.33	0.40	0.37	-	-	-
Total Weight Landed (tons)		854	1995	2849	-	-	-	1637	2641	4278	-	-	-
Estimated Number Landed ¹		2554	4700	7254	-	-	-	5008	6557	11564	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	114	-	-	-	-	-	114	-	-	-
Range of Depths (fm)		-	-	15-45	-	-	-	-	-	14-36	-	-	-

¹ Numbers in 1000's

TABLE 100

LENGTH FREQUENCIES - POLLOCK - 4W, 4X - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

DIVISION	4W			4X		
	Otter Trawl (Side)			Otter Trawl (Stern)		
GEAR	Commercial Landings					
CATCHES/LANDINGS						
MONTH	Jan	Apr	Jan	Jan	June	Oct
COUNTRY	Canada (M)					
TONNAGE	151-500			501-900		
39	-	12	-	-	-	-
42	-	84	-	-	-	-
45	-	175	-	-	7	-
48	2	102	-	-	21	-
51	5	66	12	20	14	-
54	1	96	12	10	14	-
57	7	72	17	13	69	-
60	21	36	33	20	131	38
63	44	36	71	43	90	68
66	70	60	54	57	138	91
69	173	48	91	120	152	182
72	173	54	75	103	69	227
75	136	24	141	127	145	98
78	72	30	100	120	48	167
81	115	24	100	110	69	53
84	81	18	108	117	21	53
87	34	24	54	67	7	15
90	31	30	41	33	7	-
93	16	6	41	20	-	8
96	8	-	25	13	-	-
99	8	-	12	7	-	-
102	-	-	4	-	-	-
105	1	-	8	-	-	-
Total ‰	998	997	999	1000	1002	1000
Serial Numbers	151,152	156	155	153	157	162
Number of Samples	2	1	1	1	1	1
Number of Fish Measured	559	166	241	300	145	132
Mean Length (cm)	75.8	59.1	77.6	76.9	68.9	73.6
Mean Weight (kg)	5.78	3.08	6.34	6.08	4.35	5.21
Total Weight Landed (ton ^q)	142	183	440	114	486	496
Estimated Number Landed	24	59	69	18	111	95
Mesh(mm) or Hook(no.) Size	114	114	114	114	114	114
Range of Depths (fm)	30-90	40-80	-	-	45-85	65-85

¹ Numbers in 1000's

TABLE 100
(continued)

LENGTH FREQUENCIES - POLLOCK - 4X - 1970

(FREQUENCIES IN ‰ - 3 CM GROUPS)

GEAR	Otter Trawl (Side)				
	Commercial				
CATCHES/LANDINGS	Landings				
MONTH	Jan	June	July	Sep	July
COUNTRY	Canada (M)				
TONNAGE	151-500				51-150
33	-	-	-	-	17
36	-	-	-	-	17
39	-	-	-	-	-
42	-	-	14	11	-
45	-	-	-	27	-
48	13	14	36	27	-
51	42	21	43	76	-
54	26	14	65	135	-
57	33	106	86	97	-
60	42	177	209	227	-
63	49	184	180	211	-
66	62	170	86	97	86
69	85	163	115	59	34
72	78	64	58	16	155
75	105	21	50	5	172
78	105	28	22	11	224
81	105	7	14	-	207
84	85	21	14	-	34
87	62	7	7	-	17
90	36	-	-	-	17
93	23	-	-	-	17
96	29	-	-	-	-
99	13	-	-	-	-
102	3	-	-	-	-
105	3	-	-	-	-
Total ‰	999	997	999	999	997
Serial Numbers	154	158	159	161	160
Number of Samples	1	1	1	1	1
Number of Fish Measured	306	141	139	185	58
Mean Length (cm)	75.5	65.7	64.0	60.5	76.2
Mean Weight (kg)	5.92	3.71	3.49	2.88	5.89
Total Weight Landed (tons)	80	455	166	700	225
Estimated Number Landed	13	122	47	243	38
Mesh(mm) or Hook(no.) Size	114	114	114	114	114
Range of Depths (fms)	-	55-80	70	65-90	80

¹ Numbers in 1000's

TABLE 101 LENGTH FREQUENCIES - RED HAKE - 5ze, 5zw - 1970 (FREQUENCIES IN ‰ - 2 CM GROUPS)

DIVISION	5ze			5zw			
	Otter Trawl						
GEAR	Commercial						
CATCHES/LANDINGS	Catches						
MONTH	Apr	May	Sep	Mar	May	June	Nov
COUNTRY	U. S. S. R.						
TONNAGE	BMRT, SRTM						
18	-	-	-	-	-	-	6
20	-	-	14	-	-	-	65
22	-	1	64	-	-	-	151
24	15	6	166	-	12	-	166
26	15	13	307	2	18	-	159
28	95	67	180	38	84	55	64
30	120	227	99	130	189	155	66
32	110	261	70	305	224	265	115
34	135	190	49	248	184	285	95
36	155	86	26	130	108	130	65
38	150	78	15	72	101	75	34
40	105	38	5	40	38	10	9
42	60	23	3	12	28	25	1
44	35	10	2	7	12	-	1
46	5	-	-	13	2	-	-
48	-	-	-	3	-	-	1
50	-	-	-	-	-	-	1
Total ‰	1000	1000	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	2	7	40	6	5	2	5
Number of Fish Measured	200	700	7966	600	499	200	965
Mean Length (cm)	35.4	33.5	28.0	34.3	33.7	33.8	28.2
Mean Weight (kg)	0.33	0.31	0.16	0.29	0.29	0.25	0.17
Total Weight Landed (tons)	193	137	490	422	303	1597	159
Estimated Number Landed	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	40	40	40	40	40	40	40
Range of Depths (fm)	65-140	45-60	25-35	60-145	25-75	25-30	35-40

TABLE 101
(continued)

LENGTH FREQUENCIES - RED HAKE - 5Zw - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl							
	Commercial							
CATCHES/LANDINGS	Landings (Industrial)							
MONTH	May	June	July	Aug	Sep	Oct	Nov	
COUNTRY	U.S.A.							
TONNAGE	0-215							
11	5	-	-	-	-	-	-	-
12	3	3	-	-	-	-	-	-
13	17	12	1	-	-	-	-	-
14	26	6	1	-	-	-	-	-
15	36	15	4	4	-	-	-	3
16	59	13	18	4	1	-	-	-
17	67	13	25	8	2	1	2	2
18	32	23	55	8	7	5	5	5
19	14	18	55	4	14	10	9	9
20	29	13	64	15	27	26	9	9
21	6	11	72	24	24	50	6	6
22	6	8	70	30	54	60	22	22
23	8	7	54	40	56	87	56	56
24	3	6	41	57	118	94	70	70
25	14	8	33	56	154	130	85	85
26	3	5	27	37	157	108	107	107
27	9	16	16	31	120	89	128	128
28	12	27	23	24	60	73	137	137
29	8	18	31	32	53	64	105	105
30	11	28	32	50	32	30	71	71
31	30	46	40	58	23	22	38	38
32	54	72	63	54	20	24	27	27
33	46	85	46	91	10	25	26	26
34	78	99	62	73	13	14	23	23
35	85	99	41	72	4	27	18	18
36	92	75	34	50	2	17	7	7
37	47	59	37	38	10	9	10	10
38	39	45	14	30	3	5	6	6
39	53	52	10	21	10	4	3	3
40	42	37	8	27	9	5	4	4
41	35	29	7	27	6	5	5	5
42	11	12	4	7	5	6	6	6
43	6	7	4	9	3	2	2	2
44	11	15	3	2	3	1	4	4
45	3	7	2	4	-	3	4	4
46	-	6	2	10	-	4	2	2
47	-	5	1	1	-	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-	-	-	-
Number of Samples	3	20	13	5	17	8	25	25
Number of Fish Measured	258	993	1293	462	1336	684	1208	1208
Mean Length (cm)	29.6	32.5	27.0	31.1	26.4	26.7	27.9	27.9
Mean Weight (kg)	0.24	0.27	0.15	0.21	0.11	0.14	0.23	0.23
Total Weight Landed (tons)	367	1003	578	526	463	298	428	428
Estimated Number Landed ¹	15147	36739	37836	25538	41650	22115	18437	18437
Mesh(mm) or Hook(no.) Size	64	64	64	64	64	64	64	64
Range of Depths (fm)	14-30	15-31	18-31	17-32	23-35	20-34	15-31	15-31

¹ Numbers in 100's

TABLE 102 LENGTH FREQUENCIES - RED HAKE - 6A - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl			
	Commercial			
CATCHES/LANDINGS	Landings (Industrial)			
MONTH	July	Aug	Sep	Nov
COUNTRY	U.S.A.			
TONNAGE	0-215			
15	-	-	10	-
16	-	-	20	-
17	-	-	40	12
18	-	-	10	12
19	30	14	25	12
20	-	55	38	-
21	271	97	27	21
22	-	97	44	59
23	105	83	144	59
24	105	144	110	112
25	83	76	128	112
26	135	62	137	59
27	188	41	61	50
28	-	62	35	77
29	-	21	11	113
30	-	21	40	101
31	83	41	20	21
32	-	62	-	-
33	-	-	10	12
34	-	41	10	12
35	-	62	10	27
36	-	-	10	27
37	-	-	10	-
38	-	-	-	-
39	-	21	10	-
40	-	-	10	12
41	-	-	-	21
42	-	-	-	21
43	-	-	10	21
44	-	-	10	9
47	-	-	10	9
48	-	-	-	9
Total ‰	1000	1000	1000	1000
Serial Numbers	-	-	-	-
Number of Samples	1	3	5	2
Number of Fish Measured	37	50	321	90
Mean Length (cm)	24.4	27.1	25.5	28.3
Mean Weight (kg)	0.24	0.15	0.15	0.37
Total Weight Landed (tons)	12	28	90	27
Estimated Number Landed	487	1803	6120	721
Mesh(mm) or Hook(no.) Size	64	64	64	64
Range of Depths (fm)	15-21	18-24	20-30	19-32

TABLE 102
(continued)

LENGTH FREQUENCIES - RED HAKE - 6A - 1970

(FREQUENCIES IN ‰ - 2 CM GROUPS)

GEAR	Otter Trawl
CATCHES/LANDINGS	Commercial
MONTH	Mar
COUNTRY	U.S.S.R.
TONNAGE	BMRT, SRIM
26	12
28	70
30	228
32	303
34	241
36	75
38	39
40	20
42	7
44	3
46	2
Total ‰	1000
Serial Numbers	-
Number of Samples	7
Number of Fish Measured	690
Mean Length (cm)	33.0
Mean Weight (kg)	0.23
Total Weight Landed (tons)	46
Estimated Number Landed	-
Mesh(mm) or Hook(no.) Size	40
Range of Depths (fm)	130-170

TABLE 103

AGE FREQUENCIES - RED HAKE - 5Ze, 5Zw - 1970

(FREQUENCIES IN ‰)

DIVISION		5Ze											
GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		Catches											
MONTH		2nd Quarter (Apr-June)											
COUNTRY		U.S.S.R.											
TONNAGE		BMRT, SRTM											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		88	99	Tot.	88	99	Tot.	88	99	Tot.	88	99	Tot.
1968	2	7	12	19	26.5	26.8	26.7						
67	3	496	215	711	32.0	32.9	32.3						
66	4	59	179	238	36.5	39.1	38.4						
65	5	3	27	30	42.5	41.8	41.9						
64	6	-	2	2	-	46.5	46.5						
Total ‰		565	435	1000	32.5	35.9	34.0						
Serial Numbers		-	-	-	-	-	-						
Number of Samples		-	-	6	-	-	-						
Number of Fish Aged		331	254	585	-	-	-						
Mean Age		3.10	3.52	3.29	-	-	-						
Mean Weight (kg)		-	-	0.26	-	-	-						
Total Weight Landed (tons)		-	-	510	-	-	-						
Estimated Number Landed		-	-	-	-	-	-						
Mesh(mm) or Hook(no.) Size		-	-	40	-	-	-						
Range of Depths (fm)		-	-	50-140	-	-	-						

DIVISION		5Zw											
GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		Catches											
MONTH		1st Quarter (Mar)						2nd Quarter (May)					
COUNTRY		U.S.S.R.											
TONNAGE		BMRT, SRTM											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		88	99	Tot.	88	99	Tot.	88	99	Tot.	88	99	Tot.
1968	2	5	-	5	28.5	-	28.5	13	9	22	25.4	26.5	25.7
67	3	569	218	787	31.9	33.6	32.4	441	221	662	32.1	32.9	32.3
66	4	71	137	208	36.6	37.9	37.5	55	233	288	36.2	38.1	37.7
65	5	-	-	-	-	-	-	-	20	20	-	42.5	42.5
64	6	-	-	-	-	-	-	-	-	-	-	-	-
63	7	-	-	-	-	-	-	-	8	8	-	46.0	46.0
Total ‰		645	355	1000	32.4	35.3	33.5	509	491	1000	32.2	35.9	34.0
Serial Numbers		-	-	-	-	-	-	-	-	-	-	-	-
Number of Samples		-	-	2	-	-	-	-	-	4	-	-	-
Number of Fish Aged		127	70	197	-	-	-	201	191	392	-	-	-
Mean Age		3.10	3.39	3.20	-	-	-	3.08	3.59	3.33	-	-	-
Mean Weight (kg)		-	-	0.26	-	-	-	-	-	0.25	-	-	-
Total Weight Landed (tons)		-	-	1741	-	-	-	-	-	2238	-	-	-
Estimated Number Landed		-	-	-	-	-	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size		-	-	40	-	-	-	-	-	40	-	-	-
Range of Depths (fm)		-	-	60-145	-	-	-	-	-	25-75	-	-	-

TABLE 104

AGE FREQUENCIES - RED HAKE - 6A - 1970

(FREQUENCIES IN ‰)

GEAR		Otter Trawl											
CATCHES/LANDINGS		Commercial											
MONTH		1st Quarter (Mar)											
COUNTRY		U.S.S.R.											
TONNAGE		BMRT. SRTM											
YEAR-CLASS	AGE	‰ Frequency			Mean Length			‰ Frequency			Mean Length		
		66	67	Tot.	66	67	Tot.	66	67	Tot.	66	67	Tot.
1968	2	7	10	17	28.5	26.5	27.3						
67	3	560	220	780	32.1	33.0	32.3						
66	4	67	126	193	36.4	38.3	37.6						
65	5	3	7	10	44.5	45.7	45.1						
Total ‰		637	363	1000	32.6	34.9	33.4						
Serial Numbers		-	-	-	-	-	-						
Number of Samples		-	-	3	-	-	-						
Number of Fish Aged		191	109	300	-	-	-						
Mean Age		3.10	3.36	3.20	-	-	-						
Mean Weight (kg)		-	-	0.08	-	-	-						
Total Weight Landed (tons)		-	-	641	-	-	-						
Estimated Number Landed		-	-	-	-	-	-						
Mesh(mm) or Hook(no.) Size		-	-	40	-	-	-						
Range of Depths (fm)		-	-	130-165	-	-	-						

TABLE 105

AGE/LENGTH KEYS - RED HAKE - 1970

(Available on request from the Secretariat)

In accordance with a recommendation made by the Research and Statistics Committee at their Annual Meeting in 1962 and reaffirmed in 1965, Age/Length Keys and Frequencies will not be published but are to be deposited in the Secretariat and made available to Member Countries on request. The following Age/Length Keys and Frequencies for red hake are now on file in the Secretariat:

GEAR: Otter Trawl

U.S.S.R.

DIVISION	QUARTER	
5Ze	II.	April, June
5Zw	I.	March
	II.	May-June
6	I.	March

TABLE 106 LENGTH FREQUENCIES - WHITE HAKE - 3P - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Stern)
CATCHES/LANDINGS	Commercial
MONTH	June
COUNTRY	Japan
TONNAGE	>1800
43	10
44	10
45	-
46	10
47	10
48	-
49	20
50	30
51	50
52	30
53	79
54	40
55	59
56	69
57	99
58	79
59	40
60	79
61	50
62	69
63	89
64	79
Total ‰	1001
Serial Numbers	-
Number of Samples	1
Number of Fish Measured	101
Mean Length (cm)	57.6
Mean Weight (kg)	-
Total Weight Landed (tons)	-
Estimated Number Landed	-
Mesh(mm) or Hook(no.) Size	-
Range of Depths (fm)	110

TABLE 107 LENGTH FREQUENCIES - ARGENTINE - 3P, 4V, 4W - 1970 (FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	3P	4V	4W		
GEAR	Otter Trawl (Stern)				
CATCHES/LANDINGS	Commercial				
MONTH	June	June	Jan	Feb	June
COUNTRY	Japan				
TONNAGE	>1800				
24	-	-	-	-	10
25	-	20	-	-	88
26	-	10	20	-	108
27	-	20	40	20	177
28	5	29	80	30	147
29	26	29	130	140	88
30	67	29	320	160	137
31	124	69	270	220	88
32	165	98	120	180	59
33	254	98	20	100	78
34	180	78	-	50	10
35	108	108	-	70	10
36	46	88	-	10	-
37	15	69	-	10	-
38	10	78	-	10	-
39	-	49	-	-	-
40	-	69	-	-	-
41	-	49	-	-	-
42	-	10	-	-	-
Total ‰	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-
Number of Samples	2	1	1	1	1
Number of Fish Measured	194	102	100	100	102
Mean Length (cm)	33.4	35.1	30.6	31.9	29.2
Mean Weight (kg)	-	-	-	-	-
Total Weight Landed (tons)	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	-	-	-	-
Range of Depths (fm)	115-140	105	120	135	120

TABLE 108

LENGTH FREQUENCIES - ARGENTINE - 4X - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Stern)			
	Exploratory & Commercial			
CATCHES/LANDINGS	Catches			
MONTH	Jan	June	July	Aug
COUNTRY	Japan			
TONNAGE	>1800			
22	-	-	5	-
23	-	1	9	-
24	-	3	18	-
25	-	17	40	-
26	10	58	69	-
27	50	121	140	20
28	79	161	160	30
29	208	146	136	79
30	237	118	91	119
31	227	72	78	139
32	89	71	64	168
33	40	55	61	178
34	40	54	51	158
35	10	35	45	79
36	10	27	20	20
37	-	25	8	10
38	-	18	3	-
39	-	10	2	-
40	-	4	-	-
41	-	2	-	-
42	-	2	-	-
Total ‰	1000	1000	1000	1000
Serial Numbers	-	-	-	-
Number of Samples	1	23	23	1
Number of Fish Measured	101	2225	2112	101
Mean Length (cm)	31.7	31.8	31.0	33.5
Mean Weight (kg)	-	-	-	-
Total Weight Landed (tons)	-	-	-	-
Estimated Number Landed	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	-	-	-
Range of Depths (fm)	95	115-175	110-165	105

TABLE 108 LENGTH FREQUENCIES - ARGENTINE - 4X - 1970
(continued)

(FREQUENCIES IN ‰ - 1 CM GROUPS)

GEAR	Otter Trawl (Stern)								
	Exploratory and Commercial								
CATCHES/LANDINGS	Catches								
MONTH	Jan			Feb			Mar		
COUNTRY	Japan								
TONNAGE	>1800								
SEX	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
24	-	1	1	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-
26	2	1	3	-	-	-	7	-	7
27	8	2	10	-	-	-	7	-	7
28	37	3	40	10	10	20	44	3	47
29	94	13	107	148	20	168	83	37	120
30	146	48	194	148	70	218	101	43	144
31	125	74	199	96	170	266	68	106	174
32	74	67	141	48	120	168	31	152	183
33	52	43	95	10	40	50	19	115	134
34	37	28	65	20	30	50	-	67	67
35	18	19	37	-	10	10	-	33	33
36	12	18	30	-	10	10	4	16	20
37	9	16	25	-	10	10	3	20	23
38	7	22	29	10	10	20	4	13	17
39	2	9	11	10	-	10	-	7	7
40	-	7	7	-	-	-	-	7	7
41	1	3	4	-	-	-	-	7	7
42	-	1	1	-	-	-	-	-	-
43	-	1	1	-	-	-	-	3	3
Total ‰	624	376	1000	500	500	1000	371	629	1000
Serial Numbers	-	-	-	-	-	-	-	-	-
Number of Samples	-	-	12	-	-	1	-	-	2
Number of Fish Measured	746	451	1197	51	50	101	109	190	299
Mean Length (cm)	31.6	33.5	32.3	31.1	32.2	31.7	30.6	33.3	32.3
Mean Weight (kg)	-	-	-	-	-	-	-	-	-
Total Weight Landed (tons)	-	-	-	-	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	-	-	-	-	-	-	-	-
Range of Depths (fm)	-	-	110-120	-	-	115	-	-	120-125

TABLE 109

LENGTH FREQUENCIES - ARGENTINE - 5Y, 5Ze - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	5Y		5Ze		
GEAR	Otter Trawl (Stern)				
	Exploratory & Commercial				
CATCHES/LANDINGS	Catches				
MONTH	June		Jan		June
COUNTRY	Japan				
TONNAGE	>1800				
SEX	Mixed	♂♂	♀♀	Total	Mixed
26	-	10	-	10	10
27	-	20	-	20	31
28	-	130	10	140	163
29	-	230	10	240	204
30	10	280	40	320	215
31	77	100	40	140	194
32	231	70	-	70	117
33	278	-	40	40	46
34	221	10	-	10	10
35	135	10	-	10	-
36	48	-	-	-	5
37	-	-	-	-	5
Total ‰	1000	860	140	1000	1000
Serial Numbers	-	-	-	-	-
Number of Samples	1	-	-	1	2
Number of Fish Measured	104	86	14	100	196
Mean Length (cm)	33.7	30.2	31.4	30.4	30.5
Mean Weight (kg)	-	-	-	-	-
Total Weight Landed (tons)	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	-	-	-	-
Range of Depths (fm)	110	-	-	115	130-135

TABLE 110 LENGTH FREQUENCIES - BUTTERFISH - 5Ze, 5Zw - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	5Ze		5Zw	
GEAR	Otter Trawl (Stern)			
	Exploratory and Commercial		Catches	
CATCHES/LANDINGS				
MONTH	Feb	Nov	Feb	
COUNTRY	Japan			
TONNAGE	>1800			
10	-	10	-	
11	-	30	-	
12	3	70	-	
13	8	80	17	
14	42	80	53	
15	71	170	90	
16	76	170	110	
17	249	120	273	
18	318	130	300	
19	149	90	130	
20	63	50	17	
21	16	-	7	
22	5	-	3	
Total ‰	1000	1000	1000	
Serial Numbers	-	-	-	
Number of Samples	4	1	3	
Number of Fish Measured	382	100	300	
Mean Length (cm)	18.0	16.3	17.6	
Mean Weight (kg)	-	-	-	
Total Weight Landed (tons)	-	-	-	
Estimated Number Landed	-	-	-	
Mesh(mm) or Hook(no.) Size	-	-	-	
Range of Depths (fm)	75-110	140	85-95	

TABLE 111

AGE/LENGTH KEY - HERRING - 52e - 1967 (3rd QUARTER)

COUNTRY		Non-Member A											
CATCHES/LANDINGS													
COMMERCIAL/RESEARCH		Seeprobe											
STRUCTURES USED IN AGE DETERMINATION													
Year- Class Length Age Group (cm)	64	63	62	61	60	59	58	57	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
	3	4	5	6	7	8	9	10		Months Within Quarter			
										July	Aug	Sep	
23	-	1	-	-	-	-	-	-	1	1	-	-	
24	2	-	-	-	-	-	-	-	2	6	-	-	
25	-	-	-	-	-	-	-	-	-	-	-	6	
26	-	3	-	-	-	-	-	-	3	6	-	6	
27	1	8	-	1	-	-	-	-	10	25	-	13	
28	-	22	5	1	-	-	-	-	28	61	-	58	
29	-	20	6	9	6	-	-	-	41	115	-	103	
30	1	11	12	28	27	-	-	-	79	205	-	318	
31	1	5	19	59	37	1	2	-	124	343	-	316	
32	-	1	4	27	22	4	2	2	62	183	-	142	
33	-	-	1	6	3	3	4	-	17	49	-	26	
34	-	-	-	-	1	1	-	-	2	2	-	12	
35	-	-	2	1	-	-	-	-	3	4	-	-	
Total No. of Ages Read	5	71	49	132	96	9	8	2	372	1000	-	1000	
Serial Numbers	No. of Age Samples 4												
	Number of fish measured each month									953	-	155	
	Mean length of fish (cm) each month									30.7	-	31.0	
	Mean weight of fish (kg) each month									-	-	-	
	Total weight caught or landed (tons) each month									-	-	-	
	Estimated number caught or landed (whole numbers) each month									-	-	-	
	Range of depths (m) each month									-	-	-	
	Mesh size (mm)									-	-	-	

TABLE 111
(continued)

AGE/LENGTH KEY - HERRING - 5Ze - 1967 (4th QUARTER)

COUNTRY		Non-Member A											
CATCHES/LANDINGS													
COMMERCIAL/RESEARCH		Landprobe											
STRUCTURES USED IN AGE DETERMINATION													
Year- Class Length Age Group(cm)	64	63	62	61	60	59	58	57	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
	3	4	5	6	7	8	9	10		Months	Within	Quarter	
										Oct	Nov	Dec	
23	-	-	-	-	-	-	-	-	-	4	-	-	
24	-	-	-	-	-	-	-	-	-	2	-	-	
25	-	-	-	-	-	-	-	-	-	5	-	-	
26	-	2	-	-	1	-	-	-	3	20	-	-	
27	-	4	2	1	-	-	1	-	8	53	-	-	
28	1	9	5	4	1	-	-	-	20	115	-	-	
29	-	3	6	9	7	1	-	-	26	180	-	-	
30	-	3	5	19	28	1	-	-	56	301	-	-	
31	-	2	3	13	25	1	1	-	45	195	-	-	
32	-	-	-	6	11	7	1	-	25	98	-	-	
33	-	-	-	-	-	1	5	-	6	20	-	-	
34	-	-	-	-	-	-	-	1	1	7	-	-	
Total No. of Ages Read	1	23	21	52	73	11	8	1	190				
Serial Numbers	No. of Age Samples 2												
	Number of fish measured each month									451	-	-	
	Mean length of fish (cm) each month									30.3	-	-	
	Mean weight of fish (kg) each month									-	-	-	
	Total weight caught or landed (tons) each month									-	-	-	
	Estimated number caught or landed (whole numbers) each month									-	-	-	
	Range of depths (m) each month									-	-	-	
	Mesh size (mm)									-	-	-	

TABLE 112

AGE/LENGTH KEY - HERRING - 4Vs¹ - 1968 (4th QUARTER)

COUNTRY		Non-Member A												
CATCHES/LANDINGS														
COMMERCIAL/RESEARCH		Seeprobe												
STRUCTURES USED IN AGE DETERMINATION														
Year-Class	Age	63	62	61	60	59	58	57	56	55	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
Length Group (cm)		5	6	7	8	9	10	11	12	13		Months Within Quarter	Oct	Nov	Dec
29		1	-	-	-	-	-	-	-	-	1	-	-	4
30		2	2	-	1	-	-	-	-	-	5	-	-	32
31		2	3	2	-	-	-	-	-	-	7	-	-	36
32		-	3	4	6	2	-	-	-	-	15	-	-	83
33		1	3	1	14	10	1	1	1	-	32	-	-	171
34		-	-	6	16	12	5	4	-	-	43	-	-	272
35		-	-	1	4	12	8	13	1	3	42	-	-	268
36		-	-	1	2	2	3	6	-	1	15	-	-	83
37		-	-	-	-	1	1	-	-	-	2	-	-	32
38		-	-	-	-	-	-	-	-	2	2	-	-	14
39		-	-	-	-	-	-	-	-	1	1	-	-	5
Total No. of Ages Read		6	11	15	43	39	18	24	2	7	165	1000		
Serial Numbers		No. of Age Samples 2												
		Number of fish measured each month										-	-	217
		Mean length of fish (cm) each month										-	-	34.5
		Mean weight of fish (kg) each month										-	-	-
		Total weight caught or landed (tons) each month										-	-	-
		Estimated number caught or landed (whole numbers) each month										-	-	-
		Range of depths (m) each month										-	-	-
		Mesh size (mm)										-	-	-

¹ Banquereau Bank

TABLE 113

AGE/LENGTH KEY - HERRING - 5Z¹ - 1968 (1st QUARTER)

COUNTRY		Non-Member A												
CATCHES/LANDINGS														
COMMERCIAL/RESEARCH		Landprobe												
STRUCTURES USED IN AGE DETERMINATION														
Year- Class Length Group (cm)	Age	65	64	63	62	61	60	59	58	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		3	4	5	6	7	8	9	10		Months Within Quarter			
											Jan	Feb	Mar	
18		-	-	-	-	-	-	-	-	-	-	-	-	1
19		-	-	-	-	-	-	-	-	-	-	-	-	1
20		-	-	-	-	-	-	-	-	-	-	-	-	4
21		-	1	-	-	-	-	-	-	-	-	-	-	7
22		3	-	-	-	-	-	-	-	-	-	-	-	8
23		1	1	1	-	-	-	-	-	-	-	-	-	14
24		-	5	2	-	-	-	-	-	-	-	-	-	18
25		-	8	-	-	-	-	-	-	-	-	-	-	26
26		1	11	8	4	-	-	-	-	-	-	-	-	60
27		-	10	19	5	-	-	-	-	-	-	-	-	105
28		-	3	26	11	3	4	-	-	-	-	-	-	124
29		-	-	17	23	10	20	-	-	-	-	-	-	153
30		-	1	5	9	33	52	3	-	-	-	-	-	236
31		-	-	-	1	20	36	8	4	-	-	-	-	192
32		-	-	-	-	-	6	5	-	-	-	-	-	46
33		-	-	-	-	-	-	-	-	-	-	-	-	4
34		-	-	-	-	-	-	-	-	-	-	-	-	-
35		-	-	-	-	-	-	1	-	-	-	-	-	1
Total No. of Ages Read		5	40	78	53	66	118	17	4	381	1000			
Serial Numbers		No. of Age Samples								4				
		Number of fish measured each month								-	-	1160		
		Mean length of fish (cm) each month								-	-	29.2		
		Mean weight of fish (kg) each month								-	-	-		
		Total weight caught or landed (tons) each month								-	-	-		
		Estimated number caught or landed (whole numbers) each month								-	-	-		
		Range of depths (m) each month								-	-	-		
		Mesh size (mm)								-	-	-		

¹ USA Shelf

TABLE 114

LENGTH FREQUENCIES - HERRING - 4Vs¹ - 1969

(FREQUENCIES IN ‰ - 1 CM GROUPS)

MONTH	Apr
COUNTRY	Non-Member A
CATCHES/LANDINGS	
COMMERCIAL/RESEARCH	Seeprobe
27	5
28	16
29	35
30	56
31	76
32	105
33	145
34	178
35	197
36	110
37	46
38	20
39	11
40	2
Total ‰	1002
Serial Numbers	-
Number of Samples	4
Number of Fish Measured	1344
Mean Length (cm)	-
Mean Weight (kg)	-
Total Weight Landed (tons)	-
Estimated Number Landed	-
Mesh(mm) or Hook(no.) Size	-
Range of Depths (fm)	-

¹ Banquereau Bank

TABLE 115

AGE/LENGTH KEY - HERRING - 52e¹ - 1969 (3rd QUARTER)

COUNTRY		Non-Member A												
CATCHES/LANDINGS														
COMMERCIAL/RESEARCH										Seeprobe				
STRUCTURES USED IN AGE DETERMINATION														
Year- Class	Length Age Group(cm)	65	64	63	62	61	60	59	58	Total No. of Ages Read	LENGTH COMPOSITION PER MILE			
		4	5	6	7	8	9	10	11		Months Within Quarter	July	Aug	Sep
26		-	-	-	-	-	-	-	-	-	-	-	2	-
27		-	-	-	-	-	-	-	-	-	-	-	9	-
28		3	-	-	-	-	-	-	-	3	-	-	43	-
29		3	1	-	-	-	-	-	-	4	-	-	66	-
30		3	4	2	-	-	-	-	-	9	-	-	61	-
31		2	2	11	1	1	1	-	-	18	-	-	113	-
32		-	-	12	11	10	4	-	-	37	-	-	240	-
33		-	-	1	8	22	18	1	-	50	-	-	333	-
34		-	-	-	-	9	9	3	2	23	-	-	124	-
35		-	-	-	-	1	-	1	-	2	-	-	7	-
36		-	-	-	-	-	-	-	-	-	-	-	4	-
37		-	-	-	-	-	-	-	-	-	-	-	1	-
Total No. of Ages Read		11	7	26	20	43	32	5	2	146	- 1003 -			
Serial Numbers		No. of Age Samples								3				
		Number of fish measured each month								-	947	-		
		Mean length of fish (cm) each month								-	32.8	-		
		Mean weight of fish (kg) each month								-	-	-		
		Total weight caught or landed (tons) each month								-	-	-		
		Estimated number caught or landed (whole numbers) each month								-	-	-		
		Range of depths (m) each month								-	-	-		
		Mesh size (mm)								-	-	-		

¹ Southeast edge of Georges Bank

TABLE 115
(continued)

AGE/LENGTH KEY - HERRING - 5Ze¹ - 1969 (3rd QUARTER)

COUNTRY		Non-Member A													
CATCHES/LANDINGS															
COMMERCIAL/RESEARCH		Seeprobe													
STRUCTURES USED IN AGE DETERMINATION															
Year- Class Length Group(cm)	Age	66	65	64	63	62	61	60	59	58	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		3	4	5	6	7	8	9	10	11		Months Within Quarter			
												July	Aug	Sep	
24		1	-	-	-	-	-	-	-	-	1	-	5	3	
25		-	-	-	-	-	-	-	-	-	-	-	3	5	
26		-	1	-	-	-	-	-	-	-	1	-	18	6	
27		-	12	1	1	-	-	-	-	-	14	-	40	27	
28		-	31	7	1	-	-	-	-	-	39	-	98	75	
29		-	45	37	3	-	-	-	-	-	85	-	160	147	
30		-	14	36	18	3	-	-	-	-	71	-	144	131	
31		-	3	21	45	7	6	4	-	-	86	-	167	184	
32		-	-	9	33	25	31	21	-	-	119	-	174	222	
33		-	-	2	10	16	29	23	1	-	81	-	140	141	
34		-	-	-	2	4	14	10	2	2	34	-	43	49	
35		-	-	-	-	1	2	1	-	1	5	-	7	8	
36		-	-	-	-	-	-	-	1	-	1	-	1	2	
Total No. of Ages Read		1	106	113	113	56	82	59	4	3	537				
Serial Numbers		No. of Age Samples										11			
		Number of fish measured each month										-	2315	1649	
		Mean length of fish (cm) each month										-	31.5	31.5	
		Mean weight of fish (kg) each month										-	-	-	
		Total weight caught or landed (tons) each month										-	-	-	
		Estimated number caught or landed (whole numbers) each month										-	-	-	
		Range of depths (m) each month										-	-	-	
		Mesh size (mm)										-	-	-	

¹ NNW edge of Georges Bank

TABLE 115
(continued)

AGE/LENGTH KEY - HERRING - 52e¹ - 1969 (3rd QUARTER)

COUNTRY		Non-Member A														
CATCHES/LANDINGS																
COMMERCIAL/RESEARCH														Seeprobe		
STRUCTURES USED IN AGE DETERMINATION																
Year- Class Length Age Group(cm)	67	66	65	64	63	62	61	60	59	58	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE				
	2	3	4	5	6	7	8	9	10	11		Months Within Quarter				
												July	Aug	Sep		
22	1	-	-	-	-	-	-	-	-	-	1	-	-	2		
23	-	5	-	-	-	-	-	-	-	-	5	-	-	14		
24	-	19	-	-	-	-	-	-	-	-	19	-	-	53		
25	-	36	2	-	-	-	-	-	-	-	38	-	-	94		
26	-	41	10	-	-	-	-	-	-	-	51	-	-	82		
27	-	11	19	1	1	-	-	-	-	-	32	-	-	69		
28	-	2	48	6	-	-	-	-	-	-	56	-	-	91		
29	-	-	41	20	4	-	-	-	-	-	65	-	-	98		
30	-	-	17	26	13	-	-	-	-	-	56	-	-	91		
31	-	-	3	23	26	17	1	2	-	-	72	-	-	103		
32	-	-	-	6	27	15	18	13	1	-	80	-	-	123		
33	-	-	-	2	10	14	33	33	2	1	95	-	-	113		
34	-	-	-	-	-	6	13	31	3	2	55	-	-	54		
35	-	-	-	-	-	-	3	6	1	1	11	-	-	12		
36	-	-	-	-	-	-	-	4	-	1	5	-	-	2		
Total No. of Ages Read	1	114	140	84	81	52	68	89	7	5	641					
Serial Numbers	No. of Age Samples										13					
	Number of fish measured each month										-	-	-	4885		
	Mean length of fish (cm) each month										-	-	-	30.5		
	Mean weight of fish (kg) each month										-	-	-	-		
	Total weight caught or landed (tons) each month										-	-	-	-		
	Estimated number caught or landed (whole numbers) each month										-	-	-	-		
	Range of depths (m) each month										-	-	-	-		
	Mesh size (mm)										-	-	-	-		

¹ Cape Cod area

TABLE 115
(continued)

AGE/LENGTH KEY - HERRING - 5ze¹ - 1969 (4th QUARTER)

COUNTRY		Non-Member A										
CATCHES/LANDINGS												
COMMERCIAL/RESEARCH		Seeprobe										
STRUCTURES USED IN AGE DETERMINATION												
Year-Class	66	65	64	63	62	61	60	59	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
Length Age Group (cm)	3	4	5	6	7	8	9	10		Months Within Quarter		
										Oct	Nov	Dec
24	1	-	-	-	-	-	-	-	1	-	-	-
25	2	1	-	-	-	-	-	-	3	19	-	-
26	8	1	-	-	-	-	-	-	9	62	-	-
27	4	11	1	-	-	-	-	-	16	118	-	-
28	1	13	1	1	-	-	-	-	16	137	-	-
29	-	16	3	-	-	-	-	-	19	121	-	-
30	-	2	14	3	-	1	-	-	20	118	-	-
31	-	-	3	8	2	2	1	-	16	135	-	-
32	-	-	-	1	7	6	7	-	21	160	-	-
33	-	-	-	2	4	9	6	-	21	97	-	-
34	-	-	-	-	-	2	2	2	6	27	-	-
35	-	-	-	-	-	-	2	-	2	5	-	-
Total No. of Ages Read	16	44	22	15	13	20	18	2	150	999	-	-
Serial Numbers	No. of Age Samples								3			
	Number of fish measured each month								577	-	-	-
	Mean length of fish (cm) each month								30.5	-	-	-
	Mean weight of fish (kg) each month								-	-	-	-
	Total weight caught or landed (tons) each month								-	-	-	-
	Estimated number caught or landed (whole numbers) each month								-	-	-	-
	Range of depths (m) each month								-	-	-	-
	Mesh size (mm)								-	-	-	-

¹ Cape Cod area

TABLE 116 LENGTH FREQUENCIES - HERRING - 1F - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

MONTH	Aug			
COUNTRY	Denmark (G)			
CATCHES/LANDINGS	Catches			
COMMERCIAL/RESEARCH	Research			
28	2	-	-	2
29	9	-	-	7
30	26	-	6	16
31	60	19	6	50
32	146	83	18	132
33	260	176	84	216
34	234	361	222	277
35	195	222	287	188
36	58	120	263	77
37	11	-	54	24
38	-	-	18	2
39	-	-	12	2
40	-	-	12	1
41	-	9	6	1
42	-	9	12	3
43	-	-	-	1
Total ‰	1001	999	1000	999
Serial Numbers	-	-	-	-
Number of Samples	4	2	-	-
Number of Fish Measured	466	108	167	1737
Mean Length (cm)	33.5	34.2	35.2	33.7
Mean Weight (kg)	-	-	-	0.33
Total Weight Landed (tons)	-	-	-	-
Estimated Number Landed	-	-	-	-
Mesh(mm) or Hook(no.) Size	30	35	40	-
Range of Depths (fm)	0-11	0-11	0-11	0-11

TABLE 117 LENGTH FREQUENCIES - HERRING - 3Pn¹ - 1970 (FREQUENCIES IN ‰ - 1 CM GROUPS)

MONTH	Jan	Feb	Mar	Apr	Nov	Dec
COUNTRY	Canada (N) ²					
CATCHES/LANDINGS	Catches					
COMMERCIAL/RESEARCH	Commercial					
20	-	-	-	2	-	-
21	-	1	2	5	-	-
22	-	1	10	13	-	-
23	-	-	7	11	-	-
24	1	1	4	-	-	-
25	2	-	5	7	-	-
26	4	-	6	-	-	1
27	-	1	8	6	-	3
28	2	3	6	9	-	3
29	4	4	6	7	-	1
30	17	24	16	24	-	4
31	67	68	72	60	-	19
32	136	134	159	131	27	56
33	207	226	228	196	115	160
34	271	274	244	216	165	228
35	197	196	160	198	333	303
36	66	54	47	78	250	168
37	20	8	16	31	85	41
38	6	4	3	4	20	10
39	-	1	1	2	3	3
40	-	-	-	-	2	-
Total ‰	1000	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-	-
Number of Samples	-	-	-	-	6	16
Number of Fish Measured	822	1600	3679	550	400	1450
Mean Length (cm)	33.6	33.5	33.0	33.2	35.1	34.4
Mean Weight (kg)	0.28	0.30	0.27	0.28	0.32	0.29
Total Weight Landed (tons)	28339	25369	27231	3317	580	3757
Estimated Number Landed	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	S ²	S ²	S ²	S ²	S ²	S ²
Range of Depths (fm)	-	-	-	-	-	-

¹ Inshore, Cape Ray to Burgeo, Newfoundland

² Purse seine

TABLE 118 LENGTH FREQUENCIES - HERRING - 3Ps - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

MONTH	Jan ¹	Dec ¹	Jan ²	Feb ²	Mar ²
COUNTRY	Canada (N)				
CATCHES/LANDINGS	Catches				
COMMERCIAL/RESEARCH	Commercial				
19	-	-	10	-	6
20	-	-	-	4	33
21	-	-	-	36	87
22	-	-	-	56	267
23	-	-	-	12	293
24	-	-	-	4	107
25	2	-	-	4	40
26	2	-	10	40	7
27	4	-	10	60	7
28	4	1	70	208	-
29	7	2	170	232	13
30	29	-	80	76	7
31	45	5	10	36	-
32	131	41	90	52	-
33	189	133	210	68	20
34	258	259	120	60	20
35	227	295	110	24	47
36	64	191	50	4	13
37	33	61	30	12	33
38	5	9	20	12	-
39	-	3	10	-	-
Total ‰	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-
Number of Samples	-	8	1	-	-
Number of Fish Measured	550	750	100	250	150
Mean Length (cm)	33.7	34.7	32.1	29.0	24.4
Mean Weight (kg)	0.28	0.29	0.27	0.20	0.14
Total Weight Landed (tons)	16510	10468	4381	1341	2180
Estimated Number Landed	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	S ³	S ³	S ³	S ³	S ³
Range of Depths (fm)	-	-	-	-	-

¹ Inshore, Burgeo to Pass Island, Newfoundland

² Fortune Bay, Newfoundland

³ Purse Seine

TABLE 119 LENGTH FREQUENCIES - HERRING - 4R, 4T - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	4R				4T		
	Apr ¹	Dec ²	Nov ³	Dec ³	Apr	Nov	Dec
COUNTRY	Canada (N)						
CATCHES/LANDINGS	Catches						
COMMERCIAL/RESEARCH	Commercial						
21	5	-	-	-	-	-	-
22	-	10	20	100	2	-	-
23	15	40	-	140	1	-	-
24	10	60	20	120	1	-	-
25	15	20	20	120	1	-	-
26	40	30	140	40	2	10	-
27	100	30	180	100	4	10	-
28	130	60	60	180	22	5	30
29	155	60	80	40	73	65	20
30	135	90	60	20	119	145	90
31	85	120	80	-	128	100	170
32	90	150	80	60	160	255	140
33	95	160	100	20	234	155	190
34	80	50	20	-	163	130	150
35	35	30	80	20	67	70	150
36	5	40	40	-	19	50	50
37	-	40	20	-	2	5	10
38	5	10	-	40	1	-	-
39	-	-	-	-	1	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-	-	-
Number of Samples	1	1	1	1	-	1	1
Number of Fish Measured	200	100	50	50	1048	200	100
Mean Length (cm)	30.0	30.6	29.5	26.6	32.1	32.1	32.7
Mean Weight (kg)	0.22	0.26	0.24	0.17	0.27	0.27	0.28
Total Weight Landed (tons)	-	481	406	284	10509	452	219
Estimated Number Landed	-	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	0 ⁴	S ⁴	S ⁴	S ⁴	M ⁴	M ⁴	M ⁴
Range of Depths (fm)	-	-	-	-	-	-	-

¹ St. George's Bay, Newfoundland

² Hawke's Bay, Newfoundland

³ Bonne Bay, Newfoundland

⁴ O = Otter Trawl, S = Purse Seine, M = Midwater Trawl

TABLE 120

LENGTH FREQUENCIES - HERRING - 4Vn, 4W - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	4Vn		4W		
	Jan	May	Jan	Feb	June
COUNTRY	Canada (N)	France (SP)	Canada (N)		
CATCHES/LANDINGS	Catches		Catches		
COMMERCIAL/RESEARCH	Commercial	Research	Commercial		Exploratory
20	-	-	10	-	-
21	12	-	-	30	-
22	16	-	20	20	-
23	8	-	40	120	-
24	32	-	50	130	40
25	40	-	70	330	140
26	72	-	120	250	170
27	100	-	90	110	160
28	92	4	60	10	130
29	100	4	80	-	130
30	148	7	140	-	120
31	112	15	120	-	70
32	84	24	80	-	30
33	68	24	20	-	-
34	76	99	50	-	-
35	28	243	50	-	10
36	4	245	-	-	-
37	4	189	-	-	-
38	-	101	-	-	-
39	-	26	-	-	-
40	4	13	-	-	-
41	-	4	-	-	-
Total ‰	1000	998	1000	1000	1000
Serial Numbers	-	-	-	-	-
Number of Samples	2	8	1	1	1
Number of Fish Measured	250	534	100	100	100
Mean Length (cm)	29.5	35.8	28.7	25.0	28.2
Mean Weight (kg)	0.20	0.35	0.18	0.12	-
Total Weight Landed (tons)	1436	-	207	1624	-
Estimated Number Landed	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	M ¹	100	M ¹	M ¹	-
Range of Depths (fm)	-	80	-	-	131

¹ Midwater Trawl

TABLE 121 LENGTH FREQUENCIES - HERRING - 4X, 5Y(SOUTH) - 1970 (FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	4X	5Y(SOUTH)				
MONTH	May	June	July	Aug	Oct	Nov
COUNTRY	U.S.S.R.	Germany (FR)			Canada (M)	
CATCHES/LANDINGS	Catches	Catches				
COMMERCIAL/RESEARCH	Commercial	Research			Commercial	
19	-	15	-	-	-	-
20	-	7	-	-	13	-
21	-	4	-	-	86	2
22	-	25	-	-	265	20
23	-	19	1	-	242	28
24	-	49	8	-	109	28
25	-	63	14	1	124	33
26	14	72	26	1	79	83
27	66	108	64	4	36	114
28	160	134	97	35	16	157
29	182	145	150	117	8	160
30	194	114	102	161	6	146
31	142	87	127	185	-	98
32	110	90	179	187	11	85
33	40	51	133	192	4	37
34	60	12	70	94	1	2
35	22	4	24	22	-	4
36	10	1	5	-	-	2
37	-	-	-	1	-	-
Total ‰	1000	1000	1000	1000	1000	999
Serial Numbers	-	-	-	-	-	-
Number of Samples	3	1	2	2	2	1
Number of Fish Measured	500	668	913	949	800	458
Mean Length (cm)	30.1	28.8	31.1	31.9	24.0	29.0
Mean Weight (kg)	0.25	-	-	-	-	-
Total Weight Landed (tons)	256	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	40	-	-	-	S ¹	S ¹
Range of Depths (fm)	75-80	-	-	-	-	-

¹ Purse Seine

TABLE 122 LENGTH FREQUENCIES - HERRING - 52e, 52w - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

DIVISION	52e				52w
	Jan	June	June	July	Dec
MONTH	Japan		Germany (FR)		Japan
COUNTRY	Japan		Germany (FR)		Japan
CATCHES/LANDINGS	Catches		Catches		Catches
COMMERCIAL/RESEARCH	Exploratory		Research		Commercial
14	51	-	-	-	-
15	30	-	-	-	-
16	61	-	-	-	-
17	30	-	-	+	-
18	71	-	6	+	-
19	101	-	18	4	-
20	61	-	13	18	-
21	81	-	7	28	5
22	121	-	26	32	5
23	211	-	75	63	5
24	91	10	106	97	35
25	61	-	130	113	45
26	30	10	198	142	125
27	-	42	218	180	195
28	-	31	127	150	195
29	-	115	56	80	110
30	-	271	11	38	75
31	-	250	4	20	65
32	-	167	3	19	70
33	-	73	2	13	30
34	-	21	-	3	10
35	-	10	-	+	20
36	-	-	-	+	-
37	-	-	-	-	10
Total ‰	1000	1000	1000	1000	1000
Serial Numbers	-	-	-	-	-
Number of Samples	1	1	2	20	2
Number of Fish Measured	99	96	945	8014	200
Mean Length (cm)	21.3	31.0	26.3	26.8	28.9
Mean Weight (kg)	-	-	-	-	-
Total Weight Landed (tons)	-	-	-	-	-
Estimated Number Landed	-	-	-	-	-
Mesh(mm) or Hook(no.) Size	-	-	-	-	-
Range of Depths (fm)	42	248	-	-	80

TABLE 123

LENGTH FREQUENCIES - HERRING - 6 - 1970

(FREQUENCIES IN ‰ - 1 CM GROUPS)

MONTH	Mar
COUNTRY	U.S.S.R.
CATCHES/LANDINGS	Catches
COMMERCIAL/RESEARCH	Commercial
21	+
22	1
23	2
24	9
25	22
26	66
27	117
28	105
29	81
30	78
31	138
32	163
33	139
34	59
35	20
36	+
Total ‰	1000
Serial Numbers	-
Number of Samples	10
Number of Fish Measured	2100
Mean Length (cm)	30.1
Mean Weight (kg)	0.21
Total Weight Landed (tons)	1415
Estimated Number Landed	-
Mesh(mm) or Hook(no.) Size	40
Range of Depths (fm)	30-45

TABLE 124

AGE/LENGTH KEY - HERRING - 3Ps - 1970 (4th QUARTER)

COUNTRY		France (SF)														Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Catches															Months Within Quarter		
COMMERCIAL/RESEARCH		Research														Total No. of Ages Read	Months Within Quarter		
STRUCTURES USED IN AGE DETERMINATION		Otoliths															Total No. of Ages Read	Months Within Quarter	
Year-Class	Age	69	68	67	66	65	64	63	62	61	60	59	58	57	56	Total No. of Ages Read		Months Within Quarter	
Length Group (cm)		1	2	3	4	5	6	7	8	9	10	11	12	13	14			Oct ¹	Nov	Dec
11		8	-	-	-	-	-	-	-	-	-	-	-	-	-	8	167	-	-
12		24	-	-	-	-	-	-	-	-	-	-	-	-	-	24	500	-	-
13		14	-	-	-	-	-	-	-	-	-	-	-	-	-	14	292	-	-
14		2	-	-	-	-	-	-	-	-	-	-	-	-	-	2	42	-	-
--																			
31		-	-	-	-	-	-	1	1	-	-	-	-	-	-	2	-	-	2
32		-	-	-	-	-	-	2	4	1	-	-	-	-	-	7	-	-	15
33		-	-	-	-	-	-	-	6	4	1	-	-	-	-	11	-	-	48
34		-	-	-	-	-	-	-	2	5	5	3	-	-	-	15	-	-	171
35		-	-	-	-	-	-	-	-	9	11	5	4	-	-	29	-	-	301
36		-	-	-	-	-	-	-	-	-	5	17	-	1	-	23	-	-	303
37		-	-	-	-	-	-	-	-	-	1	2	4	2	1	10	-	-	134
38		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
39		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Total No. of Ages Read		48	-	-	-	-	-	3	13	19	23	27	8	3	1	145	1001	-	999
Serial Numbers		No. of Age Samples														2			
		Number of fish measured each month														48	-	521	
		Mean length of fish (cm) each month														12.2	-	35.3	
		Mean weight of fish (kg) each month														-	-	-	
		Total weight caught or landed (tons) each month														-	-	-	
		Estimated number caught or landed (whole numbers) each month														-	-	-	
		Range of depths (m) each month														-	-	240	
		Mesh size (mm)														-	-	404	

¹ Miquelon
² Stretch mesh

TABLE 125

AGE/LENGTH KEY - HERRING - 4T - 1970 (2nd QUARTER)

COUNTRY		France (SP)									
CATCHES/LANDINGS		Catches									
COMMERCIAL/RESEARCH		Research									
STRUCTURES USED IN AGE DETERMINATION		Otoliths									
Year- Class Length Group (cm)	Age	65	64	63	62	61	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		5	6	7	8	9		Months Within Quarter			
								Apr	May	June	
24		-	-	-	-	-	-	2	-	-	
25		-	-	-	-	-	-	-	-	-	
26		3	-	-	-	-	3	32	-	-	
27		5	2	-	-	-	7	68	-	-	
28		7	5	-	-	-	12	133	-	-	
29		10	12	3	-	-	25	255	-	-	
30		5	15	2	-	-	22	226	-	-	
31		-	3	13	1	-	17	172	-	-	
32		-	-	5	3	-	8	77	-	-	
33		-	-	1	1	-	2	20	-	-	
34		-	-	-	-	2	2	14	-	-	
35		-	-	-	-	1	1	2	-	-	
								1001	-	-	
Total No. of Ages Read		30	37	24	5	3	99				
Serial Numbers		No. of Age Samples									
		Number of fish measured each month					443	-	-	-	
		Mean length of fish (cm) each month					29.6	-	-	-	
		Mean weight of fish (kg) each month					0.20	-	-	-	
		Total weight caught or landed (tons) each month					-	-	-	-	
		Estimated number caught or landed (whole numbers) each month					-	-	-	-	
		Range of depths (m) each month					140	-	-	-	
		Mesh size (mm)					100 ¹	-	-	-	

¹ Stretch mesh

TABLE 125
(continued)

AGE/LENGTH KEY - HERRING - 4T - 1970 (2nd QUARTER)

COUNTRY		Canada (M)											Total	LENGTH COMPOSITION		
CATCHES/LANDINGS		Catches											No. of	PER MILLE		
COMMERCIAL/RESEARCH		Commercial											Ages	Months Within Quarter		
STRUCTURES USED IN AGE DETERMINATION		Otoliths											Read			
Year- Class Length Group (cm)	Age	67	66	65	64	63	62	61	60	59	58	Total	PER MILLE			
		3	4	5	6	7	8	9	10	11	12		Months	Apr	May	June
25		9	-	-	-	-	-	-	-	-	9	4	8	-		
26		8	9	1	-	-	-	-	-	-	18	18	11	-		
27		4	56	14	2	-	-	-	-	-	76	64	61	9		
28		-	88	102	3	-	-	-	-	-	193	216	121	23		
29		1	23	197	18	-	-	-	-	-	239	274	163	46		
30		-	6	85	55	4	1	1	-	-	152	190	96	60		
31		-	-	14	34	44	16	17	5	1	131	80	144	74		
32		-	-	1	6	16	48	64	3	4	143	64	203	161		
33		-	-	-	-	2	7	88	10	1	108	54	143	300		
34		-	-	-	-	-	-	14	6	-	20	22	40	212		
35		-	-	-	1	-	-	-	1	-	2	14	6	74		
36		-	-	-	-	-	-	-	2	-	2	-	2	41		
37		-	-	-	-	-	-	-	-	-	-	-	-	-		
38		-	-	-	-	-	-	-	-	-	-	-	1	-		
Total No. of Ages Read		22	182	414	119	66	72	184	27	6	1	1093				
Serial Numbers		No. of Age Samples											7			
	Number of fish measured each month												500	900	217	
	Mean length of fish (cm) each month												30.0	31.0	33.1	
	Mean weight of fish (kg) each month												-	-	-	
	Total weight caught or landed (tons) each month												-	-	-	
	Estimated number caught or landed (whole numbers) each month												-	-	-	
	Range of depths (m) each month												-	-	-	
	Mesh size (mm) 1												S, N	W, N	N	

1 S = Purse Seine, N = Gillnet, W = Weir

TABLE 125
(continued)

AGE/LENGTH KEY - HERRING - 4T - 1970 (3rd QUARTER)

COUNTRY		Canada (M)												Total	LENGTH COMPOSITION		
CATCHES/LANDINGS		Catches												No. of	PER MILLE		
COMMERCIAL/RESEARCH		Commercial												Ages	Months Within Quarter		
STRUCTURES USED IN AGE DETERMINATION		Otoliths												Read			
Year- Length Group (cm)	Class Age	67	66	65	64	63	62	61	60	59	58	57	56	Total	PER MILLE		
		3	4	5	6	7	8	9	10	11	12	13	14		July	Aug	Sep
23		-	1	-	-	-	-	-	-	-	-	-	1	3	-	-	
24		2	-	-	-	-	-	-	-	-	-	-	2	12	-	-	
25		2	2	-	-	-	-	-	-	-	-	-	4	9	4	-	
26		2	11	-	-	-	-	-	-	-	-	-	13	19	6	1	
27		-	27	-	-	-	-	-	-	-	-	-	27	34	23	5	
28		-	49	7	-	1	-	-	-	-	-	-	57	34	47	16	
29		-	44	39	-	-	-	-	-	-	-	-	83	80	56	24	
30		-	10	97	35	-	-	1	-	-	-	-	143	127	91	52	
31		-	-	94	99	13	-	1	-	-	-	-	207	124	112	107	
32		-	-	12	165	96	8	4	1	-	-	-	286	151	146	169	
33		-	-	1	75	176	54	11	4	-	-	-	321	170	162	188	
34		-	-	-	-	67	198	30	4	1	-	-	300	148	154	198	
35		-	-	-	-	9	105	65	22	2	-	-	203	65	128	160	
36		-	-	-	-	-	6	26	19	7	1	-	59	15	56	66	
37		-	-	-	-	-	-	2	3	9	1	-	15	9	12	13	
38		-	-	-	-	-	-	-	-	-	1	1	4	-	3	1	
39		-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
Total No. of Ages Read		6	144	250	374	362	371	140	53	19	3	1	2	1725	1000	1000	1000
Serial Numbers		No. of Age Samples											19				
		Number of fish measured each month											324	2738	1335		
		Mean length of fish (cm) each month											32.0	32.8	33.5		
		Mean weight of fish (kg) each month											-	-	-		
		Total weight caught or landed (tons) each month											-	-	-		
		Estimated number caught or landed (whole numbers) each month											-	-	-		
		Range of depths (m) each month											-	-	-		
Mesh size (mm) ¹													N.S	S.N	T.S.N		

¹ N = Gillnet, S = Purse Seine, T = Trawl

TABLE 125
(continued)

AGE/LENGTH KEY - HERRING - 4T - 1970 (4th QUARTER)

COUNTRY		Canada (M)											Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Catches												Months	Within	Quarter
COMMERCIAL/RESEARCH		Commercial														
STRUCTURES USED IN AGE DETERMINATION		Otoliths														
Year- Class Length Group(cm)	Age	67	66	65	64	63	62	61	60	59	58	57	Total No. of Ages Read	PER MILLE		
		3	4	5	6	7	8	9	10	11	12	13		Oct	Nov	Dec
21		1	-	-	-	-	-	-	-	-	-	1	2	-	-	
22		2	-	-	-	-	-	-	-	-	-	2	4	-	-	
23		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24		4	5	-	-	-	-	-	-	-	-	9	18	-	-	
25		4	68	-	-	-	-	-	-	-	-	72	144	-	-	
26		1	76	-	-	-	-	-	-	-	-	77	156	-	-	
27		-	37	2	-	-	-	-	-	-	-	39	78	-	-	
28		-	30	6	-	-	-	-	-	-	-	36	72	-	-	
29		-	22	12	-	-	-	-	-	-	-	34	68	-	-	
30		-	1	28	5	-	-	-	-	-	-	34	68	-	-	
31		-	-	19	33	1	-	-	-	-	-	53	106	-	-	
32		-	-	3	22	25	2	-	-	-	-	52	104	-	-	
33		-	-	-	4	12	10	-	-	-	-	26	52	-	-	
34		-	-	-	-	7	30	2	-	-	-	39	78	-	-	
35		-	-	-	-	-	7	6	4	1	-	18	36	-	-	
36		-	-	-	-	-	-	3	1	1	-	5	10	-	-	
37		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
38		-	-	-	-	-	-	-	-	-	1	1	2	-	-	
Total No. of Ages Read		12	239	70	64	45	49	11	5	2	-	1	498			
Serial Numbers		No. of Age Samples											4			
		Number of fish measured each month											499	-	-	
		Mean length of fish (cm) each month											29.5	-	-	
		Mean weight of fish (kg) each month											-	-	-	
		Total weight caught or landed (tons) each month											-	-	-	
		Estimated number caught or landed (whole numbers) each month											-	-	-	
		Range of depths (m) each month											-	-	-	
		Mesh size (mm) ¹											5	-	-	

¹ S = Purse Seine

TABLE 126

AGE/LENGTH KEY - HERRING - 4Vn - 1970 (2nd QUARTER)

COUNTRY		Canada (M)												Total	LENGTH COMPOSITION		
CATCHES/LANDINGS		Catches												No. of	PER MILE		
COMMERCIAL/RESEARCH		Commercial												Ages	Months Within Quarter		
STRUCTURES USED IN AGE DETERMINATION		Otoliths												Read			
Year- Length Group (cm)	Class Age	68	67	66	65	64	63	62	61	60	59	58	Total	PER MILE			
		2	3	4	5	6	7	8	9	10	11	12		Apr	May	Jun	
21		1	-	-	-	-	-	-	-	-	-	1	-	10	-		
22		1	2	-	-	-	-	-	-	-	-	3	-	30	-		
23		-	1	-	-	-	-	-	-	-	-	1	-	10	-		
24		-	1	1	-	-	-	-	-	-	-	2	-	20	-		
25		-	5	1	-	-	-	-	-	-	-	6	-	61	-		
26		-	3	3	-	-	-	-	-	-	-	6	-	61	-		
27		-	1	7	2	-	-	-	-	-	-	10	-	101	10		
28		-	-	6	16	-	-	-	-	-	-	22	-	222	-		
29		-	-	2	12	4	-	-	-	-	-	18	-	172	10		
30		-	-	-	6	5	-	-	-	-	-	11	-	111	-		
31		-	-	-	-	6	3	-	-	-	-	9	-	81	10		
32		-	-	-	-	2	1	7	1	-	-	11	-	51	62		
33		-	-	-	1	1	2	1	3	1	-	9	-	20	72		
34		-	-	-	-	-	2	7	6	-	1	16	-	40	124		
35		-	-	-	-	-	-	3	4	26	3	36	-	-	371		
36		-	-	-	-	-	-	-	5	18	6	30	-	10	299		
37		-	-	-	-	-	-	-	-	1	1	3	-	-	31		
38		-	-	-	-	-	-	-	-	1	-	1	-	-	10		
Total No. of Ages Read		2	13	20	37	18	8	11	20	53	10	3	195				
Serial Numbers		No. of Age Samples 2															
		Number of fish measured each month											-	99	97		
		Mean length of fish (cm) each month											-	28.9	35.2		
		Mean weight of fish (kg) each month											-	-	-		
		Total weight caught or landed (tons) each month											-	-	-		
		Estimated number caught or landed (whole numbers) each month											-	-	-		
		Range of depths (m) each month											-	-	-		
		Mesh size (mm) 1											-	W	W		

¹ W = Weir

TABLE 126
(continued)

AGE/LENGTH KEY - HERRING - 4Vn - 1970 (3rd QUARTER)

COUNTRY		Canada (M)										Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Catches											Months Within Quarter		
COMMERCIAL/RESEARCH		Research										Total No. of Ages Read	Months Within Quarter		
STRUCTURES USED IN AGE DETERMINATION		Otoliths											Months Within Quarter		
Year- Class Length Group(cm)	Age	66	65	64	63	62	61	60	59	58	Total No. of Ages Read	Months Within Quarter			
		4	5	6	7	8	9	10	11	12		Jul	Aug	Sep	
26		1	-	-	-	-	-	-	-	-	1	5	-	-	
27		-	1	-	-	-	-	-	-	-	1	5	-	-	
28		-	2	-	-	-	-	-	-	-	2	11	-	-	
29		-	1	2	-	-	-	-	-	-	3	16	-	-	
30		-	2	8	1	-	-	-	-	-	11	58	-	-	
31		-	2	3	13	2	-	-	-	-	20	106	-	-	
32		-	-	2	8	7	-	1	-	-	18	95	-	-	
33		-	-	-	1	2	13	4	-	-	20	106	-	-	
34		-	-	-	1	3	17	14	2	-	37	196	-	-	
35		-	-	-	1	3	14	24	9	2	53	280	-	-	
36		-	-	-	-	-	5	9	3	1	18	95	-	-	
37		-	-	-	-	-	1	-	1	1	3	16	-	-	
38		-	-	-	-	-	-	2	-	-	2	11	-	-	
Total No. of Ages Read		1	8	15	25	17	50	54	15	4	189	1000	-	-	
Serial Numbers		No. of Age Samples										1			
		Number of fish measured each month										189	-	-	
		Mean length of fish (cm) each month										33.9	-	-	
		Mean weight of fish (kg) each month										-	-	-	
		Total weight caught or landed (tons) each month										-	-	-	
		Estimated number caught or landed (whole numbers) each month										-	-	-	
		Range of depths (m) each month										-	-	-	
		Mesh size (mm) ¹										T	-	-	

¹ T = Trawl

TABLE 126
(continued)

AGE/LENGTH KEY - HERRING - 4Vn - 1970 (4th QUARTER)

COUNTRY		Canada (M)										Total	LENGTH COMPOSITION				
CATCHES/LANDINGS		Catches										No. of	PER MILLE				
COMMERCIAL/RESEARCH		Commercial										Ages	Months Within Quarter				
STRUCTURES USED IN AGE DETERMINATION		Otoliths										Read	Oct			Nov	Dec
Year- Class	Length Age Group (cm)	66	65	64	63	62	61	60	59	58	Total	PER MILLE					
		4	5	6	7	8	9	10	11	12		Months	Oct	Nov	Dec		
26		2	-	-	-	-	-	-	-	-	2	-	-	20			
27		1	-	-	-	-	-	-	-	-	1	-	-	10			
28		1	2	-	-	-	-	-	-	-	3	-	-	30			
29		-	10	1	-	-	-	-	-	-	11	-	-	110			
30		-	1	9	4	-	-	-	-	-	14	-	-	140			
31		-	-	9	10	-	-	-	-	-	19	-	-	190			
32		-	-	1	24	-	-	-	-	-	25	-	-	250			
33		-	-	-	10	4	-	-	-	-	14	-	-	140			
34		-	-	-	-	1	2	1	-	-	4	-	-	40			
35		-	-	-	-	-	2	2	-	-	4	-	-	40			
36		-	-	-	-	-	-	-	1	1	2	-	-	20			
37		-	-	-	-	-	-	-	1	-	1	-	-	10			
Total No. of Ages Read		4	13	20	48	5	4	3	2	1	100	1000					
Serial Numbers		No. of Age Samples										1					
		Number of fish measured each month										-	-	100			
		Mean length of fish (cm) each month										-	-	31.8			
		Mean weight of fish (kg) each month										-	-	-			
		Total weight caught or landed (tons) each month										-	-	-			
		Estimated number caught or landed (whole numbers) each month										-	-	-			
		Range of depths (m) each month										-	-	-			
		Mesh size (mm) 1										-	-	S			

¹ S = Purse Seine

TABLE 126
(continued)

AGE/LENGTH KEY - HERRING - 4Vn - 1970 (4th QUARTER)

COUNTRY		France (SP)														
CATCHES/LANDINGS		Catches														
COMMERCIAL/RESEARCH		Research														
STRUCTURES USED IN AGE DETERMINATION		Otoliths														
Year- Class Length Age Group(cm)	65	64	63	62	61	60	59	58	57	56	55	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
													Months Within Quarter			
	5	6	7	8	9	10	11	12	13	14	15		Oct	Nov	Dec	
27	-	1	-	-	-	-	-	-	-	-	-	1	-	5	-	
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
29	-	-	1	-	-	-	-	-	-	-	-	1	-	10	-	
30	-	-	2	1	1	-	-	-	-	-	-	4	-	26	-	
31	1	-	5	1	-	-	-	-	-	-	-	7	-	41	-	
32	-	-	5	9	3	-	-	-	-	-	-	17	-	93	-	
33	-	1	2	6	9	-	-	-	-	-	-	18	-	113	-	
34	-	-	1	6	10	4	1	1	-	-	-	23	-	134	-	
35	-	-	-	-	5	11	5	2	-	-	-	23	-	139	-	
36	-	-	-	-	-	18	11	3	3	-	1	36	-	211	-	
37	-	-	-	-	-	4	7	8	2	1	-	22	-	139	-	
38	-	-	-	-	-	1	4	1	2	-	-	8	-	72	-	
39	-	-	-	-	-	-	-	-	-	-	1	1	-	5	-	
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
41	-	-	-	-	-	-	-	-	2	-	-	2	-	10	-	
Total No. of Ages Read	1	2	16	23	28	38	28	15	9	1	2	163				
Serial Numbers	No. of Age Samples															
	Number of fish measured each month											-	194	-		
	Mean length of fish (cm) each month											-	34.8	-		
	Mean weight of fish (kg) each month											-	0,298	-		
	Total weight caught or landed (tons) each month											-	-	-		
	Estimated number caught or landed (whole numbers) each month											-	-	-		
	Range of depths (m) each month											-	80	-		
	Mesh size (mm)											-	100	-		
												-	998	-		

¹ Stretch mesh

TABLE 127

AGE/LENGTH KEY - HERRING - 4Vs¹ - 1970 (1st QUARTER)

COUNTRY		Non-Member A													Total	LENGTH COMPOSITION			
CATCHES/LANDINGS															No. of	PER MILLE			
COMMERCIAL/RESEARCH		Landprobe													Ages	Months Within Quarter			
STRUCTURES USED IN AGE DETERMINATION															Read				
Year- Class Length Group (cm)	Age	65	64	63	62	61	60	59	58	57	56	55	54	53	17+	Jan	Feb	Mar	
		5	6	7	8	9	10	11	12	13	14	15	16	17					
27		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		
28		1	1	2	1	-	-	-	-	-	-	-	-	-	-	5	7		
29		-	-	2	-	-	-	-	-	-	-	-	-	-	-	2	5		
30		-	1	3	4	3	-	-	-	-	-	-	-	-	11	31			
31		-	-	20	15	5	3	-	-	-	-	-	-	-	43	100			
32		-	1	11	14	15	12	1	-	-	-	-	-	-	54	150			
33		-	-	3	11	39	50	15	3	1	-	-	-	-	123	248			
34		-	-	-	2	9	30	55	22	6	2	3	1	3	133	211			
35		-	-	1	1	4	12	27	36	13	5	1	-	3	104	158			
36		1	-	-	1	-	5	5	17	9	10	10	7	2	67	63			
37		-	-	-	-	-	-	1	6	3	3	2	4	1	21	16			
38		-	-	-	-	-	1	-	2	3	-	2	1	-	9	7			
39		-	-	-	-	-	-	-	-	-	-	-	-	-	1	3			
40		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total No. of Ages Read		2	3	42	49	75	113	104	86	35	21	18	13	9	3	573	-	1000	1000
Serial Numbers		No. of Age Samples													6				
		Number of fish measured each month													-	597	974		
		Mean length of fish (cm) each month													-	34.9	34.0		
		Mean weight of fish (kg) each month													-	-	-		
		Total weight caught or landed (tons) each month													-	-	-		
		Estimated number caught or landed (whole numbers) each month													-	-	-		
		Range of depths (m) each month													-	-	-		
		Mesh size (mm)													-	-	-		

¹ Banquereau Bank

TABLE 127
(continued)

AGE/LENGTH KEY - HERRING - 4Vs¹ - 1970 (1st QUARTER)

COUNTRY		Non-Member A																
CATCHES/LANDINGS																		
COMMERCIAL/RESEARCH		Seeprobe																
STRUCTURES USED IN AGE DETERMINATION																		
Year- Class Length Age Group (cm)	65	64	63	62	61	60	59	58	57	56	55	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE					
	5	6	7	8	9	10	11	12	13	14	15		15+	Months Within Quarter	Jan	Feb	Mar	
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
29	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
31	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
32	1	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	36
33	-	-	-	2	1	3	-	1	-	-	-	-	-	-	-	-	-	60
34	-	-	1	3	4	5	1	1	1	-	-	-	-	-	-	-	-	118
35	-	-	1	-	2	6	9	4	1	-	-	-	-	-	-	-	-	220
36	-	-	-	-	2	3	4	9	8	1	-	-	-	-	-	-	-	244
37	-	-	-	-	-	2	2	9	2	1	3	-	-	-	-	-	-	161
38	-	-	-	-	-	1	-	-	-	-	2	1	-	-	-	-	-	86
39	-	-	-	-	-	-	-	-	1	1	2	1	-	-	-	-	-	37
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Total No. of Ages Read	2	1	3	6	10	20	16	24	13	3	7	2	107					
Serial Numbers	No. of Age Samples												1					
	Number of fish measured each month												-	-	-	3113		
	Mean length of fish (cm) each month												-	-	-	36.0		
	Mean weight of fish (kg) each month												-	-	-	-		
	Total weight caught or landed (tons) each month												-	-	-	-		
	Estimated number caught or landed (whole numbers) each month												-	-	-	-		
	Range of depths (m) each month												-	-	-	-		
	Mesh size (mm)												-	-	-	-		

¹ Banquereau Bank

TABLE 128

AGE/LENGTH KEY - HERRING - 4V - 1970 (1st QUARTER)

COUNTRY		U.S.S.R.											Total	LENGTH COMPOSITION				
CATCHES/LANDINGS		Catches											No. of	PER MILLE				
COMMERCIAL/RESEARCH		Commercial											Ages	Months Within Quarter				
STRUCTURES USED IN AGE DETERMINATION		Otoliths											Read	Jan			Feb	Mar
Year-Class	Age	65	64	63	62	61	60	59	58	57	56	Total	Months Within Quarter					
Length Group (cm)		5	6	7	8	9	10	11	12	13	14	No. of	PER MILLE					
												Read	Months Within Quarter					
												Read	Months Within Quarter					
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
29	-	2	-	-	-	-	-	-	-	-	-	1	2	2	1	1	1	
30	1	3	2	-	-	-	-	-	-	-	-	2	4	3	2	2	2	
31	-	1	5	1	-	-	-	-	-	-	-	6	15	4	7	4	7	
32	-	-	20	6	-	-	-	-	-	-	-	7	33	10	12	10	12	
33	-	1	14	12	6	-	-	-	-	-	-	26	56	31	37	31	37	
34	-	-	-	20	19	8	-	1	-	-	-	33	91	57	65	57	65	
35	-	-	-	3	20	21	13	5	1	-	-	48	169	113	122	113	122	
36	-	-	-	-	2	10	14	11	6	-	-	63	289	220	209	220	209	
37	-	-	-	-	1	2	9	9	5	2	-	43	105	240	226	240	226	
38	-	-	-	-	-	-	1	5	3	2	-	28	105	202	188	202	188	
39	-	-	-	-	-	-	-	-	1	4	-	11	96	80	86	80	86	
40	-	-	-	-	-	-	-	-	-	1	-	5	29	26	31	26	31	
41	-	-	-	-	-	-	-	-	-	1	-	1	4	8	11	4	11	
42	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	1	2	
43	-	-	-	-	-	-	-	-	-	-	-	-	-	+	1	-	+	
44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	
Total No. of Ages Read		1	8	41	42	48	41	37	31	16	9	274	1000	1000	1000			
Serial Numbers		No. of Age Samples																
		Number of fish measured each month											1300	22300	12300			
		Mean length of fish (cm) each month											35.0	35.6	35.6			
		Mean weight of fish (kg) each month											0.29	0.31	0.28			
		Total weight caught or landed (tons) each month											-	-	24			
		Estimated number caught or landed (whole numbers) each month											-	-	-			
		Range of depths (m) each month											35-100	35-185	25-100			
		Mesh size (mm)											40	40	40			

TABLE 129

AGE/LENGTH KEY - HERRING - 4W - 1970 (1st QUARTER)

COUNTRY		Canada (M)								Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Catches									Months Within Quarter	Jan	Feb	Mar
COMMERCIAL/RESEARCH		Research								Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
STRUCTURES USED IN AGE DETERMINATION		Otoliths									Months Within Quarter	Jan	Feb	Mar
Year-Class	Age	67	66	65	64	63	62	61	60	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
Length Group (cm)	Age	3	4	5	6	7	8	9	10		Months Within Quarter	Jan	Feb	Mar
20		1	-	-	-	-	-	-	-	1	-	-	10
21		-	-	-	-	-	-	-	-	-	-	-	-
22		1	-	-	-	-	-	-	-	1	-	-	10
23		1	-	-	-	-	-	-	-	1	-	-	10
24		1	1	-	-	-	-	-	-	2	-	-	20
25		-	2	-	-	-	-	-	-	2	-	-	20
26		6	10	1	-	-	-	-	-	17	-	-	170
27		6	10	-	-	-	-	-	-	16	-	-	160
28		-	7	6	1	-	-	-	-	14	-	-	140
29		-	1	4	-	-	-	-	-	5	-	-	50
30		-	-	2	10	1	-	-	-	13	-	-	130
31		-	-	-	7	2	-	1	-	10	-	-	100
32		-	-	-	2	3	1	-	-	6	-	-	60
33		-	-	-	-	1	1	4	-	6	-	-	60
34		-	-	-	-	-	-	1	1	2	-	-	20
35		-	-	-	-	-	-	2	1	3	-	-	30
36		-	-	-	-	-	-	-	1	1	-	-	10
Total No. of Ages Read		16	31	13	20	7	2	8	3	100			
Serial Numbers		No. of Age Samples								1			
		Number of fish measured each month								-	-	-	100
		Mean length of fish (cm) each month								-	-	-	29.2
		Mean weight of fish (kg) each month								-	-	-	-
		Total weight caught or landed (tons) each month								-	-	-	-
		Estimated number caught or landed (whole numbers) each month								-	-	-	-
		Range of depths (m) each month								-	-	-	-
		Mesh size (mm) 1								-	-	-	T

1 T = Trawl

TABLE 129
(continued)

AGE/LENGTH KEY - HERRING - 4W - 1970 (1st QUARTER)

COUNTRY		Canada (M)											
CATCHES/LANDINGS		Catches											
COMMERCIAL/RESEARCH		Commercial											
STRUCTURES USED IN AGE DETERMINATION		Otoliths											
Year- Class Length Age Group(cm)	68	67	66	65	64	63	62	61	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE Months Within Quarter			
	2	3	4	5	6	7	8	9		Jan	Feb	Mar	
11	4	-	-	-	-	-	-	-	4	-	-	4	
12	11	-	-	-	-	-	-	-	11	-	1	15	
13	37	-	-	-	-	-	-	-	37	-	1	40	
14	36	-	-	-	-	-	-	-	36	-	2	42	
15	38	1	-	-	-	-	-	-	39	-	4	37	
16	56	3	-	-	-	-	-	-	59	-	8	50	
17	58	2	-	-	-	-	-	-	60	-	16	64	
18	29	8	-	-	-	-	-	-	37	-	8	40	
19	6	23	-	-	-	-	-	-	29	-	9	26	
20	1	66	1	-	-	-	-	-	68	6	26	46	
21	1	80	1	-	1	-	-	-	83	6	50	64	
22	-	67	6	-	-	-	-	-	73	40	68	69	
23	-	53	27	-	-	-	-	-	80	48	47	60	
24	-	23	70	1	-	-	-	-	94	62	73	63	
25	-	5	166	2	1	-	-	-	174	116	109	87	
26	-	5	159	14	3	-	-	-	171	101	106	97	
27	-	-	77	25	1	-	-	-	103	132	79	55	
28	-	-	52	38	4	-	-	-	94	113	56	32	
29	-	-	10	56	32	3	-	-	101	95	51	35	
30	-	-	4	37	55	7	-	-	103	94	62	32	
31	-	-	1	24	67	9	-	-	101	74	57	21	
32	-	-	-	2	34	20	3	1	60	23	54	11	
33	-	-	-	1	7	23	6	-	37	37	34	6	
34	-	-	-	-	1	5	7	1	14	24	35	4	
35	-	-	-	-	-	-	1	4	5	18	24	-	
36	-	-	-	-	-	-	-	-	-	4	13	-	
37	-	-	-	-	1	-	-	-	1	7	5	-	
38	-	-	-	-	-	-	-	-	-	-	1	-	
39	-	-	-	-	-	-	-	-	-	-	1	-	
Total No. of Ages Read	277	336	564	200	207	67	17	6	1674				
Serial Numbers									No. of Age Samples	14			
	Number of fish measured each month								705	3385	2423		
	Mean length of fish (cm) each month								28.1	27.1	22.5		
	Mean weight of fish (kg) each month								-	-	-		
	Total weight caught or landed (tons) each month								-	-	-		
	Estimated number caught or landed (whole numbers) each month								-	-	-		
	Range of depths (m) each month								-	-	-		
	Mesh size (mm) ¹								S	S, T	S, T		

¹ S = Purse Seine, T = Trawl

TABLE 129
(continued)

AGE/LENGTH KEY - HERRING - 4W - 1970 (1st QUARTER)

COUNTRY		U.S.S.R.										Total No. of Ages Read	LENGTH COMPOSITION PER MILLE				
CATCHES/LANDINGS		Catches											Jan	Feb	Mar		
COMMERCIAL/RESEARCH		Commercial															
STRUCTURES USED IN AGE DETERMINATION		Ofoliths															
Year- Class Length Age Group (cm)	67	66	65	64	63	62	61	60	59								
	3	4	5	6	7	8	9	10	11								
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
19	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
21	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
22	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
23	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
24	3	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34
25	-	6	1	-	-	-	-	-	-	-	-	-	-	-	-	-	55
26	-	12	6	-	-	-	-	-	-	-	-	-	-	-	-	-	86
27	-	26	16	2	-	-	-	-	-	-	-	-	-	-	-	-	127
28	-	15	25	4	-	-	-	-	-	-	-	-	-	-	-	-	98
29	-	3	36	8	-	-	-	-	-	-	-	-	-	-	-	-	71
30	-	-	22	21	1	-	-	-	-	-	-	-	-	-	-	-	71
31	-	-	4	17	27	-	-	-	-	-	-	-	-	-	-	-	86
32	-	-	-	2	27	3	-	-	-	-	-	-	-	-	-	-	94
33	-	-	-	2	10	4	-	-	-	-	-	-	-	-	-	-	56
34	-	-	-	2	8	11	-	-	-	-	-	-	-	-	-	-	52
35	-	-	-	-	-	3	2	-	-	-	-	-	-	-	-	-	47
36	-	-	-	-	-	2	2	-	1	-	-	-	-	-	-	-	19
37	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	6
38	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	+
39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Total No. of Ages Read	10	73	110	58	73	23	4	3	2			356		1000		-	1000
Serial Numbers	No. of Age Samples																
	Number of fish measured each month										600	-	3300				
	Mean length of fish (cm) each month										30.5	-	28.7				
	Mean weight of fish (kg) each month										0.21	-	0.18				
	Total weight caught or landed (tons) each month										-	-	487				
	Estimated number caught or landed (whole numbers) each month										-	-	-				
	Range of depths (m) each month										50-90	-	40-105				
	Mesh size (mm)										40	-	40				

TABLE 129
(continued)

AGE/LENGTH KEY - HERRING - 4W - 1970 (2nd QUARTER)

COUNTRY		Canada (M)										Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Catches											Months	Within Quarter	
COMMERCIAL/RESEARCH		Commercial										Ages		Apr	May	June
STRUCTURES USED IN AGE DETERMINATION		Otoliths											Read				Apr	May	June
Year- Class	Age	67	66	65	64	63	62	61	60	59	58				
Length Group (cm)		3	4	5	6	7	8	9	10	11	12				
17		-	-	-	-	-	-	-	-	-	-	-	1	-	-
18		-	-	-	-	-	-	-	-	-	-	-	-	-	-
19		-	-	-	-	-	-	-	-	-	-	-	-	-	-
20		1	-	-	-	-	-	-	-	-	-	-	4	-	-
21		5	-	-	-	-	-	-	-	-	-	-	17	-	-
22		6	2	-	-	-	-	-	-	-	-	-	25	-	-
23		15	5	-	-	-	-	-	-	-	-	-	61	-	-
24		2	24	-	-	-	-	-	-	-	-	-	70	-	-
25		-	34	1	-	-	-	-	-	-	-	-	113	-	-
26		-	35	1	-	-	-	-	-	-	-	-	123	-	-
27		-	29	4	-	-	-	-	-	-	-	-	99	-	-
28		1	4	8	1	-	-	-	-	-	-	-	63	-	-
29		-	5	7	8	-	-	-	-	-	-	-	81	-	-
30		-	-	8	16	-	-	-	-	-	-	-	99	-	-
31		-	-	3	21	-	-	-	-	-	-	-	66	-	-
32		-	-	5	13	5	-	-	-	-	-	-	75	-	-
33		-	-	-	5	6	1	-	-	-	-	-	56	-	-
34		-	-	-	1	3	4	-	-	-	-	-	25	-	-
35		-	-	-	-	-	2	-	1	-	-	-	14	-	-
36		-	-	-	-	-	-	1	-	-	-	-	3	-	-
37		-	-	-	-	-	-	-	-	-	1	-	5	-	-
Total No. of Ages Read		30	138	37	65	14	7	1	1	-	1	294	1000	-	-
Serial Numbers		No. of Age Samples										3			
		Number of fish measured each month										992	-	-	
		Mean length of fish (cm) each month										28.2	-	-	
		Mean weight of fish (kg) each month										-	-	-	
		Total weight caught or landed (tons) each month										-	-	-	
		Estimated number caught or landed (whole numbers) each month										-	-	-	
		Range of depths (m) each month										-	-	-	
		Mesh size (mm) 1										5	-	-	

¹ S = Purse Seine

TABLE 129
(continued)

AGE/LENGTH KEY - HERRING - 4W - 1970 (2nd QUARTER)

COUNTRY		U.S.S.R.										Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Catches											Months Within Quarter	Apr	May	June
COMMERCIAL/RESEARCH		Commercial													
STRUCTURES USED IN AGE DETERMINATION		Otoliths													
Year- Class Length Age Group (cm)	68	67	66	65	64	63	62	61	60	59	Total No. of Ages Read	PER MILLE			
	2	3	4	5	6	7	8	9	10	11		Apr	May	June	
12	-	-	-	-	-	-	-	-	-	-	-	+	-	-	
13	-	-	-	-	-	-	-	-	-	-	-	+	-	-	
14	-	-	-	-	-	-	-	-	-	-	-	+	-	-	
15	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
16	1	-	-	-	-	-	-	-	-	-	1	+	-	-	
17	1	-	-	-	-	-	-	-	-	-	1	+	-	-	
18	1	-	-	-	-	-	-	-	-	-	-	+	-	-	
19	-	-	-	-	-	-	-	-	-	-	-	+	-	-	
20	-	-	-	-	-	-	-	-	-	-	-	+	+	-	
21	-	-	-	-	-	-	-	-	-	-	-	+	-	-	
22	-	2	-	-	-	-	-	-	-	-	2	1	+	-	
23	-	4	1	-	-	-	-	-	-	-	5	4	2	-	
24	-	4	2	-	-	-	-	-	-	-	6	10	6	-	
25	-	-	17	-	-	-	-	-	-	-	17	19	6	-	
26	-	-	22	4	-	-	-	-	-	-	26	33	16	-	
27	-	-	25	16	-	-	-	-	-	-	41	68	32	-	
28	-	-	21	31	3	-	-	-	-	-	55	150	108	-	
29	-	-	-	32	4	-	-	-	-	-	36	179	169	-	
30	-	-	-	9	4	1	-	-	-	-	14	108	122	-	
31	-	-	-	-	7	5	-	-	-	-	12	82	87	-	
32	-	-	-	-	1	10	-	-	-	-	11	78	71	-	
33	-	-	-	-	-	8	1	-	-	-	9	102	120	-	
34	-	-	-	-	-	5	8	1	-	-	14	68	116	-	
35	-	-	-	-	-	3	2	4	1	-	10	38	65	-	
36	-	-	-	-	-	-	1	5	1	-	7	27	44	-	
37	-	-	-	-	-	-	-	3	1	3	7	18	21	-	
38	-	-	-	-	-	-	-	-	1	-	1	9	12	-	
39	-	-	-	-	-	-	-	-	-	-	-	3	3	-	
40	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
42	-	-	-	-	-	-	-	-	-	-	-	-	+	-	
Total No. of Ages Read	3	10	88	92	19	32	12	13	4	3	276	999	1000	-	
Serial Numbers	No. of Age Samples														
	Number of fish measured each month										16200	5800	-		
	Mean length of fish (cm) each month										29.4	30.4	-		
	Mean weight of fish (kg) each month										0.18	0.21	-		
	Total weight caught or landed (tons) each month										1337	2781	-		
	Estimated number caught or landed (whole numbers) each month										-	-	-		
	Range of depths (m) each month										50-70	60-70	-		
	Mesh size (mm)										40	40	-		

TABLE 129
(continued)

AGE/LENGTH KEY - HERRING - 4W - 1970 (3rd QUARTER)

COUNTRY		U.S.S.R.							Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Catches								Months Within Quarter		
COMMERCIAL/RESEARCH		Commercial							Total No. of Ages Read	Months Within Quarter		
STRUCTURES USED IN AGE DETERMINATION		Otoliths								Months Within Quarter		
Year- Class Length Group (cm)	Age	65	64	63	62	61	60	59	Total No. of Ages Read	PER MILLE		
		5	6	7	8	9	10	11		July	Aug	Sep
23		-	-	-	-	-	-	-	-	1	-	-
24		-	-	-	-	-	-	-	-	-	-	-
25		-	-	-	-	-	-	-	-	6	-	-
26		-	-	-	-	-	-	-	-	11	-	-
27		-	-	-	-	-	-	-	-	24	-	-
28		2	-	-	-	-	-	-	2	69	-	-
29		1	-	-	-	-	-	-	1	59	-	-
30		3	1	-	-	-	-	-	4	74	-	-
31		-	3	3	-	-	-	-	6	85	-	-
32		-	7	15	1	-	-	-	23	153	-	-
33		-	3	20	-	1	-	-	24	149	-	-
34		-	-	8	2	2	-	-	12	126	-	-
35		-	-	7	2	3	-	-	12	142	-	-
36		-	-	-	-	6	1	-	7	54	-	-
37		-	-	-	-	-	2	1	3	37	-	-
38		-	-	-	-	-	-	-	-	7	-	-
39		-	-	-	-	-	-	-	-	1	-	-
40		-	-	-	-	-	-	1	1	1	-	-
Total No. of Ages Read		6	14	53	5	12	3	2	95	999	-	-
Serial Numbers		No. of Age Samples										
		Number of fish measured each month							1100	-	-	
		Mean length of fish (cm) each month							32.4	-	-	
		Mean weight of fish (kg) each month							0.34	-	-	
		Total weight caught or landed (tons) each month							1411	-	-	
		Estimated number caught or landed (whole numbers) each month							-	-	-	
		Range of depths (m) each month							15-90	-	-	
		Mesh size (mm)							40	-	-	

TABLE 129
(continued)

AGE/LENGTH KEY - HERRING - 4W - 1970 (4th QUARTER)

COUNTRY		Canada (M)											
CATCHES/LANDINGS		Catches											
COMMERCIAL/RESEARCH		Commercial											
STRUCTURES USED IN AGE DETERMINATION		Otoliths											
Year-Class	Age	67	66	65	64	63	62	61	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
Length Group (cm)		3	4	5	6	7	8	9		Months Within Quarter			
										Oct	Nov	Dec	
24		1	1	-	-	-	-	-	2	-	-	20	
25		-	1	-	-	-	-	-	1	-	-	10	
26		1	2	-	-	-	-	-	3	-	-	30	
27		-	6	-	-	-	-	-	6	-	-	61	
28		-	12	-	-	-	-	-	12	-	-	121	
29		-	12	-	-	-	-	-	12	-	-	121	
30		-	5	7	-	-	-	-	12	-	-	121	
31		-	-	11	2	-	-	-	13	-	-	131	
32		-	-	6	9	-	-	-	15	-	-	152	
33		-	-	-	11	3	-	-	14	-	-	141	
34		-	-	-	-	8	-	-	8	-	-	81	
35		-	-	-	-	-	-	-	-	-	-	-	
36		-	-	-	-	-	-	1	1	-	-	10	
Total No. of Ages Read		2	39	24	22	11	-	1	99	999			
Serial Numbers		No. of Age Samples							1				
		Number of fish measured each month							-	-	-	99	
		Mean length of fish (cm) each month							-	-	-	30.9	
		Mean weight of fish (kg) each month							-	-	-	-	
		Total weight caught or landed (tons) each month							-	-	-	-	
		Estimated number caught or landed (whole numbers) each month							-	-	-	-	
		Range of depths (m) each month							-	-	-	-	
		Mesh size (mm)							-	-	-	-	

TABLE 130

AGE/LENGTH KEY - HERRING - 4x-W - 1970 (3rd QUARTER)

COUNTRY		Poland													
CATCHES/LANDINGS															
COMMERCIAL/RESEARCH		Research													
STRUCTURES USED IN AGE DETERMINATION		Otoliths													
Year- Length Group (cm)	Class Age	68	67	66	65	64	63	62	61	60	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE Months Within Quarter			
		2	3	4	5	6	7	8	9	10		10+	July	Aug	Sep
28		-	-	-	2	1	-	-	-	-	3	-	5	-	
29		-	1	-	-	-	-	-	-	-	1	-	15	-	
30		-	-	-	3	2	1	-	1	-	7	-	38	-	
31		-	-	-	-	4	18	2	1	-	25	-	143	-	
32		-	-	-	1	4	46	6	1	-	58	-	290	-	
33		-	-	-	-	1	29	7	4	-	41	-	272	-	
34		-	-	-	-	-	1	11	7	3	22	-	113	-	
35		-	-	-	-	-	-	1	-	2	5	-	56	-	
36		-	-	-	-	-	-	1	1	4	6	-	44	-	
37		-	-	-	-	-	-	-	-	-	1	-	13	-	
38		-	-	-	-	-	-	-	-	1	2	-	11	-	
Total No. of Ages Read		-	1	-	6	12	95	28	15	10	4	171	-	1000	-
Serial Numbers		No. of Age Samples													
		Number of fish measured each month											-	1152	-
		Mean length of fish (cm) each month											-	32.5	-
		Mean weight of fish (kg) each month											-	-	-
		Total weight caught or landed (tons) each month											-	-	-
		Estimated number caught or landed (whole numbers) each month											-	-	-
		Range of depths (m) each month											-	-	-
		Mesh size (mm)											-	-	-

TABLE 131

AGE/LENGTH KEY - HERRING - 4X - 1970 (1ST QUARTER)

COUNTRY		Canada (M)					
CATCHES/LANDINGS		Catches					
COMMERCIAL/RESEARCH		Research					
STRUCTURES USED IN AGE DETERMINATION		Otoliths					
Year- Length Group (cm)	Class Age	68	67	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
					Months Within Quarter		
					Jan	Feb	Mar
7	1	-		1	-	-	3
8	7	-		7	-	-	20
9	55	-		55	-	-	198
10	143	-		143	15	-	467
11	78	-		78	30	-	232
12	28	-		28	76	-	63
13	14	-		14	81	-	13
14	3	-		3	40	-	3
15	2	3		5	56	-	-
16	-	4		4	40	-	-
17	-	19		19	212	-	-
18	-	22		22	278	-	-
19	-	15		15	121	-	-
20	-	6		6	51	-	-
Total No. of Ages Read				400	1000	-	999
Serial Numbers		No. of Age Samples			4		
Number of fish measured each month				198	-	600	
Mean length of fish (cm) each month				16.9	-	10.6	
Mean weight of fish (kg) each month				-	-	-	
Total weight caught or landed (tons) each month				-	-	-	
Estimated number caught or landed (whole numbers) each month				-	-	-	
Range of depths (m) each month				-	-	-	
Mesh size (mm) 1				-	-	-	
				T	-	T	

¹ T = Trawl

TABLE 131
(continued)

AGE/LENGTH KEY - HERRING - 4X - 1970 (1st QUARTER)

COUNTRY		Canada (M)					
CATCHES/LANDINGS		Catches					
COMMERCIAL/RESEARCH		Commercial					
STRUCTURES USED IN AGE DETERMINATION		Otoliths					
Year-Class Length Age Group (cm)	68	67	66	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
	2	3	4		Months Within Quarter		
					Jan	Feb	Mar
7	3	-	-	3	8	-	1
8	54	-	-	54	77	74	29
9	234	-	-	234	210	188	198
10	233	-	-	233	192	252	221
11	161	1	-	162	158	194	135
12	136	-	-	136	133	49	94
13	105	-	-	105	84	29	73
14	91	-	-	91	75	29	60
15	47	4	-	51	33	19	40
16	9	22	-	31	18	13	22
17	2	40	-	42	6	13	36
18	2	49	-	51	4	16	42
19	1	37	2	40	1	49	28
20	-	23	5	28	-	52	17
21	-	1	5	6	1	19	1
22	-	-	2	2	-	3	2
23	-	1	-	1	-	-	1
Total No. of Ages Read	1078	178	14	1270	1000	999	1000
Serial Numbers	No. of Age Samples			11			
	Number of fish measured each month				1249	309	1194
	Mean length of fish (cm) each month				11.4	12.2	12.4
	Mean weight of fish (kg) each month				-	-	-
	Total weight caught or landed (tons) each month				-	-	-
	Estimated number caught or landed (whole numbers) each month				-	-	-
	Range of depths (m) each month				-	-	-
	Mesh size (mm) 1				S	S	S

¹ S = Purse Seine

TABLE 131
(continued)

AGE/LENGTH KEY - HERRING - 4X - 1970 (1st QUARTER)

COUNTRY		U.S.A.											
CATCHES/LANDINGS		Catches											
COMMERCIAL/RESEARCH		Commercial											
STRUCTURES USED IN AGE DETERMINATION		Otoliths											
Year- Class Length Group (cm)	Age	68	67	66	65	64	63	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE				
		2	3	4	5	6	7		Months Within Quarter				
								Jan	Feb	Mar			
7		-	-	-	-	-	-	-	19	-	-	-	
8		3	-	-	-	-	-	3	82	-	-	44	
9		27	-	-	-	-	-	27	174	60	-	113	
10		95	-	-	-	-	-	95	198	234	-	125	
11		91	-	-	-	-	-	91	134	140	-	118	
12		79	-	-	-	-	-	79	162	73	-	91	
13		45	-	-	-	-	-	45	87	40	-	85	
14		32	1	-	-	-	-	33	64	33	-	73	
15		9	1	-	-	-	-	10	21	13	-	54	
16		4	5	-	-	-	-	9	7	33	-	68	
17		10	16	-	-	-	-	26	31	13	-	89	
18		5	10	1	-	-	-	16	12	60	-	31	
19		1	9	2	-	-	-	12	7	87	-	19	
20		-	2	1	-	-	-	3	-	40	-	24	
21		-	5	-	-	-	-	5	-	40	-	14	
22		-	5	2	-	-	-	7	-	20	-	9	
23		-	1	4	1	-	-	6	2	27	-	7	
24		-	2	6	-	-	-	8	-	27	-	9	
25		-	1	7	2	-	-	10	-	20	-	14	
26		-	-	3	1	-	-	4	-	7	-	5	
27		-	-	-	4	-	-	4	-	13	-	3	
28		-	-	-	1	-	-	1	-	7	-	-	
29		-	-	-	-	2	1	3	-	13	-	2	
30		-	-	-	-	-	-	-	-	-	-	-	
31		-	-	-	-	1	1	2	-	-	-	3	
Total No. of Ages Read		401	58	26	9	3	2	499	1000	1000	1000		
Serial Numbers		No. of Age Samples						20					
		Number of fish measured each month						425	150	575			
		Mean length of fish (cm) each month						11.6	15.4	14.0			
		Mean weight of fish (kg) each month						-	-	-			
		Total weight caught or landed (tons) each month						-	-	-			
		Estimated number caught or landed (whole numbers) each month						-	-	-			
		Range of depths (m) each month						-	-	-			
		Mesh size (mm)						-	-	-			

TABLE 131
(continued)

AGE/LENGTH KEY - HERRING - 4X - 1970 (2nd QUARTER)

COUNTRY		Canada (M)											Total	LENGTH COMPOSITION				
CATCHES/LANDINGS		Catches											No. of	PER MILLE				
COMMERCIAL/RESEARCH		Commercial											Ages	Months Within Quarter				
STRUCTURES USED IN AGE DETERMINATION		Otoliths											Read	Apr			May	June
Year- Class	Age	68	67	66	65	64	63	62	61	60	59	Total	PER MILLE					
Length Group (cm)	Age	2	3	4	5	6	7	8	9	10	11	No. of	Months Within Quarter					
Length Group (cm)	Age	2	3	4	5	6	7	8	9	10	11	Read	Apr			May	June	
7	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	<1		
8	7	-	-	-	-	-	-	-	-	-	-	7	27	1	-	-		
9	78	-	-	-	-	-	-	-	-	-	-	78	194	19	2	-		
10	185	-	-	-	-	-	-	-	-	-	-	185	283	50	14	-		
11	193	-	-	-	-	-	-	-	-	-	-	193	193	52	30	-		
12	142	-	-	-	-	-	-	-	-	-	-	142	110	35	29	-		
13	132	-	-	-	-	-	-	-	-	-	-	132	62	26	30	-		
14	103	1	-	-	-	-	-	-	-	-	-	104	36	23	36	-		
15	106	-	-	-	-	-	-	-	-	-	-	106	14	17	38	-		
16	73	3	-	-	-	-	-	-	-	-	-	76	10	11	23	-		
17	36	5	-	-	-	-	-	-	-	-	-	41	3	9	11	-		
18	16	11	-	-	-	-	-	-	-	-	-	27	5	5	6	-		
19	3	13	7	-	-	-	-	-	-	-	-	23	7	7	2	-		
20	1	6	13	-	-	-	-	-	-	-	-	20	6	12	1	-		
21	-	2	14	-	-	-	-	-	-	-	-	16	5	12	<1	-		
22	-	14	4	-	-	-	-	-	-	-	-	18	1	13	1	-		
23	-	15	16	-	-	-	-	-	-	-	-	31	1	21	2	-		
24	-	10	51	-	-	-	-	-	-	-	-	61	3	46	6	-		
25	-	4	98	-	-	-	-	-	-	-	-	102	3	84	15	-		
26	-	3	131	2	-	-	-	-	-	-	-	136	1	90	50	-		
27	-	2	164	9	1	-	-	-	-	-	-	176	5	88	112	-		
28	-	1	165	31	1	-	-	-	-	-	-	198	7	69	152	-		
29	-	-	64	117	22	-	-	-	-	-	-	203	12	66	116	-		
30	-	-	10	135	74	4	-	-	-	-	-	223	6	70	92	-		
31	-	-	4	65	163	8	-	-	-	-	-	240	4	74	95	-		
32	-	-	3	12	150	23	1	-	-	-	-	189	2	41	74	-		
33	-	-	2	3	18	76	12	1	-	-	-	112	-	21	34	-		
34	-	-	-	-	-	25	52	4	-	-	-	81	-	15	18	-		
35	-	-	-	-	-	-	19	15	1	1	-	36	-	16	8	-		
36	-	-	-	-	-	-	-	1	2	2	-	5	-	7	3	-		
37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-		
38	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	-		
Total No. of Ages Read		1076	90	746	374	429	136	85	22	3	1	2962	1000	1001	1004			
Serial Numbers		No. of Age Samples										35						
Number of fish measured each month												1025	3415	11230				
Mean length of fish (cm) each month												12.1	24.4	26.2				
Mean weight of fish (kg) each month												-	-	-				
Total weight caught or landed (tons) each month												-	-	-				
Estimated number caught or landed (whole numbers) each month												-	-	-				
Range of depths (m) each month												-	-	-				
Mesh size (mm) ¹												W.S	W.N	N.S.W.T				

¹ W = Weir, T = Trawl, N = Gillnet, S - Seine

TABLE 131
(continued)

AGE/LENGTH KEY - HERRING - 4X - 1970 (2ND QUARTER)

COUNTRY		Canada (M)				
CATCHES/LANDINGS		Catches				
COMMERCIAL/RESEARCH		Research				
STRUCTURES USED IN AGE DETERMINATION		Otoliths				
Year- Class Length Age Group (cm)	68 67		Total No. of Ages Read	LENGTH COMPOSITION PER MILLE Months Within Quarter		
	2	3		Apr	May	Jun
7	1	-	1	4	-	-
8	30	-	30	100	15	-
9	104	-	104	344	130	-
10	155	-	155	352	605	-
11	71	-	71	130	175	-
12	21	-	21	42	40	-
13	12	-	12	18	30	-
14	3	1	4	6	5	-
15	2	-	2	4	-	-
Total No. of Ages Read			399	1	400	
Serial Numbers			No. of Age Samples			4
Number of fish measured each month			500	200	-	
Mean length of fish (cm) each month			10.2	10.7	-	
Mean weight of fish (kg) each month			-	-	-	
Total weight caught or landed (tons) each month			-	-	-	
Estimated number caught or landed (whole numbers) each month			-	-	-	
Range of depths (m) each month			-	-	-	
Mesh size (mm) 1			T	T	-	

¹ T = Trawl

TABLE 131

AGE/LENGTH KEY - HERRING - 4X - 1970 (2nd QUARTER)

COUNTRY		U.S.A.						Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
CATCHES/LANDINGS		Catches							Months Within Quarter	Apr	May	June
COMMERCIAL/RESEARCH		Commercial										
STRUCTURES USED IN AGE DETERMINATION		Otoliths										
Year-Class	Age	68	67	66	65	64	63	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
Length Group (cm)	Age	2	3	4	5	6	7		Apr	May	June	
7		-	-	-	-	-	-	-	3	-	-	
8		-	-	-	-	-	-	-	28	-	-	
9		11	-	-	-	-	-	11	167	58	-	
10		24	-	-	-	-	-	24	164	191	6	
11		55	-	-	-	-	-	55	118	95	34	
12		71	-	-	-	-	-	71	124	53	57	
13		44	-	-	-	-	-	44	91	27	52	
14		40	-	-	-	-	-	40	80	37	94	
15		22	-	-	-	-	-	22	57	11	129	
16		22	2	-	-	-	-	24	75	16	99	
17		12	4	-	-	-	-	16	47	26	56	
18		2	8	-	-	-	-	10	21	11	22	
19		-	5	1	-	-	-	6	10	21	8	
20		-	2	1	-	-	-	3	2	16	1	
21		-	2	-	-	-	-	2	7	26	3	
22		-	1	1	-	-	-	2	2	5	6	
23		-	2	-	-	-	-	2	-	64	22	
24		-	2	2	1	-	-	5	2	74	28	
25		-	1	10	1	-	-	12	-	90	42	
26		-	-	10	4	-	-	14	-	37	48	
27		-	-	4	3	-	-	7	2	58	52	
28		-	-	6	4	1	-	11	-	26	55	
29		-	-	-	6	1	1	8	-	21	42	
30		-	-	-	-	4	-	4	-	32	62	
31		-	-	-	-	1	1	2	-	-	29	
32		-	-	-	-	2	-	2	-	5	32	
33		-	-	-	-	-	1	1	-	-	13	
34		-	-	-	-	-	-	-	-	-	5	
35		-	-	-	-	-	-	-	-	-	-	
36		-	-	-	-	-	-	-	-	-	3	
Total No. of Ages Read		303	29	35	19	9	3	398				
Serial Numbers		No. of Age Samples						16				
		Number of fish measured each month						574	189	714		
		Mean length of fish (cm) each month						12.7	18.4	21.0		
		Mean weight of fish (kg) each month						-	-	-		
		Total weight caught or landed (tons) each month						-	-	-		
		Estimated number caught or landed (whole numbers) each month						-	-	-		
		Range of depths (m) each month						-	-	-		
		Mesh size (mm)						-	-	-		

TABLE 131
(continued)

AGE/LENGTH KEY - HERRING - 4X - 1970 (2ND QUARTER)

COUNTRY		USA							Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Landings								Months	Within Quarter	
COMMERCIAL/RESEARCH		Commercial							Apr		May	Jun
STRUCTURES USED IN AGE DETERMINATION		Otoliths										
Year- Class Length Group(cm)	Age	1967	1966	1965	1964	1963	1962	<1962				
		3	4	5	6	7	8	>8		Apr	May	Jun
24		2	-	-	-	-	-	-	2	-	-	13
25		-	9	-	-	-	-	-	9	-	-	58
26		-	8	-	-	-	-	-	8	-	-	51
27		-	3	12	-	-	-	-	15	-	-	96
28		-	-	10	1	-	-	-	11	-	-	70
29		-	-	-	10	-	-	-	10	-	-	64
30		-	-	-	6	12	-	-	18	-	-	115
31		-	-	-	-	6	3	-	9	-	-	58
32		-	-	-	-	3	26	-	29	-	-	186
33		-	-	-	-	-	-	14	14	-	-	90
34		-	-	-	-	-	-	18	18	-	-	115
35		-	-	-	-	-	-	10	10	-	-	64
36		-	-	-	-	-	-	3	3	-	-	19
Total No. of Ages Read		2	20	22	17	21	29	45	156	-	-	999
Serial Numbers		No. of Age Samples										
		Number of fish measured each month							-	-	156	
		Mean length of fish (cm) each month							-	-	31.0	
		Mean weight of fish (kg) each month							-	-	0.27	
		Total weight caught or landed (tons) each month							-	-	-	
		Estimated number caught or landed (whole numbers) each month							-	-	-	
		Range of depths (m) each month							-	-	-	
		Mesh size (mm)							-	-	-	

TABLE 131
(continued)

AGE/LENGTH KEY - HERRING - 4X - 1970 (3rd QUARTER)

COUNTRY		Canada (M)										Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Catches											Months Within Quarter		
COMMERCIAL/RESEARCH		Commercial										July	Aug	Sep	
STRUCTURES USED IN AGE DETERMINATION		Otoliths													
Year- Class	Age	69	68	67	66	65	64	63	62	61	60				
Length Group (cm)		1	2	3	4	5	6	7	8	9	10				
9		-	-	-	-	-	-	-	-	-	-	-	-	<1	
10		-	2	-	-	-	-	-	-	-	-	2	<1	-	1
11	1	68	-	-	-	-	-	-	-	-	-	69	6	-	2
12	2	202	-	-	-	-	-	-	-	-	-	204	23	1	3
13	-	250	-	-	-	-	-	-	-	-	-	250	33	3	6
14	-	266	-	-	-	-	-	-	-	-	-	266	36	11	14
15	-	253	-	-	-	-	-	-	-	-	-	253	30	15	21
16	-	214	1	-	-	-	-	-	-	-	-	215	17	18	29
17	-	178	1	-	-	-	-	-	-	-	-	179	11	20	50
18	-	193	5	-	-	-	-	-	-	-	-	198	6	33	63
19	-	193	5	-	-	-	-	-	-	-	-	198	3	36	61
20	-	120	12	-	-	-	-	-	-	-	-	132	1	27	57
21	-	29	15	-	-	-	-	-	-	-	-	44	1	11	25
22	-	14	5	-	-	-	-	-	-	-	-	19	1	4	10
23	-	5	8	-	-	-	-	-	-	-	-	13	2	1	3
24	-	-	15	5	-	-	-	-	-	-	-	20	12	3	1
25	-	-	21	33	-	-	-	-	-	-	-	54	33	13	2
26	-	-	6	96	5	-	-	-	-	-	-	107	70	33	14
27	-	-	3	262	39	1	-	-	-	-	-	305	121	73	61
28	-	-	1	367	63	3	-	-	-	-	-	434	159	134	125
29	-	-	-	217	122	12	-	-	-	-	-	351	140	141	123
30	-	-	-	40	172	31	2	-	-	-	-	245	81	91	75
31	-	-	-	-	173	106	7	-	-	-	-	286	68	78	58
32	-	-	-	-	24	239	55	1	-	-	-	319	66	91	66
33	-	-	-	1	1	79	185	4	-	-	-	270	42	76	58
34	-	-	-	-	1	2	54	111	2	-	-	170	24	50	42
35	-	-	-	-	-	-	16	36	17	1	-	70	10	25	20
36	-	-	-	-	-	-	-	7	12	1	-	20	3	9	8
37	-	-	-	-	-	-	-	-	2	1	-	3	1	2	2
38	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1
39	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-
40	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-
Total No. of Ages Read		3	1987	98	1021	600	473	319	159	33	3	4696			
Serial Numbers		No. of Age Samples										65			
		Number of fish measured each month										21770	22364	9495	
		Mean length of fish (cm) each month										27.0	28.3	26.4	
		Mean weight of fish (kg) each month										-	-	-	
		Total weight caught or landed (tons) each month										-	-	-	
		Estimated number caught or landed (whole numbers) each month										-	-	-	
		Range of depths (m) each month										-	-	-	
		Mesh size (mm) ¹										N.T.S.W	N.S.W	S.W	

¹ T = Trawl, S = Seine, N = Gillnet, W = Weir

TABLE 131
(continued)

AGE/LENGTH KEY - HERRING - 4X - 1970 (3RD QUARTER)

COUNTRY		Canada (M)								
CATCHES/LANDINGS		Catches								
COMMERCIAL/RESEARCH		Research								
STRUCTURES USED IN AGE DETERMINATION		Otoliths								
Year- Class Length Age Group (cm)		69	68	67	66	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		1	2	3	4		Months Within Quarter			
							Jul	Aug	Sep	
9		1	-	-	-	1	-	-	10	
10		1	-	-	-	1	-	-	10	
11		-	-	-	-	-	-	-	-	
12		-	-	-	-	-	-	-	-	
13		-	-	-	-	-	-	-	-	
14		-	1	-	-	1	-	-	10	
15		-	18	-	-	18	-	-	180	
16		-	45	-	-	45	-	-	470	
17		-	25	-	-	25	-	-	250	
18		-	5	-	-	5	-	-	50	
28		-	-	-	1	1	-	-	10	
29		-	-	-	1	1	-	-	10	
Total No. of Ages Read							98	1000		
Serial Numbers		No. of Age Samples						1		
Number of fish measured each month							-	-	100	
Mean length of fish (cm) each month							-	-	16.7	
Mean weight of fish (kg) each month							-	-	-	
Total weight caught or landed (tons) each month							-	-	-	
Estimated number caught or landed (whole numbers) each month							-	-	-	
Range of depths (m) each month							-	-	-	
Mesh size (mm) ¹							-	-	T	

¹ T = Trawl

TABLE 131
(continued)

AGE/LENGTH KEY - HERRING - 4X - 1970 (3rd QUARTER)

COUNTRY		U.S.A.								Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Catches									No. of Ages Read	Months Within Quarter	
COMMERCIAL/RESEARCH		Commercial								No. of Ages Read		Months Within Quarter	
STRUCTURES USED IN AGE DETERMINATION		Otoliths									No. of Ages Read	Months Within Quarter	
Year- Class	Age	69	68	67	66	65	64	63	62	No. of Ages Read		Months Within Quarter	
Length Group (cm)		1	2	3	4	5	6	7	8		July	Aug	Sep
10		-	-	-	-	-	-	-	-	-	2	-	2
11		-	2	-	-	-	-	-	-	2	26	-	3
12		-	16	-	-	-	-	-	-	16	100	6	8
13		1	53	-	-	-	-	-	-	54	182	57	29
14		-	72	-	-	-	-	-	-	72	156	58	79
15		-	87	-	-	-	-	-	-	87	148	74	78
16		-	82	-	-	-	-	-	-	82	83	92	103
17		-	112	-	-	-	-	-	-	112	54	98	134
18		-	129	-	-	-	-	-	-	129	24	120	191
19		-	89	-	-	-	-	-	-	89	14	96	202
20		-	41	-	-	-	-	-	-	41	8	42	112
21		-	10	2	-	-	-	-	-	12	2	19	37
22		-	-	5	-	-	-	-	-	5	5	7	6
23		-	-	13	3	-	-	-	-	16	13	6	-
24		-	-	30	6	-	-	-	-	36	28	27	2
25		-	-	13	21	-	-	-	-	34	21	39	2
26		-	-	7	36	3	-	-	-	46	33	58	2
27		-	-	3	49	4	-	-	-	56	40	69	-
28		-	-	1	20	1	-	-	-	22	28	54	-
29		-	-	-	12	6	1	-	1	20	14	21	5
30		-	-	-	1	6	6	-	2	15	9	13	4
31		-	-	-	-	1	2	-	-	3	5	12	1
32		-	-	-	-	-	4	2	3	9	2	19	-
33		-	-	-	-	-	-	1	3	4	2	9	-
34		-	-	-	-	-	-	-	1	1	1	4	-
Total No. of Ages Read		1	693	74	148	21	13	3	10	963	1000	1000	1000
Serial Numbers		No. of Age Samples								39			
		Number of fish measured each month								1959	1007	1121	
		Mean length of fish (cm) each month								17.2	20.8	18.1	
		Mean weight of fish (kg) each month								-	-	-	
		Total weight caught or landed (tons) each month								-	-	-	
		Estimated number caught or landed (whole numbers) each month								-	-	-	
		Range of depths (m) each month								-	-	-	
		Mesh size (mm)								-	-	-	

TABLE 131
(continued)

AGE/LENGTH KEY - HERRING - 4X - 1970 (3RD QUARTER)

COUNTRY		USA											
CATCHES/LANDINGS		Landings											
COMMERCIAL/RESEARCH		Commercial											
STRUCTURES USED IN AGE DETERMINATION		Otoliths											
Year- Class Length Group (cm)	Age	67	66	65	64	63	62	< 62	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		3	4	5	6	7	8	>8		Months Within Quarter	Jul	Aug	Sep
23		2	-	-	-	-	-	-	2	9	-	-	
24		6	-	-	-	-	-	-	6	27	-	-	
25		7	9	-	-	-	-	-	16	62	12	-	
26		-	18	-	-	-	-	-	18	44	48	-	
27		-	41	-	-	-	-	-	41	80	108	37	
28		-	18	47	-	-	-	-	65	111	187	67	
29		-	-	33	11	-	-	-	44	89	108	45	
30		-	-	-	47	-	-	-	47	97	90	75	
31		-	-	-	18	53	-	-	71	115	115	194	
32		-	-	-	-	39	37	-	76	115	115	231	
33		-	-	-	-	-	18	45	63	137	96	119	
34		-	-	-	-	-	-	52	52	75	78	164	
35		-	-	-	-	-	-	23	23	35	36	67	
36		-	-	-	-	-	-	2	2	4	6	-	
Total No. of Ages Read		15	86	80	76	92	55	122	526	1000	999	999	
Serial Numbers		No. of Age Samples											
		Number of fish measured each month								226	166	134	
		Mean length of fish (cm) each month								30.5	30.6	32.2	
		Mean weight of fish (kg) each month								26	25	31	
		Total weight caught or landed (tons) each month								-	-	-	
		Estimated number caught or landed (whole numbers) each month								-	-	-	
		Range of depths (m) each month								-	-	-	
		Mesh size (mm)								-	-	-	

TABLE 131
(continued)

AGE/LENGTH KEY - HERRING - 4X - 1970 (4th QUARTER)

COUNTRY		Canada (M)										Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Catches											Months Within Quarter		
COMMERCIAL/RESEARCH		Commercial										Total No. of Ages Read	Months Within Quarter		
STRUCTURES USED IN AGE DETERMINATION		Otoliths											Months Within Quarter		
Year- Class	Length Age Group (cm)	69	68	67	66	65	64	63	62	61	60	Total No. of Ages Read	PER MILLE		
		1	2	3	4	5	6	7	8	9	10		Oct	Nov	Dec
8	8	9	-	-	-	-	-	-	-	-	9	4	8	12	
9	9	33	-	-	-	-	-	-	-	-	33	13	37	49	
10	10	73	-	-	-	-	-	-	-	-	73	30	71	86	
11	11	128	-	-	-	-	-	-	-	-	128	43	94	129	
12	12	105	-	-	-	-	-	-	-	-	105	28	119	162	
13	13	108	1	-	-	-	-	-	-	-	109	26	96	195	
14	14	45	3	-	-	-	-	-	-	-	48	25	44	141	
15	15	2	12	-	-	-	-	-	-	-	14	39	15	42	
16	16	-	13	-	-	-	-	-	-	-	13	41	10	10	
17	17	1	31	-	-	-	-	-	-	-	32	47	22	19	
18	18	-	66	-	-	-	-	-	-	-	66	79	38	11	
19	19	-	110	-	-	-	-	-	-	-	110	120	86	23	
20	20	-	121	1	-	-	-	-	-	-	122	110	77	40	
21	21	-	59	3	-	-	-	-	-	-	62	47	18	48	
22	22	-	24	2	-	1	-	-	-	-	27	16	5	24	
23	23	-	2	4	-	-	-	-	-	-	6	4	2	5	
24	24	-	-	3	-	-	-	-	-	-	3	2	1	1	
25	25	-	-	-	-	-	-	-	-	-	-	1	-	1	
26	26	-	-	-	9	2	-	-	-	-	11	5	2	-	
27	27	-	-	-	11	15	1	-	-	-	27	22	15	-	
28	28	-	-	-	36	29	-	-	-	-	65	55	48	1	
29	29	-	-	-	24	24	2	-	-	-	50	66	68	-	
30	30	-	-	-	3	9	3	4	-	-	19	46	53	-	
31	31	-	-	-	-	9	13	6	-	-	28	34	28	1	
32	32	-	-	-	-	3	12	6	2	-	23	30	23	-	
33	33	-	-	-	-	-	9	11	4	-	24	27	10	-	
34	34	-	-	-	-	-	-	6	4	1	12	24	7	-	
35	35	-	-	-	-	-	-	-	2	3	5	10	2	-	
36	36	-	-	-	-	-	-	-	-	1	1	3	1	-	
37	37	-	-	-	-	-	-	-	-	-	-	1	-	-	
38	38	-	-	-	-	-	-	-	-	-	-	2	-	-	
Total No. of Ages Read		504	442	13	83	92	40	33	12	5	1	1225	1000	1000	1000
Serial Numbers		No. of Age Samples										22			
		Number of fish measured each month										3541	2023	1491	
		Mean length of fish (cm) each month										21.7	18.7	14.0	
		Mean weight of fish (kg) each month										-	-	-	
		Total weight caught or landed (tons) each month										-	-	-	
		Estimated number caught or landed (whole numbers) each month										-	-	-	
		Range of depths (m) each month										-	-	-	
		Mesh size (mm) 1										N.S.W	S.W	S	

¹ S = Seine, W = Weir, N = Gillnet

TABLE 131
(continued)

AGE/LENGTH KEY - HERRING - 4X - 1970 (4th QUARTER)

COUNTRY		U.S.A.									
CATCHES/LANDINGS		Catches									
COMMERCIAL/RESEARCH		Commercial									
STRUCTURES USED IN AGE DETERMINATION		Otoliths									
Year- Class Length Age Group (cm)	69	68	67	66	65	64	63	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
	1	2	3	4	5	6	7		Months Within Quarter		
									Oct	Nov	Dec
6	-	-	-	-	-	-	-	-	-	2	-
7	-	-	-	-	-	-	-	-	2	-	-
8	-	-	-	-	-	-	-	-	2	11	6
9	4	-	-	-	-	-	-	4	36	44	39
10	4	-	-	-	-	-	-	4	50	65	77
11	33	-	-	-	-	-	-	33	60	110	144
12	87	1	-	-	-	-	-	88	56	185	226
13	60	4	-	-	-	-	-	64	29	149	210
14	33	7	-	-	-	-	-	40	10	40	124
15	4	12	-	-	-	-	-	16	18	15	44
16	1	31	-	-	-	-	-	32	40	42	20
17	-	49	-	-	-	-	-	49	70	42	17
18	-	55	-	-	-	-	-	55	113	40	22
19	-	99	-	-	-	-	-	99	191	46	34
20	-	67	-	-	-	-	-	67	146	55	26
21	-	27	-	-	-	-	-	27	71	19	11
22	-	7	-	-	-	-	-	7	16	11	-
23	-	1	-	-	-	-	-	1	1	4	-
24	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	1	-	-	-	1	1	2	-
26	-	-	1	-	-	-	-	1	1	2	-
27	-	-	2	5	1	-	-	8	13	36	-
28	-	-	-	9	1	-	-	10	15	21	-
29	-	-	-	5	1	1	-	7	11	19	-
30	-	-	-	-	2	2	-	4	18	17	-
31	-	-	-	-	1	3	1	5	15	13	-
32	-	-	-	-	-	-	1	1	7	2	-
33	-	-	-	-	-	-	-	-	6	6	-
34	-	-	-	-	-	-	-	-	2	-	-
35	-	-	-	-	-	-	-	-	-	2	-
Total No. of Ages Read	226	360	3	20	6	6	2	623	1000	1000	1000
Serial Numbers	No. of Age Samples							25			
	Number of fish measured each month							938	525	700	
	Mean length of fish (cm) each month							18.4	16.1	13.5	
	Mean weight of fish (kg) each month							-	-	-	
	Total weight caught or landed (tons) each month							-	-	-	
	Estimated number caught or landed (whole numbers) each month							-	-	-	
	Range of depths (m) each month							-	-	-	
	Mesh size (mm)							-	-	-	

TABLE 132

AGE/LENGTH KEY - HERRING - 5Y(NORTH) - 1970 (1st QUARTER)

COUNTRY		U.S.A.				
CATCHES/LANDINGS		Catches				
COMMERCIAL/RESEARCH		Commercial				
STRUCTURES USED IN AGE DETERMINATION		Otoliths				
Year-Class	68	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
Length Age Group (cm)	2		Months Within Quarter			
			Jan	Feb	Mar	
9	4	4	-	160	-	
10	2	2	-	80	-	
11	7	7	-	200	80	
12	13	13	-	280	240	
13	11	11	-	200	240	
14	7	7	-	80	200	
15	5	5	-	-	200	
16	1	1	-	-	40	
Total No. of Ages Read		50	-	1000	1000	
Serial Numbers		No. of Age Samples				
		2				
Number of fish measured each month		-	25	25		
Mean length of fish (cm) each month		-	12.0	13.8		
Mean weight of fish (kg) each month		-	-	-		
Total weight caught or landed (tons) each month		-	110	-		
Estimated number caught or landed (whole numbers) each month		-	-	-		
Range of depths (m) each month		-	-	-		
Mesh size (mm)		-	-	-		

TABLE 132
(continued)

AGE/LENGTH KEY - HERRING - 5Y(NORTH) - 1970 (2nd QUARTER)

COUNTRY		Canada (M)														
CATCHES/LANDINGS		Catches														
COMMERCIAL/RESEARCH		Commercial														
STRUCTURES USED IN AGE DETERMINATION		Otoliths														
Year- Class	Length Group (cm)	68	67	66	65	64	63	62	61	60	59	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		2	3	4	5	6	7	8	9	10	11		Months Within Quarter			
												Apr	May	June		
9		3	-	-	-	-	-	-	-	-	3	-	-	15		
10		10	-	-	-	-	-	-	-	-	10	-	-	132		
11		30	-	-	-	-	-	-	-	-	30	-	-	277		
12		46	-	-	-	-	-	-	-	-	46	-	-	257		
13		29	-	-	-	-	-	-	-	-	29	-	-	167		
14		18	-	-	-	-	-	-	-	-	18	-	-	88		
15		7	-	-	-	-	-	-	-	-	7	-	-	30		
16		2	-	-	-	-	-	-	-	-	2	-	-	10		
17		2	-	-	-	-	-	-	-	-	2	-	-	5		
18		2	-	-	-	-	-	-	-	-	2	-	-	8		
19		-	1	-	-	-	-	-	-	-	1	-	-	5		

24		-	-	-	-	-	-	-	-	-	-	-	-	3		
25		-	-	-	-	-	-	-	-	-	-	-	-	-		
26		-	-	1	-	-	-	-	-	-	1	-	3	-		
27		-	-	2	1	-	-	-	-	-	3	-	8	3		
28		-	-	-	1	-	-	-	-	-	1	2	5	-		
29		-	-	-	3	1	-	-	-	-	4	2	15	-		
30		-	-	-	2	9	-	-	-	-	11	15	25	-		
31		-	-	-	8	14	25	6	1	-	54	89	149	-		
32		-	-	-	4	10	35	55	17	1	122	297	283	-		
33		-	-	-	3	2	15	23	73	1	117	332	309	-		
34		-	-	-	-	2	5	8	41	8	64	175	162	-		
35		-	-	-	-	-	-	-	10	4	14	68	28	-		
36		-	-	-	-	-	-	-	3	1	4	10	10	-		
37		-	-	-	-	-	-	-	-	2	2	8	3	-		
38		-	-	-	-	-	-	-	-	1	1	2	-	-		
Total No. of Ages Read		149	1	3	22	38	80	92	145	17	1	548				
Serial Numbers		No. of Age Samples											7			
	Number of fish measured each month												515	395	400	
	Mean length of fish (cm) each month												33.3	32.9	12.5	
	Mean weight of fish (kg) each month												-	-	-	
	Total weight caught or landed (tons) each month												-	-	-	
	Estimated number caught or landed (whole numbers) each month												-	-	-	
	Range of depths (m) each month												-	-	-	
	Mesh size (mm) ¹												S	S	W	

¹ S = Seine, W = Weir

TABLE 132
(continued)

AGE/LENGTH KEY - HERRING - 5Y(NORTH) - 1970 (2nd QUARTER)

COUNTRY		USA							Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Landings								Months	Within Quarter	
COMMERCIAL/RESEARCH		Commercial							Apr		May	Jun
STRUCTURES USED IN AGE DETERMINATION		Otoliths										
Year- Class Length Group (cm)	Age	67	66	65	64	63	62	< 62				
		3	4	5	6	7	8	> 8		Apr	May	Jun
25		-	1	-	-	-	-	-	1	-	-	16
26		-	4	-	-	-	-	-	4	-	-	66
27		-	1	7	-	-	-	-	8	-	-	131
28		-	-	9	3	-	-	-	12	-	-	197
29		-	-	1	3	-	-	-	4	-	-	66
30		-	-	-	5	5	-	-	10	-	-	163
31		-	-	-	-	6	4	-	10	-	-	163
32		-	-	-	-	-	6	-	6	-	-	98
33		-	-	-	-	-	-	5	5	-	-	82
34		-	-	-	-	-	-	1	1	-	-	16
Total No. of Ages Read		-	6	17	11	11	10	6	61	998		
Serial Numbers		No. of Age Samples										
		Number of fish measured each month							-	-	61	
		Mean length of fish (cm) each month							-	-	30.0	
		Mean weight of fish (kg) each month							-	-	0.23	
		Total weight caught or landed (tons) each month							-	-	-	
		Estimated number caught or landed (whole numbers) each month							-	-	-	
		Range of depths (m) each month							-	-	-	
		Mesh size (mm)							-	-	-	

TABLE 132
(continued)

AGE/LENGTH KEY - HERRING - 5Y(NORTH) - 1970 (2nd QUARTER)

COUNTRY		U.S.A.						
CATCHES/LANDINGS		Catches						
COMMERCIAL/RESEARCH		Commercial						
STRUCTURES USED IN AGE DETERMINATION		Otoliths						
Year- Class	69	68	67	66	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
						Months Within Quarter		
Length - Age Group (cm)	1	2	3	4		Apr	May	June
3	1	-	-	-	1	-	6	-
4	80	-	-	-	80	-	507	5
5	90	-	-	-	90	-	153	89
6	26	-	-	-	26	-	-	35
7	3	-	-	-	3	-	-	4
8	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	3
10	-	3	-	-	3	40	7	23
11	-	24	-	-	24	80	47	87
12	-	55	-	-	55	280	33	95
13	-	48	-	-	48	280	47	97
14	-	52	-	-	52	280	13	122
15	-	46	-	-	46	-	67	124
16	-	46	1	-	47	40	100	120
17	-	26	-	-	26	-	20	61
18	-	12	2	-	14	-	-	32
19	-	12	3	-	15	-	-	21
20	-	4	-	-	4	-	-	7
21	-	2	4	-	6	-	-	11
22	-	-	5	-	5	-	-	8
23	-	-	1	-	1	-	-	4
24	-	-	3	-	3	-	-	9
25	-	-	-	1	1	-	-	5
26	-	-	-	-	-	-	-	3
27	-	-	-	-	-	-	-	16
28	-	-	-	-	-	-	-	11
29	-	-	-	-	-	-	-	3
30	-	-	-	-	-	-	-	3
31	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	1
33	-	-	-	-	-	-	-	-
34	-	-	-	-	-	-	-	1
Total No. of Ages Read	200	330	19	1	550			
Serial Numbers					No. of Age Samples	16		
	Number of fish measured each month					25	150	749
	Mean length of fish (cm) each month					13.3	8.0	14.4
	Mean weight of fish (kg) each month					-	-	-
	Total weight caught or landed (tons) each month					-	43	841
	Estimated number caught or landed (whole numbers) each month					-	-	-
	Range of depths (m) each month					-	-	-
	Mesh size (mm)					-	-	-

TABLE 132
(continued)

AGE/LENGTH KEY -- HERRING -- 5Y(NORTH) -- 1970 (3rd QUARTER)

COUNTRY		Canada (M)										
CATCHES/LANDINGS		Catches										
COMMERCIAL/RESEARCH		Commercial										
STRUCTURES USED IN AGE DETERMINATION		Otoliths										
Year- Class Length Age Group(cm)	68	67	66	65	64	63	62	61	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE Months Within Quarter		
	2	3	4	5	6	7	8	9		July	Aug	Sep
13	3	-	-	-	-	-	-	-	3	17	-	-
14	16	1	-	-	-	-	-	-	17	56	74	-
15	19	-	-	-	-	-	-	-	19	42	284	-
16	35	1	-	-	-	-	-	-	36	47	407	-
17	14	-	-	-	-	-	-	-	14	20	148	-
18	5	-	-	-	-	-	-	-	5	10	25	-
19	1	1	-	-	-	-	-	-	2	2	25	-
20	-	2	-	-	-	-	-	-	2	-	25	-
21	-	-	-	-	-	-	-	-	-	2	-	-
22	-	1	-	-	-	-	-	-	1	2	-	-
23	-	-	-	-	-	-	-	-	-	2	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	10	-	-
26	-	1	4	-	-	-	-	-	5	56	-	-
27	-	-	5	-	-	-	-	-	5	108	12	-
28	-	-	4	-	-	-	-	-	4	76	-	-
29	-	-	4	3	2	-	-	-	9	81	-	-
30	-	-	1	2	5	-	-	-	8	86	-	-
31	-	-	-	1	12	-	-	-	13	118	-	-
32	-	-	-	1	8	7	-	-	16	120	-	-
33	-	-	-	-	-	9	-	-	9	71	-	-
34	-	-	-	-	-	2	2	-	4	56	-	-
35	-	-	-	-	-	-	-	1	1	7	-	-
36	-	-	-	-	-	-	-	1	1	10	-	-
Total No. of Ages Read	93	7	18	7	27	18	2	2	174	999	1000	-
Serial Numbers	No. of Age Samples 3											
	Number of fish measured each month									408	81	-
	Mean length of fish (cm) each month									27.6	16.5	-
	Mean weight of fish (kg) each month									-	-	-
	Total weight caught or landed (tons) each month									-	-	-
	Estimated number caught or landed (whole numbers) each month									-	-	-
	Range of depths (m) each month									-	-	-
	Mesh size (mm) 1									W, T, S	W	-

¹ W = Weir, T = Trawl, S = Seine

TABLE 132
(continued)

AGE/LENGTH KEY - HERRING - 5Y(NORTH) - 1970 (3rd QUARTER)

COUNTRY		U.S.A.								Total No. of Ages Read	LENGTH COMPOSITION PER MILE		
CATCHES/LANDINGS		Catches									Months Within Quarter		
COMMERCIAL/RESEARCH		Commercial								Total No. of Ages Read	Months Within Quarter		
STRUCTURES USED IN AGE DETERMINATION		Otoliths									Months Within Quarter		
Year- Class Length Group (cm)	Age	69	68	67	66	65	64	63	62	Total No. of Ages Read	PER MILE		
		1	2	3	4	5	6	7	8		July	Aug	Sep
4		10	-	-	-	-	-	-	-	10	11	-	-
5		89	-	-	-	-	-	-	-	89	102	-	-
6		1	-	-	-	-	-	-	-	1	1	-	-
7		3	-	-	-	-	-	-	-	3	-	-	6
8		12	-	-	-	-	-	-	-	12	2	-	41
9		14	-	-	-	-	-	-	-	14	-	-	95
10		10	-	-	-	-	-	-	-	10	-	-	41
11		5	-	-	-	-	-	-	-	5	2	-	10
12		5	5	-	-	-	-	-	-	10	21	5	10
13		-	29	-	-	-	-	-	-	29	73	52	-
14		-	58	-	-	-	-	-	-	58	112	76	-
15		-	76	-	-	-	-	-	-	76	147	130	-
16		-	81	-	-	-	-	-	-	81	131	118	8
17		-	64	-	-	-	-	-	-	64	111	92	39
18		-	74	-	-	-	-	-	-	74	48	74	125
19		-	67	-	-	-	-	-	-	67	30	81	156
20		-	40	1	-	-	-	-	-	41	5	57	132
21		-	20	6	-	-	-	-	-	26	15	29	66
22		-	19	13	-	-	-	-	-	32	32	29	74
23		-	3	26	1	-	-	-	-	30	45	28	43
24		-	1	42	3	-	-	-	-	46	46	50	70
25		-	-	31	10	-	-	-	-	41	23	43	49
26		-	-	11	13	-	-	-	-	24	10	26	31
27		-	-	-	14	1	-	-	-	15	5	24	2
28		-	-	-	18	3	1	-	-	22	10	28	2
29		-	-	-	7	7	-	-	-	14	7	21	-
30		-	-	-	-	-	5	-	-	5	3	9	-
31		-	-	-	-	-	3	-	-	3	-	7	-
32		-	-	-	-	-	4	4	5	13	4	17	-
33		-	-	-	-	-	1	2	-	3	3	4	-
34		-	-	-	-	-	-	-	-	-	1	-	-
Total No. of Ages Read		149	537	130	66	11	14	6	5	918			
Serial Numbers		No. of Age Samples								35			
		Number of fish measured each month								876	578	487	
		Mean length of fish (cm) each month								16.6	19.8	18.8	
		Mean weight of fish (kg) each month								-	-	-	
		Total weight caught or landed (tons) each month								3069	3888	4388	
		Estimated number caught or landed (whole numbers) each month								-	-	-	
		Range of depths (m) each month								-	-	-	
		Mesh size (mm)								-	-	-	

TABLE 132
(continued)

AGE/LENGTH KEY - HERRING - 5Y(NORTH) - 1970 (3rd QUARTER)

COUNTRY		USA							Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
CATCHES/LANDINGS		Landings								Months Within Quarter			
COMMERCIAL/RESEARCH		Commercial							Total No. of Ages Read	Otoliths			
STRUCTURES USED IN AGE DETERMINATION		Otoliths								PER MILLE			
Year- Class Length Group (cm)	Age	67	66	65	64	63	62	< 62	Total No. of Ages Read	Months Within Quarter			
		3	4	5	6	7	8	> 8		Jul	Aug	Sep	
22		4	-	-	-	-	-	-	4	-	2	33	
23		34	-	-	-	-	-	-	34	71	38	43	
24		53	-	-	-	-	-	-	53	117	38	152	
25		53	2	-	-	-	-	-	55	122	43	141	
26		14	53	-	-	-	-	-	67	137	53	196	
27		-	75	-	-	-	-	-	75	142	75	174	
28		-	20	57	-	-	-	-	77	117	108	98	
29		-	-	35	26	-	-	-	61	66	103	54	
30		-	-	-	53	2	-	-	55	66	96	22	
31		-	-	-	13	58	3	-	74	71	135	43	
32		-	-	-	-	18	52	3	73	56	144	22	
33		-	-	-	-	-	11	33	44	25	94	-	
34		-	-	-	-	-	-	32	32	10	67	22	
35		-	-	-	-	-	-	1	1	-	2	-	
Total No. of Ages Read		158	150	92	92	78	66	69	705	1000	998	1000	
Serial Numbers		No. of Age Samples											
		Number of fish measured each month								197	416	92	
		Mean length of fish (cm) each month								27.7	30.0	26.9	
		Mean weight of fish (kg) each month								1.86	2.35	1.63	
		Total weight caught or landed (tons) each month								-	-	-	
		Estimated number caught or landed (whole numbers) each month								-	-	-	
		Range of depths (m) each month								-	-	-	
		Mesh size (mm)								-	-	-	

TABLE 132
(continued)

AGE/LENGTH KEY - HERRING - 5Y(NORTH) - 1970 (4th QUARTER)

COUNTRY		Canada (M)						Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Catches							Months Within Quarter		
COMMERCIAL/RESEARCH		Commercial						Total No. of Ages Read	Oct	Nov	Dec
STRUCTURES USED IN AGE DETERMINATION		Otoliths									
Year- Class	Length Age Group (cm)	68	67	66	65	64	63				
		2	3	4	5	6	7	Oct	Nov	Dec	
19		4	2	-	-	-	-	6	<1	12	-
20		14	28	-	-	-	-	42	5	118	-
21		5	52	-	-	-	-	57	37	280	-
22		11	59	-	-	-	-	70	134	272	-
23		1	36	1	-	-	-	38	151	194	-
24		-	36	1	-	-	-	37	112	78	-
25		-	17	17	-	-	-	34	127	24	-
26		-	4	11	-	-	-	15	106	11	-
27		-	-	17	1	-	-	18	63	4	-
28		-	-	10	-	-	-	10	30	4	-
29		-	-	13	5	-	-	18	32	1	-
30		-	-	2	5	-	-	7	26	2	-
31		-	-	-	23	2	-	25	38	-	-
32		-	-	-	7	15	1	23	51	-	-
33		-	-	-	-	16	6	22	53	-	-
34		-	-	-	-	-	10	10	25	-	-
35		-	-	-	-	-	-	-	10	-	-
36		-	-	-	-	-	-	-	<1	-	-
Total No. of Ages Read		35	234	72	41	33	17	432	1000	1000	-
Serial Numbers		No. of Age Samples						5			
		Number of fish measured each month						3089	919	-	
		Mean length of fish (cm) each month						26.4	22.4	-	
		Mean weight of fish (kg) each month						-	-	-	
		Total weight caught or landed (tons) each month						-	-	-	
		Estimated number caught or landed (whole numbers) each month						-	-	-	
		Range of depths (m) each month						-	-	-	
		Mesh size (mm) ¹						S	S	-	

¹ S = Seine

TABLE 132
(continued)

AGE/LENGTH KEY - HERRING - 5Y(NORTH) - 1970 (4th QUARTER)

COUNTRY		U. S. A.						Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
CATCHES/LANDINGS		Catches							Months Within Quarter			
COMMERCIAL/RESEARCH		Commercial							Oct	Nov	Dec	
STRUCTURES USED IN AGE DETERMINATION		Otoliths										
Year- Class Length Group (cm)	Age	69	68	67	66	65	64					
		1	2	3	4	5	6		Oct	Nov	Dec	
8		10	-	-	-	-	-	10	32	-	-	
9		24	-	-	-	-	-	24	93	140	-	
10		29	-	-	-	-	-	29	116	80	-	
11		8	-	-	-	-	-	8	32	30	-	
12		3	-	-	-	-	-	3	14	-	-	
13		4	-	-	-	-	-	4	3	-	120	
14		2	-	-	-	-	-	2	-	-	80	
15		3	-	-	-	-	-	3	-	-	120	
16		1	-	-	-	-	-	1	-	-	40	
17		-	1	-	-	-	-	1	6	-	-	
18		-	22	-	-	-	-	22	14	130	200	
19		-	41	-	-	-	-	41	43	240	240	
20		-	29	-	-	-	-	29	93	110	80	
21		-	52	2	-	-	-	54	180	180	40	
22		-	29	7	-	-	-	36	133	70	80	
23		-	12	1	-	-	-	13	58	10	-	
24		-	3	6	1	-	-	10	52	10	-	
25		-	-	3	-	-	-	3	32	-	-	
26		-	-	14	3	-	-	17	52	-	-	
27		-	-	2	6	-	-	8	23	-	-	
28		-	-	-	3	-	-	3	9	-	-	
29		-	-	-	1	2	-	3	12	-	-	
30		-	-	-	-	-	-	-	-	-	-	
31		-	-	-	-	-	1	1	3	-	-	
Total No. of Ages Read		84	189	35	14	2	1	325	1000	1000	1000	
Serial Numbers		No. of Age Samples						13				
		Number of fish measured each month						345	100	25		
		Mean length of fish (cm) each month						19.1	17.8	18.0		
		Mean weight of fish (kg) each month						-	-	-		
		Total weight caught or landed (tons) each month						2727	1004	530		
		Estimated number caught or landed (whole numbers) each month						-	-	-		
		Range of depths (m) each month						-	-	-		
		Mesh size (mm)						-	-	-		

TABLE 133

AGE/LENGTH KEY - HERRING - 5Y (SOUTH) - 1970 (1st QUARTER)

COUNTRY		USA							Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
CATCHES/LANDINGS		Landings								Months Within Quarter	Jan	Feb	Mar
COMMERCIAL/RESEARCH		Commercial											
STRUCTURES USED IN AGE DETERMINATION		Otoliths											
Year-Class Length Group (cm)	Age	67	66	65	64	63	62	< 62	Total No. of Ages Read	PER MILLE			
		3	4	5	6	7	8	> 8		Jan	Feb	Mar	
24		-	2	-	-	-	-	-	2	74	-	-	
25		-	1	-	-	-	-	-	1	37	-	-	
26		-	-	-	-	-	-	-	-	-	-	-	
27		-	-	1	-	-	-	-	1	37	-	-	
28		-	-	-	-	-	-	-	-	-	-	-	
29		-	-	-	2	-	-	-	2	74	-	-	
30		-	-	-	1	1	-	-	2	74	-	-	
31		-	-	-	-	3	4	-	7	222	-	111	
32		-	-	-	-	-	4	1	5	148	-	111	
33		-	-	-	-	-	-	8	8	111	-	556	
34		-	-	-	-	-	-	5	5	111	-	222	
35		-	-	-	-	-	-	3	3	111	-	-	
Total No. of Ages Read		-	3	1	3	4	8	17	36	999	-	1000	
Serial Numbers		No. of Age Samples											
		Number of fish measured each month							27	-	9		
		Mean length of fish (cm) each month							31.5	-	33.5		
		Mean weight of fish (kg) each month							.215	-	.272		
		Total weight caught or landed (tons) each month							-	-	-		
		Estimated number caught or landed (whole numbers) each month							-	-	-		
		Range of depths (m) each month							-	-	-		
		Mesh size (mm)							-	-	-		

TABLE 133
(continued)

AGE/LENGTH KEY - HERRING - 5Y (SOUTH) - 1970 (2nd QUARTER)

COUNTRY		USA							Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
CATCHES/LANDINGS		Landings								Months	Within Quarter		
COMMERCIAL/RESEARCH		Commercial							Apr		May	Jun	
STRUCTURES USED IN AGE DETERMINATION		Otoliths											
Year- Class Length Group (cm)	Age	67	66	65	64	63	62	< 62					
		3	4	5	6	7	8	> 8		Apr	May	Jun	
21		1	-	-	-	-	-	-	1	3	-	-	
22		6	-	-	-	-	-	-	6	3	3	19	
23		12	-	-	-	-	-	-	12	8	-	42	
24		6	5	-	-	-	-	-	11	15	3	19	
25		-	22	-	-	-	-	-	22	30	16	28	
26		-	35	4	-	-	-	-	39	43	24	74	
27		-	20	48	-	-	-	-	68	101	36	88	
28		-	-	40	19	-	-	-	59	53	47	121	
29		-	-	2	45	7	-	-	54	53	28	121	
30		-	-	-	17	75	-	-	92	86	95	158	
31		-	-	-	3	54	99	-	156	146	237	177	
32		-	-	-	-	-	106	84	190	247	285	93	
33		-	-	-	-	-	-	1	108	151	142	56	
34		-	-	-	-	-	-	-	34	45	59	5	
35		-	-	-	-	-	-	-	12	15	24	-	
36		-	-	-	-	-	-	-	1	3	-	-	
Total No. of Ages Read		25	82	94	84	136	206	238	865	1002	999	1001	
Serial Numbers		No. of Age Samples											
		Number of fish measured each month							397	253	215		
		Mean length of fish (cm) each month							30.8	31.6	29.4		
		Mean weight of fish (kg) each month							217	227	217		
		Total weight caught or landed (tons) each month							-	-	-		
		Estimated number caught or landed (whole numbers) each month							-	-	-		
		Range of depths (m) each month							-	-	-		
		Mesh size (mm)							-	-	-		

TABLE 133
(continued)

AGE/LENGTH KEY - HERRING - 5Y(SOUTH) - 1970 (3rd QUARTER)

COUNTRY									USA			
CATCHES/LANDINGS									Landings			
COMMERCIAL/RESEARCH									Commercial			
STRUCTURES USED IN AGE DETERMINATION									Otoliths			
Year- Class Length Age Group (cm)	67	66	65	64	63	62	<62	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
									Months	Within	Quarter	
	3	4	5	6	7	8	> 8		Jul	Aug	Sep	
21	3	-	-	-	-	-	-	3	14	-	-	
22	5	-	-	-	-	-	-	5	19	-	3	
23	30	-	-	-	-	-	-	30	47	-	55	
24	45	1	-	-	-	-	-	46	28	5	105	
25	87	8	-	-	-	-	-	95	61	10	215	
26	60	65	-	-	-	-	-	125	136	27	235	
27	-	110	6	-	-	-	-	116	187	95	102	
28	-	26	87	2	-	-	-	115	131	144	77	
29	-	-	51	31	-	-	-	82	47	151	28	
30	-	-	7	72	2	-	-	81	70	131	33	
31	-	-	-	27	59	2	-	87	84	141	30	
32	-	-	-	-	48	40	1	89	23	168	41	
33	-	-	-	-	-	29	44	73	93	95	39	
34	-	-	-	-	-	-	24	25	42	24	17	
35	-	-	-	-	-	-	10	10	14	7	11	
36	-	-	-	-	-	-	4	4	-	2	8	
37	-	-	-	-	-	-	-	-	-	-	-	
38	-	-	-	-	-	-	1	1	5	-	-	
Total No. of Ages Read	230	210	151	132	109	71	84	987	1001	1000	999	
Serial Numbers	No. of Age Samples											
	Number of fish measured each month								214	411	362	
	Mean length of fish (cm) each month								28.6	30.5	27.3	
	Mean weight of fish (kg) each month								203	243	164	
	Total weight caught or landed (tons) each month								-	-	-	
	Estimated number caught or landed (whole numbers) each month								-	-	-	
	Range of depths (m) each month								-	-	-	
	Mesh size (mm)								-	-	-	

TABLE 133
(continued)

AGE/LENGTH KEY - HERRING - 5Y(SOUTH) - 1970 (4th QUARTER)

COUNTRY									USA				
CATCHES/LANDINGS									Landings				
COMMERCIAL/RESEARCH									Commercial				
STRUCTURES USED IN AGE DETERMINATION									Otoliths				
Year- Class Length Group (cm)	Age	67	66	65	64	63	62	<62	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		3	4	5	6	7	8	> 8		Months Within Quarter			
										Oct	Nov	Dec	
23		22	-	-	-	-	-	-	22	41	-	-	
24		51	-	-	-	-	-	-	51	96	-	-	
25		71	-	-	-	-	-	-	71	133	-	-	
26		64	12	-	-	-	-	-	76	141	10	-	
27		-	75	1	-	-	-	-	76	135	38	-	
28		-	18	18	-	-	-	-	36	62	29	-	
29		-	-	26	-	-	-	-	26	36	67	-	
30		-	-	-	26	-	-	-	26	49	-	-	
31		-	-	-	34	18	-	-	52	73	124	-	
32		-	-	-	-	45	15	-	61	83	152	-	
33		-	-	-	-	-	25	38	63	71	238	-	
34		-	-	-	-	-	-	54	54	53	248	-	
35		-	-	-	-	-	-	19	19	23	67	-	
36		-	-	-	-	-	-	5	5	6	19	-	
37		-	-	-	-	-	-	1	1	-	10	-	
Total No. of Ages Read		208	105	45	60	63	40	117	638	1002	1002	-	
Serial Numbers		No. of Age Samples											
		Number of fish measured each month							533	105	-		
		Mean length of fish (cm) each month							28.6	32.8	-		
		Mean weight of fish (kg) each month							178	236	-		
		Total weight caught or landed (tons) each month							-	-	-		
		Estimated number caught or landed (whole numbers) each month							-	-	-		
		Range of depths (m) each month							-	-	-		
		Mesh size (mm)							-	-	-		

TABLE 134

AGE/LENGTH KEY - HERRING - 5Y - 1970 (3rd QUARTER)

COUNTRY		Non-Member A												
CATCHES/LANDINGS														
COMMERCIAL/RESEARCH												Seaprobe		
STRUCTURES USED IN AGE DETERMINATION														
Year-Class Length Age Group (cm)	68	67	66	65	64	63	62	61	60	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
	2	3	4	5	6	7	8	9	10		Months Within Quarter			
											July	Aug	Sep	
21	4	-	-	-	-	-	-	-	-	4	-	-	27	
22	6	-	-	-	-	-	-	-	-	6	-	-	41	
23	1	-	-	-	-	-	-	-	-	1	-	-	7	
24	-	10	2	-	-	-	-	-	-	12	-	-	82	
25	-	5	2	-	-	-	-	-	-	7	-	-	48	
26	-	1	3	-	-	-	-	-	-	4	-	-	27	
27	-	-	2	2	-	-	-	-	-	4	-	-	27	
28	-	-	4	16	5	-	-	-	-	25	-	-	171	
29	-	-	2	15	5	1	-	-	-	23	-	-	157	
30	-	-	-	2	10	8	-	-	-	20	-	-	137	
31	-	-	-	-	6	3	-	-	-	9	-	-	62	
32	-	-	-	-	1	4	4	1	-	10	-	-	68	
33	-	-	-	1	1	1	2	5	1	11	-	-	75	
34	-	-	-	-	-	-	2	1	4	7	-	-	48	
35	-	-	-	-	-	-	-	-	1	1	-	-	7	
36	-	-	-	-	-	-	-	-	1	1	-	-	7	
37	-	-	-	-	-	-	-	-	-	-	-	-	-	
38	-	-	-	-	-	-	-	-	-	-	-	-	-	
39	-	-	-	1	-	-	-	-	-	1	-	-	7	
Total No. of Ages Read	11	16	15	37	28	17	8	8	6	146	998			
Serial Numbers	No. of Age Samples										2			
	Number of fish measured each month										-	-	146	
	Mean length of fish (cm) each month										-	-	29.2	
	Mean weight of fish (kg) each month										-	-	-	
	Total weight caught or landed (tons) each month										-	-	-	
	Estimated number caught or landed (whole numbers) each month										-	-	-	
	Range of depths (m) each month										-	-	-	
	Mesh size (mm)										-	-	-	

TABLE 134
(continued)

AGE/LENGTH KEY - HERRING - 5Y - 1970 (4th QUARTER)

COUNTRY		Non-Member A													
CATCHES/LANDINGS															
COMMERCIAL/RESEARCH		Seeprobe													
STRUCTURES USED IN AGE DETERMINATION															
Year-Class	Age	68	67	66	65	64	63	62	61	60	59	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
Length Group (cm)		2	3	4	5	6	7	8	9	10	11		Months Within Quarter		
												Oct	Nov	Dec	
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
22	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
23	1	3	1	-	-	-	1	-	-	-	-	-	-	7	
24	1	4	-	-	-	-	-	-	-	-	-	-	-	20	
25	-	4	3	-	-	-	-	-	-	-	-	-	-	9	
26	-	4	8	1	-	-	-	-	-	-	-	-	-	20	
27	1	3	7	7	-	-	-	-	-	-	-	-	-	32	
28	-	1	3	6	1	-	-	-	-	-	-	-	-	45	
29	-	-	7	9	7	2	-	-	-	-	-	-	-	61	
30	-	-	1	12	6	6	-	-	-	-	-	-	-	77	
31	-	1	1	3	7	7	1	-	-	-	-	-	-	83	
32	-	-	-	-	3	14	10	2	-	-	-	-	-	102	
33	-	-	-	1	-	6	7	4	1	-	-	-	-	207	
34	-	-	-	-	-	5	2	5	2	1	-	-	-	153	
35	-	-	-	-	-	-	1	2	-	-	-	-	-	136	
36	-	-	-	-	-	-	-	-	-	-	-	-	-	39	
37	-	-	-	-	-	-	-	-	1	-	-	-	-	5	
														2	
Total No. of Ages Read		3	20	31	39	24	41	21	13	4	1	197			
Serial Numbers		No. of Age Samples										2			
	Number of fish measured each month											-	556	-	
	Mean length of fish (cm) each month											-	30.3	-	
	Mean weight of fish (kg) each month											-	-	-	
	Total weight caught or landed (tons) each month											-	-	-	
	Estimated number caught or landed (whole numbers) each month											-	-	-	
	Range of depths (m) each month											-	-	-	
	Mesh size (mm)											-	-	-	

TABLE 135

AGE/LENGTH KEY - HERRING - 5Z - 1970 (1st QUARTER)

COUNTRY		U.S.S.R.												
CATCHES/LANDINGS		Catches												
COMMERCIAL/RESEARCH		Commercial												
STRUCTURES USED IN AGE DETERMINATION		Otoliths												
Year- Class Length Group (cm)	Age	66	65	64	63	62	61	60	59	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		4	5	6	7	8	9	10	11		Months Within Quarter			
											Jan	Feb	Mar	
15		-	-	-	-	-	-	-	-	-	-	-	-	4
16		-	-	-	-	-	-	-	-	-	-	-	-	16
17		-	-	-	-	-	-	-	-	-	-	-	-	22
18		-	-	-	-	-	-	-	-	-	-	-	-	16
19		-	-	-	-	-	-	-	-	-	-	-	-	14
20		-	-	-	-	-	-	-	-	-	-	-	-	13
21		-	-	-	-	-	-	-	-	-	-	-	-	14
22		-	-	-	-	-	-	-	-	-	-	-	-	17
23		-	-	-	-	-	-	-	-	-	-	-	-	18
24		-	-	-	-	-	-	-	-	-	-	-	-	24
25		-	-	-	-	-	-	-	-	-	-	-	-	47
26		-	1	-	-	-	-	-	-	1	-	-	-	71
27		1	1	-	-	-	-	-	-	2	-	-	-	123
28		-	4	1	-	-	-	-	-	5	-	-	-	98
29		-	2	2	-	-	-	-	-	4	-	-	-	82
30		-	2	2	2	-	-	-	-	6	-	-	-	67
31		-	-	1	7	6	-	-	-	14	-	-	-	78
32		-	-	2	11	7	7	-	-	27	-	-	-	113
33		-	-	-	2	11	5	1	-	19	-	-	-	88
34		-	-	-	-	5	9	1	-	15	-	-	-	61
35		-	-	-	-	1	2	1	1	5	-	-	-	13
36		-	-	-	-	-	-	-	-	-	-	-	-	1
Total No. of Ages Read		1	10	8	22	30	23	3	1	98	1000			
Serial Numbers		No. of Age Samples												
		Number of fish measured each month									-	-	2700	
		Mean length of fish (cm) each month									-	-	28.1	
		Mean weight of fish (kg) each month									-	-	0.19	
		Total weight caught or landed (tons) each month									-	-	57	
		Estimated number caught or landed (whole numbers) each month									-	-	-	
		Range of depths (m) each month									-	-	30-45	
		Mesh size (mm)									-	-	40	

TABLE 135
(continued)

AGE/LENGTH KEY - HERRING - 5Z - 1970 (2nd QUARTER)

COUNTRY		Canada (M)								
CATCHES/LANDINGS		Catches								
COMMERCIAL/RESEARCH		Commercial								
STRUCTURES USED IN AGE DETERMINATION		Otoliths								
Year- Class Length Age Group (cm)	67	66	65	64	63	Total No. of Ages Read	LENGTH COMPOSITION PER MILE			
	3	4	5	6	7		Months	Within	Quarter	
							Apr	May	June	
25	4	-	-	-	-	4	-	-	21	
26	7	27	-	-	-	34	-	-	178	
27	-	57	-	-	-	57	-	-	298	
28	-	42	-	-	-	42	-	-	225	
29	-	24	-	-	-	24	-	-	126	
30	-	3	7	-	-	10	-	-	52	
31	-	-	10	-	-	10	-	-	52	
32	-	-	3	2	-	5	-	-	26	
33	-	-	-	2	-	2	-	-	11	
34	-	-	-	-	2	2	-	-	11	
Total No. of Ages Read							190	-	-	1000
Serial Numbers		No. of Age Samples					1			
Number of fish measured each month							-	-	191	
Mean length of fish (cm) each month							-	-	28.3	
Mean weight of fish (kg) each month							-	-	-	
Total weight caught or landed (tons) each month							-	-	-	
Estimated number caught or landed (whole numbers) each month							-	-	-	
Range of depths (m) each month							-	-	-	
Mesh size (mm) 1							-	-	T	

T = Trawl

TABLE 135
(continued)

AGE/LENGTH KEY - HERRING - 52 - 1970 (2nd QUARTER)

COUNTRY		U.S.S.R.								Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Catches									Months Within Quarter		
COMMERCIAL/RESEARCH		Commercial								Total No. of Ages Read	Months Within Quarter		
STRUCTURES USED IN AGE DETERMINATION		Otoliths									Months Within Quarter		
Year- Class Length Group (cm)	Age	66	65	64	63	62	61	60	Total No. of Ages Read	PER MILLE			
		4	5	6	7	8	9	10		Apr	May	June	
16		-	-	-	-	-	-	-	-	-	-	-	1
17		-	-	-	-	-	-	-	-	-	-	-	5
18		-	-	-	-	-	-	-	-	-	-	-	19
19		-	-	-	-	-	-	-	-	-	-	-	21
20		-	-	-	-	-	-	-	-	-	-	+	14
21		-	-	-	-	-	-	-	-	-	-	+	17
22		-	-	-	-	-	-	-	-	-	-	1	33
23		-	-	-	-	-	-	-	-	-	-	11	61
24		-	-	-	-	-	-	-	-	-	-	27	72
25		-	-	-	-	-	-	-	-	-	-	42	98
26		4	-	-	-	-	-	-	4	-	-	76	128
27		41	24	-	-	-	-	-	65	-	-	176	179
28		37	48	3	-	-	-	-	88	-	-	203	156
29		-	50	4	-	-	-	-	54	-	-	133	71
30		-	31	19	1	-	-	-	51	-	-	80	37
31		-	14	13	6	-	-	-	33	-	-	66	21
32		-	-	15	19	6	1	-	41	-	-	83	29
33		-	-	3	16	6	9	-	34	-	-	76	26
34		-	-	1	5	4	1	1	12	-	-	25	11
35		-	-	-	-	-	-	-	-	-	-	4	1
Total No. of Ages Read		82	167	58	47	16	11	1	382				
Serial Numbers		No. of Age Samples											
		Number of fish measured each month								-	5200	9400	
		Mean length of fish (cm) each month								-	28.8	26.4	
		Mean weight of fish (kg) each month								-	0.19	0.16	
		Total weight caught or landed (tons) each month								-	1518	2009	
		Estimated number caught or landed (whole numbers) each month								-	-	-	
		Range of depths (m) each month								-	20-130	15	
		Mesh size (mm)								-	40	40	

TABLE 135
(continued)

AGE/LENGTH KEY - HERRING - 5Z - 1970 (3rd QUARTER)

COUNTRY		Canada (M)													
CATCHES/LANDINGS		Catches													
COMMERCIAL/RESEARCH		Commercial													
STRUCTURES USED IN AGE DETERMINATION		Otoliths													
Year- Class	Length Age Group (cm)	68	67	66	65	64	63	62	Total No. of Ages Read	LENGTH COMPOSITION PER MILE					
		2	3	4	5	6	7	8		Months Within Quarter					
									July			Aug		Sep	
20		1	-	-	-	-	-	-	1	-	-	-	-	12	
21		-	-	-	-	-	-	-	-	-	-	-	-	-	
22		-	2	-	-	-	-	-	2	5	-	-	-	-	
23		-	7	1	-	-	-	-	8	19	-	-	-	-	
24		-	15	3	-	-	-	-	18	42	-	-	-	-	
25		-	10	24	-	-	-	-	34	66	-	-	-	82	
26		-	3	54	-	-	-	-	57	104	-	-	-	153	
27		-	-	58	4	-	-	-	62	125	-	-	-	106	
28		-	-	54	9	-	-	-	63	115	-	-	-	153	
29		-	-	35	21	3	-	-	59	122	-	-	-	82	
30		-	-	2	25	14	-	-	41	82	-	-	-	70	
31		-	-	-	12	38	4	-	54	113	-	-	-	71	
32		-	-	-	1	22	39	-	62	127	-	-	-	118	
33		-	-	-	-	12	24	4	40	66	-	-	-	153	
34		-	-	-	-	-	-	4	4	9	-	-	-	-	
35		-	-	-	-	-	-	-	-	-	-	-	-	-	
36		-	-	-	-	1	-	-	1	2	-	-	-	-	
37		-	-	-	-	-	-	-	-	-	-	-	-	-	
38		-	-	-	-	-	-	-	-	2	-	-	-	-	
Total No. of Ages Read		1	37	231	72	90	67	8	506	999			-	1000	
Serial Numbers									No. of Age Samples	5					
		Number of fish measured each month								425	-	-	85		
		Mean length of fish (cm) each month								29.2	-	-	29.4		
		Mean weight of fish (kg) each month								-	-	-	-		
		Total weight caught or landed (tons) each month								-	-	-	-		
		Estimated number caught or landed (whole numbers) each month								-	-	-	-		
		Range of depths (m) each month								-	-	-	-		
		Mesh size (mm) 1								T	-	-	T		

¹ T = Trawl

TABLE 135
(continued)

AGE/LENGTH KEY - HERRING - 5Z - 1970 (3rd QUARTER)

COUNTRY										U.S.S.R.			
CATCHES/LANDINGS										Catches			
COMMERCIAL/RESEARCH										Commercial			
STRUCTURES USED IN AGE DETERMINATION										Otoliths			
Year- Class Length Group (cm)	Age	67	66	65	64	63	62	61	60	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
		3	4	5	6	7	8	9	10		Months Within Quarter		
											July	Aug	Sep
19		-	-	-	-	-	-	-	-	-	2	-	-
20		-	-	-	-	-	-	-	-	-	14	-	-
21		-	-	-	-	-	-	-	-	-	10	-	+
22		1	-	-	-	-	-	-	-	1	12	4	1
23		7	1	-	-	-	-	-	-	8	34	18	4
24		20	3	-	-	-	-	-	-	23	64	42	9
25		9	17	-	-	-	-	-	-	26	99	89	12
26		1	28	4	-	-	-	-	-	33	103	127	59
27		2	41	6	-	-	-	-	-	49	122	173	120
28		-	29	29	1	-	-	-	-	59	132	183	177
29		-	6	66	9	-	-	-	-	81	124	155	198
30		-	1	47	16	-	-	-	-	64	97	58	139
31		-	-	12	18	9	-	-	-	39	78	44	93
32		-	-	-	18	9	4	-	-	31	59	40	76
33		-	-	-	2	3	4	6	-	15	31	49	61
34		-	-	-	-	4	8	4	-	16	18	18	33
35		-	-	-	-	1	1	2	1	5	1	-	13
36		-	-	-	-	-	-	-	-	-	-	-	3
37		-	-	-	-	-	-	-	-	-	-	-	2
38		-	-	-	-	-	-	-	-	-	-	-	+
Total No. of Ages Read		40	126	164	64	26	17	12	1	450	1000	1000	1000
Serial Numbers		No. of Age Samples								1600	503	10238	
		Number of fish measured each month								27.7	27.9	29.3	
		Mean length of fish (cm) each month								0.178	0.197	0.203	
		Mean weight of fish (kg) each month								1417	500	5257	
		Total weight caught or landed (tons) each month								-	-	-	
		Estimated number caught or landed (whole numbers) each month								30-55	30	25-40	
		Range of depths (m) each month								40	40	40	
		Mesh size (mm)											

TABLE 135
(continued).

AGE/LENGTH KEY - HERRING - 5Z - 1970 (4th QUARTER)

COUNTRY		Canada (M)													
CATCHES/LANDINGS		Catches													
COMMERCIAL/RESEARCH		Commercial													
STRUCTURES USED IN AGE DETERMINATION		Otoliths													
Year- Class	Length Age Group (cm)	67	66	65	64	63	62	61	60	59	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		3	4	5	6	7	8	9	10	11		Months Within Quarter			
												Oct	Nov	Dec	
25		-	1	-	-	-	-	-	-	-	1	-	8	-	
28		1	1	-	-	-	-	-	-	-	2	-	16	-	
29		-	-	4	-	-	-	-	-	-	4	-	32	-	
30		-	-	2	2	-	-	-	-	-	4	-	32	-	
31		-	-	3	9	4	-	-	-	-	16	-	128	-	
32		-	-	1	18	14	1	-	-	-	34	-	272	-	
33		-	-	-	5	24	11	2	-	-	42	-	336	-	
34		-	-	-	-	8	10	1	-	-	19	-	160	-	
35		-	-	-	-	-	-	1	-	-	1	-	8	-	
36		-	-	-	-	-	-	-	-	1	1	-	8	-	
Total No. of Ages Read		1	2	10	34	50	22	4	-	1	124				
Serial Numbers		No. of Age Samples										1			
		Number of fish measured each month										-	125	-	
		Mean length of fish (cm) each month										-	32.8	-	
		Mean weight of fish (kg) each month										-	-	-	
		Total weight caught or landed (tons) each month										-	-	-	
		Estimated number caught or landed (whole numbers) each month										-	-	-	
		Range of depths (m) each month										-	-	-	
		Mesh size (mm) 1										-	T	-	

¹ T = Trawl

TABLE 135
(continued)

AGE/LENGTH KEY - HERRING - 5Z - 1970 (4th QUARTER)

COUNTRY		U.S.S.R.										
CATCHES/LANDINGS		Catches										
COMMERCIAL/RESEARCH		Commercial										
STRUCTURES USED IN AGE DETERMINATION		Otoliths										
Year- Class Length Age Group (cm)	67	66	65	64	63	62	61	60	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
	3	4	5	6	7	8	9	10		Months Within Quarter	Oct	Nov	Dec
24	1	-	-	-	-	-	-	-	1	1	-	-
25	-	-	-	-	-	-	-	-	-	23	-	-
26	-	-	-	-	-	-	-	-	-	50	7	-
27	-	-	-	-	-	-	-	-	-	127	29	-
28	-	1	-	-	-	-	-	-	1	153	70	-
29	-	-	5	-	-	-	-	-	5	170	120	-
30	-	-	2	5	-	-	-	-	7	167	82	-
31	-	-	-	6	3	-	-	-	9	101	142	-
32	-	-	-	7	7	1	-	-	15	90	191	-
33	-	-	-	1	18	13	-	-	32	73	161	-
34	-	-	-	-	6	10	6	-	22	34	140	-
35	-	-	-	-	-	2	1	-	3	11	50	-
36	-	-	-	-	-	-	-	1	1	-	8	-
Total No. of Ages Read	1	1	7	19	34	26	7	1	96	1000	1000	-
Serial Numbers	No. of Age Samples											
	Number of fish measured each month									700	1218	-
	Mean length of fish (cm) each month									29.5	31.5	-
	Mean weight of fish (kg) each month									0.186	0.324	-
	Total weight caught or landed (tons) each month									676	61	-
	Estimated number caught or landed (whole numbers) each month									-	-	-
	Range of depths (m) each month									25-30	115-190	-
	Mesh size (mm)									40	40	-

TABLE 136

AGE/LENGTH KEY - HERRING - 5Ze - 1970 (1st QUARTER)

COUNTRY		U. S. A.											
CATCHES/LANDINGS		Catches											
COMMERCIAL/RESEARCH		Research											
STRUCTURES USED IN AGE DETERMINATION		Otoliths											
Year-Class	68	67	66	65	64	63	62	-	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
Length Age Group (cm)	2	3	4	5	6	7	8	8+		Months Within Quarter			
										Jan	Feb	Mar	
12	2	-	-	-	-	-	-	-	2	-	-	35	
13	6	-	-	-	-	-	-	-	6	-	-	105	
14	15	-	-	-	-	-	-	-	15	-	-	263	
15	15	-	-	-	-	-	-	-	15	-	-	263	
16	9	1	-	-	-	-	-	-	10	-	-	175	
17	1	2	-	-	-	-	-	-	3	-	-	53	
18	-	-	-	-	-	-	-	-	-	-	-	-	
19	-	1	-	-	-	-	-	-	1	-	-	18	
20	-	5	-	-	-	-	-	-	5	-	-	88	
										-	-	1000	
Total No. of Ages Read		48	9	-	-	-	-	-	57				
Serial Numbers		No. of Age Samples											
		Number of fish measured each month								-	-	-	57
		Mean length of fish (cm) each month								-	-	-	15.5
		Mean weight of fish (kg) each month								-	-	-	0.284
		Total weight caught or landed (tons) each month								-	-	-	-
		Estimated number caught or landed (whole numbers) each month								-	-	-	-
		Range of depths (m) each month								-	-	-	-
		Mesh size (mm)								-	-	-	-

TABLE 136
(continued)

AGE/LENGTH KEY - HERRING - 5Ze - 1970 (2nd QUARTER)

COUNTRY		U.S.A.								Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
CATCHES/LANDINGS		Catches									Months Within Quarter		
COMMERCIAL/RESEARCH		Research								Total No. of Ages Read	Months Within Quarter		
STRUCTURES USED IN AGE DETERMINATION		Otoliths									Months Within Quarter		
Year- Class Length Group (cm)	Age	68	67	66	65	64	63	62	-	Total No. of Ages Read	PER MILLE		
		2	3	4	5	6	7	8	8+		Apr	May	June
13		1	-	-	-	-	-	-	-	1	18	-	-
14		4	-	-	-	-	-	-	-	4	73	-	-
15		6	-	-	-	-	-	-	-	6	109	-	-
16		10	-	-	-	-	-	-	-	10	181	-	-
17		3	-	-	-	-	-	-	-	3	55	-	-
18		2	-	-	-	-	-	-	-	2	-	-	8
19		5	1	-	-	-	-	-	-	6	18	-	20
20		-	1	-	-	-	-	-	-	1	18	-	-
21		-	2	-	-	-	-	-	-	2	-	-	8
22		-	11	1	-	-	-	-	-	12	36	-	40
23		-	15	2	-	-	-	-	-	17	55	-	56
24		-	28	5	-	-	-	-	-	33	91	-	113
25		-	7	28	-	-	-	-	-	35	55	-	129
26		-	-	56	-	-	-	-	-	56	36	-	218
27		-	-	35	13	-	-	-	-	48	91	-	173
28		-	-	-	14	2	-	-	-	16	73	-	48
29		-	-	-	3	7	-	-	-	10	-	-	40
30		-	-	-	-	3	5	-	-	8	36	-	24
31		-	-	-	-	-	10	5	-	15	55	-	48
32		-	-	-	-	-	1	11	1	13	-	-	57
33		-	-	-	-	-	-	-	4	4	-	-	16
34		-	-	-	-	-	-	-	1	1	-	-	4
Total No. of Ages Read		31	65	127	30	12	16	16	6	303	1000	-	1002
Serial Numbers		No. of Age Samples											
		Number of fish measured each month								55	-	248	
		Mean length of fish (cm) each month								21.7	-	26.7	
		Mean weight of fish (kg) each month								0.090	-	0.168	
		Total weight caught or landed (tons) each month								-	-	-	
		Estimated number caught or landed (whole numbers) each month								-	-	-	
		Range of depths (m) each month								-	-	-	
		Mesh size (mm)								-	-	-	

TABLE 136
(continued)

AGE/LENGTH KEY - HERRING - 52e - 1970 (3rd QUARTER)

COUNTRY		Germany, Fed. Rep.													
CATCHES/LANDINGS		Catches													
COMMERCIAL/RESEARCH		Commercial													
STRUCTURES USED IN AGE DETERMINATION		Scales & Otoliths													
Year- Class Length Group(cm)	Age	69	68	67	66	65	64	63	62	61	<61	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE Months Within Quarter		
		1	2	3	4	5	6	7	8	9	>9		July	Aug	Sep
20		-	-	1	-	-	-	-	-	-	-	1	2	-	-
21		-	2	1	-	-	-	-	-	-	-	3	-	4	-
22		-	1	10	-	-	-	-	-	-	-	11	2	13	-
23		-	1	33	-	-	-	-	-	-	-	34	18	34	-
24		-	-	77	3	-	-	-	-	-	-	80	55	75	-
25		-	-	94	67	1	-	-	-	-	-	162	128	134	49
26		-	-	23	227	2	-	-	-	-	-	252	194	201	122
27		-	-	7	273	19	2	-	-	-	-	301	252	227	158
28		-	-	-	127	55	9	-	-	-	-	191	138	144	152
29		-	-	1	38	41	17	5	-	-	-	102	70	70	122
30		-	-	-	1	20	16	7	-	-	-	44	34	18	104
31		-	-	-	-	7	24	23	10	4	1	69	50	36	134
32		-	-	-	-	-	9	14	10	10	10	53	34	31	98
33		-	-	-	-	-	1	2	5	3	16	27	18	13	61
34		-	-	-	-	-	-	-	-	-	2	2	5	-	-
Total No. of Ages Read		-	4	247	736	145	78	51	25	17	29	1332	1000	1000	1000
Serial Numbers		No. of Age Samples 14													
		Number of fish measured each month											383	785	164
		Mean length of fish (cm) each month											27.7	27.3	29.4
		Mean weight of fish (kg) each month											0.182	0.175	0.198
		Total weight caught or landed (tons) each month											-	-	-
		Estimated number caught or landed (whole numbers) each month											-	-	-
		Range of depths (m) each month											-	-	-
		Mesh size (mm)											-	-	-

TABLE 136
(continued)

AGE/LENGTH KEY - HERRING - 5Ze - 1970 (3rd QUARTER)

COUNTRY		Germany, Fed. Rep.														
CATCHES/LANDINGS		Catches														
COMMERCIAL/RESEARCH		Research														
STRUCTURES USED IN AGE DETERMINATION		Scales & Otoliths														
Year- Class	Length Age	69	68	67	66	65	64	63	62	61	<61	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		1	2	3	4	5	6	7	8	9	>9		Months Within Quarter	July	Aug	Sep
20		-	1	-	-	-	-	-	-	-	-	1	-	-	1	
21		-	5	-	-	-	-	-	-	-	-	5	-	+	3	
22		-	1	-	-	-	-	-	-	-	-	1	-	+	7	
23		-	1	6	-	-	-	-	-	-	-	7	-	3	13	
24		-	-	19	-	-	-	-	-	-	-	19	-	22	47	
25		-	-	23	27	-	-	-	-	-	-	50	-	50	107	
26		-	-	7	59	2	-	-	-	-	-	68	-	108	152	
27		-	-	1	105	9	-	-	-	-	-	115	-	189	186	
28		-	-	-	52	30	3	-	-	-	-	85	-	217	192	
29		-	-	-	14	30	9	2	-	1	-	56	-	149	100	
30		-	-	-	1	13	20	8	-	3	-	45	-	82	51	
31		-	-	-	-	2	10	12	3	12	4	43	-	42	32	
32		-	-	-	-	-	1	10	5	12	19	47	-	57	36	
33		-	-	-	-	-	-	1	2	4	13	20	-	55	36	
34		-	-	-	-	-	-	-	-	1	4	5	-	23	24	
35		-	-	-	-	-	-	-	-	-	1	1	-	3	10	
36		-	-	-	-	-	-	-	-	-	-	-	-	-	3	
37		-	-	-	-	-	-	-	-	-	-	-	-	-	+	
38		-	-	-	-	-	-	-	-	-	-	-	-	-	+	
Total No. of Ages Read		-	8	56	258	86	43	33	10	33	41	568				
Serial Numbers		No. of Age Samples											6			
		Number of fish measured each month											-	3568	12623	
		Mean length of fish (cm) each month											-	28.9	28.2	
		Mean weight of fish (kg) each month											-	0.223	0.209	
		Total weight caught or landed (tons) each month											-	-	-	
		Estimated number caught or landed (whole numbers) each month											-	-	-	
		Range of depths (m) each month											-	-	-	
		Mesh size (mm)											-	-	-	

TABLE 136
(continued)

AGE/LENGTH KEY - HERRING - 5ze - 1970 (3rd QUARTER)

COUNTRY		Poland													
CATCHES/LANDINGS															
COMMERCIAL/RESEARCH		Research													
STRUCTURES USED IN AGE DETERMINATION		Otoliths													
Year- Class Length Group (cm)	Age	68	67	66	65	64	63	62	61	60	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		2	3	4	5	6	7	8	9	10		10+	Months	Within	Quarter
												July	Aug	Sep	
20		1	-	-	-	-	-	-	-	-	1	-	-	-	
21		1	-	-	-	-	-	-	-	-	1	-	2	-	
22		1	1	-	-	-	-	-	-	-	2	-	2	-	
23		1	3	-	-	-	-	-	-	-	4	-	4	-	
24		-	6	-	-	-	-	-	-	-	6	-	21	-	
25		-	28	3	-	-	-	-	-	-	31	-	48	-	
26		-	15	22	-	-	-	-	-	-	37	-	77	-	
27		-	4	44	1	-	-	-	-	-	49	-	134	-	
28		-	-	53	6	-	-	-	-	-	59	-	203	-	
29		-	-	41	31	1	-	-	-	-	73	-	166	-	
30		-	-	8	38	2	-	-	-	-	48	-	117	-	
31		-	-	-	16	12	-	1	-	-	29	-	81	-	
32		-	-	-	1	4	15	-	3	2	25	-	56	-	
33		-	-	-	-	-	4	6	5	8	24	-	49	-	
34		-	-	-	-	-	-	1	8	8	18	-	30	-	
35		-	-	-	-	-	-	1	2	5	10	-	10	-	
Total No. of Ages Read		4	57	171	93	19	19	9	18	23	4	417	-	1000	-
Serial Numbers		No. of Age Samples													
	Number of fish measured each month												-	4626	-
	Mean length of fish (cm) each month												-	28.5	-
	Mean weight of fish (kg) each month												-	-	-
	Total weight caught or landed (tons) each month												-	-	-
	Estimated number caught or landed (whole numbers) each month												-	-	-
	Range of depths (m) each month												-	-	-
	Mesh size (mm)												-	-	-

TABLE 136
(continued)

AGE/LENGTH KEY - HERRING - 5Ze - 1970 (3rd QUARTER)

COUNTRY		U.S.A.													
CATCHES/LANDINGS		Catches													
COMMERCIAL/RESEARCH		Research													
STRUCTURES USED IN AGE DETERMINATION		Otoliths													
Year- Class	Length Age Group (cm)	68	67	66	65	64	63	62	-		Total No. of Ages Read	LENGTH COMPOSITION PER MILE			
		2	3	4	5	6	7	8	8+	Months Within Quarter					
												July	Aug	Sep	
22		1	-	-	-	-	-	-	-	-	1	-	3	-	
23		-	12	-	-	-	-	-	-	-	12	-	39	-	
24		-	26	-	-	-	-	-	-	-	26	-	52	100	
25		-	32	10	-	-	-	-	-	-	42	-	87	150	
26		-	-	61	-	-	-	-	-	-	61	-	155	130	
27		-	-	84	1	-	-	-	-	-	85	-	223	160	
28		-	-	27	47	-	-	-	-	-	74	-	200	120	
29		-	-	-	28	6	-	-	-	-	34	-	81	90	
30		-	-	-	1	26	-	-	-	-	27	-	61	80	
31		-	-	-	-	8	13	-	-	-	21	-	52	50	
32		-	-	-	-	-	9	7	-	-	16	-	35	50	
33		-	-	-	-	-	-	1	6	-	7	-	6	50	
34		-	-	-	-	-	-	-	3	-	3	-	6	10	
35		-	-	-	-	-	-	-	1	-	1	-	-	10	
Total No. of Ages Read												410			
Serial Numbers												No. of Age Samples			
Number of fish measured each month												-	310	100	
Mean length of fish (cm) each month												-	27.8	28.2	
Mean weight of fish (kg) each month												-	0.189	0.177	
Total weight caught or landed (tons) each month												-	-	-	
Estimated number caught or landed (whole numbers) each month												-	-	-	
Range of depths (m) each month												-	-	-	
Mesh size (mm)												-	-	-	

TABLE 136
(continued)

AGE/LENGTH KEY - HERRING - 5Ze¹ - 1970 (3rd QUARTER)

COUNTRY		Non-Member A														
CATCHES/LANDINGS		Catches														
COMMERCIAL/RESEARCH		Seeprobe														
STRUCTURES USED IN AGE DETERMINATION																
Year- Class Length Group(cm)	Age	67	66	65	64	63	62	61	60	59	58	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		3	4	5	6	7	8	9	10	11	12		Months Within Quarter			
													July	Aug	Sep	
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
24	-	2	-	-	-	-	-	-	-	-	-	2	-	21	-	1
25	1	7	-	-	-	-	-	-	-	-	-	8	-	82	-	9
26	-	7	3	-	-	-	-	-	-	-	-	10	-	73	-	52
27	-	8	14	1	-	-	-	1	-	-	-	24	-	165	143	
28	-	2	32	5	-	-	-	-	-	-	-	39	-	228	221	
29	-	1	10	4	1	-	-	-	-	-	-	16	-	105	184	
30	-	-	4	14	1	-	-	-	-	-	-	19	-	72	108	
31	-	-	-	7	6	2	-	-	-	-	-	15	-	82	73	
32	-	-	-	-	9	8	1	-	-	-	-	18	-	51	64	
33	-	-	-	-	6	8	6	2	-	-	-	22	-	81	73	
34	-	-	1	1	2	2	6	1	1	-	-	14	-	20	47	
35	-	-	-	-	-	1	3	1	1	1	-	7	-	20	15	
36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Total No. of Ages Read		2	27	64	32	25	21	17	4	2	1	195				
Serial Numbers		No. of Age Samples											2			
	Number of fish measured each month												-	97	2898	
	Mean length of fish (cm) each month												-	29.2	31.2	
	Mean weight of fish (kg) each month												-	-	-	
	Total weight caught or landed (tons) each month												-	-	-	
	Estimated number caught or landed (whole numbers) each month												-	-	-	
	Range of depths (m) each month												-	-	-	
	Mesh size (mm)												-	-	-	

¹ Georges Bank

TABLE 136
(continued)

AGE/LENGTH KEY - HERRING - 5Ze¹ - 1970 (3rd QUARTER)

COUNTRY		Non-Member A													
CATCHES/LANDINGS															
COMMERCIAL/RESEARCH		Landprobe													
STRUCTURES USED IN AGE DETERMINATION															
Year- Class	Age	68	67	66	65	64	63	62	61	60	59	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
		2	3	4	5	6	7	8	9	10	11		Months Within Quarter		
Length Group (cm)												July	Aug	Sep	
20		-	1	-	-	-	-	-	-	-	1	-	-	3	
21		1	-	-	-	-	-	-	-	-	1	-	-	10	
22		2	1	-	-	-	-	-	-	-	3	-	-	15	
23		-	2	1	-	-	-	-	-	-	3	-	5	13	
24		-	4	-	-	-	-	-	-	-	4	-	24	13	
25		-	8	10	-	-	-	-	-	-	18	-	70	53	
26		-	4	34	1	-	-	-	-	-	39	-	97	122	
27		-	-	43	8	-	-	-	-	-	51	-	169	194	
28		-	-	31	24	-	2	-	-	-	57	-	125	212	
29		-	-	8	23	5	1	-	-	-	37	-	133	134	
30		-	-	3	5	9	6	1	1	-	25	-	114	90	
31		-	-	1	2	5	7	2	-	-	17	-	76	57	
32		-	-	-	-	2	5	5	4	2	19	-	92	44	
33		-	-	-	-	-	1	6	4	2	13	-	65	32	
34		-	-	-	-	-	-	2	-	2	4	-	25	8	
35		-	-	-	-	-	-	-	-	-	-	-	5	-	
Total No. of Ages Read		3	20	131	63	21	22	16	9	6	1	292			
Serial Numbers		No. of Age Samples 4													
		Number of fish measured each month											-	870	1000
		Mean length of fish (cm) each month											-	29.4	28.3
		Mean weight of fish (kg) each month											-	-	-
		Total weight caught or landed (tons) each month											-	-	-
		Estimated number caught or landed (whole numbers) each month											-	-	-
		Range of depths (m) each month											-	-	-
		Mesh size (mm)											-	-	-

¹ Georges Bank

TABLE 136
(continued)

AGE/LENGTH KEY - HERRING - 5Ze¹ - 1970 (3rd QUARTER)

COUNTRY		Non-Member A														
CATCHES/LANDINGS																
COMMERCIAL/RESEARCH		Seeprobe														
STRUCTURES USED IN AGE DETERMINATION																
Year- Class Length Group (cm)	Age	68	67	66	65	64	63	62	61	60	59	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		2	3	4	5	6	7	8	9	10	11		Months Within Quarter			
												July	Aug	Sep		
14		-	-	-	-	-	-	-	-	-	-	-	-	3	-	
15		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
17		-	-	-	-	-	-	-	-	-	-	-	-	1	-	
18		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
19		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20		2	-	-	-	-	-	-	-	-	-	2	-	3	4	
21		12	3	-	-	-	-	-	-	-	-	15	-	3	17	
22		27	4	-	-	-	-	-	-	-	-	31	-	12	39	
23		10	9	-	-	-	-	-	-	-	-	19	-	8	21	
24		-	4	3	-	-	-	-	-	-	-	7	-	33	17	
25		-	7	5	-	-	-	-	-	-	-	12	-	63	27	
26		-	3	5	2	1	-	-	-	-	-	13	-	86	37	
27		-	-	10	5	3	1	-	-	-	-	19	-	126	52	
28		-	-	9	23	10	4	-	-	-	-	46	-	183	118	
29		-	-	6	32	16	2	-	2	-	-	58	-	185	160	
30		-	-	1	6	28	14	2	-	-	-	51	-	105	134	
31		-	-	-	3	14	14	4	-	-	-	35	-	69	111	
32		-	-	-	1	3	9	4	2	1	2	22	-	51	100	
33		-	-	1	-	-	3	7	2	1	1	15	-	49	88	
34		-	-	-	-	-	-	1	-	-	1	2	-	18	53	
35		-	-	-	-	-	-	1	-	-	1	2	-	2	19	
36		-	-	-	-	-	-	-	1	-	-	1	-	-	3	
Total No. of Ages Read		51	30	40	72	73	50	20	7	2	5	350				
Serial Numbers		No. of Age Samples											4			
	Number of fish measured each month												-	3002	5322	
	Mean length of fish (cm) each month												-	28.7	29.8	
	Mean weight of fish (kg) each month												-	-	-	
	Total weight caught or landed (tons) each month												-	-	-	
	Estimated number caught or landed (whole numbers) each month												-	-	-	
	Range of depths (m) each month												-	-	-	
	Mesh size (mm)												-	-	-	

¹ Cape Cod area

TABLE 136
(continued)

AGE/LENGTH KEY - HERRING - 52e¹ - 1970 (3rd (QUARTER))

COUNTRY		Non-Member A													
CATCHES/LANDINGS															
COMMERCIAL/RESEARCH		Landprobe													
STRUCTURES USED IN AGE DETERMINATION															
Year- Class Length Age Group (cm)	68	67	66	65	64	63	62	61	60	59	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
	2	3	4	5	6	7	8	9	10	11		Months Within Quarter			
												July	Aug	Sep	
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20	6	-	-	-	-	-	-	-	-	-	6	-	85	12	
21	18	1	-	-	-	-	-	-	-	-	19	-	172	27	
22	5	1	-	-	-	-	-	-	-	-	6	-	74	17	
23	3	14	-	-	-	-	-	-	-	-	17	-	103	31	
24	-	21	3	-	-	-	-	-	-	-	24	-	111	38	
25	-	20	4	-	-	-	-	-	-	-	24	-	85	45	
26	-	9	37	-	-	-	-	-	-	-	46	-	121	99	
27	-	3	66	7	-	-	-	-	-	-	76	-	98	169	
28	-	-	31	18	-	-	-	-	-	-	49	-	56	138	
29	-	-	12	24	5	3	-	-	-	-	44	-	37	140	
30	-	-	5	11	19	4	-	-	-	-	39	-	16	121	
31	-	-	-	-	8	4	1	4	-	-	17	-	24	59	
32	-	-	-	-	1	8	6	4	2	-	21	-	7	70	
33	-	-	-	-	-	2	1	2	1	2	8	-	4	26	
34	-	-	-	-	-	-	-	1	-	-	1	-	-	4	
35	-	-	-	-	-	-	-	-	1	-	1	-	-	2	
												-	1000	998	
Total No. of Ages Read	32	69	158	60	33	21	8	11	4	2	398				
Serial Numbers	No. of Age Samples											5			
	Number of fish measured each month											-	379	850	
	Mean length of fish (cm) each month											-	25.8	28.3	
	Mean weight of fish (kg) each month											-	-	-	
	Total weight caught or landed (tons) each month											-	-	-	
	Estimated number caught or landed (whole numbers) each month											-	-	-	
	Range of depths (m) each month											-	-	-	
	Mesh size (mm)											-	-	-	

¹ Cape Cod area

TABLE 137

AGE/LENGTH KEY - HERRING - 5Zw, 6A¹- 1970 (2nd QUARTER)

COUNTRY		Poland												
CATCHES/LANDINGS														
COMMERCIAL/RESEARCH		Commercial												
STRUCTURES USED IN AGE DETERMINATION		Otoliths												
Year- Class Length Age Group (cm)	68	67	66	65	64	63	62	61	60	10+	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE		
												Months Within Quarter		
	2	3	4	5	6	7	8	9	10	10+		Apr	May	June
16	1	-	-	-	-	-	-	-	-	-	1	-	1	0
17	9	-	-	-	-	-	-	-	-	-	9	-	6	0
18	17	-	-	-	-	-	-	-	-	-	17	-	13	2
19	19	3	-	-	-	-	-	-	-	-	22	-	13	11
20	13	8	-	-	-	-	-	-	-	-	21	-	6	11
21	2	20	-	-	-	-	-	-	-	-	22	-	11	7
22	-	37	3	-	-	-	-	-	-	-	40	-	16	13
23	-	33	8	-	-	-	-	-	-	-	41	-	10	15
24	-	36	8	-	-	-	-	-	-	-	44	-	8	25
25	-	40	14	-	-	-	-	-	-	-	54	-	3	26
26	-	17	56	1	-	-	-	-	-	-	74	-	4	51
27	-	1	173	8	-	-	-	-	-	-	182	-	7	137
28	-	-	208	41	-	-	-	-	-	-	249	-	18	180
29	-	-	155	131	4	-	-	-	-	-	290	-	30	164
30	-	-	17	155	30	2	-	-	-	-	204	-	68	85
31	-	-	-	49	101	21	1	1	-	-	173	-	94	46
32	-	-	-	6	60	144	43	25	11	-	289	-	153	51
33	-	-	-	-	8	33	128	92	99	-	420	-	270	82
34	-	-	-	-	-	10	59	117	137	3	326	-	209	66
35	-	-	-	-	-	1	5	37	71	7	121	-	58	25
36	-	-	-	-	-	-	1	1	17	1	20	-	5	4
37	-	-	-	-	-	-	-	-	1	-	1	-	0	0
Total No. of Ages Read	61	195	642	391	203	271	237	273	336	11	2620	-	1003	1001
Serial Numbers	No. of Age Samples													
	Number of fish measured each month											-	4924	6344
	Mean length of fish (cm) each month											-	31.2	28.6
	Mean weight of fish (kg) each month											-	-	-
	Total weight caught or landed (tons) each month											-	-	-
	Estimated number caught or landed (whole numbers) each month											-	-	-
	Range of depths (m) each month											-	-	-
	Mesh size (mm)											-	-	-

¹ June length frequency for 5Zw; May frequency for 6A.

TABLE 138

AGE/LENGTH KEY - HERRING - 6 - 1970 (2nd QUARTER)

COUNTRY		U.S.S.R.										
CATCHES/LANDINGS		Catches										
COMMERCIAL/RESEARCH		Commercial										
STRUCTURES USED IN AGE DETERMINATION		Otoliths										
Year- Class	Length Age Group (cm)	66	65	64	63	62	61	Total No. of Ages Read	LENGTH COMPOSITION PER MILLE			
		4	5	6	7	8	9		Months Within Quarter			
								Apr			May	June
16	-	-	-	-	-	-	-	-	-	-	35	-
17	-	-	-	-	-	-	-	-	-	-	115	-
18	-	-	-	-	-	-	-	-	-	-	120	-
19	-	-	-	-	-	-	-	-	-	-	195	-
20	-	-	-	-	-	-	-	-	-	1	215	-
21	-	-	-	-	-	-	-	-	-	7	125	-
22	-	-	-	-	-	-	-	-	-	8	80	-
23	-	-	-	-	-	-	-	-	-	14	40	-
24	-	-	-	-	-	-	-	-	-	28	35	-
25	1	-	-	-	-	-	-	1	75	25	-	-
26	2	1	-	-	-	-	-	3	146	10	-	-
27	-	16	-	-	-	-	-	16	127	5	-	-
28	-	19	10	-	-	-	-	29	100	-	-	-
29	-	9	10	-	-	-	-	19	106	-	-	-
30	-	8	9	1	-	-	-	18	100	-	-	-
31	-	-	8	14	1	-	-	23	138	-	-	-
32	-	-	3	11	15	4	-	33	106	-	-	-
33	-	-	3	10	15	4	-	32	38	-	-	-
34	-	-	-	-	4	10	-	14	6	-	-	-
35	-	-	-	-	-	-	-	-	+	-	-	-
Total No. of Ages Read		3	53	43	36	35	18	188				
Serial Numbers		No. of Age Samples										
		Number of fish measured each month						2000	200			
		Mean length of fish (cm) each month						29.3	23.2			
		Mean weight of fish (kg) each month						0.200	0.075			
		Total weight caught or landed (tons) each month						872	85			
		Estimated number caught or landed (whole numbers) each month						-	-			
		Range of depths (m) each month						20-40	30-35			
		Mesh size (mm)						40	40			

TABLE 139

OTHER SPECIES

Length frequencies for the following species are available on request from the Secretariat:

Species	Country	Division	Month	No. Measured
<i>Gadus ogac</i>	Den (G)	1D	June	110
		1F	June	236
<i>Gadus saida</i>	Den (G)	1D	May	139
Arctic char	Den (G)	1D	May, Aug	215
Alewife	Japan	5Zw	Jan-Feb	227
Mackerel	Japan	5Zw	Feb	100
Shad	Japan	5Zw	Jan-Feb	126
Sea Scallops	USA	5Y	Dec	281
		5Ze	Jan-Dec	14,774
		6A	May-Aug, Dec	4,842
		6B	Jan	455
Common American Squid	Japan	5Ze	Feb	700
		5Zw	Jan-Feb	498

APPENDIX

Table I. Numbers of fish sampled for length and age by species, divisions, country and gear in relation to catch for the year 1969.

Species	Division	Country	Catch ('000 tons)	Gear	Number Measured		No. of Ages			
					Commercial	Research				
Cod	1A-B	Den (G)	1.8	Gre	516	-	516			
				PN	8,441	-	467			
		Ger (FR)	0.2	OT	-	273	208			
		Spain	7.1	OT,PT	-	-	-			
			Others	0.8	...	-	-	-		
	1C-D	Den (G)		11.8	OT	2,764	3,617	2,035		
					LL	-	946	654		
					HL	-	1,180	312		
					PN	3,283	-	895		
					BS	-	2,242	119		
					Gre	239	-	239		
					Fr (M)	21.7	OT	-	-	-
					Ger (FR)	39.9	OT	-	1,645	732
					Norway	2.2	LL	-	1,249	1,249
					Portugal	9.8	OT,DV	1,622	-	840
		Spain	14.5	OT,PT	-	-	-			
		UK	0.5	OT	1,747	-	48			
			Others	0.6	...	-	-			
	1E-F	Den (G)		7.6	LL	-	341	341		
					HL	-	357	59		
Gre					211	-	211			
Fr (M)		3.2	OT	-	-	-				
Ger (FR)		38.4	OT	2,555	9,600	1,826				
Portugal		5.8	OT	1,619	-	569				
Spain		2.2	OT,PT	-	-	-				
			Others	0.9	...	-	-			
1NK	Den (F)		18.3	Mix	-	-	-			
				Den (G)	2.4	Mix	-	-	-	
				Norway	15.1	Mix	-	-	-	
2G-J	Can (N)		4.7	GN	579	-	-			
				Trap	3,046	-	-			
				Jig.	-	33	-			
	Den (F)	1.9	Mix	-	-	-				
	Fr (M)	29.7	OT	-	-	-				
	Ger (FR)	71.8	OT	-	-	-				
	Norway	6.9	Mix	-	-	-				
	Poland	62.0	OT	16,269	-	2,373				
	Portugal	66.1	OT	796	-	646				
	Romania	3.0	OT	-	-	-				
Spain	33.2	PT	3,150	-	119					
				OT	-	-	-			

Continued

Table I. Cont'd

Species	Division	Country	Catch ('000 tons)	Gear	Number Measured		No. of Ages
					Commercial	Research	
Cod (Cont'd)	2G-J	USSR	130.5	OT	-	72,285	2,831
		UK	2.1	OT	4,973	-	144
		Others	0.4	...	-	-	-
3K-L	Can (M)	Can (M)	1.9	OT	-	-	-
		Can (N)	109.3	OT	4,052	-	-
	Fr (M)	GN			8,477	-	-
		LL			1,520	-	-
		HL			2,199	-	-
		Trap			8,243	-	-
		OT	20.7		-	-	-
	Poland	13.4	OT	-	-	-	
	Portugal	OT	86.6		1,784	-	384
		DV			-	-	-
	Spain	OT	69.2		-	-	-
		PT			13,686	-	350
	USSR	24.6	OT	-	12,734	900	
UK	2.6	OT	1,211	-	29		
Others	0.3	...	-	-	-		
3M	Fr (M)	11.8	OT	-	-	-	
	Portugal	7.3	OT,DV	-	-	-	
	Spain	2.7	OT,PT	-	-	-	
	Others	0.3	...	-	-	-	
3N-O	Can (N)	3.3	OT	1,916	-	-	
	Portugal	4.9	OT,DV	-	-	-	
	Spain	71.2	OT,PT	-	-	-	
	USSR	29.2	OT	-	-	-	
	Others	1.2	...	-	-	-	
3Ps	Can (N)	GN	24.3		3,550	-	-
		Trap			6,334	-	-
	Fr (SP)	OT	2.5		12,262	-	-
		HL			2,741	-	-
	Spain	28.1	OT,PT	-	-	-	
	USSR	2.9	OT	-	-	-	
Others	1.1	...	-	-	-		
3Pn	Can (N)	4.8	LL	4,287	-	-	
	Others	0.1	...	-	-	-	
3NK	Den (F)	18.7	Mix	-	-	-	
	Norway	26.2	Mix	-	-	-	
4R-S	Can (M)	18.0	OT	1,621	-	-	
	Can (N)	GN	27.6		3,595	-	-
		Trap			2,166	-	-
	Fr (M)	16.3	OT	-	-	-	

Continued

Table I. Cont'd

Species	Division	Country	Catch ('000 tons)	Gear	Number Measured		No. of Ages
					Commercial	Research	
Cod (Cont'd)	4R-S	Fr (SP)	0.2	OT	3,558	-	-
		Portugal	1.3	OT	-	-	-
		Spain	2.7	OT	-	-	-
				PT	3,841	-	157
	4T	Can (M)	37.2	OT	3,821	-	-
				GN	211	-	-
				DS	564	-	-
		Can (N)	3.4	OT	-	-	-
	4Vn	Can (M)	12.4	OT	1,457	-	-
				LL	1,565	-	-
		Can (N)	1.4	OT	-	-	-
		Spain	1.6	OT,PT	-	-	-
		Others	0.7	...	-	-	-
	4Vs	Can (M)	3.2	OT	-	-	-
		Fr (SP)	0.2	OT	4,264	-	-
Spain		17.7	OT,PT	-	-	-	
Others		1.2	...	-	-	-	
4W	Can (M)	10.6	OT	960	-	-	
			LL	639	-	-	
	Spain	14.6	OT,PT	-	-	-	
	USSR	2.7	OT	-	-	-	
4X	Can (M)	24.1	OT	2,039	-	-	
	Spain	8.2	OT,PT	-	-	-	
	Others	0.4	...	-	-	-	
5Y-Z	Can (M)	6.1	OT	903	-	-	
	Spain	13.7	OT,PT	-	-	-	
	USA	24.5	OT	3,652	-	-	
Haddock	3N-P	Can (N)	2.2	OT	1,216	-	-
		Fr (SP)	1.0	OT	13,426	-	-
		Spain	1.7	OT,PT	-	-	-
		Others	0.4	OT	-	-	-
	4V-W	Can (M)	9.2	OT	2,665	-	-
				LL	201	-	-
		Fr (SP)	0.2	OT	831	-	-
		Spain	1.5	OT,PT	-	-	-
		Others	0.3	OT	-	-	-
	4X	Can (M)	28.1	OT	15,102	-	-
		USA	1.8	OT	-	-	-
		Others	0.5	OT	-	-	-

Continued

Table I. Cont'd

Species	Division	Country	Catch ('000 tons)	Gear	Number Measured		No. of Ages
					Commercial	Research	
Haddock (Cont'd)	5Y-Z	Can (M)	4.0	OT	729	-	-
		Spain	1.4	OT,PT	-	-	-
		USA	18.9	OT	13,237	-	2,217
		Others	0.6	OT	-	-	-
Redfish	1A-F	Den (G)	0.1	OT	-	13,288	-
		Ger (FR)	4.0	OT	-	-	-
		Others	0.2	OT	-	-	-
	2G-J	Poland	0.6	OT	827	-	-
		USSR	5.2	OT	-	1,400	-
		Others	0.3	OT	-	-	-
	3K-M	Poland	5.4	OT	4,146	-	-
		USSR	10.7	OT	-	800	165
		Others	0.7	OT	-	-	-
	3N-O	USSR	37.4	OT	-	4,930	286
		Others	0.6	OT	-	-	-
	3P	Can (N)	8.2	OT	-	-	-
		Fr (SP)	0.6	OT	10,889	-	-
		Poland	0.8	OT	-	-	-
		USSR	22.0	OT	-	-	-
		Others	0.5	OT	-	-	-
	4R-T	Can (M)	55.5	OT	4,019	-	-
		Can (N)	20.2	OT	1,852	-	-
		Fr (SP)	1.0	OT	20,698	-	-
		USA	12.1	OT	2,200	-	-
	4V-X	Can (M)	7.8	OT	2,416	-	-
		Can (N)	3.0	OT	-	-	-
		Fr (SP)	0.9	OT	12,726	-	-
Poland		6.9	OT	-	-	-	
USSR		2.2	OT	-	-	-	
Others		1.3	OT	-	-	-	
5Y-Z	Poland	0.1	OT	572	-	-	
	USA	12.0	OT	3,260	-	-	
	Others	0.4	OT	-	-	-	
Silver Hake	4V-X	Ger (FR)	-	OT	-	161	-
		USSR	46.3	OT	5,500	-	1,562
	5Y-Z	Ger (FR)	-	OT	-	734	-
		USSR	66.8	OT	60,417	-	2,330
		USA	20.4	OT	2,388	-	-
		Others	0.4	OT	-	-	-

Continued

Table I. Cont'd

Species	Division	Country	Catch ('000 tons)	Gear	Number Measured		No. of Ages
					Commercial	Research	
Silver Hake (Cont'd)	6	USSR	7.1	OT	3,348	-	1,283
		USA	3.2	OT	-	-	-
Herring	3P	Can (N)	143.7	-	11,652	-	-
	4R-T	Can (M)	142.6	-	2,150	800	2,697
		Can (N)	15.1	-	2,186	-	-
	4V	Can (N)	2.1	-	-	-	-
		Ger (FR)	22.0	-	2,419	-	682
		Poland	4.6	-	1,230	-	123
		USSR	53.5	-	5,500	-	760
	4W-X	Can (M)	168.3	-	83,518	3,014	10,015
		Ger (FR)	1.2	-	82	-	79
		USSR	12.1	-	14,327	-	943
		USA	-	-	17,240	-	5,472
	5Y	Can (M)	7.4	-	2,802	1,373	1,149
		Ger (FR)	10.4	-	3,166	-	1,367
		USA	28.7	-	18,588	-	9,754
	5Z	Can (M)	1.0	-	494	-	77
		Ger (FR)	62.0	-	4,873	-	1,291
		Iceland	12.8	-	-	-	-
		Poland	32.4	-	16,952	-	1,819
		USSR	100.5	-	85,871	-	1,669
		USA	2.1	-	-	197	197
		Others	0.4	-	-	-	-
Non-m	... ^a	-	10,373	-	1,474		
6	Poland	12.7	-	-	-	-	
	USSR	38.2	-	5,148	-	660	
	USA	1.6	-	-	-	-	
American Plaice	2	Poland	1.0 ^b	OT	4,270	-	-
		USSR	2.0 ^c	OT	-	-	-
3	Can (M)	6.6	OT	213	-	-	
	Can (N)	64.0	OT	5,188	-	-	
	Fr (SP)	0.3	OT	1,710	-	-	
	Poland	1.0 ^b	OT	1,690	-	-	
	USSR	17.0 ^c	OT	-	-	-	
4	Can (M)	15.4	OT	200	-	-	
	Can (N)	2.5	OT	-	-	-	
	USSR	5.0 ^c	OT	-	-	-	

Continued

Table I. Cont'd

Species	Division	Country	Catch ('000 tons)	Gear	Number Measured		No. of Ages
					Commercial	Research	
American Plaice (Cont'd)	5	USA	3.3	OT	-	-	-
		Others	0.5	OT	-	-	-
Yellowtail	3	Can (M)	4.6	OT	400	-	-
		Can (N)	5.9	OT	2,044	-	-
		USSR	3.0 ^c	OT	-	-	-
	4	Can (M)	2.7	OT	200	-	-
	5	USSR	18.8	OT	-	-	-
		USA	33.0	OT	20,493	-	5,934
	6	USA	1.6	OT	-	-	-
Witch	2	USSR	5.0 ^c	OT	-	-	-
	3	Can (N)	4.2	OT	-	-	-
		Fr (SP)	0.1	OT	3,603	-	-
		Poland	+	OT	2,216	-	-
		USSR	12.0 ^c	OT	-	-	-
	4	Can (M)	8.6	OT	809	-	-
		Can (N)	1.9	OT	-	-	-
		Fr (SP)	0.1	OT	146	-	-
USSR		3.0 ^c	OT	-	-	-	

^a Non-member catch in ICNAF Area was 88,000 tons.

^b Catches reported as Flounders (NK).

^c Catches reported as Flounders (NK) and allocated to species in proportion to 1970 catches.

Table II. Numbers of fish sampled for length and age by species, divisions, country and gear in relation to catch for the year 1970.

Species	Division	Country	Catch ('000 tons)	Gear	Number Measured		No. of Ages
					Commercial	Research	
Cod	1A-B	Den (G)	1.6	LL	223	-	223
				PN	3,036	-	744
Gre	291			-	291		
		Spain	3.3	OT,PT	-	-	-
	1C-D	Den (G)	5.9	OT	2,727	413	1,782
				LL	-	545	436
				HL	319	194	365
				PN	-	753	-
				Gre	408	-	322
		Fr (M)	4.2	OT	-	3,423	-
		Ger (FR)	9.7	OT	-	4,693	646
		Portugal	6.8	OT,DV	-	-	-
		Spain	14.4	OT,PT	-	-	-
		USSR	0.5	OT	-	4,854	600
	1E-F	Den (G)	8.1	OT	2,900	844	1,690
				HL	-	779	94
				PN	1,171	-	227
				HS	-	466	-
				Gre	418	-	349
		Fr (M)	0.6	OT	-	-	-
		Ger (FR)	31.0	OT	1,825	8,540	2,065
		Portugal	1.4	OT,DV	-	-	-
		Spain	1.1	OT,PT	-	-	-
		UK	2.9	OT	1,833	-	21
		USSR	0.3	OT	-	7,357	-
	1NK	Den (M)	7.7	Mix	-	-	-
		Norway	6.3	Mix	-	-	-
	2G-J	Can (N)	2.0	Mix	-	-	-
		Fr (M)	15.8	OT	-	-	-
		Ger (FR)	50.0	OT	-	-	-
		Norway	3.0	Mix	-	-	-
		Poland	36.3	OT	10,013	-	1,514
		Portugal	42.0	OT	1,174	-	300
		Romania	3.4	OT	-	-	-
		Spain	10.7	OT	6,053	-	308
				PT	-	-	-
		USSR	49.8	OT	-	31,392	-
		UK	2.6	OT	1,255	-	79
		USA	0.5	OT	-	-	-
	3K-L	Can (M)	1.9	OT	-	-	-
		Can (N)	87.3	OT	2,229	-	-
				LL	5,095	-	-
				HL	3,078	-	-
				GN	9,816	-	-
				Trap	16,560	-	-
				Jig.	2,632	-	-

Continued

Table II. Cont'd

Species	Division	Country	Catch ('000 tons)	Gear	Number Measured		No. of Ages
					Commercial	Research	
Cod (Cont'd)	3K-L	Fr (M)	5.3	OT	-	-	-
		Ger (FR)	11.9	OT	-	-	-
		Japan	+	OT	-	210	-
		Norway	1.2	Mix	-	-	-
		Poland	12.5	OT	14,458	-	1,703
		Portugal	77.7	OT	4,521	-	1,050
				DV	-	-	-
		Spain	60.2	OT	5,045	-	361
				PT	-	-	-
		USSR	28.4	OT	449	-	-
UK	0.5	OT	25	-	25		
3M		Fr (M)	6.2	OT	-	-	-
		Japan	+	OT	-	331	-
		Portugal	9.8	OT,DV	-	-	-
		Spain	1.3	OT,PT	-	-	-
		USSR	0.5	OT	-	-	-
3N-0		Can (M)	2.0	OT	310	-	-
		Can (N)	2.8	OT	1,012	-	-
		Japan	+	OT	-	96	-
		Portugal	3.2	OT,DV	-	-	-
		Spain	67.0	OT,PT	-	-	-
		USSR	28.3	OT	-	-	-
3Ps		Can (M)	2.2	OT	307	-	-
		Can (N)	28.1	OT	129	-	-
				LL	1,126	-	-
				GN	4,535	-	-
				Trap	7,125	-	-
		Fr (SP)	2.0	OT	-	1,638	286
		Spain	35.8	OT,PT	-	-	-
USSR	2.7	OT	-	-	-		
3Pn		Can (N)	4.9	LL	4,311	-	-
4R-S		Can (M)	19.5	OT	2,785	-	-
		Can (N)	23.8	LL	3,477	-	-
				GN	2,693	-	-
				Trap	3,252	-	-
		Fr (M)	30.3	OT	-	-	-
		Fr (SP)	+	OT	-	494	236
		Portugal	18.0	OT	739	-	250
Spain	8.1	OT	2,779	-	194		
4T		Can (M)	39.9	OT	2,064	-	-
				DS	1,841	-	-
		Can (N)	2.7	OT	-	-	-

Continued

Table II. Cont'd

Species	Division	Country	Catch ('000 tons)	Gear	Number Measured		No. of Ages	
					Commercial	Research		
Cod (Cont'd)	4T	Fr (M)	0.5	OT	-	-	-	
		Fr (SP)	-	OT	-	2,059	230	
	4Vn	Can (M)		12.5	OT	1,147	-	-
				0.9	LL	1,537	-	-
		Fr (M)	2.5	OT	-	-	-	
		Fr (SP)	-	OT	-	1,769	619	
		Portugal	2.3	OT	-	-	-	
		Spain	12.7	OT,PT	-	-	-	
	4Vs	Can (M)	2.9	OT	927	-	-	
		Spain	24.5	OT,PT	-	-	-	
	4W	Can (M)		8.7	OT	1,626	-	-
					LL	300	-	-
		Spain	17.5	OT,PT	-	-	-	
		USSR	2.5	OT	-	-	-	
	4X	Can (M)	18.0	OT	676	-	-	
		Spain	3.6	OT,PT	-	-	-	
USA		0.5	OT	-	-	-		
5Y	USA	7.8	OT	387	-	-		
5Z	Can (M)	2.6	OT	-	-	-		
	Poland	0.6	OT	-	-	-		
	Spain	6.9	OT,PT	-	-	-		
	USA	14.5	OT	4,217	-	-		
Haddock	3N-P	Can (M)	0.7	OT	210	-	-	
		Can (N)	1.7	OT	1,019	-	-	
		Fr (SP)	1.2	OT	965	799	-	
		Spain	3.1	OT,PT	-	-	-	
	4V-X	Can (M)		22.2	OT	8,961	-	-
					LL	602	-	-
		Spain	2.6	OT,PT	-	-	-	
		USSR	0.7	OT	-	-	-	
		USA	2.3	OT	-	-	-	
	5Y-Z	Can (M)	2.0	OT	1,326	-	-	
Spain		0.8	OT,PT	-	-	-		
USA		9.9	OT	7,933	-	1,390		
Redfish	1A-F	Ger (FR)	3.6	OT	-	-	-	
		Den (G)	0.2	OT	-	4,419	-	
		Fr (M)	-	OT	-	5,402	-	

Continued

Table II. Cont'd

Species	Division	Country	Catch ('000 tons)	Gear	Number Measured		No. of Ages
					Commercial	Research	
Redfish (Cont'd)	2G-J	Poland	1.5	OT	-	-	-
		Romania	0.7	OT	-	-	-
		USSR	4.3	OT	-	-	-
	3K-M	Japan	1.6	OT	-	2,727	-
		Poland	3.8	OT	-	-	-
		USSR	8.4	OT	-	-	-
	3N-O	Japan	+	OT	-	652	-
		USSR	25.7	OT	-	1,056	281
	3P	Can (M)	0.5	OT	-	-	-
		Can (N)	10.3	OT	-	-	-
		Fr (SP)	1.2	OT	-	-	-
		Japan	0.9	OT	-	1,037	-
		USSR	24.2	OT	-	-	-
	4R-T	Can (M)	50.9	OT	4,605	-	-
		Can (N)	28.8	OT	1,021	-	-
USA		7.6	OT	2,500	-	-	
4V	Can (M)	3.6	OT	919	-	-	
	Can (N)	2.0	OT	-	-	-	
	Japan	0.9	OT	-	900	-	
	USSR	4.1	OT	-	-	-	
4W-X	Can (M)	9.7	OT	2,716	-	-	
	Japan	+	OT	-	407	-	
	USSR	9.1	OT	-	-	-	
	USA	1.8	OT	400	-	-	
5Y-Z	USA	15.5	OT	2,300	-	-	
Silver Hake	4Vs	Japan	+	OT	201	-	-
		USSR	5.1	OT	7,354	-	294
	4W	Japan	+	OT	298	-	-
		USSR	158.9	OT	123,602	-	1,687
	4X	Japan	+	OT	-	500	-
		USSR	4.9	OT	18,915	-	536
	5Y	USA	11.4	OT	1,322	-	-
	5Z	Japan	+	OT	-	299	-
		USSR	29.0	OT	59,972	-	2,243
		USA	19.4	OT	1,040	-	-
	6	USSR	3.0	OT	400	-	99
		USA	2.2	OT	-	-	-

Continued

Table II. Cont'd

Species	Division	Country	Catch ('000 tons)	Gear	Number Measured		No. of Ages
					Commercial	Research	
Herring	1D	Den (G)	+	-	-	2,478	-
	3P	Can (N)	133.3	-	10,301	-	-
		Fr (SP)	-	-	-	569	145
	4R-T	Can (M)	161.1	-	6,513	-	3,316
		Can (N)	19.4	-	1,748	-	-
		Fr (SP)	-	-	-	443	99
	4V	Can (M)	1.8	-	296	383	647
		Can (N)	3.2	-	250	-	-
		Fr (SP)	-	-	-	534	-
		Ger (FR)	5.5	-	-	-	-
		Poland	1.1	-	-	-	-
		USSR	12.5	-	35,900	-	274
		Non-m A	... ^b	-	4,684	-	680
	4W	Can (M)	29.1	-	7,604	100	2,167
		Can (N)	+	-	200	-	-
		Japan	+	-	-	100	-
		Poland	+	-	-	1,152	171
		USSR	59.1	-	27,000	-	727
	4X	Can (M)	122.5	-	79,106	1,598	11,051
		USSR	0.5	-	500	-	-
		USA	-	-	9,559	-	3,165
	5Y	Can (M)	5.0	-	7,065	-	1,154
		Ger (FR)	6.1	-	2,530	-	-
	USA	29.2	-	6,677	-	5,135	
	Non-m A	... ^b	-	702	-	343	
5Z	Can (M)	+	-	826	-	820	
	Ger (FR)	82.1	-	10,291	16,191	1,900	
	Japan	1.2	-	-	395	-	
	Poland	54.8	-	10,970	-	2,620 ^a	
	Romania	0.7	-	-	-	-	
	USSR	39.2	-	31,559	-	1,026	
	USA	1.3	-	-	770	770	
	Non-m A	39.0 ^b	-	14,418	-	1,235	
6	Poland	15.9	-	4,924	-	... ^a	
	USSR	22.4	-	4,300	-	188	
	USA	0.7	-	-	-	-	

Continued

Table II. Cont'd

Species	Division	Country	Catch ('000 tons)	Gear	Number Measured		No. of Ages
					Commercial	Research	
American Plaice	1A-F	Den (G)	+	OT	-	3,262	-
	2G-J	USSR	1.9	OT	-	-	-
	3K-L	Can (M)	1.9	OT	200	-	-
		Can (N)	40.3	OT	4,469	-	-
		USSR	6.6	OT	-	-	-
	3N-O	Can (M)	2.5	OT	200	-	-
		Can (N)	13.9	OT	2,129	-	-
		Japan	-	OT	-	97	-
		Romania	1.0	OT	-	-	-
		USSR	9.9	OT	-	-	-
	3Ps	Can (M)	4.2	OT	759	-	-
		Can (N)	7.4	OT	1,011	-	-
		Fr (SP)	0.4	OT	-	624	-
	4R-T	Can (M)	9.6	OT	201	-	-
		Can (N)	1.4	OT	-	-	-
	4V-X	Can (M)	5.8	OT	400	-	-
		Fr (SP)	+	OT	-	3,612	-
		USSR	1.7	OT	-	-	-
	5Y-Z	Romania	0.7	OT	-	-	-
		USSR	0.9	OT	-	-	-
USA		2.6	OT	-	-	-	
Yellowtail	3	Can (M)	3.0	OT	400	-	-
		Can (N)	20.0	OT	1,015	-	-
		USSR	3.4	OT	-	-	-
	4	Can (M)	0.9	OT	-	-	-
		USSR	2.7	OT	-	-	-
	5	USSR	2.9	OT	-	-	-
USA		31.9	OT	28,013	-	11,274	
6	USA	4.1	OT	-	-	-	
Witch	2	Poland	1.0	OT	-	-	-
		USSR	4.4	OT	-	-	-
	3	Can (M)	0.7	OT	-	-	-
		Can (N)	6.8	OT	-	-	-
		Fr (SP)	0.1	OT	-	1,604	-
		Poland	2.5	OT	-	-	-
	USSR	11.6	OT	-	-	-	

Continued

Table II. Cont'd

Species	Division	Country	Catch ('000 tons)	Gear	Number Measured		No. of Ages
					Commercial	Research	
Witch (Cont'd)	4	Can (M)	6.8	OT	1,606	-	-
		Can (N)	2.3	OT	-	-	-
		Japan	-	OT	101	-	-
		USSR	1.1	OT	-	-	-
	5	Japan	-	OT	200	-	-
		USA	3.0	OT	-	-	-

^a Age data reported for 5Z-6A but included under 5Z.

^b Catch reported for 4V-6A but included under 5Z.

Gear Abbreviations Used in Tables I and II

OT - Otter Trawl
 PT - Pair Trawl
 LL - Long Line
 DV - Dory Vessel
 HL - Hand Line
 GN - Gillnet
 PN - Pound Net
 DS - Danish Seine
 BS - Beach Seine
 HS - Haul Seine
 Jig. - Jigger
 Gre. - Greenlanders
 Mix - Mixed

