

INTERNATIONAL COMMISSION
FOR THE
NORTHWEST ATLANTIC FISHERIES



SAMPLING YEARBOOK VOLUME 4

for the year 1959

Edited by **FRANK R. THOMAS**

Tables prepared for printing by Joan C. Edwards

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SAMPLING YEARBOOK VOLUME 4

1959

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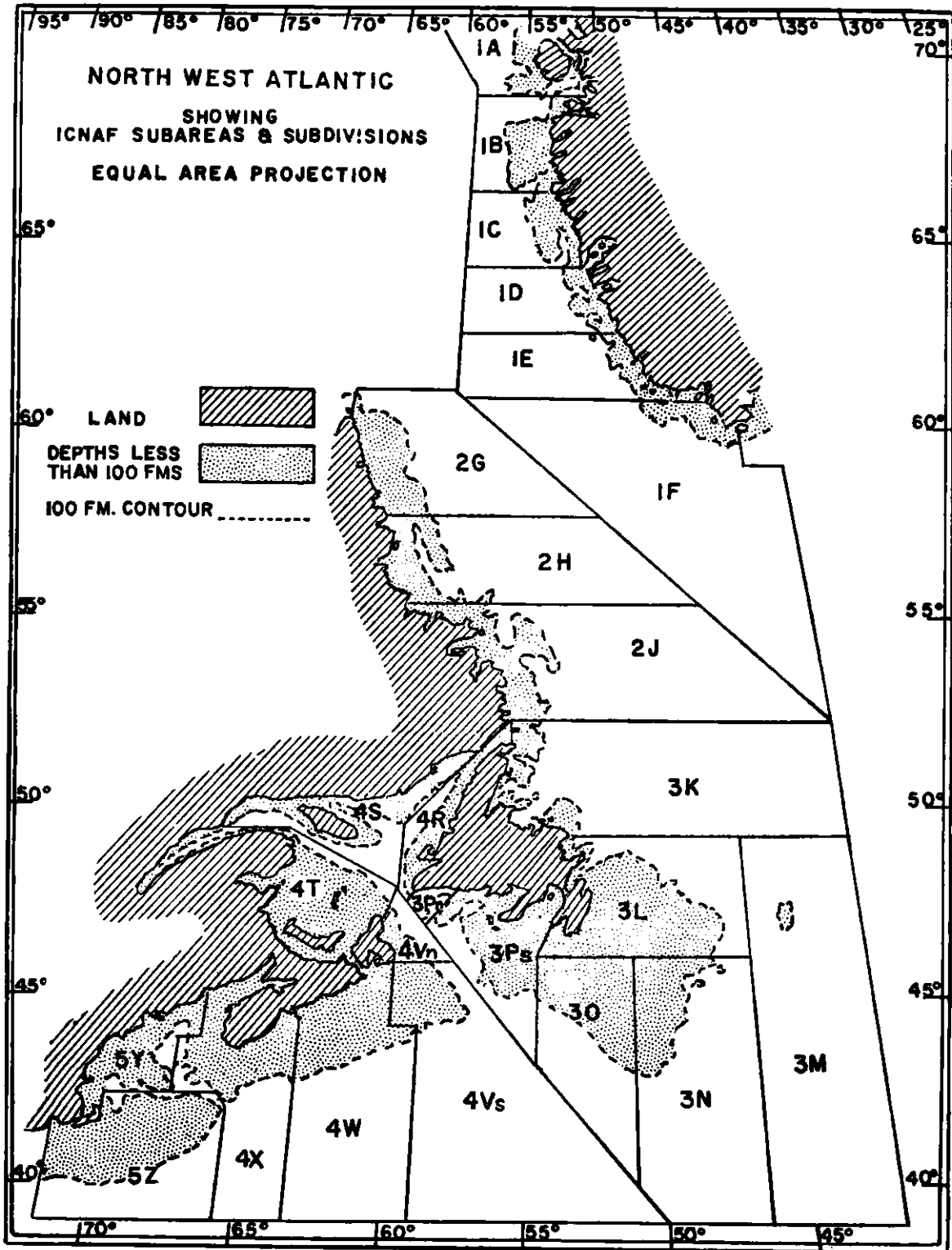
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An Equal Area Map of the ICNAF Convention Area.

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INTRODUCTION

by Frank R. Thomas

This edition of the Sampling Yearbook summarises, as in previous years, the data on lengths, ages and weights of the cod, haddock, redfish, and American plaice, which have been collected to further the investigations of the fisheries and fish stocks of the Northwest Atlantic. In this volume tables are given of the length frequencies of samples taken in 1959 from commercial landings or catches as well as from catches of research vessels. Several countries have also submitted age frequency data and age/length tables.

Samples are taken either on shore from commercial landings or at sea from the catches of commercial or research vessels. Where the commercial vessel catch is sampled at sea, the samples are taken either before or after the discarding of small, unmarketable fish. In sampling the landings, samples are usually taken from each of the size categories in which the fish are landed, and the overall length frequency estimated by pooling the samples after weighting by the quantity of fish landed in each size category. Since sampling practices vary among countries, some further "Notes on the Sampling Data" are given on pages xi-xv.

It is the intention of the Commission that the data incorporated in the Sampling Yearbook should be readily intercomparable. To this end the Commission recommended that the fork length recorded to the nearest centimetre be adopted as the standard measure. It further recommended that the length measurements should be reported by 3-centimetre groups for the cod, by 2-centimetre groups for the haddock and by centimetres for the redfish. Only two methods of measuring fish are now in common use in the Convention Area: the one is the standard measure noted above, which is extensively used in Subareas 2, 3, 4, and 5; the other is the total length measured to the centimetre below, which is used by a few of the countries fishing in Subarea 1. Measuring to the total length gives a greater length than the standard, but this is compensated to some extent when measuring to the centimetre below, which gives a lesser length. Because of the very small differences involved and the limited data available to establish conversion factors, no conversions to standard measure have been made.

As the order in which the tables were published in Volume 3 of the Sampling Yearbook proved satisfactory, the same sequence is maintained in this volume:

1. The 1959 tables are arranged by species in the order cod, haddock, redfish, and American plaice, with a separate section for each species.

2. Blue pages at the beginning of each section are a guide to the tables within that section.
3. Within a species section, length frequencies are given first, followed by age frequencies and age/length frequencies or keys.

Length and age frequencies are generally given in parts per thousand but in some cases (notably the U.S. data for Subarea 5 haddock landings), as the total numbers landed. Age/length keys are given as the actual number of otoliths read, except for the U.S. haddock and Portuguese cod, where the tables give the permille age distribution of each length group.

Data are frequently reported separately for the sexes and are so published.

For each length or age frequency the following data are reported if available.

Serial Numbers:	The serial numbers (as given by the scientist reporting the data) of the samples on which the frequencies are based.
Number of Samples:	The number of samples on which the frequencies are based.
Number of Fish Measured or Aged:	The total number of fish measured in all the samples on which the frequencies are based.
Mean Length (cm) or Mean Age:	The estimated mean length or age of the catches or landings represented by their frequencies.
Mean Weight (Kg):	Given as round, fresh weight unless otherwise noted.
Total Wt. Landed (Tons):	The total commercial landings reported in the ICNAF Statistical Bulletin for the month/division, gear and country to which the frequencies refer.
Estimated No. (millions):	This figure is calculated by dividing the total weight landed by the mean weight.

Mesh or Hook Size:	The mesh size is given in inches or millimetres and is the internal, stretched diameter of the wet, used mesh unless otherwise stated. Hook sizes are given as the code numbers by which the hooks are sold.
Range of Depths:	Given in fathoms (fm) or metres (m). For landings, the depths are given at which fishing has taken place on the trip from which the samples were taken. For catches sampled at sea, the depths are given of the individual sets from which the samples were taken.

In many cases, sampling from different depth zones, and possibly different stocks, in a division are pooled. The number of decimals in the tables is frequently greater than justified by the data. Similarly, the mean weight of the fish and the estimated number of fish landed, etc., are often given to a larger number of decimals than justified by the data or by the conversion factors used.

Weights are always recorded in metric tons round, fresh (i.e. the nominal catch), except where otherwise noted. The conversion factors used are the same as those used in the ICNAF Statistical Bulletins (see Vol. 8, 1958, page 11). The most commonly used are:

- 1.2 for cod and haddock, gutted, head on
- 3.0 for cod and haddock, green salted, landed in Europe
- 2.7 for cod and haddock, green salted, landed in North America or
Greenland

In addition to the regular sampling of the commercial and research vessel catches and landings, a number of special data have been reported and are included here: a series of samples reported by Canada to measure the quantity and sizes of cod discarded at sea (pages 7 and 8), a series of redfish length frequencies which can be used to measure the growth rate of the redfish in certain inshore areas of Greenland (Denmark, page 167), and a table giving the weights of whole fish, the liver, the gonads, and the intestines (Portugal, page 143).

NOTES ON THE SAMPLING DATA

Canada (Maritimes and Quebec)

Reported by W.R. Martin
D.N. Fitzgerald
and A. Marcotte

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 and from sampling to measure discarding are reported to the Commission. Age frequency data are not reported.

Landings are normally culled by market categories. Cod are divided into Large (Steak) and Medium (Market) sizes at about 10 pounds fresh, gutted weight. Small (Scrod) cod and haddock are mainly less than 2-1/2 pounds gutted weight. Small round haddock are sometimes landed in a separate market category. These market categories are sampled approximately in proportion to the relative numbers of each in a trip landing. When the final weighout is available, the length frequency of the landings is determined by applying weighting factors to each category. The length frequencies of the sexes are not usually given separately.

Fork length measurements are recorded to the nearest centimetre for each fish. These measurements are reported by 3-centimetre groups for cod, 2-centimetre groups for haddock and by centimetres for American plaice. Mesh size is recorded as the approximate inside, stretched, wet used, measurement of an average cod-end mesh. Hook size is given by number, No. 6/0 being the smallest commercial groundfish hook, and No. 14 being the large hook used on longlines by Quebec.

Canada (Newfoundland)

Reported by A.M. Fleming

Length frequencies based on sampling of the commercial landings of cod, haddock, redfish, and American plaice in 1959 are reported. The length frequencies of redfish and American plaice are given by sexes.

Length measurements are made of the fork length and recorded to the nearest centimetre. Sampling is carried out on shore, from both the offshore and inshore fleets. The total weight of each sample is obtained, together with the total weight of the species landed from the trip sampled. By means of the weighting factor determined from these data, each sample frequency is raised to

give the estimated numbers of each size in the landings sampled. These raised frequencies are then pooled to give length frequencies by month, type of gear and division, and then compiled in 3-centimetre groups.

The 4-inch mesh size recorded for traps is to be considered a minimum.

Denmark (Faroes)

Reported by J.S. Joensen

Faroese investigations of commercial cod catches were undertaken and reported to the Secretariat for the first time in 1959.

Length frequencies, age frequencies and age/length keys by sexes were submitted from material originating in Divisions 1C, 1D and 1E, collected and measured on board of two commercial vessels, one an otter trawler and the other a longliner.

Denmark (Greenland)

Reported by Paul M. Hansen

Samples of cod have been taken from the inshore catches of commercial and research vessels and from the offshore catches of research vessels. The samples are not pooled. Length measurements are made of the total length (end of tail lobes) and recorded to the centimetre below. Age frequencies, mean size at each age and age/length keys are also reported.

For the special series of small redfish taken in the Godthåb Fjord, length frequencies have been compiled from samples taken in 1959 by the research vessel "Adolf Jensen" and are reported in this volume. These samples permit the study of the growth rate, using Petersen's method, as discussed in the Danish Research Report for 1956, ICNAF Annual Proceedings, Vol. 7.

Germany

Reported by Arno Meyer

Age and length frequencies of the 1959 exploratory catches and commercial landings of cod by otter trawlers are reported for the Convention Area, as well as for the Dohrn, Angmagssalik and Cap Bille Banks of East Greenland. For the first time length frequencies are reported for cod caught in the Ungava Bay area.

Length measurements are made of the total length (end of tail lobes) and recorded to the centimetre below. The length frequencies are reported to the Commission in standard 3-centimetre groups.

Where sampling of cod is carried out on shore at the market, each of the

three size categories landed is sampled separately, and the final length frequency calculated by weighting each length frequency by the quantity landed in the size category and then pooling the frequencies. The cod from the commercial landings are gutted before being measured.

Iceland

Reported by Jón Jónsson

Individual length frequencies of redfish samples taken on one survey cruise in Divisions 3K, 3L and 3M in 1959 were reported to the Commission. A summary of these by month/division is published here.

Norway

Reported by E. Bratberg

Length frequencies, age frequencies with mean size at each age and age/length keys are reported for cod. The samples are taken from catches made by research vessels in Divisions 1B, 1C, 1D, 1E, and 1F.

Lengths are reported by the standard 3-centimetre grouping and the age frequencies and age/length keys are given by sexes.

Measurements are made of the fork length to the nearest centimetre.

Portugal

Reported by Mario J. Ruivo
and Glicinia V. Quartin

Sampling at sea of the cod catches (before discarding undersized fish) of the Portuguese otter trawlers and dory vessels has been carried out in 1959 in Subareas 1, 3 and 4. Length frequencies, age frequencies (based on otoliths) with mean size at each age and age/length frequencies by sexes are included in the data reported.

Length measurements are made of the fork length recorded to the nearest centimetre. Samples are not weighted by the quantity caught; when taken on the same fishing bank at the same time, they are generally pooled.

Spain

Reported by O. Rodriguez M.

Length frequencies of the cod catches of the Spanish otter trawler "Aliseo", collected at sea for the year 1959, are reported. Samples are taken from the commercial catch before discarding.

Length measurements are made of the fork length recorded to the nearest centimetre. Length frequencies are reported in the standard 3-centimetre groups

as used by ICNAF. Samples are not weighted according to the quantity caught, but are pooled by month/divisions.

Union of Soviet Socialist Republics

Reported by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
and E.M. Mankevich

The length and age frequencies of cod and redfish catches are reported. Samples are taken at sea, before discarding, from the catches of exploratory and commercial otter trawlers. Cod length frequencies were reported to the Commission in 5-centimetre groups (16-20 cm, etc.), but were converted to 3-centimetre groups before publication. Redfish length frequencies are reported in 2-centimetre groups.

United Kingdom

Reported by G.C. Trout
and R.W. Blacker

The length composition by quarters of the cod landings of the United Kingdom otter trawlers from Subarea 1 is reported. Measurements are made of the total length to the centimetre below. Samples are taken of each of the size categories into which the landings are divided; the length frequencies so obtained are then pooled, after weighting by the quantity of fish in the category from which they are taken.

United States

The length frequencies of the United States landings of cod, haddock and redfish for 1959, and the age/length frequencies of the landings of haddock for 1959/60 are included in this volume. All measurements are made of the fork length to the nearest centimetre.

Compilation of Data

(a) Cod: Subarea 5, Otter Trawlers

Reported by J.P. Wise
and H. E. Murray

Each length frequency sample is weighted by the weighout of the landing from which it was obtained (by market category for large, market, scrod; by total cod for mixed). The resulting length frequencies are totalled and weighted by total United States cod landings for otter trawlers by month. These numbers are in turn combined into length frequencies for total United States otter trawl cod landings for each month. The percentage of fish for each centimetre interval

is then computed, combined into 3-centimetre groups, and finally converted to parts per thousand.

(b) Haddock

Reported by J. McCann
F. Dreyer
W.R. Martin
and D.N. Fitzgerald

The length frequency samples for each month by market category are pooled and the resulting frequency weighted by the total quantity of each category landed from each unit area. The weighted numbers of fish of each category are then pooled to obtain the total length frequency for haddock for each month for each division. Ages are determined from the scales, and age/length frequencies are compiled.

Length frequencies are reported by centimetres and age/length frequencies by 3-centimetre groups.

Length frequencies of haddock by quarters are reported under the United States/Canada Co-operative Programme.

Haddock biostatistical records are reported by the "haddock year": namely, February 1st to January 31st of the following year. The haddock's birthday is taken as February 1st.

(c) Redfish

Reported by G.F. Kelly
A.M. Barker
and G.M. Clarke

Samples are taken from the commercial catches of otter trawlers and are pooled without weighting.

COD

Guide to Tables

The numbers in the guide are page numbers. For a length frequency reference the page number alone is given. For an age frequency the page number is followed by A. For an age frequency with mean size at each age, the page number is followed by A'. For an age/length key or frequency the page number is followed by K. For a weight table the page number is followed by W. For discard experiments the page number is followed by D.

PAGE NUMBERS

Division	OTTER TRAWL				OTHER GEARS			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
East Greenland	20,59A' 60A'	20,60A'	20,59A'	20,22,59A' 60A',61A'			15,38A',39A' 40A',82K,83K 84K,85K,86K 87K	
Ungava				22				
1A							53A	53A
1B		29,76A	27,29			25,53A 71A' 125K 126K	16,23,25 41A',42A',53A 54A,63A',71A' 72A',88K,89K 90K,112K,113K 127K,128K 129K,130K	54A
1C		19,29,76A	19,27,29 58A'	30,76A		17,25 46A',54A 72A',97K 132K	14,16,23,25 37,42A',43A' 54A,63A',65A' 73A',80K,81K 91K,92K,112K 113K,114K 115K,131K 133K,134K 135K,136K	55A
1D	19,58A'	14,19,23 24,30,37 58A',62A' 68A',76A 78K,79K 111K,116K 117K	30,76A	21,30 61A'	17,47A' 48A',58A' 100K 101K	16,17,26 44A',46A' 64A',66A' 74A',95K 98K,112K 113K,137K 138K	16,17,23,26 43A',44A' 45A',47A' 48A',49A' 64A',75A' 93K,94K,96K 99K,102K,103K 112K,113K 114K,115K 139K,140K 141K	17,18 49A' 50A' 51A' 103K 104K 105K 106K 107K
1E		77A,78K 79K,111K 118K,119K	31,77A	21,31 61A'		23,55A 65A',66A' 112K,113K 114K,115K	14,23,37,55A 67A',80K,81K 114K,115K	56A

(cont'd.)

(cont'd.)

PAGE NUMBERS

Division	OTTER TRAWL				OTHER GEARS			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
1F			19,59A'	19,21 59A',61A'			18,23,51A' 52A',56A,57A 67A',108K 109K,110K 114K,115K	18,51A' 57A 108K
Subarea 1	34	34	34	34				
2H			31	21				
2I	31	31,77A	21,22 27,31	19				
3K	31	27,31	27,32	32				
3L	32	10,27,32	22,32			10,12,13	10,11,12,13	11,26
3M		32	22,32,77A	33				
3N		10	33				26	
3O	33	33,77A	33					
3P north						11,13	11,13	
3P south	10,24	24,28				11,26	10,11	11
3P	33	33,77A						
4R		28	3					
4T		3,7D 8D,28	3,7D,8D,9	3		9	9	
4W north	24,28,69A' 120K,121K	28						
4W south	24,70A' 122K,123K 124K							
4W	3	3,6,33	3	4		5	5	
4W-W		6	4,6	4				
4W		4,33	4,6			4		
4X					5	5	5	
5Y	35	35	35	35				
5Z	36	36	36	36				

TABLE 1 CANADA (Maritimes) - 1959

LENGTH FREQUENCIES - COD

by W.R. Martin

D.M. Fitzgerald

Commercial Landings

Vessel Type	Otter Trawlers							
	26-50 and 51-150				151-500			
Vessel Tonnage Class	4T				4R	4W		
Division	June	July	August	October	August	January	May	September
Month	F R E Q U E N C I E S in ‰							
3-cm group	F R E Q U E N C I E S in ‰							
39-41	8	4	-	6	5	3	1	17
42-44	30	27	14	58	-	15	13	54
45-47	125	64	77	122	13	48	55	198
48-50	196	141	157	129	108	139	176	217
51-53	217	179	226	168	70	101	243	204
54-56	115	187	158	157	104	107	176	165
57-59	100	127	109	118	135	102	161	88
60-62	68	90	69	81	114	119	97	29
63-65	49	56	55	59	114	101	32	15
66-68	24	43	43	37	94	92	19	5
69-71	15	26	26	23	64	37	13	4
72-74	11	14	14	12	50	46	1	2
75-77	11	10	10	8	71	18	1	-
78-80	6	8	8	7	24	28	1	2
81-83	11	3	5	5	3	16	4	-
84-86	2	7	6	2	11	14	2	-
87-89	1	4	7	2	11	5	2	-
90-92	4	2	2	3	2	3	1	-
93-95	2	4	2	1	-	2	1	-
96-98	1	3	2	1	1	3	1	-
99-101	-	1	2	-	1	-	-	-
102-104	1	-	1	-	1	-	-	-
105-107	1	-	1	-	1	-	-	-
108-110	-	-	2	-	1	-	-	-
111-113	1	-	3	-	-	-	-	-
114-116	-	-	-	1	-	-	-	-
117-119	-	-	1	-	1	1	-	-
120-122	-	-	-	-	-	-	-	-
123-125	1	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
135-137	-	-	-	-	1	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000	1000
Serial Numbers								
Number of Samples	2	4	3	4	1	1	3	2
Number Fish Measured	735	1460	1805	1585	300	441	910	600
Mean Length (cm)	54.68	56.46	56.63	55.06	62.35	60.06	54.74	51.18
Mean Weight (Kg)	1.51	1.59	1.67	1.53	2.38	2.19	1.48	1.26
Total Wt. Landed (Tons)	91591)	157441)	117381)	55541)	61)	19501)	29371)	7301)
Wt. Landings Sampled	13	369	53	77	106	150	218	56
Mesh Size (inches)	4½	4½	4½	4½	4¾	4½	4½-4¾	4½
Range of Depths (fm)	25-30	40-85	30-60	20-60	40	80	18-35	21-28

1) Includes all Canadian (Maritimes & Quebec) landings.

(cont'd.)

TABLE 1 CANADA (Maritimes) - 1959
(cont'd.)

LENGTH FREQUENCIES - COD

by W.R. Martin
D.N. Fitzgerald

Commercial Landings

Vessel Type	Otter Trawlers						Dory Vessels
Vessel Tonnage Class	151-500						151-500
Division	4W		4W-W		4W		4W
Month	October	November	July	November	April	August	April
3-cm group	F R E Q U E N C I E S in ‰						
39-41	11	-	3	12	-	9	2
42-44	49	28	23	73	2	58	10
45-47	84	122	84	130	9	93	11
48-50	108	165	131	130	16	131	28
51-53	126	194	184	130	28	141	15
54-56	171	166	163	133	95	159	62
57-59	111	135	165	98	120	134	104
60-62	133	79	123	95	149	121	104
63-65	59	90	53	77	117	77	98
66-68	42	14	41	67	77	45	72
69-71	39	-	12	39	65	13	70
72-74	29	7	12	3	44	16	77
75-77	16	-	6	10	47	3	39
78-80	16	-	-	3	49	-	56
81-83	3	-	-	-	42	-	43
84-86	-	-	-	-	19	-	46
87-89	-	-	-	-	22	-	10
90-92	3	-	-	-	19	-	41
93-95	-	-	-	-	18	-	15
96-98	-	-	-	-	18	-	24
99-101	-	-	-	-	14	-	34
102-104	-	-	-	-	5	-	15
105-107	-	-	-	-	7	-	5
108-110	-	-	-	-	3	-	7
111-113	-	-	-	-	4	-	-
114-116	-	-	-	-	3	-	10
117-119	-	-	-	-	3	-	-
120-122	-	-	-	-	1	-	2
123-125	-	-	-	-	2	-	-
-	-	-	-	-	-	-	-
132-134	-	-	-	-	1	-	-
-	-	-	-	-	-	-	-
141-143	-	-	-	-	1	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000
Serial Numbers							
Number of Samples	1	1	1	1	3	2	2
Number Fish Measured	300	300	300	300	900	600	600
Mean Length (cm)	56.65	53.98	55.31	54.89	68.80	55.03	71.37
Mean Weight (Kg)	1.93	1.61	1.73	1.86	3.28	1.65	4.39
Total Wt. Landed (Tons)	841 ¹⁾	1171 ¹⁾	2076 ¹⁾	2042 ¹⁾	3544 ¹⁾	1689 ¹⁾	3544 ¹⁾
Wt. Landings Sampled	40	33	22	35	74	53	74
Mesh (in.) or Hook Size	4½	4½	5	4½	4½	4½-4¾	#6/0
Range of Depths (fm)	25-32	24-30	23-28	25-38	38-70	20-28	50

1) Includes all Canadian (Maritimes & Quebec) landings.

(cont'd.)

TABLE 1 CANADA (Maritimes) - 1959
(cont'd.)

LENGTH FREQUENCIES - COD

by W.R. Martin
D.N. Fitzgerald

Commercial Landings

Vessel Type	Longliners								
	0-25			26-50					
Vessel Tonnage Class	4X			4W					
Division	4X			4W					
Month	April	July	August	May	June	July	August	Sept.	January
3-cm group	F R E Q U E N C I E S in ‰								
30-32	-	5	6	-	-	-	-	-	4
33-35	7	28	15	-	-	-	-	-	7
36-38	-	45	38	2	-	-	18	11	22
39-41	-	101	111	37	10	21	28	36	18
42-44	52	81	88	39	31	24	55	46	22
45-47	13	96	73	62	70	68	78	82	80
48-50	20	100	100	74	71	85	67	112	131
51-53	20	73	94	87	89	91	127	117	143
54-56	59	70	59	84	79	111	131	125	94
57-59	99	52	59	115	98	126	123	135	88
60-62	52	27	26	68	90	110	101	113	59
63-65	26	20	32	66	94	90	76	63	28
66-68	79	20	50	54	59	80	57	53	56
69-71	59	3	61	39	65	61	22	30	32
72-74	33	11	23	39	44	27	22	17	37
75-77	53	44	34	20	27	29	16	14	37
78-80	46	29	37	19	34	14	13	6	25
81-83	26	13	8	22	21	5	23	4	29
84-86	46	13	5	12	25	9	13	4	22
87-89	46	26	22	30	19	10	-	8	20
90-92	46	13	8	18	11	8	-	3	15
93-95	20	39	11	16	10	7	5	4	15
96-98	39	-	8	35	19	9	-	7	7
99-101	79	13	8	10	11	6	5	1	7
102-104	33	39	8	17	8	2	5	2	2
105-107	-	-	5	16	9	3	15	2	-
108-110	13	39	5	11	4	2	-	-	-
111-113	13	-	-	3	2	1	-	3	-
114-116	-	-	3	5	-	1	-	1	-
117-119	7	-	3	-	-	-	-	1	-
120-122	7	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
129-131	7	-	-	-	-	-	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000	1000	1000
Serial Numbers									
Number of Samples	1	1	1	2	3	2	1	3	1
Number Fish Measured	152	520	345	600	900	600	300	900	300
Mean Length (cm)	75.10	60.06	57.53	64.67	63.89	60.57	57.81	57.02	59.89
Mean Weight (Kg)	6.47	2.12	2.81	2.93	2.71	2.22	2.11	1.81	2.29
Total Wt. Landed (Tons)	878 ¹⁾	951 ¹⁾	2607 ¹⁾	2937 ¹⁾	1479 ¹⁾	805 ¹⁾	691 ¹⁾	730 ¹⁾	652 ¹⁾
Wt. Landings Sampled	1	2	1	12	26	10	1	6	12
Hook Size	#6/0	#6/0	#6/0	#6/0	#6/0	#6/0	#6/0	#6/0	#6/0
Range of Depths (fm)	45	20-35	30	65-80	30-80	20-40	20-30	28-40	40

1) Includes all Canadian (Maritimes & Quebec) landings.

(cont'd.)

TABLE 1 CANADA (Maritimes) - 1959
(cont'd.)

LENGTH FREQUENCIES - COD

by W.R. Martin
D.N. Fitzgerald

Commercial Catches - Measured at Sea

Vessel Type	Otter Trawlers			
Vessel Tonnage Class	151-500			
Division	4W	4W-W		4W
Month	May	June	July	August
3-cm group	FREQUENCIES in ‰			
24-26	-	-	1	1
27-29	-	8	1	2
30-32	3	8	5	11
33-35	-	8	5	23
36-38	10	17	14	65
39-41	14	69	31	103
42-44	28	85	59	124
45-47	65	107	73	110
48-50	100	187	112	129
51-53	114	175	145	134
54-56	105	119	142	107
57-59	100	100	112	69
60-62	93	52	129	42
63-65	82	35	61	38
66-68	72	12	46	16
69-71	68	3	14	12
72-74	30	6	8	4
75-77	30	-	9	5
78-80	16	3	10	3
81-83	24	-	6	2
84-86	17	6	5	-
87-89	14	-	11	-
90-92	3	-	1	-
93-95	5	-	-	-
96-98	2	-	-	-
99-101	3	-	-	-
102-104	-	-	-	-
105-107	-	-	-	-
108-110	2	-	-	-
Total ‰	1000	1000	1000	1000
Serial Numbers				
Number of Samples	1	1	2	1
Number Fish Measured	572	343	798	918
Mean Length (cm)	59.96	50.88	55.23	49.28
Mean Weight (Kg)	1.88	1.24	1.44	1.14
Total Wt. Landed (Tons)	2937 ¹⁾	2231 ¹⁾	2076 ¹⁾	1689 ¹⁾
Estimated No. Landed				
Mesh Size (inches)	4 $\frac{7}{8}$ -5	4 $\frac{1}{2}$ -4 $\frac{3}{4}$	4 $\frac{1}{2}$ -5	4 $\frac{1}{2}$
Range of Depths (fm)	60-85	20-38	30-70	20-27

1) Includes all Canadian (Maritimes & Quebec) landings.

TABLE 2 CANADA (Maritimes) - 1959

LENGTH FREQUENCIES - COD

by W.R. Martin
D.N. FitzgeraldPaired Sea and Wharf Samples taken to determine
sizes and quantities discarded at sea

OTTER TRAWLERS - Commercial Samples

Vessel Tonnage Class	26-50					
Division	4T					
Month	June		July		August	
	Sea	Wharf ¹⁾	Sea	Wharf ¹⁾	Sea	Wharf ¹⁾
3-cm group	FREQUENCIES in ‰					
15-17	1	-	-	-	-	-
18-20	11	-	-	-	-	-
21-23	12	-	-	-	1	-
24-26	9	-	-	-	1	-
27-29	10	-	-	-	1	-
30-32	10	-	1	-	7	-
33-35	22	-	2	-	18	-
36-38	25	-	4	-	18	-
39-41	27	7	9	1	29	-
42-44	33	31	23	27	60	13
45-47	46	60	64	96	91	61
48-50	72	90	130	169	142	123
51-53	116	121	169	187	147	258
54-56	121	148	164	171	151	173
57-59	115	114	118	110	117	128
60-62	103	102	100	76	82	91
63-65	84	99	79	56	50	56
66-68	64	70	51	43	24	31
69-71	35	43	30	24	21	24
72-74	29	28	18	12	13	13
75-77	15	20	12	6	4	4
78-80	14	13	8	6	6	5
81-83	9	22	5	3	5	2
84-86	5	13	3	3	4	2
87-89	3	4	4	6	4	4
90-92	5	9	2	-	1	2
93-95	1	4	1	-	1	-
96-98	2	2	1	1	1	2
99-101	-	-	1	1	-	2
102-104	1	-	1	-	-	-
105-107	-	-	-	1	-	-
108-110	-	-	-	-	1	2
111-113	-	-	-	1	-	2
114-116	-	-	-	-	-	2
Total ‰	1000	1000	1000	1000	1000	1000
Serial Numbers		42		41		46
Number of Samples	1	1	2	2	1	1
Number Fish Measured	1942	450	3458	1452	1594	538
Mean Length (cm)	54.51	59.33	56.69	55.44	53.69	56.21
Mean Weight (Kg)	1.39	1.98	1.83	1.56	1.33	1.58
Total Wt. Landed (Tons)	...	9159 ²⁾	...	15744 ²⁾	...	11738 ²⁾
Mesh Size (inches)		4½		4½		4¾
Range of Depths (fm)		7-25		32-85		45-60

1) 50% discard point.

2) Includes all Canadian (Maritimes & Quebec) landings.

(cont'd.)

TABLE 2 CANADA (Maritimes) - 1959
(cont'd.)

LENGTH FREQUENCIES - COD

by W.R. Martin
D.N. FitzgeraldPaired Sea and Wharf Samples taken to determine
sizes and quantities discarded at sea.

OTTER TRAWLERS - Commercial Samples

Vessel Tonnage Class	51-150					
Division	4T					
Month	June		July		September	
	Sea	Wharf ¹⁾	Sea	Wharf ¹⁾	Sea	Wharf ¹⁾
3-cm group	FREQUENCIES in ‰					
21-23	1	-	-	-	-	-
24-26	3	-	-	-	-	-
27-29	2	-	-	-	1	-
30-32	9	-	2	-	1	-
33-35	12	-	5	-	14	-
36-38	28	3	11	-	25	-
39-41	52	19	20	-	46	-
42-44	58	57	48	19	70	20
45-47	123	151	77	66	103	84
48-50	155	174	147	144	146	184
51-53	126	140	156	228	152	219
54-56	111	104	122	161	128	158
57-59	86	80	101	120	91	91
60-62	56	66	81	79	47	57
63-65	52	60	67	69	51	41
66-68	37	42	52	44	36	10
69-71	21	28	31	20	19	21
72-74	17	22	23	21	22	39
75-77	14	16	15	10	11	10
78-80	9	10	9	4	8	18
81-83	5	12	6	3	5	4
84-86	7	6	5	5	3	6
87-89	3	3	6	2	5	10
90-92	3	4	3	1	6	6
93-95	3	1	4	-	3	10
96-98	4	1	1	1	1	8
99-101	1	1	4	-	1	1
102-104	-	-	2	1	2	1
105-107	1	-	2	1	1	1
108-110	1	-	-	-	1	1
-	-	-	-	-	-	-
117-119	-	-	-	1	-	-
-	-	-	-	-	-	-
123-125	-	-	-	-	1	-
Total ‰	1000	1000	1000	1000	1000	1000
Serial Numbers	41		44		45	
Number of Samples	2	2	2	2	1	1
Number Fish Measured	1948	671	2201	1092	1499	714
Mean Length (cm)	53.58	55.07	56.35	56.13	54.05	56.66
Mean Weight (Kg)	1.32	1.52	1.59	1.58	1.34	1.80
Total Wt. Landed (Tons)	...	9159 ²⁾	...	15744 ²⁾	...	7533 ²⁾
Mesh Size (inches)	4 $\frac{3}{4}$		4 $\frac{1}{2}$		4 $\frac{1}{2}$	
Range of Depths (fm)	7-60		40-80		38-62	

1) 50% discard point. 2) Includes all Canadian (Maritimes & Quebec) landings.

TABLE 3 CANADA (Quebec) - 1959

LENGTH FREQUENCIES - COD

by A. Marcotte

Commercial Landings

Vessel Type	Otter Trawlers		Longliners	
Vessel Tonnage Class	26-50		26-50	
Division	4T		4T	
Month	July	September	June	August
3-cm group	FREQUENCIES in ‰			
30-32	-	-	1	-
33-35	-	-	-	-
36-38	-	-	1	3
39-41	2	7	-	3
42-44	17	35	1	4
45-47	73	95	2	13
48-50	142	152	12	12
51-53	144	168	15	28
54-56	147	151	28	24
57-59	119	113	17	30
60-62	90	82	34	32
63-65	77	61	72	57
66-68	88	43	107	55
69-71	61	35	115	50
72-74	15	13	99	52
75-77	15	10	69	47
78-80	2	7	67	51
81-83	2	3	78	28
84-86	-	3	55	59
87-89	2	9	61	40
90-92	-	2	61	57
93-95	-	3	28	59
96-98	-	5	22	51
99-101	2	-	17	39
102-104	2	-	18	40
105-107	-	-	6	27
108-110	-	1	4	34
111-113	-	1	1	28
114-116	-	1	1	15
117-119	-	-	2	20
120-122	-	-	-	5
123-125	-	-	1	12
126-128	-	-	2	5
129-131	-	-	-	8
>131	-	-	-	9 ¹⁾
Total ‰	1000	1000	997	997
Number of Samples	1	3	2	3
Number Fish Measured	522	1146	820	743
Mean Length (cm)	57.32	56.28	76.20	83.82
Mean Weight (Kg)	1.69	1.61	3.78	5.23
Total Wt. Landed (Tons)	15744 ²⁾	7533 ²⁾	9159 ²⁾	11738 ²⁾
Mesh (in.) or Hook Size	4½	4½	#14	#14
Range of Depths (fm)	25-75	25-75	24-30	...

1) 4 at 132-134; 1 at 135-137; 3 at 138-140; 1 at 144-146.

2) Includes all Canadian (Maritimes & Quebec) landings.

TABLE 4 CANADA (Newfoundland) - 1959

LENGTH FREQUENCIES - COD

by A.M. Fleming

Commercial Landings

Gear	Otter Trawl Offshore				Cod Trap Inshore			
	3L	3N	3P south		3L			3P south
Division	June	May	June	March	June	July	August	July
Month	June	May	June	March	June	July	August	July
3-cm group	F R E Q U E N C I E S in ‰							
30-32	-	-	-	1	-	-	-	-
33-35	-	-	4	2	2	-	-	1
36-38	-	35	38	17	16	4	2	9
39-41	6	175	125	48	89	23	16	60
42-44	23	297	237	88	170	68	31	152
45-47	45	196	203	117	170	121	71	163
48-50	57	119	113	117	168	150	128	138
51-53	57	80	62	105	127	124	125	109
54-56	68	63	48	82	96	105	124	85
57-59	79	32	45	93	69	98	126	72
60-62	108	-	46	89	46	79	127	75
63-65	97	-	38	71	24	77	88	51
66-68	102	4	19	62	13	56	67	33
69-71	94	-	14	43	5	38	41	30
72-74	61	-	3	29	1	21	22	10
75-77	49	-	5	9	3	14	13	6
78-80	27	-	-	8	-	8	12	4
81-83	18	-	-	8	1	7	6	1
84-86	17	-	-	4	-	2	1	1
87-89	16	-	-	1	-	2	-	-
90-92	14	-	-	-	-	1	1	-
93-95	10	-	-	2	-	2	1	-
96-98	9	-	-	1	-	-	-	-
99-101	11	-	-	-	-	-	-	-
102-104	8	-	-	1	-	-	1	-
105-107	7	-	-	2	-	-	-	-
108-110	7	-	-	-	-	-	-	-
111-113	4	-	-	-	-	-	-	-
114-116	1	-	-	-	-	-	-	-
117-119	4	-	2	-	-	-	-	-
120-122	2	-	-	-	-	-	-	-
123-125	-	-	-	-	-	-	-	-
126-128	-	-	-	1	-	-	-	-
Total ‰	1001	1001	1002	1001	1000	1000	1003	1000
Serial Numbers								
Number of Samples	4	1	2	7	7	43	17	14
Number Fish Measured	1029	286	397	2047	1780	7418	2027	3661
Mean Length (cm)	65.90	45.60	48.29	55.16	51.95	55.38	57.13	51.91
Mean Weight (Kg)	2.90	0.77	1.09	1.60	0.97	1.43	1.43	1.47
Total Wt. Landed (Tons)	713	260	208	982	...	...	...	...
Est. Number (millions)	246	341	192	615	...	...	...	...
Mesh Size (inches)	4 man.	4 man.	4 man.	4 man.	4 cot.	4 cot.	4 cot.	4 cot.
Range of Depths (fm)	37-85	35-48	32-40	70-105	11-17	8-18	7-18	7-16

(cont'd.)

TABLE 4 CANADA (Newfoundland) - 1959
(cont'd.)

LENGTH FREQUENCIES - COD

by A.M. Fleming

Commercial Landings

Gear	Line Trawl						
	Inshore						
	3L		3F north		3F south		
Month	September	October	April	August	May	September	November
3-cm group	F R E Q U E N C I E S in ‰						
33-35	-	-	1	-	-	1	-
36-38	-	-	18	3	-	4	3
39-41	3	6	29	53	-	12	58
42-44	12	18	22	50	20	17	64
45-47	19	35	44	77	37	41	64
48-50	33	42	56	67	59	75	86
51-53	52	55	83	102	114	58	52
54-56	66	101	81	93	122	62	55
57-59	109	132	90	90	160	94	71
60-62	123	92	97	98	181	114	77
63-65	135	107	95	70	142	117	51
66-68	123	104	88	58	67	96	100
69-71	90	89	75	51	43	75	103
72-74	79	65	62	42	18	68	26
75-77	33	42	53	29	16	38	67
78-80	29	29	28	38	6	32	28
81-83	22	16	25	22	4	22	13
84-86	29	7	15	19	6	22	16
87-89	19	17	12	8	4	16	6
90-92	6	11	9	14	-	12	16
93-95	6	10	6	3	2	12	3
96-98	3	7	2	3	-	11	6
99-101	5	8	4	5	-	-	12
102-104	2	4	3	2	-	1	-
105-107	1	2	1	-	-	-	13
108-110	2	2	-	2	-	1	3
111-113	-	1	1	-	-	-	-
114-116	-	-	-	2	-	-	-
117-119	-	-	-	-	-	-	3
-	-	-	-	-	-	-	-
126-128	-	-	-	-	-	-	-
129-131	1	-	-	-	-	-	3
Total ‰	1002	1002	1000	1001	1001	1001	999
Serial Numbers							
Number of Samples	10	7	12	3	1	6	2
Number Fish Measured	1100	700	3513	625	199	813	238
Mean Length (cm)	65.35	64.21	62.40	60.07	59.34	63.88	62.19
Mean Weight (Kg)	2.19	2.17	2.03	1.95	2.01	2.61	2.67
Total Wt. Landed (Tons)							
Estimated Number Landed							
Hook Size	#14	#14	#17	#17	#14-17	#14-17	#14-17
Range of Depths (fm)	20-45	25-45	45-95	70	10-30	12-50	28-75

(cont'd.)

TABLE 4 CANADA (Newfoundland) - 1959
(cont'd.)

LENGTH FREQUENCIES - COD

by A.M. Fleming

Commercial Landings

Gear	Handline Inshore				Longline Inshore		
	3L						
	June	July	August	September	June	July	August
3-cm group	FREQUENCIES in ‰						
36-38	2	2	-	-	1	-	-
39-41	6	8	1	-	3	-	1
42-44	31	43	8	12	8	1	1
45-47	67	57	18	27	12	3	5
48-50	91	94	14	39	30	6	8
51-53	127	117	37	70	42	6	16
54-56	137	116	83	105	89	24	50
57-59	143	123	132	161	84	54	73
60-62	126	118	144	140	141	129	116
63-65	101	106	158	129	177	177	157
66-68	71	82	156	115	120	169	140
69-71	48	56	95	77	88	122	121
72-74	19	28	75	33	62	91	82
75-77	13	15	33	35	51	59	52
78-80	8	14	18	21	37	35	30
81-83	3	6	11	15	15	34	39
84-86	3	4	10	5	13	26	28
87-89	-	5	5	11	8	11	16
90-92	-	2	4	3	5	10	19
93-95	2	3	-	2	5	15	15
96-98	1	1	-	1	4	9	13
99-101	2	-	-	-	2	5	9
102-104	-	1	-	-	2	2	4
105-107	-	1	2	-	1	3	3
108-110	-	-	-	-	1	4	3
111-113	-	-	-	-	1	1	1
114-116	-	-	-	-	1	3	1
117-119	-	-	-	-	-	1	-
120-122	-	-	-	-	-	-	1
123-125	-	-	-	-	1	1	-
Total ‰	1001	1002	1004	1001	1004	1001	1004
Serial Numbers							
Number of Samples	10	18	9	5	7	7	10
Number Fish Measured	1900	3220	909	810	1410	970	1113
Mean Length (cm)	57.80	58.66	63.93	62.14	64.90	69.47	69.16
Mean Weight (Kg)	1.56	1.64	2.05	1.90	2.18	2.44	2.60
Total Wt. Landed (Tons)							
Estimated Number Landed							
Hook Size	#11-14	#11-14	#11-14	#11-14	#17	#17	#17
Range of Depths (fm)	3-20	7-30	15-25	20-25	140-150	150	140-150

(cont'd.)

TABLE 4 CANADA (Newfoundland) - 1959
(cont'd.)

LENGTH FREQUENCIES - COD

by A.M. Fleming

Commercial Landings

Gear	Longline		Jigger					
	Inshore		Inshore					
Division	L	3P north	L			3P north		
Month	Sept.	April	June	July	August	Sept.	July	August
3-cm group	FREQUENCIES in ‰							
33-35	-	1	-	-	-	-	4	-
36-38	-	1	3	3	-	-	25	40
39-41	-	5	34	11	-	21	85	72
42-44	-	10	75	28	9	28	134	89
45-47	-	16	100	58	89	39	137	116
48-50	4	17	102	104	54	166	128	109
51-53	24	37	118	107	117	148	127	109
54-56	20	53	110	95	95	137	111	99
57-59	55	57	126	123	158	70	75	102
60-62	136	74	117	120	136	120	58	94
63-65	158	108	87	86	99	21	42	57
66-68	196	75	59	80	124	102	28	32
69-71	149	112	26	71	55	42	13	27
72-74	71	96	18	51	15	32	11	10
75-77	51	77	9	19	20	21	7	12
78-80	50	74	5	19	10	21	7	5
81-83	13	46	6	8	11	11	1	5
84-86	13	47	1	6	5	11	2	7
87-89	6	23	-	1	-	11	1	7
90-92	23	19	1	3	5	-	1	3
93-95	6	12	2	4	-	-	2	3
96-98	6	11	1	-	-	-	-	3
99-101	10	9	-	-	-	-	-	-
102-104	6	2	1	-	-	-	-	-
105-107	5	3	-	3	-	-	-	-
108-110	-	-	-	-	-	-	-	-
111-113	-	4	-	-	-	-	-	-
114-116	-	2	-	-	-	-	1	-
117-119	-	2	-	-	-	-	-	-
120-122	-	1	-	-	-	-	-	-
123-125	-	-	-	-	-	-	-	-
126-128	-	1	-	-	-	-	-	-
129-131	-	1	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
138-140	-	1	-	-	-	-	-	-
Total ‰	1002	997	1001	1000	1002	1001	1000	1001
Serial Numbers								
Number of Samples	3	5	14	4	2	1	7	6
Number Fish Measured	420	1149	2020	449	200	100	998	404
Mean Length (cm)	68.64	70.25	55.60	59.50	59.45	58.01	51.46	53.74
Mean Weight (Kg)	2.54	2.91	1.41	1.69	1.65	1.56	1.17	1.41
Total Wt. Landed (Tons)								
Estimated Number Landed								
Hook Size	#17	#17	#11	#11	#11	#11	#11	#11
Range of Depths (fm)	140-150	80-100	7-30	5-25	20-25	20-25	18-35	25-50

TABLE 5 DENMARK (Faroes) - 1959

LENGTH FREQUENCIES - COD¹⁾

by J.S. Joensen

Commercial Catches

Gear	Otter Trawl		Handline	
Vessel Tonnage	955		151	
Division	1D	1E	1C	1E
Month	May	May	August	August
3-cm group	FREQUENCIES in ‰			
39-41	-	-	1	-
42-44	1	-	1	-
45-47	3	5	10	-
48-50	14	19	18	-
51-53	24	35	26	2
54-56	30	46	24	5
57-59	73	86	30	15
60-62	129	127	64	32
63-65	163	148	98	45
66-68	159	127	103	56
69-71	127	107	99	96
72-74	87	91	95	99
75-77	67	67	120	121
78-80	58	66	108	151
81-83	38	34	95	151
84-86	19	20	54	125
87-89	5	11	35	55
90-92	2	6	12	34
93-95	1	2	3	9
96-98	1	1	2	3
99-101	-	1	1	1
102-104	-	-	-	-
105-107	-	-	1	-
108-110	-	-	-	1
Total ‰	1001	999	1000	1001
Serial Numbers				
Number of Samples	3	14	7	2
Number Fish Measured	1473	3624	1489	984
Mean Length (cm)	67.4	67.0	71.7	77.2
Mean Weight (Kg)				
Total Wt. Landed (Tons)				
Estimated No. Landed				
Mesh or Hook Size				
Range of Depths	35-210 fm	35-210 fm	60-100 m	60-123 m

1) The age frequencies of these samples are given in Table 17; the age/length keys are given in Table 27.

TABLE 6 DENMARK (Greenland) - 1959 LENGTH FREQUENCIES - COD¹⁾ by Paul M. Hansen

East Greenland - Research Catches

Location	65°48'N 37°01'W	65°49'N 36°59'W	65°35'N 37°35'W	65°35'N 37°35'W	63°10'N 43°13'W	63°10'N 41°04'W
Gear	Handline	Handline	Handline	Handline	Handline	Longline
Month	August	September	September	September	September	August
3-cm group	F R E Q U E N C I E S in ‰					
33-35	-	15	-	-	-	-
36-38	-	46	4	33	-	-
39-41	18	77	8	24	3	-
42-44	9	108	-	33	-	-
45-47	28	46	8	33	3	-
48-50	83	15	4	16	-	-
51-53	46	31	8	33	6	-
54-56	73	31	30	24	10	-
57-59	64	139	38	57	13	-
60-62	92	15	47	89	16	27
63-65	174	108	102	98	35	-
66-68	83	92	77	65	51	55
69-71	92	77	111	57	73	27
72-74	46	92	106	122	93	73
75-77	73	15	119	65	124	55
78-80	37	77	128	57	153	45
81-83	28	-	81	73	112	100
84-86	9	-	60	33	112	36
87-89	28	15	38	57	57	127
90-92	-	-	13	16	61	73
93-95	-	-	8	16	32	100
96-98	-	-	4	-	26	82
99-101	-	-	-	-	13	55
102-104	9	-	-	-	-	45
105-107	9	-	-	-	3	18
108-110	-	-	-	-	3	36
111-113	-	-	-	-	-	-
114-116	-	-	-	-	-	9
117-119	-	-	-	-	-	9
120-122	-	-	-	-	-	18
123-125	-	-	-	-	-	-
126-128	-	-	4	-	-	-
-	-	-	-	-	-	-
136	-	-	-	-	-	9
Total ‰	1001	999	998	1001	999	999
Serial Numbers	2	1	3	4	6	5
Number of Samples						
Number of Fish Measured	109	65	235	123	313	110
Mean Length (cm)	64.5	59.0	72.5	67.4	78.7	88.5
Mean Weight (Kg)	2.5	2.1	3.4	3.0	4.6	6.5
Total Wt. Landed (Tons)						
Estimated Number Landed						
Mesh or Hook Size						
Range of Depths (m)	130-180	90-150	150	...	...	150-220

1) The age frequencies of these samples are given in Table 18; the age/length keys are given in Table 28.

TABLE 7 DENMARK (Greenland) - 1959 LENGTH FREQUENCIES - COD¹⁾ by Paul M. Hansen

West Greenland (Banks) - Research Catches

Location	IB			IC		ID			
	Store Hellefiske Bank			Lille Hellefiske Bank	Banana Bank	Fylla Bank		Fiskenaes Bank	
Gear ²⁾	HL	HL	HL	HL	HL	HL	HL	LL	HL
Month	July	July	July	July	July	July	August	June	August
3-cm group	F R E Q U E N C I E S in ‰								
27-29	-	4	-	-	11	-	-	-	-
30-32	-	-	-	-	-	-	-	-	-
33-35	-	-	-	14	11	-	-	-	-
36-38	-	-	13	99	22	5	-	-	9
39-41	-	21	13	113	65	5	-	-	-
42-44	125	17	39	99	87	21	-	-	-
45-47	83	38	53	42	65	21	-	-	-
48-50	104	42	66	70	87	21	17	-	-
51-53	83	68	224	28	65	11	-	-	28
54-56	83	59	105	14	33	32	-	-	-
57-59	166	80	171	42	54	63	33	-	-
60-62	83	148	158	14	54	63	33	21	19
63-65	146	135	92	28	11	122	100	64	130
66-68	83	114	26	127	65	127	117	96	93
69-71	-	94	39	-	54	127	167	53	111
72-74	21	72	-	42	54	116	150	74	148
75-77	21	42	-	70	54	95	133	181	176
78-80	-	21	-	113	87	53	133	117	120
81-83	-	13	-	70	65	48	33	138	74
84-86	-	21	-	-	-	37	50	106	37
87-89	-	9	-	-	33	11	33	74	37
90-92	-	-	-	14	22	11	-	11	9
93-95	-	-	-	-	-	5	-	32	9
96-98	-	-	-	-	-	5	-	21	-
99-101	-	-	-	-	-	-	-	11	-
Total ‰	998	998	999	999	999	999	999	999	1000
Serial Numbers	1	2	3	4	5	6	8	7	9
Number Fish Measured	48	236	76	71	92	189	60	94	108
Mean Length (cm)	56.1	62.5	55.9	58.7	60.7	68.3	72.3	77.9	73.1
Mean Weight (Kg)	1.7			2.4					
Total Wt. Landed (Tons)									
Estimated Number Landed									
Hook Size									
Range of Depths (m)	45-50	40-47	45-51	36-85	67-80	42-52	67	240-80	60-70

1) The age frequencies of these samples are given in Table 19; the age/length keys are given in Table 29.

2) HL - Handline; LL - Longline.

TABLE 8 DENMARK (Greenland) - 1959 LENGTH FREQUENCIES - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Location	IC	ID					
	Sukker- toppen	Godthåb Fjord					
Gear	Pound Net	Handline	Handline	Longline	Longline	Longline	Longline
Month	June	April	August	March	March	August	Sep-Oct
3-cm group	F R E Q U E N C I E S in ‰						
24-26	-	-	-	-	14	-	-
27-29	-	-	-	-	14	-	-
30-32	-	19	-	-	-	-	-
33-35	-	94	-	-	-	-	-
36-38	-	141	-	-	41	-	-
39-41	-	57	27	81	81	-	13
42-44	-	47	55	145	162	-	-
45-47	-	28	34	97	297	-	-
48-50	-	38	62	97	176	-	-
51-53	6	9	55	16	68	-	13
54-56	19	28	157	16	-	-	13
57-59	97	28	103	81	-	-	25
60-62	136	94	48	65	41	30	51
63-65	130	123	103	97	41	51	38
66-68	136	94	96	113	41	40	139
69-71	169	94	41	48	27	61	89
72-74	84	28	82	16	-	152	139
75-77	45	57	62	65	-	232	215
78-80	39	9	41	-	-	192	89
81-83	32	-	7	32	-	81	114
84-86	32	-	14	-	-	61	38
87-89	26	9	-	16	-	20	25
90-92	19	-	7	-	-	51	-
93-95	13	-	-	-	-	10	-
96-98	13	-	-	-	-	10	-
99-101	-	-	7	-	-	-	-
102-104	-	-	-	-	-	10	-
105-107	-	-	-	-	-	-	-
108-110	-	-	-	-	-	-	-
111-113	-	-	-	16	-	-	-
Total ‰	996	997	1001	1001	1003	1001	1001
Serial Numbers	7	11	17	19	20	12	13
Number of Samples							
Number Fish Measured	154	106	146	62	74	99	79
Mean Length (cm)	69.2	50.7	61.4	58.2	47.3	77.1	71.6
Mean Weight (Kg)	...	1.8	2.2	2.5	1.3	4.6	...
Total Wt. Landed (Tons)							
Estimated Number Landed							
Mesh or Hook Size							
Range of Depths (m)	...	100-140	75-350	50-100	50-240	300	...

(cont'd.)

1) The age frequencies of these samples are given in Table 20; the age/length keys are given in Table 30.

TABLE 8 DENMARK (Greenland) - 1959 LENGTH FREQUENCIES - COD¹⁾ by Paul M. Hansen
(cont'd.)

West Greenland (Inshore and Fjords) - Research Catches

Location	ID				LF		
	Godthåb Fjord				Narssaq	Simiutak	
	Longline	Longline	Longline	Longline	Handline	Handline	Handline
Gear	Longline	Longline	Longline	Longline	Handline	Handline	Handline
Month	October	October	October	November	Aug-Oct	September	September
3-cm group	F R E Q U E N C I E S in ‰						
30-32	-	-	-	-	-	7	-
33-35	-	-	-	-	6	26	-
36-38	-	-	-	-	26	20	-
39-41	-	-	-	6	52	118	-
42-44	-	-	-	23	52	99	-
45-47	-	-	-	6	52	79	8
48-50	5	-	-	6	45	26	4
51-53	-	-	-	6	19	39	16
54-56	16	4	38	41	32	13	24
57-59	5	-	-	46	13	46	65
60-62	11	4	-	35	58	59	101
63-65	22	9	19	29	123	151	105
66-68	76	35	57	64	123	46	93
69-71	103	109	94	70	103	66	186
72-74	179	96	170	139	97	59	150
75-77	195	197	207	151	84	72	121
78-80	201	223	151	168	45	33	73
81-83	60	118	113	110	45	13	36
84-86	38	96	38	46	13	20	16
87-89	49	79	38	23	6	-	-
90-92	27	4	19	6	-	7	-
93-95	11	13	19	17	-	-	-
96-98	-	9	19	-	-	-	-
99-101	-	-	19	-	-	-	-
102-104	-	-	-	-	-	-	-
105-107	-	-	-	-	-	-	-
108-110	-	-	-	-	6	-	-
Total ‰	998	996	1001	992	1000	999	998
Serial Numbers	14	16	18	15	26	24	25
Number of Samples							
Number Fish Measured	184	228	53	171	155	152	247
Mean Length (cm)	75.7	77.9	76.7	72.9	62.5	58.0	68.4
Mean Weight (Kg)	4.9	5.1	4.6	4.1	...	2.1	3.0
Total Wt. Landed (Tons)							
Estimated Number Landed							
Hook Size							
Range of Depths (m)	300	250-340	210-340	80-200	20-90	40-100	40-100

1) The age frequencies of these samples are given in Table 20; the age/length keys are given in Table 30.

TABLE 9 GERMANY - 1959

LENGTH FREQUENCIES - COD ¹⁾

by Arno Meyer

OTTER TRAWLERS - Commercial Landings

Division	1C		1D			1E	1F		2J
	June	Sept.	March	April	May	June	Sept.	Dec.	Dec.
3-cm group	F R E Q U E N C I E S in ‰								
42-44	-	-	-	1	-	-	-	-	-
45-47	-	-	3	6	-	-	-	-	-
48-50	2	-	30	17	-	-	7	-	-
51-53	1	-	56	34	-	4	24	1	26
54-56	4	-	206	80	16	4	64	13	64
57-59	22	11	222	155	58	12	77	105	266
60-62	68	42	206	222	152	97	152	177	154
63-65	68	75	121	192	167	106	137	208	170
66-68	79	70	80	112	173	126	133	146	149
69-71	92	111	28	45	109	123	77	100	53
72-74	199	140	15	39	100	111	90	88	53
75-77	148	110	14	33	93	137	68	66	26
78-80	147	169	8	22	54	119	62	60	21
81-83	77	100	5	16	36	97	51	26	12
84-86	46	93	4	8	17	37	25	4	1
87-89	25	28	1	7	8	15	14	2	4
90-92	11	24	1	5	6	4	13	2	-
93-95	4	4	-	5	2	4	4	-	-
96-98	3	7	-	1	3	3	1	-	-
99-101	2	-	-	-	1	1	-	-	1
102-104	1	-	-	-	-	-	-	-	-
105-107	-	4	-	-	1	-	-	-	-
108-110	-	-	-	-	-	-	-	-	-
111-113	-	-	-	-	1	-	-	-	-
114-116	-	4	-	-	-	-	-	-	-
117-119	-	4	-	-	-	-	-	-	-
120-122	-	-	-	-	1	-	-	-	-
>122	-	4	-	-	2	-	-	-	-
Total ‰	999	1000	1000	1000	1000	1000	999	998	1000
Serial Numbers	43	56	21,22	24,30,31	35	41,42	52	64	66
Number of Samples	1	1	2	3	1	2	1	1	1
Number Fish Measured	432	347	938	1129	462	830	380	624	412
Mean Length (cm)	74.2	76.6	60.6	64.0	69.4	72.8	68.2	67.3	63.4
Mean Weight (Kg)									
Total Wt. Landed (Tons)									
Estimated Number Landed									
Mesh Size (mm)	110	110	110	110	110	110	110	110	110
Range of Depths (fm)									

1) The age frequencies of these samples are given in Table 22.

(cont'd.)

TABLE 9 GERMANY - 1959
(cont'd.)LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

OTTER TRAWLERS - Commercial Landings

Location	East Greenland							
	Dohrn Bank					Angmagssalik		
Month	January	August	October	November	Dec.	March	April	June
3-cm group	FREQUENCIES in ‰							
45-47	1	4	1	-	-	-	-	3
48-50	3	4	1	-	-	-	-	7
51-53	8	8	1	-	-	-	-	28
54-56	5	2	1	5	1	-	-	30
57-59	6	3	1	5	1	14	12	51
60-62	28	1	1	12	3	25	9	76
63-65	12	29	11	12	1	38	52	72
66-68	29	49	24	27	14	72	59	47
69-71	39	23	49	32	62	95	131	58
72-74	101	92	75	82	65	130	140	60
75-77	78	115	107	114	118	144	189	67
78-80	134	110	131	103	164	152	157	87
81-83	149	141	112	167	150	152	94	78
84-86	120	164	142	126	111	81	67	105
87-89	83	85	131	96	77	54	43	49
90-92	80	70	73	75	76	26	21	50
93-95	42	74	65	65	62	9	17	45
96-98	34	9	33	34	33	4	7	34
99-101	20	9	20	24	29	1	2	31
102-104	17	4	10	10	29	1	-	12
105-107	8	4	7	3	-	-	-	4
108-110	-	-	2	3	4	1	-	2
111-113	-	-	1	5	-	2	-	1
114-116	3	-	1	-	-	-	-	2
117-119	-	-	-	-	-	-	-	1
Total ‰	1000	1000	1000	1000	1000	1001	1000	1000
Serial Numbers	5	49	58	62	67	14,16	27	40,46
Number of Samples	1	1	1	1	1	2	1	2
Number Fish Measured	475	318	421	394	504	700	409	829
Mean Length (cm)	82.0	81.4	83.5	83.1	83.6	77.4	76.8	77.0
Mean Weight (Kg)								
Total Wt. Landed (Tons)								
Estimated Number Landed								
Mesh Size (mm)	110	110	110	110	110	110	110	110
Range of Depths (fm)								

1) The age frequencies of these samples are given in Table 22.

TABLE 10 GERMANY - 1959

LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

OTTER TRAWLERS - Exploratory Catches

Division	1D	1E	1F		2H	2J
Month	December	December	October	December	November	September
3-cm group	FREQUENCIES in ‰					
18-20	-	2	-	-	-	-
21-23	-	4	-	-	-	-
24-26	-	2	-	-	-	-
27-29	-	2	-	-	-	-
30-32	-	21	-	-	-	14
33-35	-	44	-	-	-	9
36-38	-	149	4	14	-	14
39-41	-	240	12	39	10	14
42-44	-	205	12	77	7	19
45-47	12	109	4	98	27	23
48-50	-	36	8	60	51	56
51-53	23	27	-	46	68	108
54-56	81	29	16	46	98	141
57-59	105	21	51	74	142	174
60-62	104	21	79	109	156	127
63-65	163	19	71	123	217	145
66-68	116	21	67	98	126	75
69-71	116	17	83	70	58	38
72-74	105	13	122	42	30	19
75-77	70	10	98	21	10	9
78-80	58	2	94	25	-	-
81-83	12	2	138	28	-	-
84-86	35	2	98	7	-	-
87-89	-	-	24	7	-	-
90-92	-	2	16	7	-	-
93-95	-	-	-	-	-	-
96-98	-	-	4	3	-	-
99-101	-	-	-	-	-	-
102-104	-	-	-	-	-	-
105-107	-	-	-	-	-	5
-	-	-	-	-	-	-
120-122	-	-	-	-	-	10
123	-	-	-	3	-	-
134	-	-	-	3	-	-
Total ‰	1000	1000	1001	1000	1000	1000
Serial Numbers	K37	K25,26	M2,3,4	K18,19,20 21,22,23,24	M26, 27,34	M84, 85,86
Number of Samples	1	2	3	6	3	3
Number Fish Measured	86	478	254	285	295	213
Mean Length (cm)	69.9	45.3	73.0	60.4	60.9	59.0
Mean Weight (Kg)						
Total Wt. Landed (Tons)						
Estimated Number Landed						
Mesh Size (mm)	110	110	110	110	110	110
Range of Depths (fm)	44	60-88	71-82	82-98	164-186	110-115

1) The age frequencies of these samples are given in Table 23.

(cont'd.)

TABLE 10 GERMANY - 1959
(cont'd.)LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

OTTER TRAWLERS - Exploratory Catches

Location	2J	3L		3M	Ungava	E. Greenland Cap Bille Bank
Month	November	September	September	September	October	December
3-cm group	FREQUENCIES in ‰					
27-29	4	-	-	-	-	-
30-32	16	-	-	-	-	-
33-35	15	6	-	5	-	-
36-38	42	-	-	3	-	-
39-41	79	6	-	6	-	-
42-44	85	12	5	10	3	-
45-47	79	25	10	92	8	4
48-50	98	25	21	163	53	5
51-53	95	37	21	237	158	-
54-56	120	68	10	171	150	5
57-59	121	93	10	120	197	9
60-62	94	143	16	76	189	18
63-65	88	106	26	39	117	41
66-68	22	87	46	27	72	27
69-71	20	44	46	13	47	41
72-74	12	87	26	13	6	86
75-77	4	44	52	8	-	167
78-80	-	12	46	6	-	145
81-83	-	44	31	5	-	140
84-86	-	31	62	2	-	145
87-89	3	12	36	2	-	90
90-92	-	-	72	-	-	59
93-95	-	25	103	2	-	14
96-98	-	25	93	-	-	-
99-101	-	25	77	-	-	-
102-104	-	12	57	-	-	4
105-107	-	-	46	-	-	-
108-110	-	6	16	-	-	-
111-113	1	19	31	-	-	-
114-116	1	-	16	-	-	-
117-119	-	-	5	-	-	-
120-122	1	-	15	-	-	-
>122	-	6	5	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000
Serial Numbers	M35,36 53,54,55	M20,24 46,49	M16,27 36,42,73	M3,4,6,7 9,10,30	M15	K6,7,8
Number of Samples	5	4	5	7	1	3
Number Fish Measured	685	161	194	619	360	221
Mean Length (cm)	53.1	69.3	87.6	55.2	59.1	79.4
Mean Weight (Kg)						
Total Wt. Landed (Tons)						
Estimated Number Landed						
Mesh Size (mm)	110	110	110	110	110	110
Range of Depths (fm)	98-186	110-165	>165	110-220	82	93-131

1) The age frequencies of these samples are given in Table 23.

TABLE 11 NORWAY - 1959

LENGTH FREQUENCIES - COD¹⁾

by E. Bratberg

Research Catches

Gear	Otter Trawl		Handline				Bottom Longline					
	ID	LE	1B	1C	1D	1E	1C	1D	1E	1F		
Month	April	April	Aug.	Aug.	April	Aug.	April	Aug.	July	April	July	Aug.
3-cm group	F R E Q U E N C I E S in ‰											
36-38	-	-	1	-	-	-	-	-	-	-	-	-
39-41	-	-	1	-	-	-	-	-	-	-	-	-
42-44	-	-	8	-	-	-	-	-	11	-	-	-
45-47	-	-	13	6	-	-	16	-	6	-	-	-
48-50	-	-	44	11	7	18	16	-	6	-	-	-
51-53	16	17	44	6	7	-	-	3	11	6	-	8
54-56	21	-	49	23	71	-	49	14	11	9	-	-
57-59	52	33	78	23	99	18	33	8	16	14	10	16
60-62	157	100	103	23	206	41	98	19	27	61	41	57
63-65	194	217	110	108	199	76	213	68	66	167	41	81
66-68	157	117	99	97	213	88	164	41	60	130	83	57
69-71	126	67	107	108	135	123	115	73	49	138	41	179
72-74	73	67	98	131	43	158	82	127	55	101	62	228
75-77	68	75	60	136	7	111	82	182	98	118	83	203
78-80	73	83	60	108	7	170	66	222	126	81	134	114
81-83	16	108	50	119	7	88	16	111	115	46	165	41
84-86	11	58	30	45	-	64	16	52	120	66	124	8
87-89	11	17	25	34	-	23	33	33	87	40	83	-
90-92	11	8	11	11	-	23	-	24	27	6	52	-
93-95	5	-	4	6	-	-	-	11	27	14	31	-
96-98	5	8	1	-	-	-	-	5	11	-	10	-
99-101	5	8	3	-	-	-	-	3	11	-	-	-
102-104	-	8	-	-	-	-	-	5	22	3	-	-
105-107	-	-	-	6	-	-	-	-	6	-	-	-
108-110	-	-	-	-	-	-	-	-	6	-	31	-
111-113	-	-	1	-	-	-	-	-	6	-	-	-
114-116	-	-	-	-	-	-	-	-	11	-	-	8
117-119	-	-	-	-	-	-	-	-	-	-	-	-
120-122	-	-	-	-	-	-	-	-	-	-	-	-
123-125	-	-	-	-	-	-	-	-	11	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
135-137	-	8	-	-	-	-	-	-	-	-	10	-
Total ‰	1001	999	1000	1001	1001	1001	999	1001	1002	1000	1001	1000
Serial Numbers												
Number of Samples	2	1	2	2	1	1	1	4	2	1	1	1
No. of Fish Measured	191	120	797	176	141	171	61	369	183	347	97	123
Mean Length (cm)	68.13	72.23	67.30	73.17	64.12	73.99	67.79	76.39	79.12	72.29	80.25	72.43
Mean Weight (Kg)												
Tot. Wt. Landed (T)	30	27	836	2	30	198	27	2	49	27	11	...
Est. No. Landed												
Mesh or Hook Size												
Range of Depths (fm)												

1) The age frequencies of these samples are given in Table 24; the age/length keys are given in Table 31.

TABLE 12 PORTUGAL - 1959

LENGTH FREQUENCIES - COD

by Mario J. Ruivo
Glicinia V. Martin

OTTER TRAWLERS - Commercial Catches before Discarding

Division	1D ¹⁾		1E ¹⁾	3P south		4W north ¹⁾		4W south ¹⁾
Month	April	May	May	February	April	March	February	March
3-cm group	F R E Q U E N C I E S in ‰							
33-35	-	-	-	14	-	-	-	1
36-38	-	-	2	58	4	-	-	13
39-41	20	-	10	106	83	7	20	44
42-44	15	5	20	141	93	43	20	66
45-47	4	5	26	130	109	110	40	89
48-50	30	20	20	90	93	113	180	136
51-53	26	20	49	68	83	133	130	157
54-56	44	40	59	113	81	107	170	121
57-59	112	85	113	71	97	137	170	134
60-62	141	141	107	69	67	97	100	79
63-65	163	191	113	45	78	63	60	57
66-68	147	191	87	36	59	53	60	18
69-71	154	111	77	25	52	20	30	26
72-74	82	91	75	11	34	20	20	17
75-77	34	60	82	13	20	17	-	7
78-80	17	40	63	5	16	13	-	8
81-83	7	-	43	1	8	23	-	8
84-86	5	-	24	-	4	13	-	3
87-89	-	-	12	-	13	17	-	4
90-92	-	-	11	4	5	7	-	3
93-95	-	-	3	-	2	3	-	3
96-98	-	-	3	-	-	-	-	1
99-101	-	-	-	-	2	-	-	2
102-104	-	-	1	-	1	-	-	1
105-107	-	-	-	-	-	-	-	1
108-110	-	-	-	-	-	3	-	-
111-113	-	-	-	-	-	-	-	-
114-116	-	-	-	-	-	-	-	1
Total ‰	1001	1000	1000	1000	1004	999	1000	1000
Serial Numbers	1,2,3	4,5	7,8,12,13 15,16,18	3,7	12,15,18	12,13,14	1	2,3,6,7 8,10,11
Number of Samples	3	2	7	2	3	3	1	7
Number Fish Measured	583	199	1425	784	1208	300	100	1592
Mean Length (cm)		65.4				59.9	55.8	
Mean Weight (Kg)								
Total Wt. Landed (Tons)	699	1195	5261					
Estimated Number Landed								
Mesh Size (mm)	117	117	117	117	117	117	117	117
Range of Depths (fm)	30-36	33-35	116-181	119-134	79-97	85-120	105	50-140

(cont'd.)

- 1) The age frequencies of these samples are given in Table 25; the age/length frequencies are given in Table 32.

TABLE 12 PORTUGAL - 1959
(cont'd.)LENGTH FREQUENCIES - COD¹⁾by Mario J. Huivo
Glicinia V. Quartin

DOXY VESSELS - Commercial Catches before Discarding

Division	1B			1C		
	June	July	August	June	July	August
3-cm group	F R E Q U E N C I E S in ‰					
36-38	-	2	-	-	-	-
39-41	-	13	4	5	-	2
42-44	2	34	4	8	9	16
45-47	13	48	19	15	12	25
48-50	22	68	30	25	31	41
51-53	51	65	54	23	37	51
54-56	88	91	59	50	32	71
57-59	141	102	88	50	49	82
60-62	184	123	121	83	51	94
63-65	185	134	158	78	86	138
66-68	114	92	141	110	121	117
69-71	65	71	106	90	81	88
72-74	42	52	70	68	58	103
75-77	28	28	39	100	114	53
78-80	27	30	36	113	72	53
81-83	20	21	27	73	75	39
84-86	7	12	15	43	106	7
87-89	5	6	12	30	34	12
90-92	-	5	8	10	23	2
93-95	5	5	1	13	9	2
96-98	2	-	3	8	3	2
99-101	1	-	2	-	-	2
102-104	-	-	1	3	-	-
105-107	-	-	1	-	-	2
108-110	-	2	-	-	-	1
111-113	-	-	1	-	-	-
114-116	-	1	-	-	-	-
117-119	-	-	-	-	-	-
120-122	-	-	1	5	-	-
Total ‰	1002	1004	1001	1003	1003	1003
Serial Numbers	30,31,32,34	37,38,39,40 62,63,64,65	50,51,52 53,54,58 66,67,68,69	27,28,35,36	41,42,60,61	55,56,57
Number of Samples	4	8	10	4	4	3
Number Fish Measured	683	1092	1884	399	349	598
Mean Length (cm)				70.4		
Mean Weight (Kg)						
Total Wt. Landed (Tons)	7987	12639	11906	1906	3032	2978
Estimated Number Landed						
Hook Size	14½	14½	14½	14½	14½	14½
Range of Depths (fm)	30-55	25-30	15-47	40-65	45-50	45-50

(cont'd.)

1) The age frequencies of these samples are given in Table 25; the age/length frequencies are given in Table 32.

TABLE 12 PORTUGAL - 1959
(cont'd.)

LENGTH FREQUENCIES - COD

by Mario J. Ruivo
Glicinia V. Quartin

DORY VESSELS - Commercial Catches before Discarding

Division	ID ¹⁾			3L	3N	3P south
Month	June	July	August	October	September	May
3-cm group	F R E Q U E N C I E S in ‰					
33-35	-	-	-	2	-	-
36-38	-	-	-	2	1	-
39-41	-	1	-	28	3	-
42-44	1	6	-	44	10	8
45-47	1	6	-	31	14	14
48-50	5	10	-	60	27	6
51-53	10	21	-	60	31	6
54-56	28	28	5	78	21	12
57-59	65	42	5	104	40	30
60-62	93	81	40	82	36	55
63-65	131	86	90	134	68	92
66-68	136	103	136	100	83	118
69-71	94	99	130	68	79	134
72-74	102	89	141	88	75	114
75-77	113	100	100	44	69	58
78-80	81	90	151	32	50	62
81-83	64	74	70	15	49	42
84-86	33	43	80	4	35	56
87-89	24	39	30	8	35	44
90-92	13	28	10	6	26	48
93-95	5	20	10	-	21	24
96-98	3	12	-	4	26	28
99-101	-	9	-	-	27	14
102-104	-	3	-	-	18	18
105-107	-	6	-	-	25	4
108-110	-	1	-	-	19	4
111-113	-	2	-	-	21	2
114-116	-	-	-	-	19	6
117-119	-	1	-	-	20	2
120-122	-	-	-	2	17	-
123-125	-	-	-	-	13	-
126-128	-	-	-	-	9	4
>128	-	-	-	-	16 ²⁾	-
Total ‰	1002	1000	998	996	1003	1005
Serial Numbers	20,21,22 23,24,25,26	43,44,45 46,48	59,70	33,44	25,27,30 40,41,42,43	35,36,37 38,39
Number of Samples	7	5	2	2	7	5
Number Fish Measured	1178	1083	199	500	1592	500
Mean Length (cm)						75.8
Mean Weight (Kg)						
Total Wt. Landed (Tons)	3931	4030	2039			
Estimated Number Landed						
Hook Size	14½	14½	14½	14½	14½	14½
Range of Depths (fm)	25-145	23-30	26	20	30-33	

1) The age frequencies of these samples are given in Table 25; the age/length frequencies are given in Table 32.

2) 8 at 129-131; 3 at 132-134; 1 at 135-137; 1 at 138-140; 2 at 141-143; 1 at 150-152.

TABLE 13 SPAIN - 1959

LENGTH FREQUENCIES - COD

by O. Rodriguez M.

OTTER TRAWLER, "Aliseo" - Commercial Catch

Division	1B		1C	2J		3K		3L	
Month	August	Sept.	Sept.	July	August	June	July	August	June
3-cm group	F R E Q U E N C I E S in ‰								
30-32	3	1	1	-	-	2	1	-	9
33-35	2	-	2	4	-	4	8	1	5
36-38	-	1	2	5	-	11	1	2	16
39-41	2	4	8	8	-	28	8	8	34
42-44	3	4	4	18	-	31	21	10	29
45-47	3	9	9	59	-	68	14	16	56
48-50	20	30	37	88	13	81	7	47	86
51-53	31	34	34	25	13	126	78	81	71
54-56	77	71	54	257	65	171	141	149	115
57-59	69	55	25	114	58	101	142	131	76
60-62	176	167	63	189	216	156	183	211	124
63-65	201	170	89	148	218	111	231	164	119
66-68	126	151	94	40	153	44	57	81	68
69-71	117	141	136	25	165	33	78	61	65
72-74	74	63	72	8	42	9	8	15	29
75-77	37	42	124	2	29	6	15	11	29
78-80	29	33	126	6	14	6	2	6	31
81-83	10	10	46	-	6	1	1	2	9
84-86	17	7	44	4	14	2	1	2	10
87-89	-	2	15	-	-	2	1	1	6
90-92	-	1	12	-	-	2	-	-	4
93-95	-	1	2	-	-	1	-	-	3
96-98	-	1	1	-	-	1	-	-	1
99-101	-	-	-	-	-	1	-	-	3
Total ‰	997	998	1000	1000	1006	998	998	999	998
Serial Numbers									
Number of Samples	3	19	1	2	1	11	1	25	17
Number Fish Measured	674	6450	811	551	138	2593	142	5978	3149
Mean Length (cm)									
Mean Weight (Kg)									
Total Wt. Landed (Tons)	426	2700	60	1546	96	2441	9112	8062	1647
Estimated No. Landed									
Mesh Size (mm) ¹⁾	160	160	160	160	160	160	160	160	160
Range of Depths (m)	50-80	45-110	70-80	205-240	250-270	220-280	240-260	200-380	110-280

1) Mesh Size - new, dry measure.

(cont'd.)

TABLE 13 SPAIN - 1959
(cont'd.)

LENGTH FREQUENCIES - COD

by O. Rodriguez M.

OTTER TRAWLER, "Aliseo" - Commercial Catch

Division	3P south			4R	4T		4W north		
Month	April	May	June	June	May	June	March	April	May
3-cm group	F R E Q U E N C I E S in ‰								
30-32	1	1	-	2	3	-	3	1	-
33-35	5	2	2	3	5	9	5	6	-
36-38	11	9	4	3	12	28	8	8	-
39-41	35	35	36	3	40	93	16	26	8
42-44	54	62	71	11	68	86	32	42	9
45-47	96	103	105	24	169	205	67	113	86
48-50	110	125	168	92	247	225	126	178	81
51-53	78	81	110	111	138	111	114	156	95
54-56	99	89	126	163	124	85	181	155	111
57-59	89	78	83	112	63	45	111	96	102
60-62	93	103	95	157	58	54	129	89	172
63-65	75	79	58	105	38	33	79	48	114
66-68	55	68	61	92	19	11	57	34	54
69-71	41	59	24	42	11	5	27	17	69
72-74	66	29	15	27	-	3	17	11	29
75-77	29	35	24	18	2	3	12	6	17
78-80	26	18	8	16	3	-	8	6	13
81-83	9	8	2	4	-	-	2	2	-
84-86	7	11	8	7	-	-	2	2	12
87-89	5	3	-	3	-	-	2	2	-
90-92	5	3	-	1	-	-	-	2	4
93-95	4	-	-	1	-	-	-	-	24
96-98	2	-	-	-	-	-	-	-	-
99-101	2	-	-	3	-	-	-	-	-
Total ‰	997	1001	1000	1000	1000	996	998	1000	1000
Serial Numbers									
Number of Samples	22	19	5	3	6	2	8	12	2
Number Fish Measured	6435	4421	953	694	1562	458	2216	3978	244
Mean Length (cm)									
Mean Weight (Kg)									
Total Wt. Landed (Tons)	2551	1004	239	37	1647	156	130	540	334
Estimated No. Landed									
Mesh Size (mm) ¹⁾	160	160	160	160	160	160	160	160	160
Range of Depths (m)	140-200	170-200	180-190	160-170	205-280	170-210	95-200	130-150	160

1) Mesh Size - new, dry measure.

TABLE 14 UNION OF SOVIET SOCIALIST
REPUBLICS - 1959

LENGTH FREQUENCIES - COD

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division	IB					IC					
	May	June	July	Aug.	Sept.	April	May	June	July	Aug.	Sept.
3-cm group	FREQUENCIES in ‰										
15-17	-	-	-	-	5	-	-	-	-	-	-
18-20	-	-	-	-	7	-	-	-	-	-	-
21-23	-	-	4	1	40	-	-	-	-	-	-
24-26	-	-	4	1	36	-	-	-	-	-	-
27-29	-	1	4	1	27	-	1	-	-	-	-
30-32	-	1	3	-	14	-	3	-	-	1	1
33-35	-	1	3	-	7	1	4	-	-	2	2
36-38	2	4	22	2	-	7	25	-	36	-	5
39-41	5	9	34	4	-	12	36	-	40	1	5
42-44	11	19	59	6	-	23	59	-	48	4	4
45-47	30	27	82	10	6	28	82	-	40	1	1
48-50	39	31	94	11	10	31	93	-	36	-	-
51-53	69	54	71	27	47	53	89	19	36	15	7
54-56	87	63	80	42	50	74	101	19	36	25	8
57-59	124	82	96	71	57	115	123	19	36	44	11
60-62	147	103	98	109	95	129	117	81	84	79	42
63-65	159	114	98	128	115	136	114	112	108	96	58
66-68	110	92	62	164	121	102	59	75	72	144	82
69-71	87	83	55	145	110	83	46	94	56	137	102
72-74	40	67	41	105	88	44	21	131	24	122	143
75-77	30	69	27	70	63	37	12	131	48	107	160
78-80	25	71	20	53	51	33	8	131	60	100	169
81-83	11	38	14	22	23	22	4	94	84	47	88
84-86	9	32	12	16	18	19	3	69	68	35	68
87-89	7	21	6	4	7	14	1	19	36	12	28
90-92	4	10	3	3	2	8	1	6	12	8	12
93-95	2	5	2	3	-	5	1	-	-	7	4
96-98	1	-	1	1	-	2	-	-	12	5	-
99-101	1	-	-	1	-	2	-	-	8	3	-
102-104	-	1	-	-	-	2	-	-	-	-	-
105-107	-	-	-	-	-	2	-	-	-	-	-
108-110	-	-	-	-	-	2	-	-	-	-	-
111-113	-	-	-	-	-	1	-	-	-	2	-
114-116	-	-	-	-	-	3	-	-	4	2	-
117-119	-	-	-	-	-	7	-	-	12	2	-
120-122	-	-	-	-	-	2	-	-	4	1	-
Total ‰	1000	998	995	1000	999	999	1003	1000	1000	1002	1000
Number of Fish Measured	5713	887	586	1249	178	1474	4853	32	50	357	323
Mean Length (cm)	62.45	65.85	57.80	66.80	61.30	64.50	56.20	72.60	66.70	70.90	73.90
Total Wt. Landed (Tons)											

(cont'd.)

TABLE 14 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1959

LENGTH FREQUENCIES - COD

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division	IC	ID							IE		
Month	Nov.	April	May	June	July	Aug.	Sept.	Nov.	April	May	June
3-cm group	FREQUENCIES in ‰										
24-26	-	1	-	-	-	-	-	-	-	-	-
27-29	-	2	-	-	-	-	-	-	-	-	-
30-32	-	8	1	-	3	-	-	8	-	-	-
33-35	-	11	2	1	4	1	-	12	-	1	-
36-38	1	22	4	3	6	13	-	33	12	5	1
39-41	2	20	4	3	5	16	-	35	12	5	1
42-44	4	16	4	3	2	22	1	40	12	5	1
45-47	7	23	10	5	2	19	-	30	35	5	1
48-50	9	26	13	5	2	17	-	25	46	5	1
51-53	14	31	23	7	9	28	5	8	46	9	3
54-56	22	52	40	14	14	31	9	10	46	15	6
57-59	38	94	74	29	24	37	17	12	46	28	13
60-62	56	141	126	59	52	74	43	28	169	43	46
63-65	65	165	152	74	67	93	56	36	231	51	62
66-68	165	151	150	110	115	133	119	71	102	77	91
69-71	163	119	129	117	129	121	134	86	83	105	108
72-74	158	56	87	131	159	99	165	117	46	160	141
75-77	117	32	64	131	126	90	133	132	23	154	146
78-80	97	19	53	131	110	86	117	139	12	151	149
81-83	37	6	26	69	61	51	83	50	46	71	91
84-86	28	4	20	54	50	39	65	46	31	56	72
87-89	9	1	8	25	28	14	28	38	-	25	34
90-92	3	1	4	14	14	8	14	24	-	14	17
93-95	-	1	2	9	7	4	7	17	-	8	8
96-98	1	-	1	1	4	2	2	2	-	4	2
99-101	1	-	-	1	3	1	1	1	-	3	1
102-104	-	-	-	-	2	1	-	-	-	1	-
105-107	-	-	-	-	1	-	-	-	-	1	-
108-110	-	-	-	-	-	-	-	-	-	1	-
111-113	-	-	-	-	-	-	-	-	-	-	-
114-116	-	-	-	-	-	-	-	-	-	-	-
117-119	1	-	-	-	-	-	-	-	-	-	1
Total ‰	998	1002	997	996	999	1000	999	1000	998	1003	996
Number of Fish Measured	548	3899	5069	3260	720	1465	1563	288	26	1016	1061
Mean Length (cm)	70.30	61.95	66.70	72.87	72.35	68.05	73.85	69.05	62.45	73.15	74.70
Total Wt. Landed (Tons)											

(cont'd.)

TABLE 14 UNION OF SOVIET SOCIALIST
 (cont'd.) REPUBLICS - 1959

LENGTH FREQUENCIES - OOD

 by Ju. Ju. Marti
 V.I. Travin
 E.I. Sarkova
 E.M. Mankewich

OTTER TRAWLERS - Exploratory Catches

Division	I			II		III			IV		
	July	Aug.	Nov.	July	Aug.	March	June	July	Aug.	Feb.	June
3-cm group	FREQUENCIES in ‰										
15-17	-	-	-	-	-	-	-	-	1	-	-
18-20	-	-	-	-	-	-	-	-	1	-	1 ¹⁾
21-23	1	-	-	-	-	-	1	-	8	11	1
24-26	6	3	-	-	-	-	3	4	8	9	1
27-29	17	9	-	-	-	-	8	13	7	5	1
30-32	33	84	8	-	2	4	26	48	11	5	10
33-35	41	122	13	-	4	6	35	66	13	5	14
36-38	32	202	73	14	14	3	73	136	37	19	44
39-41	30	164	95	18	36	26	76	123	49	23	52
42-44	25	88	140	27	79	71	82	98	74	32	67
45-47	33	38	84	121	106	140	105	83	86	72	86
48-50	38	13	55	169	119	175	116	76	92	31	96
51-53	41	8	18	169	154	128	118	88	139	150	118
54-56	55	10	19	153	142	119	107	82	133	149	117
57-59	83	12	22	121	119	100	86	70	119	148	116
60-62	111	29	28	72	88	73	59	42	77	90	88
63-65	125	38	31	47	72	59	46	28	56	62	74
66-68	78	36	75	34	18	20	22	16	34	35	38
69-71	68	35	82	25	16	19	17	12	27	33	31
72-74	48	34	95	7	11	17	7	4	13	29	19
75-77	38	28	68	2	6	8	5	4	4	15	9
78-80	34	26	55	-	4	3	4	4	-	8	4
81-83	23	8	18	-	7	2	1	1	-	2	4
84-86	17	7	13	-	5	2	1	1	-	2	4
87-89	4	3	2	-	-	3	-	1	1	-	2
90-92	4	2	1	-	-	3	-	-	1	-	1
93-95	4	1	-	-	-	3	-	-	1	-	1
96-98	-	1	1	-	-	3	1	-	-	-	-
99-101	-	-	1	4	-	5	1	-	1	1	-
102-104	1	-	-	18 ²⁾	-	10 ²⁾	2 ²⁾	-	3 ²⁾	3 ²⁾	1 ²⁾
105-107	-	-	-	-	-	-	-	-	-	-	-
108-110	-	1	-	-	-	-	-	-	-	-	-
111-113	2	-	-	-	-	-	-	-	-	-	-
114-116	2	-	-	-	-	-	-	-	-	-	-
117-119	1	-	1	-	-	-	-	-	-	-	-
Total ‰	995	1002	998	1001	1002	1002	1002	1000	996	999	1000
Number of Fish Measured	461	1062	530	89	167	389	1302	466	422	224	822
Mean Length (cm)	59.25	46.45	57.40	53.70	53.75	54.65	49.95	46.35	52.60	55.15	53.80
Total Wt. Landed (Tons)											

- 1) <20 cm.
 2) >101 cm.

(cont'd.)

TABLE 14 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1959

LENGTH FREQUENCIES - COD

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTHER TRAWLERS - Exploratory Catches

Division	K			L				M			
	July	Aug.	Dec.	Jan.	Feb.	June	July	May	July	Aug.	Sept.
3-cm group	FREQUENCIES in ‰										
<20	8	19	-	-	-	-	75	-	-	-	-
21-23	7	22	11	-	1	-	28	-	3	-	1
24-26	7	33	10	-	1	-	32	-	6	1	5
27-29	6	54	8	-	1	-	40	-	11	2	12
30-32	7	79	18	-	6	2	39	-	24	3	10
33-35	8	92	22	-	9	4	38	-	31	3	9
36-38	11	80	22	-	18	10	40	-	14	11	12
39-41	16	84	27	-	23	19	47	8	18	17	20
42-44	26	92	36	-	34	38	62	25	28	28	37
45-47	40	90	52	-	31	99	50	72	94	109	150
48-50	47	89	61	-	29	130	44	96	128	149	206
51-53	83	71	77	2	87	182	53	133	100	178	201
54-56	100	61	106	6	97	150	60	131	101	157	155
57-59	134	41	163	13	117	86	74	128	103	117	63
60-62	150	30	113	23	120	67	80	108	77	83	46
63-65	158	25	88	29	121	57	83	98	64	66	37
66-68	67	10	28	45	62	41	42	55	55	29	9
69-71	54	7	26	60	59	37	34	47	45	22	7
72-74	29	3	22	89	52	29	17	30	25	9	2
75-77	16	4	26	125	31	14	13	18	12	4	2
78-80	10	4	28	143	21	7	11	12	5	2	2
81-83	3	2	11	117	22	-	7	6	8	2	-
84-86	3	2	12	108	18	2	6	8	9	2	-
87-89	2	-	14	91	11	5	5	11	11	1	1
90-92	2	1	7	63	4	4	4	6	7	1	1
93-95	2	1	3	49	1	4	4	4	5	1	1
96-98	1	-	3	15	4	4	2	2	5	1	1
99-101	1	1	3	12	6	4	3	1	5	1	2
>101	1	3	4	10	12	5	7	-	4	2	6
Total ‰	999	1000	1001	1000	998	1000	1000	999	998	1001	998
Number of Fish Measured	1194	574	217	295	594	347	793	282	216	1793	402
Mean Length (cm)	58.15	43.30	57.15	79.80	61.60	56.00	49.30	58.80	56.10	54.50	51.60
Total Wt. Landed (Tons)											

(cont'd.)

TABLE 14 UNION OF SOVIET SOCIALIST
 (cont'd.) REPUBLICS - 1959

LENGTH FREQUENCIES - COD

 by Ju. Ju. Marti
 V.I. Travin
 E.I. Surkova
 E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division	3M	3N	3O				3P			4V	4W
Month	Dec.	July	March	April	May	July	March	April	May	April	April
3-cm group	FREQUENCIES in ‰										
<20	7	-	-	-	-	9	-	-	-	-	-
21-23	14	1	-	-	-	17	-	-	-	1	-
24-26	21	1	-	1	-	20	-	1	1	2	-
27-29	37	-	-	2	-	28	-	4	4	2	-
30-32	43	11	1	8	1	53	-	17	9	7	-
33-35	46	16	2	11	1	66	-	23	12	9	1
36-38	37	73	34	52	22	248	37	87	50	31	2
39-41	29	97	36	70	38	195	46	102	73	38	2
42-44	14	145	40	108	68	88	65	131	119	52	2
45-47	74	121	46	99	82	37	57	110	105	69	5
48-50	104	109	49	94	89	11	52	100	98	77	7
51-53	178	49	41	65	66	5	58	50	62	119	23
54-56	156	43	45	66	81	4	67	53	64	130	43
57-59	113	32	51	70	110	-	86	59	70	152	83
60-62	56	46	65	62	111	15	83	56	66	99	90
63-65	28	53	71	58	112	22	81	54	64	72	93
66-68	18	40	66	53	61	17	47	45	49	38	50
69-71	12	40	61	47	52	17	36	38	44	32	47
72-74	-	40	51	36	34	17	13	23	33	19	42
75-77	3	20	51	30	24	9	22	17	24	14	47
78-80	4	10	51	27	19	5	26	14	20	11	50
81-83	-	3	38	14	7	11	31	6	8	5	34
84-86	-	3	42	12	7	9	38	5	7	5	37
87-89	-	3	49	8	8	5	52	3	6	5	44
90-92	-	4	45	4	5	13	31	1	4	3	45
93-95	-	5	43	2	3	17	21	1	3	2	46
96-98	4	6	5	1	-	5	23	-	2	2	40
99-101	3	9	6	1	-	15	18	-	1	1	34
102-104	-	21 ¹⁾	10 ¹⁾	1 ¹⁾	-	44 ¹⁾	10 ¹⁾	-	-	1	23
105-107	-	-	-	-	-	-	-	-	-	1	23
108-110	-	-	-	-	-	-	-	-	-	1	23
111-113	-	-	-	-	-	-	-	-	-	-	15
114-116	-	-	-	-	-	-	-	-	-	-	15
117-119	-	-	-	-	-	-	-	-	-	1	14
>119	-	-	-	-	-	-	-	-	-	-	20
Total ‰	1001	1001	999	1002	1001	1002	1000	1000	998	1001	1000
Number of Fish Measured	132	376	318	5112	437	109	230	5129	2325	1056	737
Mean Length (cm)	49.45	59.35	66.85	55.40	57.80	47.80	63.80	51.30	54.45	55.25	73.15
Total Wt. Landed (Tons)											

1) >101 cm.

TABLE 15 UNITED KINGDOM - 1959

LENGTH FREQUENCIES - COD

by G.C. Trout
R.W. Blacker

OTTER TRAWLERS - Commercial Landings					Subarea 1				
Quarter	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Total	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
3-cm group	Numbers Landed (Thousands)					Frequencies in ‰			
36-38	-	-	-	2	2	-	-	-	1
39-41	-	-	-	29	29	-	-	-	14
42-44	-	-	-	85	85	-	-	-	40
45-47	3	3	3	112	121	4	7	4	53
48-50	1	7	7	90	105	1	13	10	43
51-53	10	5	9	97	121	15	9	13	46
54-56	24	17	24	115	180	35	32	34	54
57-59	31	32	31	129	223	45	62	44	61
60-62	53	62	24	214	353	77	120	35	101
63-65	54	59	35	212	360	79	116	51	101
66-68	56	55	58	208	377	81	108	82	99
69-71	93	56	65	203	417	135	110	93	96
72-74	111	57	68	201	437	161	111	98	95
75-77	73	48	101	145	367	106	93	145	68
78-80	64	42	93	119	318	92	83	134	57
81-83	45	32	78	69	224	65	61	112	33
84-86	29	19	43	36	127	43	37	62	17
87-89	22	13	26	19	80	31	25	37	9
90-92	9	3	11	11	34	13	6	16	5
93-95	6	2	10	9	27	9	5	14	4
96-98	2	1	7	4	14	3	1	10	2
99-101	1	-	4	2	7	2	1	5	1
>101	1	-	3	1	5	2	-	4	1
Total	688	513	700	2112	4013	999	1000	1003	1001

TABLE 16 UNITED STATES - 1959

LENGTH FREQUENCIES - COD

by J.P. Wise
H.E. Murray

COMMERCIAL OTTER TRAWLERS

Division 5Y

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
3-cm. group	FREQUENCIES in ‰											
39-41	7	-	-	-	-	-	-	-	-	-	-	72
42-44	88	9	27	26	10	-	51	19	36	12	-	43
45-47	145	18	88	71	33	17	176	57	130	36	33	29
48-50	163	35	89	97	59	84	99	129	232	122	117	185
51-53	74	57	120	136	98	98	211	95	173	148	221	89
54-56	97	82	107	121	86	71	155	95	173	224	269	80
57-59	107	72	101	89	68	26	111	85	82	201	166	84
60-62	56	103	76	113	56	137	63	129	38	66	150	147
63-65	56	89	59	87	95	87	30	47	33	65	22	57
66-68	32	83	40	57	96	81	21	56	20	69	6	52
69-71	22	55	54	47	74	47	14	83	18	38	6	46
72-74	15	47	52	28	28	60	15	103	11	2	8	12
75-77	21	48	29	28	43	91	13	44	19	1	1	-
78-80	31	52	17	15	48	48	10	42	6	5	1	9
81-83	10	27	19	20	30	15	6	2	7	3	-	-
84-86	23	58	38	14	6	49	6	5	7	1	-	9
87-89	11	76	14	13	8	9	1	1	7	3	-	-
90-92	5	16	15	8	4	2	1	-	2	1	-	26
93-95	6	20	10	6	4	20	1	2	2	1	-	26
96-98	10	10	20	9	1	28	1	2	-	-	-	-
99-101	-	23	-	-	6	6	7	-	-	2	-	17
102-104	5	-	9	6	-	13	1	2	2	-	-	-
105-107	8	6	4	1	24	9	1	1	2	-	-	17
108-110	-	12	-	4	27	2	-	1	-	-	-	-
111-113	3	2	6	-	30	-	2	-	-	-	-	-
114-116	5	-	-	-	36	-	4	-	-	-	-	-
117-119	-	-	2	-	18	-	-	-	-	-	-	-
120-122	-	-	2	2	6	-	-	-	-	-	-	-
123-125	-	-	-	2	-	-	-	-	-	-	-	-
126-128	-	-	-	-	-	-	-	-	-	-	-	-
129-131	-	-	2	-	6	-	-	-	-	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Serial Numbers												
Number of Samples	4	6	4	10	5	5	3	5	4	4	3	2
Number Fish Measured	266	248	232	546	279	316	273	289	261	156	211	81
Mean Length (cm.)												
Mean Weight (kg.)	2.6	4.1	3.2	2.7	4.6	3.7	2.1	2.7	1.8	2.1	2.0	2.7
Total Wt. Landed (Tons)	162.27	63.21	147.71	206.48	233.41	238.99	256.83	186.25	137.63	168.82	237.18	343.94
Est. No. (millions)	0.062	0.015	0.046	0.077	0.051	0.065	0.120	0.068	0.074	0.079	0.120	0.127
Mesh or Hook Size												
Range of Depths (fm.)	30-90	45-120	60-90	35-110	30-105	65-100	45-95	14-85	45-100	40-110	40-85	40-85

(cont'd.)

TABLE 16 UNITED STATES - 1959
(cont'd.)
COMMERCIAL OTTER TRAWLERS

LENGTH FREQUENCIES - COD

by J.P. Wise
H.E. Murray

Division 5Z

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
3-cm. group	FREQUENCIES in ‰											
39-41	3	-	-	3	-	4	4	4	2	-	-	2
42-44	18	14	3	30	6	11	31	32	9	-	1	20
45-47	28	14	3	51	69	55	95	109	49	15	14	56
48-50	142	67	10	107	97	56	127	110	83	52	47	88
51-53	248	241	139	251	145	103	128	91	60	104	144	44
54-56	237	200	182	183	199	144	208	121	46	95	127	130
57-59	154	147	343	135	187	215	233	154	99	160	177	118
60-62	59	107	176	84	132	181	110	177	141	178	118	113
63-65	82	80	114	28	71	74	40	87	214	163	145	188
66-68	12	47	25	19	36	73	16	68	143	130	109	100
69-71	1	8	3	9	31	19	7	25	103	60	64	90
72-74	-	9	1	1	21	8	-	6	28	39	46	29
75-77	2	12	-	-	6	4	1	5	7	4	5	22
78-80	3	13	-	4	-	6	-	-	15	-	2	-
81-83	2	15	-	4	-	4	-	4	-	-	1	-
84-86	2	5	-	8	-	11	-	2	1	-	-	-
87-89	3	12	1	4	-	4	-	3	-	-	-	-
90-92	1	5	-	4	-	-	-	1	-	-	-	-
93-95	1	4	-	4	-	2	-	-	-	-	-	-
96-98	1	-	-	12	-	8	-	1	-	-	-	-
99-101	1	-	-	20	-	4	-	-	-	-	-	-
102-104	-	-	-	27	-	4	-	-	-	-	-	-
105-107	-	-	-	-	-	2	-	-	-	-	-	-
108-110	-	-	-	4	-	4	-	-	-	-	-	-
111-113	-	-	-	-	-	2	-	-	-	-	-	-
114-116	-	-	-	-	-	2	-	-	-	-	-	-
117-119	-	-	-	-	-	-	-	-	-	-	-	-
120-122	-	-	-	-	-	-	-	-	-	-	-	-
123-125	-	-	-	4	-	-	-	-	-	-	-	-
126-128	-	-	-	4	-	-	-	-	-	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Serial Numbers												
Number of Samples	5	2	8	7	4	4	18	10	4	5	7	3
Number Fish Measured	327	188	533	609	650	400	2049	977	423	455	558	207
Mean Length (cm.)												
Mean Weight (kg.)	2.0	2.4	2.1	2.6	2.0	2.5	1.9	2.2	2.6	2.6	2.5	2.5
Total Wt. Landed (Tons)	520.76	683.64	1327.24	955.04	1013.71	1154.64	1222.99	1272.01	1167.05	1187.78	770.60	446.06
Est. No. (millions)	0.265	0.289	0.624	0.365	0.505	0.455	0.641	0.579	0.440	0.464	0.311	0.178
Mesh or Hook Size												
Range of Depths (fm.)	14-110	16-17	10-40	12-50	14-50	13-50	22-110	10-120	16-130	10-120	11-100	16-31

TABLE 17 DENMARK (Faroes) - 1959

AGE FREQUENCIES - COD¹⁾

by J.S. Joensen

Commercial Catches			Otter Trawl						Handline					
Gear			955						151					
Vessel Tonnage			955						151					
Division			1D			1E			1C			1E		
Month			May			May			August			August		
Sex			♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Year-Class	Age		F R E Q U E N C I E S in ‰											
1956	3		-	-	-	-	-	-	6	-	6	-	-	-
1955	4		5	22	27	6	7	13	27	18	45	-	-	-
1954	5		20	10	30	12	4	16	31	30	61	7	8	15
1953	6		298	332	630	242	214	456	199	170	369	118	105	223
1952	7		65	89	154	62	60	122	21	42	63	52	48	100
1951	8		12	45	57	34	59	93	24	39	63	35	42	77
1950	9		12	57	69	83	109	192	68	81	149	95	98	193
1949	10		10	-	10	7	11	18	5	3	8	23	22	45
1948	11		-	2	2	2	12	14	24	16	40	27	25	52
1947	12		5	12	17	20	35	55	68	65	133	125	98	223
1946	13		-	-	-	3	4	7	14	2	16	18	7	25
1945	14		-	-	-	3	1	4	18	10	28	10	5	15
1944	15		-	-	-	3	2	5	5	-	5	12	3	15
1943	16		-	-	-	1	2	3	8	2	10	8	-	8
1942	17		-	-	-	-	1	1	3	2	5	-	5	5
1941	18		-	-	-	-	1	1	-	-	-	-	5	5
1940	19		-	-	-	-	-	-	-	-	-	-	-	-
1939	20		-	2	2	-	-	-	-	-	-	-	-	-
Total ‰			427	571	998	478	522	1000	521	480	1001	530	471	1001
Serial Numbers														
Number of Samples					2			8			5			2
Number of Fish			172	231	403	551	600	1151	323	296	619	212	188	400
Mean Age														
Mean Weight (Kg)														
Total Wt. Landed (Tons)														
Estimated No. Landed														
Mesh or Hook Size														
Range of Depths			35-210 fm			35-210 fm			60-100 m			60-123 m		

1) The length frequencies of these samples are given in Table 5; the age/length keys are given in Table 27.

TABLE 18 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹⁾ by Paul M. Hansen
by sexes, with mean length at each age

East Greenland - Research Catches

Location		65°48'N, 37°01'W						65°49'N, 36°59'W					
Gear		Handline						Handline					
Month		August						September					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1956	3	-	9	9	-	44.0	44.0	138	108	246	41.0	39.4	40.3
1955	4	92	83	174	50.7	47.2	49.1	46	31	77	47.7	52.5	49.6
1954	5	110	101	211	60.7	58.8	59.8	62	123	185	58.8	57.1	57.7
1953	6	92	128	220	65.7	63.6	64.5	92	46	138	67.2	59.3	64.6
1952	7	73	64	138	69.3	71.0	70.1	92	15	107	67.2	64.0	66.7
1951	8	37	28	64	70.8	65.0	68.3	31	77	108	75.5	72.2	73.1
1950	9	73	55	128	73.9	77.8	75.6	92	31	123	73.3	83.5	75.2
1949	10	18	9	28	79.0	89.0	82.3	-	15	15	-	80.0	80.0
1948	11	-	-	-	-	-	-	-	-	-	-	-	-
1947	12	-	9	9	-	87.0	87.0	-	-	-	-	-	-
1946	13	-	-	-	-	-	-	-	-	-	-	-	-
1945	14	-	-	-	-	-	-	-	-	-	-	-	-
1944	15	-	9	9	-	106.0	106.0	-	-	-	-	-	-
1943	16	-	-	-	-	-	-	-	-	-	-	-	-
1942	17	-	9	9	-	102.0	102.0	-	-	-	-	-	-
Total %oo		495	504	999	/			553	446	999	/		
Serial Numbers		2						1					
Number of Samples													
Number of Fish Aged		54	55	109				36 29 65					
Mean Age		6.4						5.7					
Mean Weight (Kg)		2.5						2.1					
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size													
Range of Depths (m)		130-180						90-150					

(cont'd.)

- 1) The length frequencies of these samples are given in Table 6; the age/length keys are given in Table 28.

TABLE 18 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹⁾ by Paul M. Hansen
 (cont'd.) by sexes, with mean length at each age
 East Greenland - Research Catches

Location		65°35'N, 37°35'W						65°35'N, 37°35'W					
Gear		Handline						Handline					
Month		September						September					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1956	3	-	13	13	-	39.3	39.3	49	57	106	40.2	42.2	41.4
1955	4	8	8	17	47.0	53.0	50.0	33	33	65	52.3	50.5	51.4
1954	5	85	77	162	62.1	61.9	62.0	138	89	228	60.1	60.7	60.4
1953	6	68	68	136	65.6	67.8	66.7	106	65	171	69.0	69.1	69.0
1952	7	94	94	187	72.7	72.7	72.7	16	73	89	70.5	73.9	73.3
1951	8	102	77	179	77.5	74.9	76.4	65	41	106	78.9	75.4	77.5
1950	9	119	128	247	81.3	80.3	80.8	89	130	220	79.7	83.6	82.0
1949	10	17	26	43	76.8	79.8	78.6	-	-	-	-	-	-
1948	11	-	-	-	-	-	-	-	8	8	-	89.0	89.0
1947	12	4	8	13	82.0	80.0	80.7	8	-	8	84.0	-	84.0
-	-	-	-	-	-	-	-	-	-	-	-	-	-
1944	15	-	4	4	-	126.0	126.0	-	-	-	-	-	-
Total %oo		497	503	1001				504	496	1001			
Serial Numbers		3						4					
Number of Fish Aged		117	118	235				62	61	123			
Mean Age		7.3						6.4					
Mean Weight (Kg)		3.4						3.0					
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size													
Range of Depths (m)		150						...					

(cont'd.)

1) The length frequencies of these samples are given in Table 6 ; the age/length keys are given in Table 28.

TABLE 18 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹⁾ by Paul M. Hansen
 (cont'd.) by sexes, with mean length at each age
 East Greenland - Research Catches

Location		63° 10' N, 43° 13' W						63° 10' N, 41° 04' W					
Gear		Handline						Longline					
Month		September						August					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1955	4	6	-	6	48.5	-	48.5	-	-	-	-	-	-
1954	5	10	6	16	53.0	63.0	57.0	9	-	9	-	61.0	61.0
1953	6	26	38	64	63.8	64.6	64.3	18	9	27	66.5	72.0	68.3
1952	7	57	67	125	70.3	71.0	70.7	27	27	55	65.3	75.0	70.3
1951	8	48	54	102	73.0	75.2	74.2	18	-	18	67.5	-	67.5
1950	9	153	188	341	78.8	80.8	79.9	64	73	136	80.0	77.9	78.9
1949	10	35	19	54	80.1	82.5	80.9	9	9	18	89.0	89.0	89.0
1948	11	6	13	19	80.0	82.8	81.8	27	9	36	81.3	80.0	81.0
1947	12	80	54	134	82.7	85.2	83.7	73	91	164	80.5	84.7	82.8
1946	13	13	3	16	83.5	89.0	84.6	-	27	27	-	88.0	88.0
1945	14	16	22	38	83.8	92.6	88.9	27	45	73	86.7	95.2	92.0
1944	15	-	-	-	-	-	-	27	36	64	97.3	93.8	95.3
1943	16	3	6	10	92.0	89.0	90.0	-	27	27	-	94.0	94.0
1942	17	35	32	67	93.5	91.2	92.4	91	164	255	89.9	102.7	98.1
1941	18	-	-	-	-	-	-	18	36	55	93.0	104.0	100.3
1940	19	-	-	-	-	-	-	-	-	-	-	-	-
1939	20	-	-	-	-	-	-	-	-	-	-	-	-
1938	21	-	3	3	-	105.0	105.0	-	-	-	-	-	-
1937	22	-	-	-	-	-	-	-	-	-	-	-	-
1936	23	3	-	3	104.0	-	104.0	-	18	18	-	117.0	117.0
1935	24	-	-	-	-	-	-	-	9	9	-	101.0	101.0
1934	25	-	-	-	-	-	-	-	9	9	-	100.0	100.0
Total %oo		491	505	998				408	589	1000			
Serial Numbers			6						5				
Number of Samples													
Number of Fish Aged		154	159	313				45	65	110			
Mean Age			9.8						13.4				
Mean Weight (Kg)			4.6						6.5				
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size													
Range of Depths (m)			...						150-220				

1) The length frequencies of these samples are given in Table 6; the age/length keys are given in Table 28.

TABLE 19 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹⁾ by Paul M. Hansen
by sexes, with mean length at each age

West Greenland (Banks) - Research Catches

Location		1B - Store Hellefiske Bank 67°54'N, 55°10'W						1B - Store Hellefiske Bank 66°54'N, 54°22'W					
Gear		Handline						Handline					
Month		July						July					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1956	3	21	42	62	43.0	43.0	43.0	13	-	13	41.7	-	41.7
1955	4	125	125	250	46.3	48.3	47.3	68	94	162	48.6	49.5	49.1
1954	5	146	104	250	57.3	53.0	55.5	128	102	230	57.8	58.9	58.3
1953	6	292	125	417	62.3	63.5	62.7	196	268	464	65.1	66.7	66.0
1952	7	21	-	21	75.0	-	75.0	17	9	26	68.5	70.0	69.0
1951	8	-	-	-	-	-	-	17	13	30	74.3	79.7	76.6
1950	9	-	-	-	-	-	-	34	17	51	78.4	81.5	79.4
1949	10	-	-	-	-	-	-	-	-	-	-	-	-
1948	11	-	-	-	-	-	-	4	-	4	77.0	-	77.0
1947	12	-	-	-	-	-	-	17	4	21	82.0	84.0	82.4
Total %oo		605	396	1000	/			494	507	1001	/		
Serial Numbers		1						2					
Number of Samples													
Number of Fish Aged		29	19	48				116	119	235			
Mean Age		5.1						5.8					
Mean Weight (Kg)		1.7						...					
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size													
Range of Depths (m)		45-50						40-47					

(cont'd.)

- 1) The length frequencies of these samples are given in Table 7; the age/length keys are given in Table 29.

TABLE 19 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹⁾ by Paul M. Hansen
(cont'd.) by sexes, with mean length at each age

West Greenland (Banks) - Research Catches

Location		1B - Store Hellefiske Bank 66°50'N, 54°40'W		1C - Lille Hellefiske Bank 64°56'N, 53°19'W					
Gear		Handline		Handline					
Month		July		July					
Year- Class	Age	%oo Frequency		%oo Frequency			Mean Length		
		Total ²⁾	Total ²⁾	♂	♀	Total	♂	♀	Total
1956	3	13	38.0	99	99	197	39.3	39.1	39.2
1955	4	395	50.4	141	112	254	44.5	44.8	44.6
1954	5	289	57.7	28	28	56	57.5	53.3	55.5
1953	6	289	61.7	70	112	183	68.0	65.8	66.6
1952	7	13	71.0	28	14	42	70.5	73.0	71.3
1951	8	-	-	14	42	56	72.0	85.0	81.8
1950	9	-	-	42	42	85	80.0	80.0	80.0
1949	10	-	-	-	-	-	-	-	-
1948	11	-	-	28	-	28	78.5	-	78.5
1947	12	-	-	56	28	85	78.5	79.0	78.7
1946	13	-	-	-	-	-	-	-	-
1945	14	-	-	14	-	14	80.0	-	80.0
Total %oo		999		520	477	1000			
Serial Numbers		3			4				
Number of Samples									
Number of Fish Aged		76		37	34	71			
Mean Age		5.3			6.0				
Mean Weight (Kg)		...			2.4				
Total Wt. Landed (Tons)									
Estimated Number Landed									
Hook Size									
Range of Depths (m)		45-51			36-85				

(cont'd.)

- 1) The length frequencies of these samples are given in Table 7; the age/length keys are given in Table 29.
- 2) Data for males and females separately were not available.

TABLE 19 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹⁾ by Paul M. Hansen
(cont'd.) by sexes, with mean length at each age

West Greenland (Banks) - Research Catches

Location		1C - Banana Bank 64° 21' N, 53° 20' W						1D - Fylla Bank 64° 05' N, 52° 44' W					
Gear		Handline						Handline					
Month		July						July					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1956	3	54	76	130	38.0	38.9	38.5	21	16	37	41.8	42.0	41.9
1955	4	65	206	272	47.5	47.4	47.4	21	16	37	48.5	49.7	49.0
1954	5	65	54	119	59.2	55.6	57.5	79	48	127	58.7	58.9	58.8
1953	6	87	65	152	69.3	65.3	67.6	259	196	455	66.2	68.6	67.2
1952	7	22	-	22	72.5	-	72.5	48	26	74	73.6	71.4	72.8
1951	8	22	11	33	73.0	72.0	72.7	37	26	63	73.6	78.6	75.7
1950	9	43	22	65	76.0	77.5	76.5	32	58	90	75.3	79.3	77.9
1949	10	11	-	11	60.0	-	60.0	11	5	16	79.0	85.0	81.0
1948	11	-	33	33	-	86.7	86.7	5	-	5	80.0	-	80.0
1947	12	98	33	130	79.1	84.0	80.3	42	21	63	83.6	81.3	82.8
1946	13	11	-	11	81.0	-	81.0	21	5	26	86.8	83.0	86.0
1945	14	11	11	22	80.0	87.0	83.3	5	-	5	85.0	-	85.0
Total %oo		489	511	1000				581	417	998			
Serial Numbers		5						6					
Number of Samples													
Number of Fish Aged		45	47	92				110	79	189			
Mean Age		6.5						6.9					
Mean Weight (Kg)													
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size													
Range of Depths (m)		67-80						42-52					

(cont'd.)

1) The length frequencies of these samples are given in Table 7 ; the age/length keys are given in Table 29.

TABLE 19 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹ by Paul M. Hansen
(cont'd.) by sexes, with mean length at each age

West Greenland (Banks) - Research Catches

Location		1D - Fylla Bank 63° 37' N, 52° 40' W						1D - Fylla Bank 63° 53' N, 53° 28' W					
Gear		Handline						Longline					
Month		August						June					
Year- Class	Age	% Frequency			Mean Length			% Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1954	5	17	33	50	59.0	54.0	55.7	11	-	11	68.0	-	68.0
1953	6	117	183	300	66.9	66.8	66.8	74	74	149	63.6	67.1	65.4
1952	7	67	100	167	71.5	71.7	71.6	-	43	43	-	76.3	76.3
1951	8	50	-	50	70.7	-	70.7	53	11	64	71.0	75.0	71.7
1950	9	50	83	133	72.3	77.4	75.5	117	159	276	76.5	78.5	77.7
1949	10	17	50	67	86.0	81.3	82.5	11	-	11	82.0	-	82.0
1948	11	50	-	50	77.0	-	77.0	-	32	32	-	85.7	85.7
1947	12	67	33	100	77.3	80.0	78.2	85	244	330	77.6	82.8	81.5
1946	13	17	17	33	79.0	81.0	80.0	-	-	-	-	-	-
1945	14	17	33	50	79.0	82.5	81.3	11	11	21	80.0	95.0	87.5
1944	15	-	-	-	-	-	-	-	-	-	-	-	-
1943	16	-	-	-	-	-	-	-	-	-	-	-	-
1942	17	-	-	-	-	-	-	32	32	64	90.0	92.7	91.3
Total %		469	532	1000				394	606	1001			
Serial Numbers		8						7					
Number of Samples													
Number of Fish Aged		28	32	60				37	57	94			
Mean Age		7.8						9.8					
Mean Weight (Kg)													
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size													
Range of Depths (m)		67						240-80					

(cont'd.)

- 1) The length frequencies of these samples are given in Table 7 ; the age/length keys are given in Table 29.

TABLE 19 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹⁾ by Paul M. Hansen
(cont'd.) by sexes, with mean length at each age

West Greenland (Banks) - Research Catches

Location		ID - Fiskenaas Bank 63° 25' N, 52° 04' W					
Gear		Handline					
Month		August					
Year- Class	Age	%oo Frequency			Mean Length		
		♂♂	♀♀	Total	♂♂	♀♀	Total
1956	3	-	9	9	-	36.0	36.0
1955	4	9	19	28	53.0	51.5	52.0
1954	5	-	-	-	-	-	-
1953	6	139	65	204	66.3	64.0	65.6
1952	7	139	56	194	70.5	69.8	70.3
1951	8	93	83	176	74.3	75.2	74.7
1950	9	93	83	176	76.9	77.8	77.3
1949	10	9	-	9	76.0	-	76.0
1948	11	19	9	28	87.0	79.0	84.3
1947	12	65	46	111	79.9	80.8	80.3
1946	13	19	9	28	83.5	85.0	84.0
1945	14	9	9	19	76.0	94.0	85.0
1944	15	-	-	-	-	-	-
1943	16	-	-	-	-	-	-
1942	17	19	-	19	88.5	-	88.5
Total %oo		613	388	1001			
Serial Number				9			
Number of Samples							
Number of Fish Aged		66	42	108			
Mean Age				8.4			
Mean Weight (Kg)							
Total Wt. Landed (Tons)							
Estimated Number Landed							
Hook Size							
Range of Depths (m)				60-70			

1) The length frequencies of this sample are given in Table 7; the age/length key is given in Table 29.

TABLE 20 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹⁾ by Paul M. Hansen
by sexes, with mean length at each age

West Greenland (Inshore and Fjords) - Research Catches

Location		1C - Sukkertoppen 65°26'N, 52°19'W						1D - Godthåb Fjord 64°10'N, 51°43'W					
Gear		Pound Net						Handline					
Month		June						April					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1956	3	-	-	-	-	-	-	85	123	321 ²⁾	38.9	37.4	36.7
1955	4	-	13	13	-	57.0	57.0	57	28	85	49.2	45.7	48.0
1954	5	110	156	266	62.3	61.0	61.6	28	38	66	52.0	60.0	56.6
1953	6	201	279	480	66.6	68.2	67.5	207	207	415	62.8	65.5	64.2
1952	7	19	45	65	74.3	75.6	75.2	38	47	85	73.0	71.4	72.1
1951	8	6	6	13	72.0	72.0	72.0	-	-	-	-	-	-
1950	9	32	13	45	83.4	79.0	82.1	-	9	9	-	89.0	89.0
1949	10	6	6	13	75.0	84.0	79.5	-	9	9	-	78.0	78.0
1948	11	6	6	13	87.0	85.0	86.0	-	-	-	-	-	-
1947	12	39	26	65	83.8	92.5	87.3	-	-	-	-	-	-
1946	13	6	6	13	93.0	79.0	86.0	-	-	-	-	-	-
1945	14	6	6	13	95.0	82.0	88.5	9	-	9	74.0	-	74.0
Total %oo		431	562	999				424	461	999			
Serial Numbers								11					
Number of Samples													
Number of Fish Aged		67	87	154				45	49	106 ²⁾			
Mean Age								5.0					
Mean Weight (Kg)								1.8					
Total Wt. Landed (Tons)													
Estimated Number Landed													
Mesh or Hook Size													
Range of Depths (m)								100-140					

(cont'd.)

- 1) The length frequencies of these samples are given in Table 8 ; the age/length keys are given in Table 30.
- 2) The sexes of 12 fish were not determined.

TABLE 20 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹⁾ by Paul M. Hansen
(cont'd.) by sexes, with mean length at each age

West Greenland (Inshore and Fjords) - Research Catches

Location		ID - Godthåb Fjord 64°23'N, 51°13'W						ID - Godthåb Fjord 64°24'N, 50°23'W					
Gear		Handline						Longline					
Month		August						March					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1956	3	41	34	75	41.7	43.0	42.3	-	-	-	-	-	-
1955	4	109	137	246	52.6	50.8	51.6	161	129	290	44.1	44.4	44.2
1954	5	75	109	185	56.6	56.9	56.8	64	64	129	47.8	46.5	47.1
1953	6	75	130	205	66.6	65.9	66.2	-	32	32	-	63.5	63.5
1952	7	48	34	82	67.9	70.0	68.8	81	177	258	59.2	65.3	63.4
1951	8	27	34	62	72.5	73.2	72.9	-	16	16	-	69.0	69.0
1950	9	34	41	75	75.4	81.0	78.5	48	32	81	67.3	58.0	63.6
1949	10	7	-	7	76.0	-	76.0	32	16	48	64.5	69.0	66.0
1948	11	14	-	14	74.5	-	74.5	-	-	-	-	-	-
1947	12	7	27	34	75.0	79.3	78.4	32	16	48	60.0	73.0	64.3
1946	13	-	-	-	-	-	-	-	16	16	-	75.0	75.0
1945	14	7	-	7	78.0	-	78.0	-	16	16	-	82.0	82.0
1944	15	-	-	-	-	-	-	-	-	-	-	-	-
1943	16	-	7	7	-	83.0	83.0	-	-	-	-	-	-
1942	17	-	-	-	-	-	-	16	16	32	76.0	113.0	94.5
1941	18	-	-	-	-	-	-	-	-	-	-	-	-
1940	19	-	-	-	-	-	-	-	32	32	-	84.0	84.0
Total %oo		444	553	999	/			434	562	998	/		
Serial Numbers		17						19					
Number of Samples													
Number of Fish Aged		65	81	146				27 35 62					
Mean Age		6.0						6.7					
Mean Weight (Kg)		2.2						2.5					
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size													
Range of Depths (m)		75-350						50-100					

(cont'd.)

1) The length frequencies of these samples are given in Table 8; the age/length keys are given in Table 30.

TABLE 20 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹⁾ by Paul M. Hansen
(cont'd.) by sexes, with mean length at each age

West Greenland (Inshore and Fjords) - Research Catches

Location		ID - Godthåb Fjord 64°24'N, 50°23'W						ID - Godthåb Fjord 64°08'N, 51°50'W					
Gear		Longline						Longline					
Month		March						August					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1957	2	14	-	14	27.0	-	27.0	-	-	-	-	-	-
1956	3	14	14	27	25.0	36.0	30.5	-	-	-	-	-	-
1955	4	405	297	716 ²⁾	45.1	45.0	45.0	-	10	10	-	62.0	62.0
1954	5	41	54	95	48.7	51.5	50.3	40	51	91	66.5	66.4	66.4
1953	6	-	14	14	-	61.0	61.0	30	40	71	65.0	73.3	69.7
1952	7	-	68	68	-	64.8	64.8	-	-	-	-	-	-
1951	8	-	-	-	-	-	-	61	81	141	73.1	77.8	75.8
1950	9	14	-	14	65.0	-	65.0	10	40	51	65.0	83.3	79.6
1949	10	-	41	41	-	66.0	66.0	10	20	30	77.0	77.5	77.3
1948	11	-	-	-	-	-	-	202	172	374	76.5	77.8	77.1
1947	12	-	-	-	-	-	-	10	30	40	86.0	77.7	79.8
1946	13	-	-	-	-	-	-	20	40	61	88.5	80.8	83.3
1945	14	14	-	14	70.0	-	70.0	-	10	10	-	102.0	102.0
1944	15	-	-	-	-	-	-	-	10	10	-	80.0	80.0
1943	16	-	-	-	-	-	-	20	71	91	78.0	87.3	85.2
1942	17	-	-	-	-	-	-	-	-	-	-	-	-
1941	18	-	-	-	-	-	-	-	20	20	-	88.5	88.5
Total %oo		502	488	1003	/			403	595	1000	/		
Serial Numbers		20						12					
Number of Samples													
Number of Fish Aged		37	36	74 ²⁾				40 59 99					
Mean Age		4.7						11.3					
Mean Weight (Kg)		1.3						4.6					
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size													
Range of Depths (m)		50-240						300					

(cont'd.)

- 1) The length frequencies of these samples are given in Table 8 ; the age/length keys are given in Table 30.
- 2) The sex of one fish was not determined.

TABLE 20 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹⁾ by Paul M. Hansen
(cont'd.) by sexes, with mean length at each age

West Greenland (Inshore and Fjords) - Research Catches

Location		ID - Godthåb Fjord 64°09'N, 51°44'W						ID - Godthåb Fjord 64°07'N					
Gear		Longline						Longline					
Month		September-October						October					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1955	4	25	13	38	46.5	58.0	50.3	16	5	22	53.0	55.0	53.5
1954	5	38	25	63	59.0	64.0	61.0	5	33	38	71.0	64.8	65.7
1953	6	101	38	139	66.9	63.7	66.0	5	38	43	67.0	71.7	71.1
1952	7	76	51	127	70.8	71.5	71.1	54	71	125	70.4	72.5	71.6
1951	8	13	25	38	67.0	71.0	69.7	38	16	54	68.3	76.3	70.7
1950	9	51	51	114 ²⁾	72.8	79.0	77.0	33	109	141	74.0	76.6	76.0
1949	10	-	13	13	-	75.0	75.0	11	22	33	73.0	76.3	75.2
1948	11	13	38	51	85.0	76.3	78.5	27	38	65	76.0	72.6	74.0
1947	12	177	76	253	75.9	76.7	76.2	152	179	331	76.6	79.2	78.0
1946	13	-	38	38	-	84.7	84.7	16	-	16	75.7	-	75.7
1945	14	51	13	63	74.5	82.0	76.0	16	43	60	86.3	80.6	82.2
1944	15	-	-	-	-	-	-	-	5	5	-	87.0	87.0
1943	16	13	-	13	74.0	-	74.0	5	-	5	87.0	-	87.0
1942	17	25	13	38	82.5	83.0	82.7	5	22	27	85.0	86.5	86.2
1941	18	-	-	-	-	-	-	-	11	11	-	91.0	91.0
1940	19	-	-	-	-	-	-	11	11	22	79.5	89.5	84.5
1939	20	-	-	-	-	-	-	-	-	-	-	-	-
1938	21	13	-	13	82.0	-	82.0	-	-	-	-	-	-
Total %oo		596	394	1001				394	603	998			
Serial Numbers			13						14				
Number of Samples													
Number of Fish Aged		47	31	79 ²⁾				73	111	184			
Mean Age			9.7						10.4				
Mean Weight (Kg)			...						4.9				
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size													
Range of Depths (m)			...						300				

(cont'd.)

- 1) The length frequencies of these samples are given in Table 8 ; the age/length keys are given in Table 30.
- 2) The sex of one fish was not determined.

TABLE 20 DENMARK (Greenland) - 1959
(cont'd.)AGE FREQUENCIES - COD¹⁾
by sexes, with mean length at each age

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Location		1D - Godthåb Fjord 64°17'N, 51°39'W						1D - Godthåb Fjord 64°16'N, 51°06'W					
Gear		Longline						Longline					
Month		October						October					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1955	4	-	-	-	-	-	-	19	-	19	54.0	-	54.0
1954	5	-	13	13	-	62.7	62.7	19	-	19	55.0	-	55.0
1953	6	26	44	70	68.2	72.0	70.6	19	38	57	65.0	67.0	66.3
1952	7	4	61	66	75.0	73.6	73.7	19	94	113	72.0	70.6	70.8
1951	8	9	18	26	70.0	73.8	72.5	19	19	38	69.0	78.0	73.5
1950	9	83	131	219 ²⁾	75.5	78.1	77.0	19	94	113	81.0	77.0	77.7
1949	10	9	53	61	79.5	84.0	83.4	-	75	75	-	74.5	74.5
1948	11	26	26	53	80.2	81.5	80.8	19	38	57	79.0	76.5	77.3
1947	12	145	223	368	77.1	81.4	79.7	170	94	264	75.4	80.2	77.1
1946	13	4	9	13	75.0	80.0	78.3	19	-	19	92.0	-	92.0
1945	14	13	31	44	76.3	81.6	80.0	19	38	57	78.0	88.0	84.7
1944	15	4	4	9	78.0	87.0	82.5	19	-	19	84.0	-	84.0
1943	16	4	9	13	82.0	79.5	80.3	-	19	19	-	82.0	82.0
1942	17	9	18	26	78.5	89.0	85.5	19	19	38	80.0	81.0	80.5
1941	18	-	4	4	-	89.0	89.0	-	19	19	-	87.0	87.0
1940	19	-	9	9	-	81.0	81.0	19	57	75	70.0	93.3	87.5
1939	20	-	-	-	-	-	-	-	-	-	-	-	-
1938	21	-	4	4	-	84.0	84.0	-	-	-	-	-	-
Total %oo		336	657	998				398	604	1001			
Serial Numbers			16						18				
Number of Samples													
Number of Fish Aged		77	150	228 ²⁾				21	32	53			
Mean Age			10.7						11.2				
Mean Weight (Kg)			5.1						4.6				
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size													
Range of Depths (m)			250-340						210-340				

(cont'd.)

- 1) The length frequencies of these samples are given in Table 8 ; the age/length keys are given in Table 30.
- 2) The sex of one fish was not determined.

TABLE 20 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹⁾ by Paul M. Hansen
(cont'd.) by sexes, with mean length at each age

West Greenland (Inshore and Fjords) - Research Catches

Location		1D - Godthåb Fjord 64°08'N, 51°45'W						1F - Narssaq 60°33'N, 45°59'W					
Gear		Longline						Handline					
Month		November						August-October					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1956	3	23	6	29	43.3	39.0	42.4	-	-	-	-	-	-
1955	4	17	35	52	56.0	52.7	53.8	65	103	168	40.8	41.9	41.5
1954	5	35	17	52	61.2	58.0	60.1	45	45	90	48.0	51.9	49.9
1953	6	70	99	168	64.5	69.6	67.6	6	6	13	55.0	55.0	55.0
1952	7	35	58	93	70.7	71.2	71.0	129	161	297 ²⁾	64.6	64.6	64.7
1951	8	12	29	41	76.0	79.0	78.1	71	39	110	67.1	68.3	67.5
1950	9	41	29	70	76.6	74.0	75.5	52	26	77	71.4	73.3	72.0
1949	10	12	17	29	76.0	81.0	79.0	65	110	181 ²⁾	74.9	77.6	76.6
1948	11	23	35	58	73.8	78.8	76.8	-	13	13	-	82.0	82.0
1947	12	116	110	227	77.5	79.7	78.5	-	-	-	-	-	-
1946	13	23	17	41	78.3	80.7	79.2	19	19	39	79.0	78.0	78.5
1945	14	29	35	64	80.6	79.7	80.1	-	-	-	-	-	-
1944	15	6	-	6	72.0	-	72.0	6	-	6	70.0	-	70.0
1943	16	-	-	-	-	-	-	-	-	-	-	-	-
1942	17	23	29	52	84.0	81.4	82.6	-	-	-	-	-	-
1941	18	-	-	-	-	-	-	-	-	-	-	-	-
1940	19	12	6	17	84.5	95.0	88.0	-	-	-	-	-	-
1939	20	-	-	-	-	-	-	-	6	6	-	110.0	110.0
Total %oo		477	522	999				458	528	1000			
Serial Numbers								26					
Number of Samples								71			155 ³⁾		
Number of Fish Aged		82	90	172				12.3					
Mean Age								...					
Mean Weight (Kg)													
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size													
Range of Depths (m)		80-200						20-90					

(cont'd.)

- 1) The length frequencies of these samples are given in Table 8 ; the age/length keys are given in Table 30.
- 2) The sex of one fish was not determined.
- 3) The sexes of two fish were not determined.

TABLE 20 DENMARK (Greenland) - 1959 AGE FREQUENCIES - COD¹⁾ by Paul M. Hansen
(cont'd.) by sexes, with mean length at each age

West Greenland (Inshore and Fjords) - Research Catches

Location		IF - Simiutek 60°40'N, 46°32'W						IF - Simiutek 60°40'N, 46°32'W					
Gear		Handline						Handline					
Month		September						September					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1956	3	184	164	348	41.4	41.8	41.6	-	4	4	-	45.0	45.0
1955	4	46	13	59	50.9	48.0	50.2	16	8	24	50.3	52.5	51.0
1954	5	13	7	20	54.0	59.0	55.6	4	8	12	58.0	52.5	54.3
1953	6	118	112	230	62.8	62.5	62.6	149	154	307 ²⁾	63.6	62.7	63.3
1952	7	46	46	92	65.9	69.1	67.5	69	69	137	69.4	64.6	67.0
1951	8	-	20	20	-	68.3	68.3	48	40	89	71.2	70.4	70.8
1950	9	72	53	125	72.2	74.9	73.3	121	117	238	74.2	75.5	74.9
1949	10	13	13	26	76.0	82.0	79.0	48	16	65	77.3	77.8	77.4
1948	11	7	-	7	75.0	-	75.0	16	-	16	71.5	-	71.5
1947	12	20	20	39	78.3	76.3	77.3	48	24	72 ²⁾	73.3	76.2	74.2
1946	13	7	7	13	79.0	75.0	77.0	12	4	16	73.7	80.0	75.3
1945	14	13	7	20	75.0	90.0	80.7	4	-	4	84.0	-	84.0
1944	15	-	-	-	-	-	-	-	-	-	-	-	-
1943	16	-	-	-	-	-	-	4	-	4	76.0	-	76.0
1942	17	-	-	-	-	-	-	-	4	4	-	79.0	79.0
Total %oo		539	462	999				539	448	998			
Serial Numbers								25					
Number of Samples													
Number of Fish Aged		82	70	152				134	111	247 ³⁾			
Mean Age								8.0					
Mean Weight (Kg)								3.0					
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size													
Range of Depths (m)		40-100						40-100					

1) The length frequencies of these samples are given in Table 8; the age/length keys are given in Table 30.

2) The sex of one fish was not determined.

3) The sexes of two fish were not determined.

TABLE 21 DENMARK (Greenland) - 1959

AGE FREQUENCIES - COD

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Commercial Catches

Division		IA						IB					
Month		July-October			August-September			June-July			August		
Year-		♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Class	Age	F R E Q U E N C I E S in ‰											
1955	4	-	7	7	12	4	16	20	40	60	4	4	9
1954	5	44	-	44	28	41	69	96	137	231	26	26	52
1953	6	44	51	96	179	187	366	202	409	613	284	315	599
1952	7	29	7	37	16	33	49	10	40	50	50	80	129
1951	8	15	7	22	4	28	33	5	5	10	13	26	39
1950	9	22	51	88 ¹⁾	28	45	73	5	15	20	50	47	97
1949	10	-	15	15	8	12	20	-	-	-	-	9	9
1948	11	22	15	37	4	20	24	-	-	-	6	6	13
1947	12	110	125	243 ²⁾	65	126	191	10	5	15	13	28	41
1946	13	-	15	15	-	8	8	-	-	-	2	2	4
1945	14	44	66	110	16	24	41	-	-	-	4	-	4
1944	15	15	7	22	4	33	37	-	-	-	2	-	2
1943	16	22	59	81	4	16	20	-	-	-	-	-	-
1942	17	37	73	110	16	28	45	-	-	-	2	-	2
1941	18	7	15	22	-	-	-	-	-	-	-	-	-
1940	19	15	29	44	4	4	8	-	-	-	-	-	-
1939	20	-	7	7	-	-	-	-	-	-	-	-	-
Total ‰		426	549	1000	388	609	1000	348	651	999	456	543	1000
Serial Numbers		1			2			5			3		
Number of Samples													
Number of Fish Aged		58	75	136 ³⁾	96	150	246	69	129	198	212	252	464
Mean Age		12.1			9.1			5.9			6.9		
Mean Weight (Kg)													
Total Wt. Landed (Tons)													
Estimated Number Landed													
Mesh or Hook Size													
Range of Depths													

- 1) The sexes of two fish were not determined.
- 2) The sex of one fish was not determined.
- 3) The sexes of three fish were not determined.

(cont'd.)

TABLE 21 DENMARK (Greenland) - 1959
(cont'd.)

AGE FREQUENCIES - COD

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Commercial Catches

Division		1B			1C								
Month		September-October			June			June			September		
Year-	Age	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Class		F R E Q U E N C I E S in ‰											
1956	3	5	-	5	-	-	-	15	15	30	-	-	-
1955	4	41	56	96	10	5	15	10	20	30	5	25	30
1954	5	41	81	122	60	70	131	90	100	190	134	174	308
1953	6	269	375	645	266	402	668	115	120	235	109	254	363
1952	7	30	46	76	40	35	75	40	45	85	25	50	75
1951	8	-	20	20	15	15	30	20	35	55	10	20	30
1950	9	10	10	20	15	30	45	35	85	120	30	45	75
1949	10	-	-	-	-	-	-	10	15	25	5	-	5
1948	11	-	-	-	-	5	5	5	35	40	5	5	10
1947	12	5	-	5	10	20	30	55	70	125	30	60	90
1946	13	-	-	-	-	-	-	5	-	5	-	-	-
1945	14	5	-	5	-	-	-	10	10	20	5	-	5
1944	15	5	-	5	-	-	-	-	-	-	-	-	-
1943	16	-	-	-	-	-	-	-	-	-	-	5	5
1942	17	-	-	-	-	-	-	20	10	30	-	5	5
-	-	-	-	-	-	-	-	-	-	-	-	-	-
1938	21	-	-	-	-	-	-	5	5	10	-	-	-
Total ‰		411	588	999	416	582	999	435	565	1000	358	643	1001
Serial Numbers		4			6			9			10		
Number of Samples													
Number of Fish Aged		81	116	197	83	116	199	87	113	200	72	129	201
Mean Age		6.0			6.3			...			6.4		
Mean Weight (Kg)													
Total Wt. Landed (Tons)													
Estimated Number Landed													
Mesh or Hook Size													
Range of Depths													

(cont'd.)

TABLE 21 DENMARK (Greenland) - 1959

AGE FREQUENCIES - COD

by Paul M. Hansen

(cont'd.)

West Greenland (Inshore and Fjords) - Commercial Catches

Division		IC			LE					
Month		October			June			July		
Year-		♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Class	Age	FREQUENCIES in ‰								
1956	3	-	10	10	-	-	-	-	21	21
1955	4	-	10	10	9	-	9	43	21	64
1954	5	35	40	76	19	9	28	21	-	21
1953	6	81	111	192	320	189	509	170	234	415 ¹⁾
1952	7	15	25	40	104	94	198	74	43	128 ¹⁾
1951	8	20	35	56	28	9	38	32	64	96
1950	9	86	146	232	57	66	132 ¹⁾	96	53	159 ¹⁾
1949	10	30	10	40	19	38	57	-	-	-
1948	11	15	25	40	-	9	9	-	-	-
1947	12	116	131	247	-	19	19	64	21	85
1946	13	5	-	5	-	-	-	-	-	-
1945	14	25	15	40	-	-	-	-	10	10
1944	15	-	-	-	-	-	-	-	-	-
1943	16	-	-	-	-	-	-	-	-	-
1942	17	5	5	10	-	-	-	-	-	-
Total ‰		433	563	998	556	433	999	500	467	999
Serial Numbers			8			21			22	
Number of Samples										
Number of Fish Aged		86	112	198	59	46	106 ¹⁾	47	44	94 ²⁾
Mean Age			9.0			7.0			7.2	
Mean Weight (Kg)										
Total Wt. Landed (Tons)										
Estimated Number Landed										
Mesh or Hook Size										
Range of Depths										

1) The sex of one fish was not determined.

2) The sexes of three fish were not determined.

(cont'd.)

TABLE 21 DENMARK (Greenland) - 1959
(cont'd.)

AGE FREQUENCIES - COD

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Commercial Catches

Division		LE			IF					
Month		October			July			July-September		
Year-	Age	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Class	Age	F R E Q U E N C I E S in ‰								
1956	3	5	-	5	-	-	-	-	-	-
1955	4	10	30	40	44	36	80	8	-	8
1954	5	15	25	40	64	112	176	-	28	28
1953	6	161	106	266	248	248	496	120	104	224
1952	7	55	45	101	28	40	68	88	40	128
1951	8	45	25	70	8	12	20	32	48	80
1950	9	75	106	181	40	56	96	92	180	272
1949	10	20	15	35	16	20	36	32	72	104
1948	11	25	20	45	4	4	8	12	-	12
1947	12	95	85	181	16	-	16	48	36	84
1946	13	-	-	-	-	-	-	-	4	4
1945	14	10	20	30	4	-	4	24	-	24
1944	15	-	-	-	-	-	-	8	4	12
1943	16	5	-	5	-	-	-	4	-	4
1942	17	-	-	-	-	-	-	8	8	16
Total ‰		521	477	999	472	528	1000	476	524	1000
Serial Numbers			23			27			28	
Number of Samples										
Number of Fish Aged		104	95	199	118	132	250	119	131	250
Mean Age			8.4			6.2			8.6	
Mean Weight (Kg)										
Total Wt. Landed (Tons)										
Estimated Number Landed										
Mesh or Hook Size										
Range of Depths										

(cont'd.)

TABLE 21 DENMARK (Greenland) - 1959
(cont'd.)

AGE FREQUENCIES - COD

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Commercial Catches

Division		IF								
Month		August			August			September-October		
Year-Class		♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Age		FREQUENCIES in ‰								
1956	3	-	-	-	-	10	10	15	3	18
1955	4	-	10	10	-	10	10	-	10	10
1954	5	10	5	15	10	10	20	8	10	18
1953	6	225	235	460	238	166	402	125	90	215
1952	7	130	80	210	65	111	176	65	58	123
1951	8	45	40	85	55	40	95	50	40	90
1950	9	85	75	160	90	141	232	163	153	318 ¹⁾
1949	10	25	10	35	20	20	40	30	35	65
1948	11	-	5	5	-	-	-	-	10	10
1947	12	5	15	20	10	5	15	63	50	113
1946	13	-	-	-	-	-	-	8	-	8
1945	14	-	-	-	-	-	-	-	-	-
1944	15	-	-	-	-	-	-	-	3	3
1943	16	-	-	-	-	-	-	-	-	-
1942	17	-	-	-	-	-	-	5	8	13
Total ‰		525	475	1000	488	513	1000	532	470	1004
Serial Numbers			29			30			31	
Number of Samples										
Number of Fish Aged		105	95	200	97	102	199	212	187	400 ¹⁾
Mean Age			7.1			6.8			8.4	
Mean Weight (Kg)										
Total Wt. Landed (Tons)										
Estimated Number Landed										
Mesh or Hook Size										
Range of Depths										

1) The sex of one fish was not determined.

TABLE 22 GERMANY - 1959

AGE FREQUENCIES - COD¹⁾
with mean lengths

by Arno Meyer

OTTER TRAWLERS - Commercial Landings

Division		IC		ID				IE			
Month		September		March		April		May		June	
Year-	Age	%	Mean Length	%	Mean Length	%	Mean Length	%	Mean Length	%	Mean Length
1955	4	-	-	2	-	3	-	-	-	1	-
1954	5	10	-	212	54.8	15	-	10	-	3	-
1953	6	245	67.4	710	61.2	785	61.6	438	64.0	305	67.4
1952	7	73	-	29	-	87	-	198	67.8	97	-
1951	8	91	-	16	-	46	-	83	-	129	-
1950	9	202	76.9	16	-	19	-	121	76.1	226	76.9
1949	10	15	-	1	-	12	-	7	-	18	-
1948	11	74	-	3	-	5	-	8	-	34	-
1947	12	157	80.1	4	-	13	-	61	-	151	80.1
1946	13	5	-	2	-	4	-	13	-	10	-
1945	14	74	-	1	-	6	-	22	-	13	-
<1945	>14	54	-	4	-	5	-	39	-	13	-
Total %		1000		1000		1000		1000		1000	
Serial Numbers		56		21,22		30		35		41,42	
Number of Samples		1		2		1		1		2	
Number of Fish Aged		190		419		174		186		380	
Mean Age											
Mean Weight (Kg)											
Total weight Landed											
Number Landed											
Mesh Size (mm)		110		110		110		110		110	
Range of Depths (fm)											

1) The length frequencies of these samples are given in Table 9.

(cont'd.)

TABLE 22 GERMANY - 1959

AGE FREQUENCIES - COD¹⁾
with mean lengths

by Arno Meyer

(cont'd.)

OTTER TRAWLERS - Commercial Landings

Location		LF				East Greenland					
						Dohrn Bank					
Month		September		December		January		August		October	
Year- Class	Age	Mean		Mean		Mean		Mean		Mean	
		%	Length	%	Length	%	Length	%	Length	%	Length
1956	3	7	-	-	-	-	-	7	-	2	-
1955	4	7	-	1	-	21	-	13	-	7	-
1954	5	11	-	5	-	36	-	103	69.6	69	-
1953	6	463	62.1	581	63.8	53	-	54	-	94	-
1952	7	168	68.2	138	66.7	58	-	163	81.5	48	-
1951	8	93	-	71	-	62	-	65	-	65	-
1950	9	171	78.1	158	77.3	367	81.6	400	84.1	453	84.9
1949	10	57	-	27	-	243	84.5	119	85.3	216	89.0
1948	11	22 ²⁾	-	19 ²⁾	-	-	-	13	-	-	-
1947	12	-	-	-	-	80	-	50	-	15	-
1946	13	-	-	-	-	-	-	-	-	-	-
1945	14	-	-	-	-	73	-	13	-	16	-
<1945	>14	-	-	-	-	6	-	-	-	15	-
Total %		999		1000		999		1000		1000	
Serial Numbers		52		64		5		49		58	
Number of Samples		1		1		1		1		1	
Number of Fish Aged		178		227		209		183		206	
Mean Age											
Mean Weight (Kg)											
Total Weight Landed											
Number Landed											
Mesh Size (mm)		110		110		110		110		110	
Range of Depths (fm)											

1) The length frequencies of these samples are given in Table 9.

(cont'd.)

2) <1949.

TABLE 22 GERMANY - 1959
(cont'd.)AGE FREQUENCIES - COD¹⁾
with mean lengths

by Arno Meyer

OTTER TRAWLERS - Commercial Landings

Location		East Greenland									
		Dohrn Bank				Angmagssalik					
Month		November		December		March		April		June	
Year- Class	Age	%	Mean Length	%	Mean Length	%	Mean Length	%	Mean Length	%	Mean Length
1956	3	14	-	-	-	-	-	-	-	6	-
1955	4	36	-	14	-	-	-	-	-	31	-
1954	5	33	-	24	-	45	-	16	-	158	60.7
1953	6	109	76.3	57	-	56	-	62	-	99	64.7
1952	7	113	80.9	88	-	56	-	125	72.7	60	-
1951	8	93	-	102	83.3	61	-	85	-	68	-
1950	9	378	85.1	466	83.7	539	78.2	463	77.6	300	79.9
1949	10	157	86.5	182	87.5	188	81.1	158	78.7	51	-
1948	11	6	-	26	-	-	-	-	-	23	-
1947	12	30	-	11	-	22	-	26	-	77	-
1946	13	-	-	8	-	-	-	-	-	21	-
1945	14	29	-	22	-	25	-	46	-	80	-
<1945	>14	2	-	-	-	8	-	19	-	26	-
Total %		1000		1000		1000		1000		1000	
Serial Numbers		62		67		14,16		27		40,46	
Number of Samples		1		1		2		1		2	
Number of Fish Aged		176		222		349		189		393	
Mean Age											
Mean Weight (Kg)											
Total Weight Landed											
Number Landed											
Mesh Size (mm)		110		110		110		110		110	
Range of Depths (fm)											

1) The length frequencies of these samples are given in Table 9.

TABLE 23 GERMANY - 1959

AGE FREQUENCIES - COD¹⁾
with mean lengths

by Arno Meyer

OTTER TRAWLERS - Exploratory Catches

Location		ID	IE	IF		East Greenland Cap Bille Bank					
Month		December		December		October		December		December	
Year- Class	Age	Mean		Mean		Mean		Mean		Mean	
		%	Length	%	Length	%	Length	%	Length	%	Length
1957	2	-	-	11	-	-	-	-	-	-	-
1956	3	33	-	749	41.1	24	-	263	44.9	9	-
1955	4	91	-	76	-	12	-	86	-	11	-
1954	5	140	-	15	-	22	-	31	-	9	-
1953	6	511	70.6	96	-	223	63.1	396	62.9	111	70.8
1952	7	62	-	16	-	84	-	70	-	57	-
1951	8	32	-	10	-	102	-	7	-	76	-
1950	9	64	-	23	-	368	79.1	104	78.1	555	81.4
1949	10	10	-	4	-	106	-	19	-	121	84.6
1948	11	-	-	-	-	5	-	6	-	7	-
1947	12	52	-	-	-	41	-	-	-	27	-
<1947	>12	5	-	-	-	14	-	18	-	17	-
Total %		1000		1000		1001		1000		1000	
Serial Numbers		K37		K25,26		M2,3,4		K18,19,20,21 22,23,24		K6,7,8	
Number of Samples		1		2		3		6		3	
Number of Fish Aged		86		393		254		161		146	
Mean Age											
Mean Weight (Kg)											
Total Weight Landed											
Number Landed											
Mesh Size (mm)		110		110		110		110		110	
Range of Depths (fm)		44		60-88		71-82		82-98		93-131	

1) The length frequencies of these samples are given in Table 10.

TABLE 24 NORWAY - 1959

AGE FREQUENCIES - COD¹⁾

by E. Bratberg

Research Catches

Gear		Otter Trawl											
Division		ID						IE					
Month		April						April					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1954	5	16	5	21	55.67	52.00	54.75	8	-	8	53.00	-	53.00
1953	6	377	162	539	62.86	65.55	63.67	242	117	359	62.76	63.43	62.98
1952	7	89	58	147	67.35	70.18	68.46	67	92	159	67.25	68.27	67.84
1951	8	42	73	115	70.75	74.57	73.18	25	42	67	67.67	76.80	73.38
1950	9	16	63	79	73.67	79.00	77.93	25	117	142	77.33	77.36	77.35
1949	10	-	16	16	-	76.33	76.33	-	25	25	-	82.67	82.67
1948	11	16	11	27	77.33	85.50	80.60	8	42	50	79.00	83.00	82.33
1947	12	16	11	27	80.33	78.00	79.40	33	75	108	80.50	83.00	82.33
1946	13	11	11	22	85.00	76.00	80.50	-	25	25	-	89.00	89.00
1945	14	-	-	-	-	-	-	-	17	17	-	79.00	79.00
1944	15	-	-	-	-	-	-	8	-	8	84.00	-	84.00
1943	16	-	-	-	-	-	-	-	8	8	-	82.00	82.00
1942	17	-	5	5	-	89.00	89.00	-	8	8	-	77.00	77.00
1941	18	-	-	-	-	-	-	-	8	8	-	101.00	101.00
-	-	-	-	-	-	-	-	-	-	-	-	-	-
1936	23	-	-	-	-	-	-	-	8	8	-	135.00	135.00
1935	24	-	5	5	-	100.00	100.00	-	-	-	-	-	-
Total %oo		583	420	1003				416	584	1000			
Serial Numbers													
Number of Samples		2						1					
Number of Fish Aged		111	80	191				50	70	120			
Mean Age		6.78	7.89	7.24				7.20	9.44	8.51			
Mean Weight (Kg)													
Tot. Wt. Landed (Tons)		30									27		
Estimated No. Landed													
Mesh Size													
Range of Depths													

(cont'd.)

- 1) The length frequencies of these samples are given in Table 11; the age/length keys are given in Table 31.

TABLE 24 NORWAY - 1959
(cont'd.)

AGE FREQUENCIES - COD¹⁾

by E. Bratberg

Research Catches

Gear		Handline											
Division		1B						1C					
Month		August						August					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1955	4	34	21	55	47.87	49.00	48.31	11	17	28	54.00	50.67	52.00
1954	5	39	56	95	55.11	54.92	55.00	17	34	51	58.33	57.17	57.55
1953	6	222	167	389	64.48	65.28	64.28	166	177	343	67.14	68.93	68.07
1952	7	51	39	90	70.25	69.33	69.86	57	63	120	73.80	71.91	72.81
1951	8	30	21	51	72.86	77.20	74.67	46	69	115	76.00	77.42	76.85
1950	9	51	34	85	76.83	78.37	77.45	51	63	114	76.55	77.73	77.20
1949	10	4	9	13	71.00	82.00	78.33	17	23	40	78.33	83.25	81.14
1948	11	21	13	34	80.80	73.33	78.00	23	11	34	80.25	82.00	80.83
1947	12	68	60	128	82.87	81.50	82.23	29	69	98	79.80	83.50	82.41
1946	13	4	13	17	81.00	83.33	82.75	11	6	17	84.50	82.00	83.67
1945	14	17	9	26	90.00	91.50	90.50	17	11	28	90.33	83.50	87.60
1944	15	13	-	13	86.67	-	86.67	-	-	-	-	-	-
1943	16	-	-	-	-	-	-	6	-	6	83.00	-	83.00
1942	17	-	-	-	-	-	-	-	-	-	-	-	-
1941	18	4	-	4	82.00	-	82.00	-	6	6	-	83.00	83.00
Total %oo		558	442	1000				451	549	1000			
Serial Numbers													
Number of Samples		2						2					
Number of Fish Aged		131	103	234				79	96	175			
Mean Age		7.83	7.59	7.73				7.97	7.97	7.99			
Mean Weight (Kg)													
Tot. Wt. Landed (Tons)		836						2					
Estimated No. Landed													
Hook Size													
Range of Depths													

(cont'd.)

- 1) The length frequencies of these samples are given in Table 11; the age/length keys are given in Table 31.

TABLE 24 NORWAY - 1959
(cont'd.)AGE FREQUENCIES - COD¹⁾

by E. Bratberg

Research Catches

Gear		Handline																	
Division		ID																	
Month		April						August											
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length								
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.						
1955	4	7	-	7	48.00	-	48.00	6	12	18	50.00	49.50	49.67						
1954	5	92	92	184	56.38	59.61	58.00	-	12	12	-	61.50	61.50						
1953	6	277	376	653	63.92	65.66	64.92	178	124	302	67.83	67.52	67.71						
1952	7	64	71	135	67.78	69.30	68.58	47	59	106	69.50	74.10	72.05						
1951	8	-	7	7	-	73.00	73.00	30	47	77	76.40	78.75	77.85						
1950	9	-	7	7	-	81.00	81.00	107	118	225	77.78	77.75	77.76						
1949	10	7	-	7	74.00	-	74.00	24	30	54	80.33	79.20	79.62						
1948	11	-	-	-	-	-	-	18	-	18	79.25	-	79.25						
1947	12	-	-	-	-	-	-	83	36	119	77.07	84.83	79.40						
1946	13	-	-	-	-	-	-	30	12	42	78.40	73.00	76.86						
1945	14	-	-	-	-	-	-	6	24	30	80.00	87.00	85.60						
Total %oo		447	553	1000	/			529	474	1003	/								
Serial Numbers																			
Number of Samples		1												1					
Number of Fish Aged		63	78	141										89	80	169			
Mean Age		5.97	6.03	6.00										8.57	8.27	8.43			
Mean Weight (Kg)																			
Tot. Wt. Landed (Tons)		30												198					
Estimated No. Landed																			
Hook Size																			
Range of Depths																			

(cont'd.)

- 1) The length frequencies of these samples are given in Table 11; the age/length keys are given in Table 31.

TABLE 24 NORWAY - 1959
(cont'd.)AGE FREQUENCIES - COD¹⁾

by E. Bratberg

Research Catches

Gear		Handline						Bottom Longline					
Division		1E						1C					
Month		April						August					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1955	4	33	-	33	47.50	-	47.50	3	3	6	53.00	55.00	54.00
1954	5	33	16	49	55.50	60.00	57.00	3	14	17	65.00	60.80	61.50
1953	6	213	295	508	64.61	65.28	65.00	82	63	145	65.97	67.56	66.66
1952	7	98	115	213	69.17	72.14	70.77	36	19	55	69.00	67.14	68.35
1951	8	-	115	115	-	73.71	73.71	16	30	46	70.83	76.73	74.71
1950	9	16	66	82	81.00	84.25	83.60	88	74	162	75.34	77.04	76.12
1949	10	-	-	-	-	-	-	11	14	25	75.00	81.20	78.44
1948	11	-	-	-	-	-	-	47	33	80	77.47	81.33	79.07
1947	12	-	-	-	-	-	-	123	137	260	77.71	81.40	79.65
1946	13	-	-	-	-	-	-	55	49	104	78.85	81.50	80.10
1945	14	-	-	-	-	-	-	22	16	38	78.62	90.83	83.86
1944	15	-	-	-	-	-	-	14	8	22	80.80	89.67	84.12
1943	16	-	-	-	-	-	-	8	8	16	91.00	85.00	88.00
1942	17	-	-	-	-	-	-	16	3	19	81.00	89.00	82.14
1941	18	-	-	-	-	-	-	-	6	6	-	95.00	95.00
Total %oo		393	607	1000				524	477	1001			
Serial Numbers													
Number of Samples													
Number of Fish Aged		24	37	61				191	174	365			
Mean Age		6.12	6.83	6.57				10.37	10.30	10.33			
Mean Weight (Kg)													
Tot. Wt. Landed (Tons)													
Estimated No. Landed													
Hook Size													
Range of Depths													

(cont'd.)

- 1) The length frequencies of these samples are given in Table 11; the age/length keys are given in Table 31.

TABLE 24 NORWAY - 1959
(cont'd.)AGE FREQUENCIES - COD¹⁾

by E. Bratberg

Research Catches

Gear		Bottom Longline											
Division		1D						1E					
Month		July						April					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1955	4	11	16	27	44.00	49.33	47.20	-	-	-	-	-	-
1954	5	22	22	44	59.50	61.50	60.50	9	17	26	53.00	60.60	58.00
1953	6	71	82	153	64.46	65.73	65.14	191	261	452	62.68	65.38	64.22
1952	7	16	22	38	73.00	68.75	70.57	9	113	122	65.00	71.46	71.00
1951	8	11	27	38	81.50	77.80	78.76	17	104	121	78.00	70.17	74.71
1950	9	38	82	120	76.71	83.67	81.45	17	130	147	73.50	76.93	76.53
1949	10	6	33	39	74.00	82.33	81.14	-	17	17	-	91.00	91.00
1948	11	33	16	49	82.33	80.67	81.78	-	17	17	-	85.50	85.50
1947	12	120	55	175	79.77	82.90	80.75	-	70	70	-	82.64	82.64
1946	13	33	22	55	85.17	96.25	89.60	-	9	9	-	86.00	86.00
1945	14	60	33	93	84.64	89.33	86.29	-	9	9	-	84.00	84.00
1944	15	16	11	27	87.67	97.50	91.60	-	9	9	-	83.00	83.00
1943	16	22	27	49	79.75	88.60	84.67	-	-	-	-	-	-
1942	17	22	27	49	90.00	92.40	91.33	-	-	-	-	-	-
1941	18	11	-	11	90.00	-	90.00	-	-	-	-	-	-
1940	19	-	11	11	-	110.00	110.00	-	-	-	-	-	-
1939	20	11	-	11	96.50	-	96.50	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
1935	24	-	6	6	-	116.00	116.00	-	-	-	-	-	-
1934	25	-	6	6	-	95.00	95.00	-	-	-	-	-	-
Total %oo		503	498	1001				243	756	999			
Serial Numbers													
Number of Samples													
Number of Fish Aged		92	91	183				28	87	115			
Mean Age		11.21	10.50	10.85				6.36	7.95	7.57			
Mean Weight (Kg)													
Tot.Wt. Landed (Tons)													
Estimated No. Landed													
Hook Size													
Range of Depths													

(cont'd.)

1) The length frequencies of these samples are given in Table 11; the age/length keys are given in Table 31.

TABLE 24 NORWAY - 1959
(cont'd.)AGE FREQUENCIES - COD¹⁾

by E. Bratberg

Research Catches

Gear		Bottom Longline											
Division		1E						1F					
Month		July						August					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1954	5	10	-	10	61.00	-	61.00	8	-	8	53.00	-	53.00
1953	6	42	42	84	64.00	63.50	63.75	41	57	98	64.00	62.28	63.00
1952	7	10	21	31	59.00	66.50	64.00	57	73	130	66.00	68.55	67.44
1951	8	10	52	62	73.00	72.20	72.33	33	65	98	76.00	70.25	72.17
1950	9	31	52	83	82.33	81.60	81.87	187	155	342	74.09	75.16	74.57
1949	10	21	31	52	84.00	80.00	81.60	24	8	32	79.00	78.00	78.75
1948	11	52	31	83	73.60	80.67	76.25	16	16	32	75.00	76.00	75.50
1947	12	125	208	333	79.00	82.75	81.34	106	89	195	73.31	74.91	74.04
1946	13	42	52	94	78.75	83.80	81.55	8	24	32	78.00	73.00	74.25
1945	14	42	21	63	80.25	83.00	81.17	-	24	24	-	87.00	87.00
1944	15	10	-	10	95.00	-	95.00	8	-	8	72.00	-	72.00
1943	16	10	10	20	85.00	91.00	88.00	-	-	-	-	-	-
1942	17	10	31	41	88.00	107.67	102.75	-	-	-	-	-	-
1941	18	-	-	-	-	-	-	-	-	-	-	-	-
1940	19	-	10	10	-	81.00	81.00	-	-	-	-	-	-
1939	20	10	10	20	108.00	108.00	108.00	-	-	-	-	-	-
Total %oo		425	571	996	/			488	511	999	/		
Serial Numbers													
Number of Samples		1						1					
Number of Fish Aged		41	55	96				60 63 123					
Mean Age		11.37	11.36	11.36				9.32 9.29 9.30					
Mean Weight (Kg)													
Tot. Wt. Landed (Tons)		11											
Estimated No. Landed													
Hook Size													
Range of Depths													

1) The length frequencies of these samples are given in Table 11; the age/length keys are given in Table 31.

TABLE 25 PORTUGAL - 1959 AGE FREQUENCIES - COD¹⁾ by Mario J. Ruiivo
by sexes, with mean length at each age Glicinia V. Quartin

OTTER TRAWLERS - Commercial Catches before Discarding

Division		1D						1D					
Month		April						May					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1956	3	5	-	5	43.0	-	43.0	-	-	-	-	-	-
1955	4	25	30	55	46.8	47.7	47.3	10	10	20	47.0	46.0	46.5
1954	5	30	65	95	55.2	57.8	56.5	35	50	85	55.3	57.6	56.4
1953	6	337	281	618	64.3	63.3	63.8	362	266	628	63.8	64.9	64.3
1952	7	96	96	192	69.8	69.1	69.5	76	55	131	69.1	72.2	70.6
1951	8	20	-	20	71.3	-	71.3	15	50	65	72.0	74.2	73.2
1950	9	10	5	15	75.5	62.0	68.7	15	30	45	74.3	76.3	75.3
1949	10	-	-	-	-	-	-	5	-	5	75.0	-	75.0
1948	11	-	-	-	-	-	-	-	5	5	-	71.0	71.0
1947	12	-	-	-	-	-	-	15	-	15	70.0	-	70.0
Total %oo		523	477	1000	/			533	466	999	/		
Serial Numbers		1,2						4,5					
Number of Samples		2						2					
Number of Fish Aged		199						199					
Mean Age		6.5						5.9					
Mean Weight (Kg)													
Total Wt. Landed (Tons)													
Estimated Number Landed													
Mesh Size (mm)		117						117					
Range of Depths (fm)		33-36						33-35					

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12;
the age/length frequencies are given in Table 32.

TABLE 25 PORTUGAL - 1959
(cont'd.)AGE FREQUENCIES - COD¹⁾
by sexes, with mean length at each ageby Mario J. Huiwo
Glicinia V. Quartin

OTTER TRAWLERS - Commercial Catches before Discarding

Division		1E						4W north					
Month		May						March					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1956	3	10	13	23	40.5	39.4	39.9	-	-	-	-	-	-
1955	4	30	40	70	45.8	44.8	45.3	23	40	63	46.5	46.3	46.4
1954	5	20	28	48	53.1	52.4	52.7	147	123	270	49.0	50.8	49.9
1953	6	220	179	399	60.6	59.2	59.9	157	130	287	55.1	56.0	55.5
1952	7	58	40	98	66.8	64.2	65.5	50	83	133	61.1	58.2	59.6
1951	8	53	35	88	72.7	73.5	73.1	40	27	67	64.4	63.5	63.6
1950	9	58	68	126	76.8	77.2	77.0	37	37	74	68.4	76.7	72.5
1949	10	8	10	18	76.0	79.0	77.5	23	23	46	71.8	71.2	71.5
1948	11	15	10	25	81.3	76.5	78.9	17	13	30	73.6	74.0	73.8
1947	12	30	40	70	77.3	83.4	80.3	7	17	24	88.0	84.0	86.0
1946	13	3	13	16	80.0	82.4	81.2	-	-	-	-	-	-
1945	14	10	5	15	85.0	86.5	85.7	3	-	3	88.0	-	88.0
1944	15	3	-	3	77.0	-	77.0	-	-	-	-	-	-
1943	16	-	-	-	-	-	-	-	3	3	-	89.0	89.0
Total %oo		518	481	999	/			504	496	1000	/		
Serial Numbers		7,13,15,16						12,13,14					
Number of Samples		4						3					
Number of Fish Aged		396						300					
Mean Age		7.3						6.6					
Mean Weight (Kg)													
Total Wt. Landed (Tons)													
Estimated Number Landed													
Mesh Size (mm)		117						117					
Range of Depths (fm)		116-167						85-120					

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age/length frequencies are given in Table 32.

TABLE 25 PORTUGAL - 1959
(cont'd.)AGE FREQUENCIES - COD¹⁾
by sexes, with mean length at each ageby Mario J. Ruivo
Glicinia V. Quartin

OTTER TRAWLERS - Commercial Catches before Discarding

Division		4W south						4W south					
Month		February						March					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1956	3	10	-	10	52.0	-	52.0	10	-	10	39.0	-	39.0
1955	4	170	40	210	48.9	37.5	43.2	73	85	158	48.2	46.9	47.5
1954	5	150	190	340	52.3	52.6	52.5	120	100	220	51.0	52.0	51.5
1953	6	80	100	180	58.5	60.4	59.4	115	115	230	56.0	58.0	57.0
1952	7	90	40	130	59.8	63.8	61.8	65	63	128	58.2	58.2	58.1
1951	8	20	10	30	67.0	55.0	61.0	33	53	85	63.0	64.3	63.6
1950	9	40	30	70	63.8	68.0	65.9	23	53	75	71.3	70.9	71.1
1949	10	10	-	10	63.0	-	63.0	15	20	35	65.2	68.6	66.9
1948	11	-	10	10	-	67.0	67.0	13	13	25	77.8	77.4	77.6
1947	12	-	10	10	-	61.0	61.0	8	10	18	81.7	75.3	78.5
1946	13	-	-	-	-	-	-	3	5	8	75.0	100.0	87.5
1945	14	-	-	-	-	-	-	3	-	3	96.0	-	96.0
1944	15	-	-	-	-	-	-	-	3	3	-	88.0	88.0
1943	16	-	-	-	-	-	-	-	-	-	-	-	-
1942	17	-	-	-	-	-	-	3	-	3	103.0	-	103.0
1941	18	-	-	-	-	-	-	-	-	-	-	-	-
1940	19	-	-	-	-	-	-	-	-	-	-	-	-
1939	20	-	-	-	-	-	-	3	-	3	-	-	-
Total %oo		570	430	1000				487	520	1004			
Serial Numbers								3,6,8,10					
Number of Samples								4					
Number of Fish Aged		100						400					
Mean Age		5.8						6.5					
Mean Weight (Kg)													
Total Wt. Landed (Tons)													
Estimated Number Landed													
Mesh Size (mm)		117						117					
Range of Depths (fm)		105						50-140					

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age/length frequencies are given in Table 32.

TABLE 25 PORTUGAL - 1959
(cont'd.)

AGE FREQUENCIES - COD¹⁾
by sexes, with mean length at each age

by Mario J. Ruivo
Glicinia V. Quartin

DORY VESSELS - Commercial Catches before Discarding

Division		IB						IB					
Month		June						July					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1955	4	13	20	33	48.5	48.5	48.5	80	83	163	48.3	45.8	47.0
1954	5	60	77	137	56.2	55.1	55.6	113	83	196	54.8	55.8	55.3
1953	6	338	268	606	62.6	62.8	62.7	193	193	386	61.7	63.1	62.4
1952	7	30	34	64	66.1	66.9	66.5	27	40	67	67.1	69.8	68.4
1951	8	13	30	43	76.8	73.8	75.3	17	33	50	75.2	75.9	75.5
1950	9	27	37	64	78.1	78.5	78.3	7	23	30	76.5	78.6	77.5
1949	10	-	3	3	-	80.0	80.0	7	3	10	80.5	75.0	77.7
1948	11	13	7	20	82.3	81.5	81.9	7	10	17	82.0	84.3	83.1
1947	12	-	13	13	-	84.8	84.8	20	27	47	73.7	83.4	78.5
1946	13	3	3	6	94.0	77.0	85.5	-	10	10	-	82.0	82.0
1945	14	3	-	3	77.0	-	77.0	7	-	7	85.5	-	85.5
1944	15	-	3	3	-	100.0	100.0	-	-	-	-	-	-
1943	16	-	-	-	-	-	-	-	10	10	-	103.0	103.0
1942	17	-	-	-	-	-	-	-	7	7	-	92.0	92.0
1941	18	-	3	3	-	87.0	87.0	-	-	-	-	-	-
Total %oo		500	498	998	/			478	522	1000	/		
Serial Numbers		30,32,34						37,38,40					
Number of Samples		3						3					
Number of Fish Aged		299						300					
Mean Age		6.5						6.5					
Mean Weight (Kg)													
Total wt. Landed (Tons)													
Estimated Number Landed													
Hook Size		14½						14½					
Range of Depths (fm)		30-40						25-30					

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age/length frequencies are given in Table 32.

TABLE 25 PORTUGAL - 1949
(cont'd.)AGE FREQUENCIES - COD¹⁾
by sexes, with mean length at each ageby Mario J. Ruivo
Glicinia V. Quartin

DORY VESSELS - Commercial Catches before Discarding

Division		IB						IC					
Month		August						June					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1955	4	37	43	80	49.4	48.5	49.0	18	25	43	46.7	45.3	46.0
1954	5	90	107	197	58.1	58.6	58.4	35	55	90	56.6	55.8	56.2
1953	6	243	313	556	65.6	66.4	66.0	163	173	336	64.0	64.2	64.1
1952	7	13	30	43	65.5	71.3	68.4	28	43	71	68.9	68.9	68.9
1951	8	3	13	16	70.0	76.3	73.2	23	25	48	72.9	76.0	74.4
1950	9	27	20	47	79.8	82.5	81.2	55	43	98	75.0	76.9	75.9
1949	10	7	-	7	82.0	-	82.0	8	18	26	78.7	81.7	80.2
1948	11	7	3	10	84.5	81.0	82.8	33	18	51	79.3	80.4	79.8
1947	12	3	13	16	80.0	90.3	85.2	58	68	126	77.9	83.5	80.7
1946	13	-	7	7	-	84.5	84.5	35	20	55	80.5	89.5	85.0
1945	14	3	7	10	86.0	86.0	86.0	3	8	11	86.0	83.3	84.6
1944	15	3	-	3	90.0	-	90.0	18	-	18	81.7	-	81.7
1943	16	-	-	-	-	-	-	10	-	10	87.5	-	87.5
1942	17	-	-	-	-	-	-	5	13	18	88.1	89.8	88.9
1941	18	-	-	-	-	-	-	-	3	3	-	82.0	82.0
1940	19	-	3	3	-	96.0	96.0	-	-	-	-	-	-
1939	20	-	-	-	-	-	-	-	-	-	-	-	-
1938	21	-	-	-	-	-	-	-	3	3	-	120.0	120.0
1937	22	-	-	-	-	-	-	-	-	-	-	-	-
1936	23	-	3	3	-	121.0	121.0	-	-	-	-	-	-
Total %oo		436	562	998				492	515	1007			
Serial Numbers		50,52,53						27,28,35,36					
Number of Samples		3						4					
Number of Fish Aged		300						399					
Mean Age		6.3						8.4					
Mean Weight (Kg)													
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size		14½						14½					
Range of Depths (fm)		15-30						40-65					

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age/length frequencies are given in Table 32.

TABLE 25 PORTUGAL - 1959
(cont'd.)AGE FREQUENCIES - COD¹⁾
by sexes, with mean length at each ageby Mario J. Huivo
Glicinia V. Quartin

DORY VESSELS - Commercial Catches before Discarding

Division		IC						IC					
Month		July						August					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1956	3	-	7	7	-	44.0	44.0	-	-	-	-	-	-
1955	4	67	20	87	48.3	49.0	48.7	86	66	152	47.4	49.9	48.8
1954	5	67	34	101	52.7	55.6	54.2	86	131	217	57.2	56.4	56.9
1953	6	114	134	248	63.4	64.6	64.0	177	147	324	63.7	67.0	65.4
1952	7	20	60	80	67.3	69.3	68.3	40	40	80	69.4	68.1	68.7
1951	8	27	20	47	76.8	72.0	74.4	15	25	40	74.0	74.6	74.3
1950	9	34	47	81	70.6	77.0	73.8	15	20	35	73.7	79.0	76.3
1949	10	13	20	33	60.5	87.3	73.9	25	20	45	76.8	75.5	76.2
1948	11	27	13	40	76.3	79.0	77.7	5	10	15	80.0	84.0	82.0
1947	12	107	74	181	79.3	82.6	81.0	51	10	61	77.5	99.0	88.3
1946	13	20	20	40	79.0	92.0	85.5	5	5	10	73.0	106.0	89.5
1945	14	7	-	7	79.0	-	79.0	5	10	15	70.0	81.0	75.5
1944	15	13	7	20	82.0	85.0	83.5	-	-	-	-	-	-
1943	16	13	7	20	85.0	83.0	84.0	-	-	-	-	-	-
1942	17	7	-	7	82.0	-	82.0	5	-	5	82.0	-	82.0
Total %oo		536	463	999	/			515	484	999	/		
Serial Numbers		41,42						55,57					
Number of Samples		2						2					
Number of Fish Aged		149						198					
Mean Age		8.3						6.6					
Mean Weight (Kg)													
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size		14½						14½					
Range of Depths (fm)		45-50						45-50					

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12; the age/length frequencies are given in Table 32.

TABLE 25 PORTUGAL - 1959
(cont'd.)AGE FREQUENCIES - COD¹⁾
by sexes, with mean length at each ageby Mario J. Ruivo
Glicinia V. Quartin

DORY VESSELS - Commercial Catches before Discarding

Division		ID						ID					
Month		June						June					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1954	5	-	-	-	-	-	-	75	55	130	57.5	59.3	58.4
1953	6	20	17	37	64.2	65.4	64.8	290	285	575	64.6	66.3	65.4
1952	7	10	17	27	68.7	74.0	71.3	50	35	85	68.3	71.4	69.8
1951	8	34	37	71	74.4	76.0	75.2	35	45	80	72.7	73.3	73.0
1950	9	127	87	214	75.2	77.5	76.3	25	40	65	74.2	84.5	79.3
1949	10	13	20	33	77.3	78.5	77.9	10	-	10	82.0	-	82.0
1948	11	37	77	114	75.0	81.0	78.0	-	5	5	-	80.0	80.0
1947	12	174	154	328	80.0	80.4	80.2	15	25	40	79.3	81.8	80.5
1946	13	34	34	68	78.0	84.0	81.0	-	-	-	-	-	-
1945	14	13	47	60	79.3	84.2	81.7	5	5	10	80.0	90.0	85.0
1944	15	-	20	20	-	86.5	86.5	-	-	-	-	-	-
1943	16	7	20	27	84.5	87.7	86.1	-	-	-	-	-	-
1942	17	-	3	3	-	90.0	90.0	-	-	-	-	-	-
Total %oo		469	533	1002				505	495	1000			
Serial Numbers		20,21,22						23,25					
Number of Samples		3						2					
Number of Fish Aged		299						200					
Mean Age		10.9						6.7					
Mean Weight (Kg)													
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size		14½						14½					
Range of Depths (fm)		25-145						25-27					

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age/length frequencies are given in Table 32.

TABLE 25 PORTUGAL - 1959
(cont'd.)

AGE FREQUENCIES - COD¹⁾
by sexes, with mean length at each age

by Mario J. Ruivo
Glicinia V. Quartin

DOHY VESSELS - Commercial Catches before Discarding

Division		1D						1D					
Month		July						August					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1955	4	7	10	17	52.0	49.7	50.8	-	-	-	-	-	-
1954	5	40	67	107	59.4	58.2	58.8	30	20	50	60.0	66.0	63.0
1953	6	84	114	198	65.7	66.8	66.2	242	111	353	68.0	68.6	68.3
1952	7	40	70	110	71.3	73.0	72.1	91	81	172	70.8	72.6	71.7
1951	8	57	13	70	74.9	75.3	75.1	30	71	101	76.3	69.7	73.0
1950	9	54	97	151	76.2	79.5	77.8	91	61	152	78.2	83.3	80.7
1949	10	27	23	50	81.3	83.7	82.5	-	10	10	-	84.0	84.0
1948	11	17	33	50	79.6	85.4	82.5	20	10	30	74.5	77.0	75.7
1947	12	57	97	154	85.7	85.9	85.8	61	30	91	78.8	84.0	81.4
1946	13	44	17	61	85.0	86.6	85.8	10	-	10	77.0	-	77.0
1945	14	10	7	17	86.3	85.0	85.6	-	-	-	-	-	-
1944	15	3	3	6	105.0	87.0	96.0	20	-	20	77.0	-	77.0
1943	16	3	-	3	93.0	-	93.0	10	-	10	86.0	-	86.0
1942	17	-	3	3	-	107.0	107.0	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
1938	21	3	-	3	113.0	-	113.0	-	-	-	-	-	-
Total %oo		446	554	1000	/			605	394	999	/		
Serial Numbers		43,44,46						59					
Number of Samples		3						1					
Number of Fish Aged		299						99					
Mean Age		8.7						7.9					
Mean Weight (Kg)													
Total Wt. Landed (Tons)													
Estimated Number Landed													
Hook Size		14½						14½					
Range of Depths (fm)		27-30						26					

1) The length frequencies of these samples are given in Table 12; the age/length frequencies are given in Table 32.

TABLE 26 UNION OF SOVIET SOCIALIST
REPUBLICS - 1959

AGE FREQUENCIES - COD

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division		1B	1C			1D			
Month		May	April	May	November	April	May	August	September
Year-Class	Age	F R E Q U E N C I E S in ‰							
1957	2	-	-	-	-	3	-	2	-
1956	3	-	50	74	-	98	20	164	-
1955	4	27	207	234	44	132	45	160	23
1954	5	167	277	338	148	274	253	138	140
1953	6	367	380	308	398	412	494	270	328
1952	7	90	37	30	293	61	108	62	140
1951	8	80	20	10	40	11	32	63	97
1950	9	46	13	-	57	8	23	34	100
1949	10	20	7	-	17	-	12	15	78
1948	11	33	3	-	-	-	7	36	29
1947	12	70	7	3	3	-	5	26	39
1946	13	27	3	3	-	-	-	13	13
1945	14	23	-	-	-	-	2	15	10
1944	15	7	-	-	-	-	-	-	-
1943	16	23	-	-	-	-	-	2	3
1942	17	-	-	-	-	-	-	-	-
1941	18	10	-	-	-	-	-	-	-
1940	19	10	-	-	-	-	-	-	-
Total ‰		1000	1004	1000	1000	999	1001	1000	1000
Number of Fish Aged		300	300	299	297	890	601	503	308
Mean Weight (Kg)		3.22	1.90	1.81	3.65	1.99	2.70	2.79	4.03
Total Wt. Landed (Tons)									

(cont'd.)

TABLE 26 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1959

AGE FREQUENCIES - COD

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division		1E			2I	3M	3O	3P
Month		May	June	August	April	September	April	May
Year-Class	Age	F R E Q U E N C I E S in ‰						
1957	2	-	-	73	-	23	-	-
1956	3	3	-	921	3	30	23	103
1955	4	6	-	6	97	162	234	457
1954	5	17	83	-	124	594	187	140
1953	6	67	172	-	211	151	247	130
1952	7	73	126	-	229	13	195	97
1951	8	137	210	-	111	10	50	37
1950	9	153	131	-	81	7	37	23
1949	10	107	63	-	60	3	17	13
1948	11	157	102	-	30	-	10	-
1947	12	150	95	-	27	-	-	-
1946	13	53	10	-	17	-	-	-
1945	14	37	-	-	7	-	-	-
1944	15	20	-	-	3	-	-	-
1943	16	17	4	-	-	7	-	-
1942	17	3	-	-	-	-	-	-
1941	18	-	-	-	-	-	-	-
1940	19	-	4	-	-	-	-	-
Total ‰		1000	1000	1000	1000	1000	1000	1000
Number of Fish Aged		300	300	300	298	298	299	300
Mean Weight (Kg)		3.59	3.53	0.47	1.32	1.36	1.99	1.56
Total Wt. Landed (Tons)								

TABLE 27 DENMARK (Faroes) - 1959

AGE/LENGTH KEY - COD¹⁾

by J.S. Joensen

Male	OTTER TRAWL - Commercial Catches													1D and 1E	May	
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	Total		
Age	4	5	6	7	8	9	10	11	12	13	14	15	16			
3-cm group	ACTUAL NUMBER OF OTOLITHS READ															
48-50	4	1	1	-	-	-	-	-	-	-	-	-	-	6		
51-53	4	2	6	1	-	-	-	-	-	-	-	-	-	13		
54-56	1	7	17	1	-	-	-	-	-	-	-	-	-	26		
57-59	-	8	45	7	-	1	-	-	-	-	-	-	-	61		
60-62	-	4	101	7	2	-	1	-	-	-	-	-	-	115		
63-65	-	-	111	16	2	5	-	-	-	-	-	-	-	134		
66-68	-	-	76	24	6	5	1	-	-	-	-	-	-	112		
69-71	-	-	31	22	7	12	1	-	-	-	-	-	-	73		
72-74	-	-	9	11	11	25	1	1	4	-	1	1	-	64		
75-77	-	-	2	5	7	18	2	-	4	-	-	-	-	38		
78-80	-	-	-	3	6	17	1	-	8	2	-	-	1	38		
81-83	-	-	-	-	2	10	2	-	4	-	1	1	-	20		
84-86	-	-	-	-	1	3	-	1	3	2	1	1	-	12		
87-89	-	-	-	-	-	3	1	-	1	-	1	-	-	6		
90-92	-	-	-	-	-	1	1	-	-	-	-	-	-	2		
93-95	-	-	-	-	-	-	-	-	1	-	-	-	-	1		
96-98	-	-	-	-	-	-	1	-	-	-	-	-	-	1		
Total Number	9	22	399	97	44	100	12	2	25	4	4	3	1	722		
Mean Length	51.0	56.6	63.3	67.3	72.7	75.2	78.5	79.0	79.7	82.0	82.3	80.0	79.0	66.9		

(cont'd.)

1) The length frequencies of these samples are given in Table 5; the age frequencies are given in Table 17.

TABLE 27 DENMARK (Faroes) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by J.S. Joensen

Female	OTTER TRAWL - Commercial Catches															1D and 1E	May	Total
Year-Class	1955	'54	'53	'52	'51	'50	'49	'48	'47	'46	'45	'44	'43	'42	'41	-	'39	
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	-	20	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ																	
48-50	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
51-53	8	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
54-56	2	4	11	-	-	1	-	-	-	-	-	-	-	-	-	-	-	18
57-59	1	3	40	2	1	-	-	-	-	-	-	-	-	-	-	-	-	47
60-62	-	-	90	7	1	1	-	-	-	-	-	-	-	-	-	-	-	99
63-65	-	1	77	23	1	4	-	-	-	-	-	-	-	-	-	-	-	106
66-68	-	-	74	23	12	8	-	-	-	-	-	-	-	-	-	-	-	117
69-71	-	-	54	20	18	12	-	1	1	-	-	-	-	-	-	-	-	106
72-74	-	-	19	17	23	20	2	1	5	-	-	-	-	-	-	-	-	87
75-77	-	-	4	7	12	24	1	1	5	2	-	-	-	-	-	-	-	56
78-80	-	-	1	5	14	31	3	4	11	-	1	-	-	-	-	-	-	70
81-83	-	-	-	2	3	25	1	3	10	-	-	1	-	1	-	-	-	46
84-86	-	-	-	-	1	14	2	3	6	-	-	-	1	-	-	-	-	27
87-89	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	6
90-92	-	-	-	-	-	1	3	2	4	1	-	-	1	-	-	-	-	12
93-95	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	2
96-98	-	-	-	-	-	2	1	-	1	-	-	-	-	-	-	-	-	4
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
105-107	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	2
108-110	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
141	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Total Number	17	8	380	106	86	149	13	15	45	4	1	3	2	1	1	-	1	832
Mean Length	51.6	57.5	64.1	68.8	73.0	77.4	83.2	81.2	81.4	87.2	79.0	98.0	88.0	82.0	141.0	-106.0	-	69.7

1) The length frequencies of these samples are given in Table 5; the age frequencies are given in Table 17.

(cont'd.)

TABLE 27 DENMARK (Faroes) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by J.S. Joensen

Male	HANDLINE - Commercial Catches										1C and 1E		August			Total
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1847	1946	1945	1944	1943	1942	
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ															
39-41	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
42-44	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
45-47	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	4
48-50	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	3
51-53	-	8	3	2	-	-	-	-	-	-	-	-	-	-	-	13
54-56	-	3	4	3	-	-	-	-	-	-	-	-	-	-	-	10
57-59	-	1	5	11	-	-	-	-	-	-	-	-	-	-	-	17
60-62	-	-	7	29	1	-	1	-	-	-	-	-	-	-	-	38
63-65	-	-	1	40	6	-	-	-	-	-	-	-	-	-	-	47
66-68	-	-	-	38	5	5	5	-	-	-	-	-	-	-	-	53
69-71	-	-	1	28	7	4	10	-	-	7	-	1	-	-	-	58
72-74	-	-	-	15	4	3	16	2	9	9	1	-	-	-	-	59
75-77	-	-	-	3	9	8	21	1	3	17	2	-	-	2	-	66
78-80	-	-	-	1	2	5	14	4	6	26	5	4	2	1	-	70
81-83	-	-	-	-	-	2	7	3	6	14	3	4	1	3	-	43
84-86	-	-	-	-	-	1	3	1	1	12	2	2	2	1	-	25
87-89	-	-	-	-	-	1	3	-	1	6	1	1	2	-	1	16
90-92	-	-	-	-	-	-	-	-	-	1	2	1	1	1	-	6
93-95	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1	3
96-98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
99-101	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Total Number	4	17	22	170	34	29	80	12	26	92	16	15	8	8	2	535
Mean Length	42.3	51.5	58.0	65.6	70.7	75.0	75.7	80.3	77.8	79.1	81.6	83.3	84.6	81.6	91.0	71.7

(cont'd.)

- 1) The length frequencies of these samples are given in Table 5; the age frequencies are given in Table 17.

TABLE 27 DENMARK (Faroes) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by J.S. Joensen

Female	HANDLINE - Commercial Catches														IC and IE	August	Total
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941		
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
3-cm group	ACTUAL NUMBER OF OTOLITHS HEAD																
45-47	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
48-50	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
51-53	6	2	-	-	-	-	-	-	-	-	-	-	-	-	-	8	
54-56	1	6	1	-	-	-	-	-	-	-	-	-	-	-	-	8	
57-59	-	4	8	-	-	-	-	-	-	-	-	-	-	-	-	12	
60-62	-	7	13	2	-	-	-	-	-	-	-	-	-	-	-	22	
63-65	-	3	36	2	-	-	-	-	-	-	-	-	-	-	-	41	
66-68	-	-	26	3	4	1	-	-	-	-	-	-	-	-	-	34	
69-71	-	-	30	10	4	7	-	1	1	-	-	-	-	-	-	53	
72-74	-	-	19	12	6	11	-	3	5	-	1	1	-	-	-	58	
75-77	-	-	12	7	9	22	1	1	14	-	3	-	-	-	-	69	
78-80	-	-	1	3	10	22	4	3	11	3	1	-	-	-	-	58	
81-83	-	-	-	3	5	14	2	5	24	-	-	-	-	-	-	53	
84-86	-	-	1	3	1	7	3	3	9	-	1	-	-	2	1	31	
87-89	-	-	-	-	2	3	1	2	7	-	1	-	-	-	-	16	
90-92	-	-	-	-	-	-	-	2	6	-	-	-	1	1	-	10	
93-95	-	-	-	-	-	1	-	-	1	-	-	-	-	-	1	3	
96-98	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	2	
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
105-107	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	
108-110	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	
Total Number	11	22	147	45	41	89	11	20	79	4	8	1	1	3	2	484	
Mean Length	50.6	58.4	67.5	73.3	76.4	78.3	81.7	81.3	81.8	83.5	82.4	73.0	91.0	87.0	88.0	73.9	

1) The length frequencies of these samples are given in Table 5; the age frequencies are given in Table 17.

TABLE 28 DENMARK (Greenland) - 1959

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

East Greenland - Research Catches		Serial No. 2													
Location	65°48'N, 37°01'W														
Gear	Handline														
Month	August														
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	-	1944	1943	1942	Total
Age	3	4	5	6	7	8	9	10	11	12	-	15	16	17	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ														
39-41	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2
42-44	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
45-47	-	3	-	-	-	-	-	-	-	-	-	-	-	-	3
48-50	-	8	-	1	-	-	-	-	-	-	-	-	-	-	9
51-53	-	3	2	-	-	-	-	-	-	-	-	-	-	-	5
54-56	-	3	5	-	-	-	-	-	-	-	-	-	-	-	8
57-59	-	-	4	1	2	-	-	-	-	-	-	-	-	-	7
60-62	-	-	4	5	-	1	-	-	-	-	-	-	-	-	10
63-65	-	-	6	8	3	1	1	-	-	-	-	-	-	-	19
66-68	-	-	1	4	3	-	1	-	-	-	-	-	-	-	9
69-71	-	-	1	4	2	1	2	-	-	-	-	-	-	-	10
72-74	-	-	-	1	1	1	2	-	-	-	-	-	-	-	5
75-77	-	-	-	-	3	2	2	1	-	-	-	-	-	-	8
78-80	-	-	-	-	2	-	2	-	-	-	-	-	-	-	4
81-83	-	-	-	-	-	-	1	2	-	-	-	-	-	-	3
84-86	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
87-89	-	-	-	-	-	-	1	1	-	1	-	-	-	-	3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
105-107	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Total Number	1	19	23	24	16	6	13	4	-	1	-	1	-	1	109
Mean Length															64.5

(cont'd.)

- 1) The length frequencies of this sample are given in Table 6; the age frequencies are given in Table 18.

TABLE 28 DENMARK (Greenland) - 1959
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

East Greenland - Research Catches		Serial No. 1							
Location	65°49'N, 36°59'W								
Gear	Handline								
Month	September								
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	Total
Age	3	4	5	6	7	8	9	10	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ								
33-35	1	-	-	-	-	-	-	-	1
36-38	3	-	-	-	-	-	-	-	3
39-41	5	-	-	-	-	-	-	-	5
42-44	7	-	-	-	-	-	-	-	7
45-47	-	3	-	-	-	-	-	-	3
48-50	-	1	-	-	-	-	-	-	1
51-53	-	-	2	-	-	-	-	-	2
54-56	-	-	2	-	-	-	-	-	2
57-59	-	1	6	2	-	-	-	-	9
60-62	-	-	-	1	-	-	-	-	1
63-65	-	-	2	2	3	-	-	-	7
66-68	-	-	-	1	3	1	1	-	6
69-71	-	-	-	3	-	1	1	-	5
72-74	-	-	-	-	1	3	2	-	6
75-77	-	-	-	-	-	1	-	-	1
78-80	-	-	-	-	-	1	3	1	5
81-83	-	-	-	-	-	-	-	-	-
84-86	-	-	-	-	-	-	-	-	-
87-89	-	-	-	-	-	-	1	-	1
Total Number	16	5	12	9	7	7	8	1	65
Mean Length									59.0

1) The length frequencies of this sample are given in Table 6 ; the age frequencies are given in Table 18.

(cont'd.)

TABLE 28 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

East Greenland - Research Catches		Serial No. 3											
Location	65°35'N, 37°35'W												
Gear	Handline												
Month	September												
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	-	1944	Total
Age	3	4	5	6	7	8	9	10	11	12	-	15	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ												
36-38	1	-	-	-	-	-	-	-	-	-	-	-	1
39-41	2	-	-	-	-	-	-	-	-	-	-	-	2
42-44	-	-	-	-	-	-	-	-	-	-	-	-	-
45-47	-	2	-	-	-	-	-	-	-	-	-	-	2
48-50	-	1	-	-	-	-	-	-	-	-	-	-	1
51-53	-	-	2	-	-	-	-	-	-	-	-	-	2
54-56	-	-	3	4	-	-	-	-	-	-	-	-	7
57-59	-	1	8	-	-	-	-	-	-	-	-	-	9
60-62	-	-	8	2	-	-	1	-	-	-	-	-	11
63-65	-	-	11	7	5	1	-	-	-	-	-	-	24
66-68	-	-	3	8	4	2	-	1	-	-	-	-	18
69-71	-	-	1	6	8	7	4	-	-	-	-	-	26
72-74	-	-	1	1	13	3	5	2	-	-	-	-	25
75-77	-	-	1	1	9	9	6	1	-	1	-	-	28
78-80	-	-	-	2	3	12	9	4	-	-	-	-	30
81-83	-	-	-	1	2	4	11	-	-	1	-	-	19
84-86	-	-	-	-	-	2	10	1	-	1	-	-	14
87-89	-	-	-	-	-	2	7	-	-	-	-	-	9
90-92	-	-	-	-	-	-	3	-	-	-	-	-	3
93-95	-	-	-	-	-	-	2	-	-	-	-	-	2
96-98	-	-	-	-	-	-	-	1	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-
126-128	-	-	-	-	-	-	-	-	-	-	-	1	1
Total Number	3	4	38	32	44	42	58	10	-	3	-	1	235
Mean Length													72.5

(cont'd.)

1) The length frequencies of this sample are given in Table 6; the age frequencies are given in Table 18.

TABLE 28 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

East Greenland - Research Catches		Serial No. 4									
Location	65° 35' N, 37° 35' W										
Gear	Handline										
Month	September										
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	Total
Age	3	4	5	6	7	8	9	10	11	12	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ										
36-38	4	-	-	-	-	-	-	-	-	-	4
39-41	3	-	-	-	-	-	-	-	-	-	3
42-44	3	1	-	-	-	-	-	-	-	-	4
45-47	3	1	-	-	-	-	-	-	-	-	4
48-50	-	1	1	-	-	-	-	-	-	-	2
51-53	-	3	1	-	-	-	-	-	-	-	4
54-56	-	1	2	-	-	-	-	-	-	-	3
57-59	-	-	7	-	-	-	-	-	-	-	7
60-62	-	1	8	2	-	-	-	-	-	-	11
63-65	-	-	8	2	-	2	-	-	-	-	12
66-68	-	-	1	5	2	-	-	-	-	-	8
69-71	-	-	-	6	-	1	-	-	-	-	7
72-74	-	-	-	5	6	1	3	-	-	-	15
75-77	-	-	-	-	1	2	5	-	-	-	8
78-80	-	-	-	-	1	1	5	-	-	-	7
81-83	-	-	-	1	1	3	4	-	-	-	9
84-86	-	-	-	-	-	2	1	-	-	1	4
87-89	-	-	-	-	-	1	5	-	1	-	7
90-92	-	-	-	-	-	-	2	-	-	-	2
93-95	-	-	-	-	-	-	2	-	-	-	2
Total Number	13	8	28	21	11	13	27	-	1	1	123
Mean Length											67.4

(cont'd.)

1) The length frequencies of this sample are given in Table 6 ; the age frequencies are given in Table 18.

TABLE 28 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

East Greenland - Research Catches		Serial No. 6																	
Location	63°10'N, 43°13'W																		
Gear	Handline																		
Month	September																		
Year-Class	1955	'54	'53	'52	'51	'50	'49	'48	'47	'46	'45	'44	'43	'42	-	'38	-	'36	Total
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	-	21	-	23	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ																		
39-41	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
42-44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45-47	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
48-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51-53	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
54-56	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
57-59	-	1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
60-62	-	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
63-65	-	-	5	4	1	1	-	-	-	-	-	-	-	-	-	-	-	-	11
66-68	-	-	8	5	2	-	-	-	1	-	-	-	-	-	-	-	-	-	16
69-71	-	1	1	7	8	5	1	-	-	-	-	-	-	-	-	-	-	-	23
72-74	-	-	-	6	7	11	2	-	2	1	-	-	-	-	-	-	-	-	29
75-77	-	-	1	7	7	16	1	-	7	-	-	-	-	-	-	-	-	-	39
78-80	-	-	-	4	3	29	3	3	3	1	2	-	-	-	-	-	-	-	48
81-83	-	-	-	1	2	19	4	1	6	-	1	-	1	-	-	-	-	-	35
84-86	-	-	-	-	2	14	3	1	10	1	1	-	-	3	-	-	-	-	35
87-89	-	-	-	-	-	8	1	1	2	1	3	-	-	2	-	-	-	-	18
90-92	-	-	-	-	-	2	2	-	7	-	1	-	1	6	-	-	-	-	19
93-95	-	-	-	-	-	1	-	-	3	-	2	-	1	3	-	-	-	-	10
96-98	-	-	-	-	-	1	-	-	1	1	-	-	-	5	-	-	-	-	8
99-101	-	-	-	-	-	-	-	-	-	-	2	-	-	2	-	-	-	-	4
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
105-107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
108-110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total Number	2	5	21	38	32	107	17	6	42	5	12	-	3	21	-	1	-	1	313
Mean Length																			78.7

(cont'd.)

1) The length frequencies of this sample are given in Table 6; the age frequencies are given in Table 18.

TABLE 28 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

East Greenland - Research Catches		Serial No. 5																			
Location	63°10'N, 41°04'W																				
Gear	Longline																				
Month	August																				
Year-Class	1954	'53	'52	'51	'50	'49	'48	'47	'46	'45	'44	'43	'42	'41	-	'36	'35	'34	Total		
Age	5	6	7	8	9	10	11	12	13	14	15	16	17	18	-	23	24	25			
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ																				
60-62	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3		
63-65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
66-68	-	2	1	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	6		
69-71	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	3		
72-74	-	1	-	-	3	-	-	3	-	1	-	-	-	-	-	-	-	-	8		
75-77	-	-	2	-	2	-	1	-	-	-	-	-	1	-	-	-	-	-	6		
78-80	-	-	-	-	1	-	2	2	-	-	-	-	-	-	-	-	-	-	5		
81-83	-	-	1	-	2	-	-	5	-	-	-	-	3	-	-	-	-	-	11		
84-86	-	-	-	-	1	-	-	-	1	1	-	-	-	1	-	-	-	-	4		
87-89	-	-	-	-	1	2	1	4	1	1	1	-	3	-	-	-	-	-	14		
90-92	-	-	-	-	2	-	-	1	1	-	2	1	1	-	-	-	-	-	8		
93-95	-	-	-	-	-	-	-	2	-	2	1	1	5	-	-	-	-	-	11		
96-98	-	-	-	-	-	-	-	-	-	1	1	1	5	-	-	1	-	-	9		
99-101	-	-	-	-	-	-	-	-	-	1	-	-	1	2	-	-	1	1	6		
102-104	-	-	-	-	-	-	-	-	-	1	2	-	1	1	-	-	-	-	5		
105-107	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2		
108-110	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	4		
111-113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
114-116	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1		
117-119	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1		
120-122	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2		
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
136	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1		
Total Number	1	3	6	2	15	2	4	18	3	8	7	3	28	6	-	2	1	1	110		
Mean Length																			88.5		

1) The length frequencies of this sample are given in Table 6 ; the age frequencies are given in Table 18.

TABLE 29 DENMARK (Greenland) - 1959

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches

Serial No. 1

Location	LB - Store Hellefiske Bank 67°54'N, 55°10'W					Total
Gear	Handline					
Month	July					
Year-Class	1956	1955	1954	1953	1952	Total
Age	3	4	5	6	7	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ					
42-44	3	3	-	-	-	6
45-47	-	4	-	-	-	4
48-50	-	4	1	-	-	5
51-53	-	-	4	-	-	4
54-56	-	1	1	2	-	4
57-59	-	-	4	4	-	8
60-62	-	-	-	4	-	4
63-65	-	-	2	5	-	7
66-68	-	-	-	4	-	4
69-71	-	-	-	-	-	-
72-74	-	-	-	1	-	1
75-77	-	-	-	-	1	1
Total Number	3	12	12	20	1	48
Mean Length						56.1

(cont'd.)

- 1) The length frequencies of this sample are given in Table 7 ; the age frequencies are given in Table 19.

TABLE 29 DENMARK (Greenland) - 1959
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches

Serial No. 2

Location	IB - Store Hellefiaks Bank 66°54'N, 54°22'W											Total
Gear	Handline											
Month	July											
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	Total
Age	2	3	4	5	6	7	8	9	10	11	12	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ											
27-29	1	-	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-
39-41	-	2	3	-	-	-	-	-	-	-	-	5
42-44	-	1	3	-	-	-	-	-	-	-	-	4
45-47	-	-	8	1	-	-	-	-	-	-	-	9
48-50	-	-	5	5	-	-	-	-	-	-	-	10
51-53	-	-	14	2	-	-	-	-	-	-	-	16
54-56	-	-	4	8	2	-	-	-	-	-	-	14
57-59	-	-	1	13	5	-	-	-	-	-	-	19
60-62	-	-	-	15	20	-	-	-	-	-	-	35
63-65	-	-	-	8	22	2	-	-	-	-	-	32
66-68	-	-	-	1	26	-	-	-	-	-	-	27
69-71	-	-	-	-	19	3	-	-	-	-	-	22
72-74	-	-	-	1	11	-	3	2	-	-	-	17
75-77	-	-	-	-	4	-	2	2	-	1	1	10
78-80	-	-	-	-	-	1	1	3	-	-	-	5
81-83	-	-	-	-	-	-	-	2	-	-	1	3
84-86	-	-	-	-	-	-	1	2	-	-	2	5
87-89	-	-	-	-	-	-	-	1	-	-	1	2
Total Number	1	3	38	54	109	6	7	12	-	1	5	236
Mean Length												62.5

(cont'd.)

- 1) The length frequencies of this sample are given in Table 7 ; the age frequencies are given in Table 19.

TABLE 29 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches

Serial No. 3

Location	IB - Store Hellefiske Bank 66°50'N, 54°40'W					Total
Gear	Handline					
Month	July					
Year-Class	1956	1955	1954	1953	1952	
Age	3	4	5	6	7	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ					
36-38	1	-	-	-	-	1
39-41	-	1	-	-	-	1
42-44	-	3	-	-	-	3
45-47	-	4	-	-	-	4
48-50	-	4	1	-	-	5
51-53	-	13	2	2	-	17
54-56	-	2	4	2	-	8
57-59	-	3	8	2	-	13
60-62	-	-	5	7	-	12
63-65	-	-	2	5	-	7
66-68	-	-	-	2	-	2
69-71	-	-	-	2	1	3
Total Number	1	30	22	22	1	76
Mean Length						55.9

(cont'd.)

- 1) The length frequencies of this sample are given in Table 7 ; the age frequencies are given in Table 19.

TABLE 29 DENMARK (Greenland) - 1959
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches

Serial No. 4

Location	IC - Lille Hellefiske Bank 64° 56' N, 53° 19' W												Total
Gear	Handline												
Month	July												
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ												
33-35	1	-	-	-	-	-	-	-	-	-	-	-	1
36-38	5	2	-	-	-	-	-	-	-	-	-	-	7
39-41	4	4	-	-	-	-	-	-	-	-	-	-	8
42-44	4	3	-	-	-	-	-	-	-	-	-	-	7
45-47	-	3	-	-	-	-	-	-	-	-	-	-	3
48-50	-	4	1	-	-	-	-	-	-	-	-	-	5
51-53	-	2	-	-	-	-	-	-	-	-	-	-	2
54-56	-	-	1	-	-	-	-	-	-	-	-	-	1
57-59	-	-	2	1	-	-	-	-	-	-	-	-	3
60-62	-	-	-	1	-	-	-	-	-	-	-	-	1
63-65	-	-	-	1	1	-	-	-	-	-	-	-	2
66-68	-	-	-	9	-	-	-	-	-	-	-	-	9
69-71	-	-	-	-	-	-	-	-	-	-	-	-	-
72-74	-	-	-	1	1	1	-	-	-	-	-	-	3
75-77	-	-	-	-	-	1	1	-	-	3	-	-	5
78-80	-	-	-	-	1	1	2	-	2	1	-	1	8
81-83	-	-	-	-	-	-	3	-	-	2	-	-	5
84-86	-	-	-	-	-	-	-	-	-	-	-	-	-
87-89	-	-	-	-	-	-	-	-	-	-	-	-	-
90-92	-	-	-	-	-	1	-	-	-	-	-	-	1
Total Number	14	18	4	13	3	4	6	-	2	6	-	1	71
Mean Length													58.7

(cont'd.)

1) The length frequencies of this sample are given in Table 7; the age frequencies are given in Table 19.

TABLE 29 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches												Serial No. 5	
Location	1C - Banana Bank 64° 21' N, 53° 20' W												
Gear	Handline												
Month	July												
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ												
27-29	1	-	-	-	-	-	-	-	-	-	-	-	1
30-32	-	-	-	-	-	-	-	-	-	-	-	-	-
33-35	1	-	-	-	-	-	-	-	-	-	-	-	1
36-38	2	-	-	-	-	-	-	-	-	-	-	-	2
39-41	5	1	-	-	-	-	-	-	-	-	-	-	6
42-44	2	6	-	-	-	-	-	-	-	-	-	-	8
45-47	1	5	-	-	-	-	-	-	-	-	-	-	6
48-50	-	7	1	-	-	-	-	-	-	-	-	-	8
51-53	-	5	1	-	-	-	-	-	-	-	-	-	6
54-56	-	-	3	-	-	-	-	-	-	-	-	-	3
57-59	-	1	3	1	-	-	-	-	-	-	-	-	5
60-62	-	-	2	2	-	-	-	1	-	-	-	-	5
63-65	-	-	-	1	-	-	-	-	-	-	-	-	1
66-68	-	-	1	3	1	-	1	-	-	-	-	-	6
69-71	-	-	-	5	-	-	-	-	-	-	-	-	5
72-74	-	-	-	-	-	3	1	-	-	1	-	-	5
75-77	-	-	-	2	-	-	2	-	-	1	-	-	5
78-80	-	-	-	-	1	-	-	-	1	5	-	1	8
81-83	-	-	-	-	-	-	2	-	-	3	1	-	6
84-86	-	-	-	-	-	-	-	-	-	-	-	-	-
87-89	-	-	-	-	-	-	-	-	1	1	-	1	3
90-92	-	-	-	-	-	-	-	-	1	1	-	-	2
Total Number	12	25	11	14	2	3	6	1	3	12	1	2	92
Mean Length													60.7

(cont'd.)

- 1) The length frequencies of this sample are given in Table 7 ; the age frequencies are given in Table 19.

TABLE 29 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches

Serial No. 6

Location	1D - Fylla Bank 64°05'N, 52°44'W														Total
Gear	Handline														Total
Month	July														Total
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1942	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	-	17	Total
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ														Total
36-38	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
39-41	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
42-44	4	-	-	-	-	-	-	-	-	-	-	-	-	-	4
45-47	1	2	-	1	-	-	-	-	-	-	-	-	-	-	4
48-50	-	4	-	-	-	-	-	-	-	-	-	-	-	-	4
51-53	-	1	1	-	-	-	-	-	-	-	-	-	-	-	2
54-56	-	-	6	-	-	-	-	-	-	-	-	-	-	-	6
57-59	-	-	9	3	-	-	-	-	-	-	-	-	-	-	12
60-62	-	-	4	7	1	-	-	-	-	-	-	-	-	-	12
63-65	-	-	4	18	-	1	-	-	-	-	-	-	-	-	23
66-68	-	-	-	24	-	-	-	-	-	-	-	-	-	-	24
69-71	-	-	-	19	3	1	1	-	-	-	-	-	-	-	24
72-74	-	-	-	8	5	4	5	-	-	-	-	-	-	-	22
75-77	-	-	-	5	4	2	4	-	-	3	-	-	-	-	18
78-80	-	-	-	1	1	2	2	2	1	1	-	-	-	-	10
81-83	-	-	-	-	-	1	2	-	-	3	-	3	-	-	9
84-86	-	-	-	-	-	-	2	1	-	2	-	1	-	1	7
87-89	-	-	-	-	-	1	-	-	-	1	-	-	-	-	2
90-92	-	-	-	-	-	-	1	-	-	1	-	-	-	-	2
93-95	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
96-98	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Total Number	7	7	24	86	14	12	17	3	1	12	-	5	-	1	189
Mean Length															68.3

(cont'd.)

- 1) The length frequencies of this sample are given in Table 7 ; the age frequencies are given in Table 19.

TABLE 29 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches

Serial No. 8

Location	ID - Fylla Bank 63° 37' N, 52° 40' W										
Gear	Handline										
Month	August										
Year-Class	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total
Age	5	6	7	8	9	10	11	12	13	14	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ										
48-50	1	-	-	-	-	-	-	-	-	-	1
51-53	-	-	-	-	-	-	-	-	-	-	-
54-56	-	-	-	-	-	-	-	-	-	-	-
57-59	2	-	-	-	-	-	-	-	-	-	2
60-62	-	2	-	-	-	-	-	-	-	-	2
63-65	-	5	1	-	-	-	-	-	-	-	6
66-68	-	6	1	-	-	-	-	-	-	-	7
69-71	-	2	4	2	2	-	-	-	-	-	10
72-74	-	2	3	1	1	-	1	1	-	-	9
75-77	-	1	-	-	2	1	-	3	-	1	8
78-80	-	-	1	-	3	-	2	-	1	1	8
81-83	-	-	-	-	-	1	-	-	1	-	2
84-86	-	-	-	-	-	1	-	2	-	-	3
87-89	-	-	-	-	-	1	-	-	-	1	2
Total Number	3	18	10	3	8	4	3	6	2	3	60
Mean Length											72.3

(cont'd.)

- 1) The length frequencies of this sample are given in Table 7 ; the age frequencies are given in Table 19.

TABLE 29 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches

Serial No. 7

Location	1D - Fylla Bank 63° 53' N, 53° 28' W												
Gear	Longline												
Month	June												
Year-Class	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1942	Total
Age	5	6	7	8	9	10	11	12	13	14	-	17	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ												
60-62	-	2	-	-	-	-	-	-	-	-	-	-	2
63-65	-	6	-	-	-	-	-	-	-	-	-	-	6
66-68	1	4	1	1	1	-	-	1	-	-	-	-	9
69-71	-	2	-	3	-	-	-	-	-	-	-	-	5
72-74	-	-	1	-	4	-	-	2	-	-	-	-	7
75-77	-	-	-	2	11	-	-	4	-	-	-	-	17
78-80	-	-	1	-	3	-	-	6	-	1	-	-	11
81-83	-	-	-	-	4	1	-	7	-	-	-	1	13
84-86	-	-	-	-	2	-	2	6	-	-	-	-	10
87-89	-	-	1	-	1	-	1	3	-	-	-	1	7
90-92	-	-	-	-	-	-	-	1	-	-	-	-	1
93-95	-	-	-	-	-	-	-	-	-	1	-	2	3
96-98	-	-	-	-	-	-	-	-	-	-	-	2	2
99-101	-	-	-	-	-	-	-	1	-	-	-	-	1
Total Number	1	14	4	6	26	1	3	31	-	2	-	6	94
Mean Length													77.9

(cont'd.)

- 1) The length frequencies of this sample are given in Table 7 ; the age frequencies are given in Table 19.

TABLE 29 DENMARK (Greenland) - 1959 AGE/LENGTH KEY - COD¹) by Paul M. Hansen
(cont'd.)

West Greenland (Banks) - Research Catches

Serial No. 9

Location	ID - Fiskenaes Bank 63°25'N, 52°04'W														Total
Gear	Handline														Total
Month	August														Total
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1942	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	-	17	Total
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ														Total
36-38	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51-53	-	3	-	-	-	-	-	-	-	-	-	-	-	-	3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60-62	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
63-65	-	-	-	12	2	-	-	-	-	-	-	-	-	-	14
66-68	-	-	-	4	5	1	-	-	-	-	-	-	-	-	10
69-71	-	-	-	2	5	3	2	-	-	-	-	-	-	-	12
72-74	-	-	-	2	7	6	1	-	-	-	-	-	-	-	16
75-77	-	-	-	-	2	4	8	1	-	3	-	1	-	-	19
78-80	-	-	-	-	-	3	3	-	1	5	1	-	-	-	13
81-83	-	-	-	-	-	2	4	-	-	2	-	-	-	-	8
84-86	-	-	-	-	-	-	1	-	-	1	1	-	-	1	4
87-89	-	-	-	-	-	-	-	-	2	1	1	-	-	-	4
90-92	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
93-95	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Total Number	1	3	-	22	21	19	19	1	3	12	3	2	-	2	108
Mean Length															73.1

1) The length frequencies of this sample are given in Table 7 ; the age frequencies are given in Table 19.

TABLE 30 DENMARK (Greenland) - 1959

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 7

Location		IC - Sukkertoppen 65°26'N, 52°19'W										
Gear		Pound Net										
Month		June										
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total
Age	4	5	6	7	8	9	10	11	12	13	14	
3-cm group		ACTUAL NUMBERS OF OTOLITHS READ										
51-53	-	1	-	-	-	-	-	-	-	-	-	1
54-56	-	2	1	-	-	-	-	-	-	-	-	3
57-59	2	7	6	-	-	-	-	-	-	-	-	15
60-62	-	16	5	-	-	-	-	-	-	-	-	21
63-65	-	9	10	1	-	-	-	-	-	-	-	20
66-68	-	5	16	-	-	-	-	-	-	-	-	21
69-71	-	1	21	3	-	1	-	-	-	-	-	26
72-74	-	-	10	1	2	-	-	-	-	-	-	13
75-77	-	-	3	2	-	-	1	-	1	-	-	7
78-80	-	-	2	1	-	1	-	-	1	1	-	6
81-83	-	-	-	1	-	2	-	-	1	-	1	5
84-86	-	-	-	1	-	1	1	1	1	-	-	5
87-89	-	-	-	-	-	2	-	1	1	-	-	4
90-92	-	-	-	-	-	-	-	-	3	-	-	3
93-95	-	-	-	-	-	-	-	-	-	1	1	2
96-98	-	-	-	-	-	-	-	-	2	-	-	2
Total Number	2	41	74	10	2	7	2	2	10	2	2	154
Mean Length												69.2

(cont'd.)

- 1) The length frequencies of this sample are given in Table 8 ; the age frequencies are given in Table 20.

TABLE 30 DENMARK (Greenland) - 1959 AGE/LENGTH KEY - COD¹⁾ by Paul M. Hansen
(cont'd.)

West Greenland (Inshore and Fjords) - Research Catches		Serial No. 11									
Location	ID - Godthåb Fjord 64° 10'N, 51° 43'W										
Gear	Handline										
Month	April										
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	-	1945	Total
Age	3	4	5	6	7	8	9	10	-	14	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ										
30-32	2	-	-	-	-	-	-	-	-	-	2
33-35	10	-	-	-	-	-	-	-	-	-	10
36-38	14	-	-	1	-	-	-	-	-	-	15
39-41	5	-	-	1	-	-	-	-	-	-	6
42-44	3	1	-	1	-	-	-	-	-	-	5
45-47	-	3	-	-	-	-	-	-	-	-	3
48-50	-	3	1	-	-	-	-	-	-	-	4
51-53	-	1	-	-	-	-	-	-	-	-	1
54-56	-	1	2	-	-	-	-	-	-	-	3
57-59	-	-	2	1	-	-	-	-	-	-	3
60-62	-	-	2	7	1	-	-	-	-	-	10
63-65	-	-	-	12	1	-	-	-	-	-	13
66-68	-	-	-	9	1	-	-	-	-	-	10
69-71	-	-	-	10	-	-	-	-	-	-	10
72-74	-	-	-	2	-	-	-	-	-	1	3
75-77	-	-	-	-	6	-	-	-	-	-	6
78-80	-	-	-	-	-	-	-	1	-	-	1
81-83	-	-	-	-	-	-	-	-	-	-	-
84-86	-	-	-	-	-	-	-	-	-	-	-
87-89	-	-	-	-	-	-	1	-	-	-	1
Total Number	34	9	7	44	9	-	1	1	-	1	106
Mean Length											50.7

(cont'd.)

1) The length frequencies of this sample are given in Table 8; the age frequencies are given in Table 20.

TABLE 30 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 17

Location	1D - Godthåb Fjord 64° 23'N, 51° 13'W														
Gear	Handline														
Month	August														
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ														
39-41	4	-	-	-	-	-	-	-	-	-	-	-	-	-	4
42-44	6	2	-	-	-	-	-	-	-	-	-	-	-	-	8
45-47	1	4	-	-	-	-	-	-	-	-	-	-	-	-	5
48-50	-	8	1	-	-	-	-	-	-	-	-	-	-	-	9
51-53	-	7	1	-	-	-	-	-	-	-	-	-	-	-	8
54-56	-	14	9	-	-	-	-	-	-	-	-	-	-	-	23
57-59	-	1	14	-	-	-	-	-	-	-	-	-	-	-	15
60-62	-	-	2	4	1	-	-	-	-	-	-	-	-	-	7
63-65	-	-	-	13	2	-	-	-	-	-	-	-	-	-	15
66-68	-	-	-	8	4	1	-	-	-	1	-	-	-	-	14
69-71	-	-	-	2	1	2	1	-	-	-	-	-	-	-	6
72-74	-	-	-	2	3	4	1	-	1	1	-	-	-	-	12
75-77	-	-	-	-	1	-	4	1	1	2	-	-	-	-	9
78-80	-	-	-	1	-	2	2	-	-	-	-	1	-	-	6
81-83	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
84-86	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
87-89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90-92	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
99-101	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Total Number	11	36	27	30	12	9	11	1	2	5	-	1	-	1	146
Mean Length															61.4

(cont'd.)

- 1) The length frequencies of this sample are given in Table 8 ; the age frequencies are given in Table 20.

TABLE 30 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 19

Location	ID - Godthåb Fjord 64° 24' N, 50° 23' W														Total	
Gear	Longline															
Month	March															
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1942	-	1940	
Age	4	5	6	7	8	9	10	11	12	13	14	-	17	-	19	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ															
39-41	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
42-44	5	3	-	1	-	-	-	-	-	-	-	-	-	-	-	9
45-47	5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	6
48-50	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	6
51-53	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
54-56	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
57-59	-	-	-	3	-	2	-	-	-	-	-	-	-	-	-	5
60-62	-	-	1	3	-	-	-	-	-	-	-	-	-	-	-	4
63-65	-	-	-	3	-	1	2	-	-	-	-	-	-	-	-	6
66-68	-	-	1	4	-	1	-	-	1	-	-	-	-	-	-	7
69-71	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	3
72-74	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
75-77	-	-	-	2	-	-	-	-	-	1	-	-	1	-	-	4
78-80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
81-83	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	2
84-86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
87-89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
111-113	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Total Number	18	8	2	16	1	5	3	-	3	1	1	-	2	-	2	62
Mean Length																58.2

(cont'd.)

- 1) The length frequencies of this sample are given in Table 8 ; the age frequencies are given in Table 20.

TABLE 30 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 20

Location	ID - Godthåb Fjord 64°24'N, 50°23'W											
Gear	Longline											
Month	March											
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	-	1945	Total
Age	2	3	4	5	6	7	8	9	10	-	14	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ											
24-26	-	1	-	-	-	-	-	-	-	-	-	1
27-29	1	-	-	-	-	-	-	-	-	-	-	1
30-32	-	-	-	-	-	-	-	-	-	-	-	-
33-35	-	-	-	-	-	-	-	-	-	-	-	-
36-38	-	1	2	-	-	-	-	-	-	-	-	3
39-41	-	-	6	-	-	-	-	-	-	-	-	6
42-44	-	-	12	-	-	-	-	-	-	-	-	12
45-47	-	-	21	1	-	-	-	-	-	-	-	22
48-50	-	-	11	2	-	-	-	-	-	-	-	13
51-53	-	-	1	4	-	-	-	-	-	-	-	5
54-56	-	-	-	-	-	-	-	-	-	-	-	-
57-59	-	-	-	-	-	-	-	-	-	-	-	-
60-62	-	-	-	-	1	1	-	-	1	-	-	3
63-65	-	-	-	-	-	2	-	1	-	-	-	3
66-68	-	-	-	-	-	2	-	-	1	-	-	3
69-71	-	-	-	-	-	-	-	-	1	-	1	2
Total Number	1	2	53	7	1	5	-	1	3	-	1	74
Mean Length												47.3

(cont'd.)

- 1) The length frequencies of this sample are given in Table 8 ; the age frequencies are given in Table 20.

TABLE 30 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 12

Location	ID - Godthåb Fjord 64° 08' N, 51° 50' W														Total	
Gear	Longline														Total	
Month	August														Total	
Year-Class	1954	1953	1952	-	1950	1949	1948	1947	1946	1945	1944	1943	1942	-	1940	Total
Age	5	6	7	-	9	10	11	12	13	14	15	16	17	-	19	Total
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ														Total	
60-62	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	3
63-65	-	3	1	-	-	1	-	-	-	-	-	-	-	-	-	5
66-68	-	3	1	-	-	-	-	-	-	-	-	-	-	-	-	4
69-71	-	2	1	-	1	-	-	2	-	-	-	-	-	-	-	6
72-74	-	-	1	-	4	-	-	9	-	-	-	-	1	-	-	15
75-77	-	-	2	-	5	1	3	10	1	1	-	-	-	-	-	23
78-80	-	-	-	-	3	-	-	9	2	3	-	1	1	-	-	19
81-83	-	-	-	-	1	1	-	5	-	-	-	-	1	-	-	8
84-86	-	-	-	-	-	1	-	2	1	-	-	-	2	-	-	6
87-89	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	2
90-92	-	-	-	-	-	1	-	-	-	1	-	-	2	-	1	5
93-95	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
96-98	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Total Number	1	9	7	-	14	5	3	37	4	6	1	1	9	-	2	99
Mean Length																77.1

(cont'd.)

- 1) The length frequencies of this sample are given in Table 8 ; the age frequencies are given in Table 20.

TABLE 30 DENMARK (Greenland) - 1959
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 13

Location	ID - Godthåb Fjord 64°09'N, 51°44'W															
Gear	Longline															
Month	September-October															
Year-Class	1955	'54	'53	'52	'51	'50	'49	'48	'47	'46	'45	'44	'43	'42	- '38	Total
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	- 21	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ															
39-41	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
42-44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51-53	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
54-56	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
57-59	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2
60-62	-	1	3	-	-	-	-	-	-	-	-	-	-	-	-	4
63-65	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	3
66-68	-	1	5	2	2	1	-	-	-	-	-	-	-	-	-	11
69-71	-	-	-	3	-	2	-	-	2	-	-	-	-	-	-	7
72-74	-	-	1	2	1	-	-	1	2	-	3	-	1	-	-	11
75-77	-	-	1	2	-	2	1	1	9	-	-	-	-	1	-	17
78-80	-	-	-	-	-	2	-	1	4	-	-	-	-	-	-	7
81-83	-	-	-	-	-	1	-	-	3	2	2	-	-	1	-	9
84-86	-	-	-	-	-	1	-	1	-	-	-	-	-	-	1	3
87-89	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	2
Total Number	3	5	11	10	3	9	1	4	20	3	5	-	1	3	- 1	79
Mean Length																71.6

(cont'd.)

- 1) The length frequencies of this sample are given in Table 8 ; the age frequencies are given in Table 20.

TABLE 30 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 14

Location	ID - Godthåb Fjord 64° 07' N																	Total
Gear	Longline																	
Month	October																	
Year-Class	1955	'54	'53	'52	'51	'50	'49	'48	'47	'46	'45	'44	'43	'42	'41	'40		
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ																	
48-50	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
51-53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
54-56	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	
57-59	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
60-62	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
63-65	-	1	1	-	1	-	-	1	-	-	-	-	-	-	-	-	4	
66-68	-	1	3	5	4	1	-	-	-	-	-	-	-	-	-	-	14	
69-71	-	1	1	8	1	5	-	1	2	-	-	-	-	-	-	-	19	
72-74	-	-	-	3	3	5	4	5	12	1	-	-	-	-	-	-	33	
75-77	-	-	1	6	-	5	-	3	17	1	2	-	-	-	-	1	36	
78-80	-	1	2	1	-	5	1	1	20	1	4	-	-	-	-	1	37	
81-83	-	-	-	-	-	3	1	1	4	-	1	-	-	1	-	-	11	
84-86	-	-	-	-	1	1	-	-	2	-	-	-	-	2	-	1	7	
87-89	-	-	-	-	-	1	-	-	1	-	4	1	1	1	-	-	9	
90-92	-	-	-	-	-	-	-	-	2	-	-	-	-	1	2	-	5	
93-95	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	2	
Total Number	4	7	8	23	10	26	6	12	61	3	11	1	1	5	2	4	184	
Mean Length																	75.7	

(cont'd.)

- 1) The length frequencies of this sample are given in Table 8 ; the age frequencies are given in Table 20.

TABLE 30 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches Serial No. 16

Location	ID - Godthåb Fjord 64°17'N, 51°39'W																	
Gear	Longline																	
Month	October																	
Year-Class	1954	'53	'52	'51	'50	'49	'48	'47	'46	'45	'44	'43	'42	'41	'40	'39	'38	Total
Age	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ																	
54-56	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
57-59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60-62	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
63-65	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
66-68	1	3	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	8
69-71	-	8	4	3	5	-	-	5	-	-	-	-	-	-	-	-	-	25
72-74	-	2	1	-	9	1	1	6	-	-	-	1	1	-	-	-	-	22
75-77	-	1	2	-	9	3	3	21	2	4	-	-	-	-	-	-	-	45
78-80	-	1	6	2	13	-	3	22	-	2	1	-	-	-	1	-	-	51
81-83	-	-	-	-	8	3	2	10	-	3	-	1	-	-	-	-	-	27
84-86	-	-	-	-	4	3	1	9	1	-	-	1	1	-	1	-	1	22
87-89	-	-	-	-	-	3	1	9	-	-	1	-	3	1	-	-	-	18
90-92	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
93-95	-	-	-	-	-	-	-	1	-	1	-	-	1	-	-	-	-	3
96-98	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	2
Total Number	3	16	15	6	50	14	12	84	3	10	2	3	6	1	2	-	1	228
Mean Length																		77.9

(cont'd.)

- 1) The length frequencies of this sample are given in Table 8 ; the age frequencies are given in Table 20.

TABLE 30 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 18

Location	ID - Godthåb Fjord 64°16'N, 51°06'W																Total
Gear	Longline																Total
Month	October																Total
Year-Class	1955	'54	'53	'52	'51	'50	'49	'48	'47	'46	'45	'44	'43	'42	'41	'40	Total
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ																Total
54-56	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
57-59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60-62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63-65	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
66-68	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	3
69-71	-	-	-	1	1	1	-	-	1	-	-	-	-	-	-	1	5
72-74	-	-	-	4	-	-	2	1	2	-	-	-	-	-	-	-	9
75-77	-	-	-	-	-	2	2	-	6	-	1	-	-	-	-	-	11
78-80	-	-	-	-	1	1	-	2	2	-	1	-	-	1	-	-	8
81-83	-	-	-	-	-	2	-	-	2	-	-	-	1	1	-	-	6
84-86	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	2
87-89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
90-92	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
93-95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
96-98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
99-101	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Total Number	1	1	3	6	2	6	4	3	14	1	3	1	1	2	1	4	53
Mean Length																	76.7

(cont'd.)

- 1) The length frequencies of this sample are given in Table 8; the age frequencies are given in Table 20.

TABLE 30 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - OOD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 15

Location	ID - Godthåb Fjord 64°08'N, 51°45'W																	Total
Gear	Longline																	
Month	November																	
Year-Class	1956	'55	'54	'53	'52	'51	'50	'49	'48	'47	'46	'45	'44	'43	'42	'41	'40	
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ																	
39-41	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
42-44	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
45-47	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
48-50	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
51-53	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
54-56	-	4	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	7
57-59	-	2	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	8
60-62	-	-	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	6
63-65	-	-	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	5
66-68	-	-	-	5	3	-	1	-	1	1	-	-	-	-	-	-	-	11
69-71	-	-	-	6	3	1	-	-	-	1	-	1	-	-	-	-	-	12
72-74	-	-	-	4	3	1	2	1	2	6	2	-	1	-	2	-	-	24
75-77	-	-	-	3	3	-	5	2	2	9	1	1	-	-	-	-	-	26
78-80	-	-	-	1	1	2	4	1	3	10	2	4	-	-	1	-	-	29
81-83	-	-	-	-	1	3	-	-	2	8	-	3	-	-	1	-	1	19
84-86	-	-	-	-	-	-	-	-	-	3	1	1	-	-	3	-	-	8
87-89	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	-	1	4
90-92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
93-95	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	1	3
Total Number	5	9	9	28	16	7	12	5	10	39	7	11	1	-	9	-	3	171
Mean Length																		72.9

(cont'd.)

- 1) The length frequencies of this sample are given in Table 8; the age frequencies are given in Table 20.

TABLE 30 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 26

Location	LF - Narssaq 60°33'N, 45°59'W														Total
Gear	Handline														
Month	August-October														
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1940	
Age	3	4	5	6	7	8	9	10	11	12	13	14	-	19	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ														
33-35	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
36-38	4	-	-	-	-	-	-	-	-	-	-	-	-	-	4
39-41	8	-	-	-	-	-	-	-	-	-	-	-	-	-	8
42-44	8	-	-	-	-	-	-	-	-	-	-	-	-	-	8
45-47	5	3	-	-	-	-	-	-	-	-	-	-	-	-	8
48-50	-	7	-	-	-	-	-	-	-	-	-	-	-	-	7
51-53	-	3	-	-	-	-	-	-	-	-	-	-	-	-	3
54-56	-	-	2	3	-	-	-	-	-	-	-	-	-	-	5
57-59	-	-	-	1	-	1	-	-	-	-	-	-	-	-	2
60-62	-	1	-	7	1	-	-	-	-	-	-	-	-	-	9
63-65	-	-	-	15	4	-	-	-	-	-	-	-	-	-	19
66-68	-	-	-	11	5	2	1	-	-	-	-	-	-	-	19
69-71	-	-	-	6	6	1	2	-	-	-	-	1	-	-	16
72-74	-	-	-	3	1	3	5	-	-	3	-	-	-	-	15
75-77	-	-	-	-	-	4	9	-	-	-	-	-	-	-	13
78-80	-	-	-	-	-	1	5	-	-	1	-	-	-	-	7
81-83	-	-	-	-	-	-	4	2	-	1	-	-	-	-	7
84-86	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
87-89	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108-110	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total Number	26	14	2	46	17	12	28	2	-	6	-	1	-	1	155
Mean Length															62.5

(cont'd.)

- 1) The length frequencies of this sample are given in Table 8; the age frequencies are given in Table 20.

TABLE 30 DENMARK (Greenland) - 1959
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 24

Location	LF - Simitak 60°40'N, 46°32'W												Total
Gear	Handline												
Month	September												
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	
Age	3	4	5	6	7	8	9	10	11	12	13	14	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ												
30-32	1	-	-	-	-	-	-	-	-	-	-	-	1
33-35	4	-	-	-	-	-	-	-	-	-	-	-	4
36-38	3	-	-	-	-	-	-	-	-	-	-	-	3
39-41	18	-	-	-	-	-	-	-	-	-	-	-	18
42-44	14	1	-	-	-	-	-	-	-	-	-	-	15
45-47	12	-	-	-	-	-	-	-	-	-	-	-	12
48-50	1	3	-	-	-	-	-	-	-	-	-	-	4
51-53	-	4	1	1	-	-	-	-	-	-	-	-	6
54-56	-	1	-	1	-	-	-	-	-	-	-	-	2
57-59	-	-	2	4	1	-	-	-	-	-	-	-	7
60-62	-	-	-	8	1	-	-	-	-	-	-	-	9
63-65	-	-	-	17	5	-	1	-	-	-	-	-	23
66-68	-	-	-	1	2	2	2	-	-	-	-	-	7
69-71	-	-	-	3	2	1	4	-	-	-	-	-	10
72-74	-	-	-	-	2	-	5	-	-	1	-	1	9
75-77	-	-	-	-	-	-	3	2	1	3	1	1	11
78-80	-	-	-	-	-	-	2	1	-	1	1	-	5
81-83	-	-	-	-	-	-	2	-	-	-	-	-	2
84-86	-	-	-	-	1	-	-	1	-	1	-	-	3
87-89	-	-	-	-	-	-	-	-	-	-	-	-	-
90-92	-	-	-	-	-	-	-	-	-	-	-	1	1
Total Number	53	9	3	35	14	3	19	4	1	6	2	3	152
Mean Length													58.0

(cont'd.)

- 1) The length frequencies of this sample are given in Table 8 ; the age frequencies are given in Table 20.

TABLE 30 DENMARK (Greenland) - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 25

Location	IF - Simintak 60°40'N, 46°32'W															
Gear	Handline															
Month	September															
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1943	1942	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	-	16	17	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ															
45-47	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2
48-50	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
51-53	-	3	1	-	-	-	-	-	-	-	-	-	-	-	-	4
54-56	-	1	1	3	1	-	-	-	-	-	-	-	-	-	-	6
57-59	-	-	1	11	4	-	-	-	-	-	-	-	-	-	-	16
60-62	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	25
63-65	-	-	-	17	8	1	-	-	-	-	-	-	-	-	-	26
66-68	-	-	-	11	4	3	3	-	-	2	-	-	-	-	-	23
69-71	-	-	-	7	11	11	11	1	2	3	-	-	-	-	-	46
72-74	-	-	-	1	5	3	13	6	1	6	2	-	-	-	-	37
75-77	-	-	-	1	1	3	19	-	1	3	1	-	-	1	-	30
78-80	-	-	-	-	-	1	6	4	-	5	1	-	-	-	1	18
81-83	-	-	-	-	-	-	5	4	-	-	-	-	-	-	-	9
84-86	-	-	-	-	-	-	2	1	-	-	-	1	-	-	-	4
Total Number	1	6	3	76	34	22	59	16	4	19	4	1	-	1	1	247
Mean Length																68.4

1) The length frequencies of this sample are given in Table 8 ; the age frequencies are given in Table 20.

TABLE 31 NORWAY - 1959

AGE/LENGTH KEY - COD¹⁾

by E. Bratberg

Male	OTTER TRAWL - Research Catches										ID & IE		April		Total
Year-Class	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944				
Age	5	6	7	8	9	10	11	12	13	14	15				
3-cm group	ACTUAL NUMBER OF OTOLITHS READ														
51-53	2	2	-	-	-	-	-	-	-	-	-	-	-	4	
54-56	1	3	-	-	-	-	-	-	-	-	-	-	-	4	
57-59	1	12	-	-	-	-	-	-	-	-	-	-	-	13	
60-62	-	26	2	-	-	-	-	-	-	-	-	-	-	28	
63-65	-	37	8	1	-	-	-	-	-	-	-	-	-	46	
66-68	-	14	5	4	-	-	-	-	-	-	-	-	-	23	
69-71	-	6	9	3	2	-	-	-	-	-	-	-	-	20	
72-74	-	-	-	1	1	-	1	1	-	-	-	-	-	4	
75-77	-	-	-	1	-	-	1	1	-	-	-	-	-	3	
78-80	-	1	1	1	3	-	1	2	-	-	-	-	-	9	
81-83	-	-	-	-	-	-	1	1	1	-	-	-	-	3	
84-86	-	-	-	-	-	-	-	1	-	-	-	-	1	2	
87-89	-	-	-	-	-	-	-	-	1	-	-	-	-	1	
90-92	-	-	-	-	-	-	-	1	-	-	-	-	-	1	
Total Number	4	101	25	11	6	-	4	7	2	-	1			161	
Mean Length	55.00	62.83	67.32	69.91	75.50	...	77.75	80.43	85.00	...	84.00			65.83	

Female	OTTER TRAWL - Research Catches																	ID & IE		April		Total
Year-Class	1954	'53	'52	'51	'50	'49	'48	'47	'46	'45	'44	'43	'42	'41	-	'36	'35					
Age	5	6	7	8	9	10	11	12	13	14	15	16	17	18	-	23	24					
3-cm group	ACTUAL NUMBER OF OTOLITHS READ																					
51-53	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		
54-56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
57-59	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		
60-62	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14		
63-65	-	13	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17		
66-68	-	11	6	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21		
69-71	-	2	7	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12		
72-74	-	2	3	6	5	-	-	2	-	-	-	-	-	-	-	-	-	-	-	18		
75-77	-	1	1	3	6	2	-	1	3	1	-	-	1	-	-	-	-	-	-	19		
78-80	-	1	1	4	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	15		
81-83	-	-	-	1	4	-	3	3	-	1	-	1	-	-	-	-	-	-	-	13		
84-86	-	-	-	-	1	2	2	2	-	-	-	-	-	-	-	-	-	-	-	7		
87-89	-	-	-	1	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	3		
90-92	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	2		
93-95	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		
96-98	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2		
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	2		
102-104	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1		
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
135-137	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1		
Total Number	1	45	22	19	26	6	7	11	5	2	-	1	2	1	-	1	1			150		
Mean Length	52.00	69.23	78.11	83.71	83.80	...	83.00	...	83.00	...	100.00			73.37								
		64.89	75.16	67.00	82.09	79.00	82.00	101.00	135.00													

¹⁾ The length frequencies of these samples are given in Table 11; the age frequencies are given in Table 24.

(cont'd.)

TABLE 31 NORWAY - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by E. Bratberg

Male	HANDLINE - Research Catches														1B, 1C & 1D - August; 1D & 1E - April		Total
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	ACTUAL NUMBER OF OTOLITHS READ	
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
3-cm group																	
39-41	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
42-44	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
45-47	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	
48-50	6	1	1	-	-	-	-	-	-	-	-	-	-	-	-	8	
51-53	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	3	
54-56	2	11	5	-	-	-	-	-	-	-	-	-	-	-	-	18	
57-59	-	5	10	2	-	-	-	-	-	-	-	-	-	-	-	17	
60-62	-	6	26	3	1	-	-	-	-	-	-	-	-	-	-	36	
63-65	-	1	47	3	-	-	-	-	-	-	-	-	-	-	-	51	
66-68	-	-	35	6	-	1	-	-	-	-	-	-	-	-	-	42	
69-71	-	-	20	13	3	2	2	-	2	1	-	-	-	-	-	43	
72-74	-	-	12	9	4	8	2	1	1	-	-	-	-	-	-	37	
75-77	-	-	3	5	5	9	-	2	7	1	-	1	-	-	-	33	
78-80	-	-	3	4	5	11	1	3	8	2	2	-	-	-	-	39	
81-83	-	-	-	-	2	5	2	6	10	1	2	-	1	-	1	30	
84-86	-	-	1	-	-	4	-	-	4	2	1	1	-	-	-	13	
87-89	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	3	
90-92	-	-	-	-	-	-	1	1	2	-	-	-	-	-	-	4	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
99-101	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
105-107	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	
108-110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
111-113	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	
Total Number	14	27	163	45	20	40	8	13	35	8	8	3	1	-	1	386	
Mean Length	48.86	56.11	65.45	70.27	75.00	77.30	77.62	80.15	80.11	80.25	88.87	86.67	83.00	...	82.00	69.60	

1) The length frequencies of these samples are given in Table 11; the age frequencies are given in Table 24.

(cont'd.)

TABLE 31 NORWAY - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by E. Bratberg

Female	HANDLINE - Research Catches												1B, 1C & 1D - August; 1D & 1E - April		Total
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1941		
Age	4	5	6	7	8	9	10	11	12	13	14	-	18		
3-cm group	ACTUAL NUMBER OF OTOLITHS READ														
42-44	1	-	-	-	-	-	-	-	-	-	-	-	-	1	
45-47	1	2	-	-	-	-	-	-	-	-	-	-	-	3	
48-50	5	1	1	-	-	-	-	-	-	-	-	-	-	7	
51-53	1	1	-	-	-	-	-	-	-	-	-	-	-	2	
54-56	2	7	4	-	-	-	-	-	-	-	-	-	-	13	
57-59	-	11	8	-	-	-	-	-	-	-	-	-	-	19	
60-62	-	10	15	3	1	-	-	1	-	-	-	-	-	30	
63-65	-	2	40	2	-	-	-	-	-	-	-	-	-	44	
66-68	-	1	38	9	1	1	1	-	-	-	-	-	-	51	
69-71	-	-	33	8	3	2	-	-	-	1	-	-	-	47	
72-74	-	-	19	13	5	6	-	1	1	1	-	-	-	46	
75-77	-	-	4	7	7	10	1	-	2	1	1	-	-	33	
78-80	-	-	-	4	8	13	1	-	6	-	-	-	-	32	
81-83	-	-	-	1	4	4	5	2	8	1	1	-	1	27	
84-86	-	-	-	-	3	4	1	1	10	-	2	-	-	21	
87-89	-	-	-	-	1	2	2	-	3	1	2	-	-	11	
90-92	-	-	-	-	-	2	-	-	1	1	1	-	-	5	
93-95	-	-	-	-	-	-	-	-	1	-	-	-	-	1	
96-98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
99-101	-	-	-	-	-	-	-	-	-	-	1	-	-	1	
Total Number	10	35	162	47	33	44	11	5	32	6	8	-	1	394	
Mean Length	49.60	57.57	66.39	71.36	76.76	78.52	81.18	76.80	82.87	79.67	87.25	...	83.00	70.55	

(cont'd.)

- 1) The length frequencies of these samples are given in Table 11; the age frequencies are given in Table 24.

TABLE 31 NORWAY - 1959
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by E. Bratberg

Male BOTTOM LONGLINE - Research Catches IC & 1F - August; 1D - July; 1E - April & July

Year-Class	1955	'54	'53	'52	'51	'50	'49	'48	'47	'46	'45	'44	'43	'42	'41	'40	'39	Total
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ																	
42-44	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
45-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51-53	1	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
54-56	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
57-59	-	-	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	4
60-62	-	2	14	2	-	-	-	-	-	-	-	-	-	-	-	-	-	18
63-65	-	2	24	6	-	1	-	-	-	-	-	-	-	-	-	-	-	33
66-68	-	-	12	6	2	2	-	2	1	-	-	-	-	-	-	-	-	25
69-71	-	-	10	3	2	8	-	3	6	1	-	-	1	-	-	-	-	34
72-74	-	-	2	4	8	21	3	2	19	4	3	1	-	-	-	-	-	67
75-77	-	-	2	3	-	16	3	12	21	6	4	-	-	-	-	-	-	67
78-80	-	-	1	-	-	12	2	4	20	7	3	5	1	4	-	-	-	59
81-83	-	-	-	-	2	5	-	3	14	7	4	-	1	4	1	-	-	41
84-86	-	-	-	-	-	1	1	-	10	3	3	1	2	-	-	-	-	21
87-89	-	-	-	-	-	1	1	2	-	1	4	1	1	2	-	-	-	13
90-92	-	-	-	-	-	-	-	1	1	1	1	-	1	-	-	-	1	6
93-95	-	-	-	-	1	-	-	1	-	-	-	1	-	-	-	-	-	3
96-98	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	2
99-101	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	2
102-104	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	2
105-107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108-110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
111-113	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Total Number	3	8	74	25	15	67	10	30	92	31	23	10	8	11	2	-	3	412
Mean Length	47.00	64.49	74.73	77.90	77.75	81.91	84.62	90.00...										74.76
	58.75	68.08	75.30	77.63	80.03	83.40	84.90	100.33										

(cont'd.)

- 1) The length frequencies of these samples are given in Table 11; the age frequencies are given in Table 24.

TABLE 31 NORWAY - 1959

AGE/LENGTH KEY - COD¹⁾

by E. Bratberg

(cont'd.)

Female BOTTOM LONGLINE - Research Catches IC & IF - August; ID - July; IE - April & July

Year-Class	1955	'54	'53	'52	'51	'50	'49	'48	'47	'46	'45	'44	'43	'42	'41	'40	'39	'35	'34	Tot.
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	24	25	
3-cm group	ACTUAL NUMBER OF OTOLITHS HEAD																			
45-47	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
48-50	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
51-53	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
54-56	1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
57-59	-	2	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
60-62	-	2	14	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
63-65	-	4	22	7	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	36
66-68	-	1	17	6	3	1	-	-	1	-	-	-	-	-	-	-	-	-	-	29
69-71	-	-	13	5	6	5	-	1	4	1	1	-	-	-	-	-	-	-	-	36
72-74	-	-	4	6	9	15	2	-	6	1	-	-	-	-	-	-	-	-	-	43
75-77	-	-	1	7	9	20	2	3	14	3	1	-	-	-	-	-	-	-	-	60
78-80	-	-	2	1	11	20	4	7	20	10	4	-	2	-	-	-	-	-	-	81
81-83	-	-	-	-	1	6	2	4	25	5	-	1	-	1	-	1	-	-	-	46
84-86	-	-	-	-	-	7	2	4	19	6	2	-	1	1	-	-	-	-	-	42
87-89	-	-	-	-	-	5	3	3	2	1	3	2	2	2	1	-	-	-	-	24
90-92	-	-	-	-	-	-	1	-	4	2	2	2	2	1	-	-	-	-	-	14
93-95	-	-	-	-	-	-	1	-	3	1	2	-	1	1	-	-	-	-	1	10
96-98	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1	-	-	-	3
99-101	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
102-104	-	-	-	-	-	1	-	-	1	-	-	-	-	1	1	-	-	-	-	4
105-107	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
108-110	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	2
111-113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
114-116	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	1	3
117-119	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120-122	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
123-125	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
135-137	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Total No.	4	11	78	35	41	81	17	22	100	31	18	6	9	9	2	3	1	-	1	470
Mean Length	50.75	65.72	74.29	82.35	81.22	88.44	87.67	95.00	108.00	116.00	77.20									
		61.00	69.26	78.09	81.04	83.10	90.83	97.11	100.33	...	95.00									

1) The length frequencies of these samples are given in Table 11; the age frequencies are given in Table 24.

TABLE 32 PORTUGAL - 1959

AGE/LENGTH FREQUENCIES - COD¹⁾

by Mario J. Ruivo

Glicinia V. Quartin

Serial Nos. 1 and 2

Male		OTTER TRAWLERS - Commercial Catches before Discarding						ID	April
Year-Class	1956	1955	1954	1953	1952	1951	1950	Total	
Age	3	4	5	6	7	8	9		
F R E Q U E N C I E S in ‰									
3-cm group									
42-44	5	10	-	-	-	-	-	15	
45-47	-	-	-	-	-	-	-	-	
48-50	-	15	5	-	-	-	-	20	
51-53	-	-	5	-	5	-	-	10	
54-56	-	-	10	15	-	-	-	25	
57-59	-	-	5	20	-	-	-	25	
60-62	-	-	-	96	5	-	-	101	
63-65	-	-	5	80	5	-	-	90	
66-68	-	-	-	60	15	5	-	80	
69-71	-	-	-	45	20	5	5	75	
72-74	-	-	-	20	30	5	-	55	
75-77	-	-	-	-	10	5	-	15	
78-80	-	-	-	-	5	-	-	5	
81-83	-	-	-	-	-	-	5	5	
Total Number	5	25	30	336	95	20	10	521	
Mean Length	43.0	46.6	55.5	64.3	69.8	71.5	76.0	64.2	

Female		OTTER TRAWLERS - Commercial Catches before Discarding					ID	April
Year-Class	1955	1954	1953	1952	1951	1950	Total	
Age	4	5	6	7	8	9		
F R E Q U E N C I E S in ‰								
3-cm group								
39-41	5	-	-	-	-	-	5	
42-44	-	-	-	-	-	-	-	
45-47	-	-	-	-	-	-	-	
48-50	20	-	-	-	-	-	20	
51-53	5	-	5	-	-	-	10	
54-56	-	5	-	-	-	-	5	
57-59	-	60	45	-	-	-	105	
60-62	-	-	70	5	-	5	80	
63-65	-	-	80	15	-	-	95	
66-68	-	-	50	10	-	-	60	
69-71	-	-	20	40	-	-	60	
72-74	-	-	10	15	-	-	25	
75-77	-	-	-	10	-	-	10	
Total Number	30	65	280	95	-	5	475	
Mean Length	48.0	57.8	63.4	69.4	...	61.0	62.8	

The sample data are given on page 142.

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 4 and 5by Mario J. Buivo
Glicinia V. Quartin

Male	OTTER TRAWLERS - Commercial Catches before Discarding									ID	May
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	Total	
Age	4	5	6	7	8	9	10	11	12		
3-cm group	FREQUENCIES in ‰										
45-47	5	-	-	-	-	-	-	-	-	5	
48-50	5	5	5	-	-	-	-	-	-	15	
51-53	-	10	-	-	-	-	-	-	-	10	
54-56	-	5	15	-	-	-	-	-	-	20	
57-59	-	10	35	-	-	-	-	-	5	50	
60-62	-	5	75	-	5	-	-	-	-	85	
63-65	-	-	91	5	-	-	-	-	-	96	
66-68	-	-	96	30	-	-	-	-	-	126	
69-71	-	-	25	15	-	5	-	-	-	45	
72-74	-	-	20	25	-	5	-	-	5	55	
75-77	-	-	-	-	10	-	5	-	5	20	
78-80	-	-	-	-	-	5	-	-	-	5	
Total Number	10	35	362	75	15	15	5	-	15	532	
Mean Length	47.5	55.0	63.9	69.4	71.0	74.0	76.0	...	69.0	64.5	

Female	OTTER TRAWLERS - Commercial Catches before Discarding									ID	May
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	Total		
Age	4	5	6	7	8	9	10	11			
3-cm group	FREQUENCIES in ‰										
42-44	5	-	-	-	-	-	-	-	-	5	
45-47	-	-	-	-	-	-	-	-	-	-	
48-50	5	-	-	-	-	-	-	-	-	5	
51-53	-	5	5	-	-	-	-	-	-	10	
54-56	-	15	5	-	-	-	-	-	-	20	
57-59	-	15	20	-	-	-	-	-	-	35	
60-62	-	10	45	-	-	-	-	-	-	55	
63-65	-	5	80	10	-	-	-	-	-	95	
66-68	-	-	60	-	5	-	-	-	-	65	
69-71	-	-	30	15	15	-	-	-	5	65	
72-74	-	-	10	10	5	10	-	-	-	35	
75-77	-	-	5	15	10	10	-	-	-	40	
78-80	-	-	5	5	15	10	-	-	-	35	
Total Number	10	50	265	55	50	30	-	5	465		
Mean Length	46.0	57.7	64.8	71.9	73.9	75.3	...	70.0	66.3		

The sample data are given on page 142.

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)

AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 7,13,15,16

by Mario J. Ruivo
Glicinia V. Quartin

Male	OTTER TRAWLERS - Commercial Catches before Discarding													LE	May
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	Total	
Age	3	4	5	6	7	8	9	10	11	12	13	14	15		
3-cm group	FREQUENCIES in ‰														
39-41	8	3	-	-	-	-	-	-	-	-	-	-	-	11	
42-44	3	10	-	-	-	-	-	-	-	-	-	-	-	13	
45-47	-	8	5	-	-	-	-	-	-	-	-	-	-	13	
48-50	-	5	-	5	-	-	-	-	-	-	-	-	-	10	
51-53	-	5	5	13	-	-	-	-	-	-	-	-	-	23	
54-56	-	-	5	23	-	-	-	-	-	-	-	-	-	28	
57-59	-	-	3	63	10	4	-	-	-	-	-	-	-	76	
60-62	-	-	3	30	10	-	-	-	-	-	-	-	-	43	
63-65	-	-	-	51	5	5	-	-	-	-	-	-	-	61	
66-68	-	-	-	20	5	5	-	13	-	3	-	-	-	36	
69-71	-	-	-	10	8	5	5	3	5	-	-	-	-	36	
72-74	-	-	-	-	13	15	13	-	-	3	-	-	-	44	
75-77	-	-	-	5	8	18	20	3	-	5	-	3	3	65	
78-80	-	-	-	-	-	5	15	5	5	-	3	-	-	28	
81-83	-	-	-	-	-	-	-	-	-	10	-	-	-	10	
84-86	-	-	-	-	-	-	3	3	5	5	-	3	-	19	
87-89	-	-	-	-	-	-	3	-	-	-	-	3	-	6	
90-92	-	-	-	-	-	-	-	-	3	-	-	3	-	6	
Total Number	11	31	21	220	59	53	59	9	16	31	3	12	3	528	
Mean Length	40.8	45.9	53.4	60.7	67.2	72.8	76.7	76.0	81.4	76.9	79.0	85.0	76.0	65.5	

The sample data are given on page 142. (cont'd.)

1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

The sample data are given on page 142. (cont'd.)
1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 7,13,15,16by Mario J. Ruivo
Glicinia V. Quartin

Female	OTTER TRAWLERS - Commercial Catches before Discarding											LE	May
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	
3-cm group	FREQUENCIES in ‰												
36-38	3	-	-	-	-	-	-	-	-	-	-	-	3
39-41	8	3	3	-	-	-	-	-	-	-	-	-	14
42-44	3	15	3	-	-	-	-	-	-	-	-	-	21
45-47	-	18	-	5	-	-	-	-	-	-	-	-	23
48-50	-	5	-	8	-	-	-	-	-	-	-	-	13
51-53	-	-	13	17	-	-	-	-	-	-	-	-	30
54-56	-	-	5	30	3	-	-	-	-	-	-	-	38
57-59	-	-	-	35	5	-	-	-	-	-	-	-	40
60-62	-	-	5	33	10	-	-	-	-	-	-	-	48
63-65	-	-	-	20	8	8	-	-	-	-	-	-	36
66-68	-	-	-	20	5	3	3	-	-	-	-	-	31
69-71	-	-	-	8	5	8	8	-	-	-	-	-	29
72-74	-	-	-	3	3	3	5	-	3	-	3	-	20
75-77	-	-	-	-	3	5	25	3	3	5	-	3	47
78-80	-	-	-	-	-	5	17	3	5	10	-	-	40
81-83	-	-	-	-	-	3	3	5	-	13	5	-	29
84-86	-	-	-	-	-	3	3	-	-	3	3	-	12
87-89	-	-	-	-	-	-	5	-	-	-	-	-	5
90-92	-	-	-	-	-	-	-	-	-	10	3	-	13
93-95	-	-	-	-	-	-	-	-	-	-	-	-	-
96-98	-	-	-	-	-	-	-	-	-	-	-	3	3
Total Number	14	41	29	179	42	38	69	11	11	41	14	6	495
Mean Length	40.0	44.8	51.9	59.2	64.5	72.8	77.0	79.5	76.5	83.0	82.6	86.5	60.5

The sample data are given on page 142.

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 12,13,14by Mario J. Ruivo
Glicinia V. Quartin

Male	OTTER TRAWLERS - Commercial Catches before Discarding										4W north	March
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total
Age	4	5	6	7	8	9	10	11	12	13	14	
3-cm group	FREQUENCIES in ‰											
39-41	-	3	-	-	-	-	-	-	-	-	-	3
42-44	7	17	7	-	-	-	-	-	-	-	-	31
45-47	10	30	7	-	-	-	-	-	-	-	-	47
48-50	3	53	10	-	-	-	-	-	-	-	-	66
51-53	3	23	43	7	3	3	-	-	-	-	-	82
54-56	-	13	37	3	-	-	-	-	-	-	-	53
57-59	-	3	20	7	13	-	3	3	-	-	-	49
60-62	-	3	20	7	3	7	3	3	-	-	-	46
63-65	-	-	3	13	3	3	3	-	-	-	-	25
66-68	-	-	7	13	3	10	-	-	3	-	-	36
69-71	-	-	3	-	3	3	3	-	-	-	-	12
72-74	-	-	-	-	3	-	-	-	-	-	-	3
75-77	-	-	-	-	7	-	-	3	-	-	-	10
78-80	-	-	-	-	-	7	-	-	-	-	-	7
81-83	-	-	-	-	-	3	3	-	-	-	-	6
84-86	-	-	-	-	-	-	7	3	-	-	-	10
87-89	-	-	-	-	-	-	-	3	-	-	3	6
-	-	-	-	-	-	-	-	-	-	-	-	-
108-110	-	-	-	-	-	-	-	-	3	-	-	3
Total Number	23	145	157	50	38	36	22	15	6	-	3	495
Mean Length	46.3	48.9	55.0	61.3	64.5	68.2	72.4	73.6	88.0	...	88.0	57.4

The sample data are given on page 142.

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 12,13,14by Mario J. Ruivo
Glicinia V. Quartin

Female	OTTER TRAWLERS - Commercial Catches before Discarding										4V north	March
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	-	1943	Total
Age	4	5	6	7	8	9	10	11	12	-	16	
3-cm group	FREQUENCIES in ‰											
39-41	3	-	-	-	-	-	-	-	-	-	-	3
42-44	7	7	-	-	-	-	-	-	-	-	-	14
45-47	23	37	3	-	-	-	-	-	-	-	-	63
48-50	3	33	10	-	-	-	-	-	-	-	-	46
51-53	-	13	23	13	-	-	-	-	-	-	-	49
54-56	-	13	20	20	-	-	-	-	-	-	-	53
57-59	-	10	47	17	10	-	3	-	-	-	-	87
60-62	3	7	13	17	7	3	-	-	-	-	-	50
63-65	-	-	10	17	-	-	10	-	-	-	-	37
66-68	-	-	3	-	3	3	3	3	-	-	-	15
69-71	-	-	-	-	3	-	-	3	-	-	-	6
72-74	-	3	-	-	-	3	-	-	-	-	-	6
75-77	-	-	-	-	3	-	-	-	3	-	-	6
78-80	-	-	-	-	-	3	-	3	-	-	-	6
81-83	-	-	-	-	-	7	-	3	7	-	-	17
84-86	-	-	-	-	-	3	-	-	-	-	-	3
87-89	-	-	-	-	-	-	3	-	3	-	3	9
90-92	-	-	-	-	-	-	3	-	3	-	-	6
93-95	-	-	-	-	-	3	-	-	-	-	-	3
Total Number	39	123	129	84	26	25	22	12	16	-	3	479
Mean Length	46.4	50.7	56.0	58.2	63.3	78.4	70.5	74.0	83.7	...	88.0	58.2

The sample data are given on page 142.

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial No. 1by Mario J. Ruivo
Glicinia V. Quartin

Male	OTTER TRAWLERS - Commercial Catches before Discarding							4W south	February	
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	Total	
Age	3	4	5	6	7	8	9	10		
3-cm group	FREQUENCIES in ‰									
39-41	-	10	10	-	-	-	-	-	20	
42-44	-	20	-	-	-	-	-	-	20	
45-47	-	20	10	-	-	-	-	-	30	
48-50	-	60	30	-	-	-	-	-	90	
51-53	10	40	30	-	-	-	-	-	80	
54-56	-	20	20	20	20	-	-	-	80	
57-59	-	-	50	20	40	-	-	-	110	
60-62	-	-	-	40	10	-	-	-	50	
63-65	-	-	-	-	10	10	20	10	50	
66-68	-	-	-	-	-	-	-	-	-	
69-71	-	-	-	-	10	10	20	-	40	
Total Number	10	170	150	80	90	20	40	10	570	
Mean Length	52.0	48.8	52.6	58.8	59.6	66.5	67.0	64.0	55.2	

Female	OTTER TRAWLERS - Commercial Catches before Discarding							4W south	February	
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	Total
Age	4	5	6	7	8	9	10	11	12	
3-cm group	FREQUENCIES in ‰									
45-47	10	-	-	-	-	-	-	-	-	10
48-50	20	70	-	-	-	-	-	-	-	90
51-53	-	40	10	-	-	-	-	-	-	50
54-56	10	50	20	-	10	-	-	-	-	90
57-59	-	30	20	10	-	-	-	-	10	70
60-62	-	-	10	10	-	-	-	-	-	20
63-65	-	-	10	10	-	10	-	10	-	40
66-68	-	-	20	-	-	10	-	-	-	30
69-71	-	-	10	-	-	-	-	-	-	10
72-74	-	-	-	10	-	10	-	-	-	20
Total Number	40	190	100	40	10	30	-	10	10	430
Mean Length	37.4	52.6	60.7	64.0	55.0	68.0	...	64.0	58.0	56.8

The sample data are given on page 142.

(cont'd.)

1) The length frequencies of this sample are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - OOD¹⁾
Serial Nos. 3,6,8,10by Mario J. Ruivo
Glicinia V. Martin

Male	OTTER TRAWLERS - Commercial Catches before Discarding														4W south	March
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1942	1939	Total	
Age	3	4	5	6	7	8	9	10	11	12	13	14	17	20		
3-cm group	F R E Q U E N C I E S in ‰															
33-35	3	-	-	-	-	-	-	-	-	-	-	-	-	-	3	
36-38	3	-	-	-	-	-	-	-	-	-	-	-	-	-	3	
39-41	3	5	5	-	-	-	-	-	-	-	-	-	-	-	13	
42-44	-	8	-	-	-	-	-	-	-	-	-	-	-	-	8	
45-47	3	18	20	3	-	-	-	-	-	-	-	-	-	-	44	
48-50	-	25	33	15	5	3	-	-	-	-	-	-	-	-	81	
51-53	-	10	38	23	8	5	-	3	-	-	-	-	-	-	87	
54-56	-	3	10	20	10	-	-	-	-	-	-	-	-	-	43	
57-59	-	3	8	28	15	5	3	3	-	-	-	-	-	-	65	
60-62	-	3	8	13	15	10	3	3	3	3	-	-	-	-	61	
63-65	-	-	-	13	10	3	3	5	-	-	-	-	-	-	34	
66-68	-	-	-	-	3	-	-	-	-	-	-	-	-	-	3	
69-71	-	-	-	3	-	-	5	-	-	-	-	-	-	-	8	
72-74	-	-	-	-	-	3	3	-	-	-	-	-	-	-	6	
75-77	-	-	-	-	-	-	-	-	3	-	3	-	-	-	6	
78-80	-	-	-	-	-	3	3	-	-	-	-	-	-	-	6	
81-83	-	-	-	-	-	-	3	-	5	-	-	-	-	-	8	
84-86	-	-	-	-	-	-	3	-	-	-	-	-	-	-	3	
87-89	-	-	-	-	-	-	-	-	3	3	-	-	-	-	6	
90-92	-	-	-	-	-	3	-	3	-	-	-	-	-	-	6	
93-95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
96-98	-	-	-	-	-	-	-	-	-	3	-	3	-	-	6	
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	
102-104	-	-	-	-	-	-	-	-	-	-	-	-	3	-	3	
Total Number	12	75	122	118	66	35	26	17	14	9	3	3	-	3	506	
Mean Length	39.3	48.5	50.9	56.2	58.1	63.3	71.4	65.3	77.5	81.0	76.0	97.0	...	103.0	100.0	57.2

The sample data are given on page 142.

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 3,6,8,10by Mario J. Ruivo
Glicinia V. Quartin

Female	OTTER TRAWLERS - Commercial Catches before Discarding												4W south	March
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	Total	
Age	4	5	6	7	8	9	10	11	12	13	14	15		
3-cm group	FREQUENCIES in ‰													
36-38	3	-	-	-	-	-	-	-	-	-	-	-	3	
39-41	3	-	-	-	-	-	-	-	-	-	-	-	3	
42-44	13	-	-	-	-	-	-	-	-	-	-	-	13	
45-47	30	13	-	-	-	-	-	-	-	-	-	-	43	
48-50	23	20	3	3	-	-	-	-	-	-	-	-	49	
51-53	13	28	13	5	-	3	-	-	-	-	-	-	62	
54-56	3	28	35	28	8	-	-	-	-	-	-	-	102	
57-59	-	8	38	5	13	5	3	3	-	-	-	-	75	
60-62	-	5	10	5	5	5	3	-	3	-	-	-	36	
63-65	-	-	13	10	8	8	3	-	3	-	-	-	45	
66-68	-	-	-	8	5	3	5	3	-	-	-	-	24	
69-71	-	-	3	-	5	3	5	-	-	-	-	-	16	
72-74	-	-	-	-	8	8	-	-	3	-	-	-	19	
75-77	-	-	-	-	-	-	-	-	-	-	-	-	-	
78-80	-	-	3	-	-	10	-	-	-	-	-	-	13	
81-83	-	-	-	-	-	5	-	3	-	-	-	-	8	
84-86	-	-	-	-	3	3	-	3	-	3	-	-	12	
87-89	-	-	-	-	-	-	-	-	-	-	-	3	3	
90-92	-	-	-	-	-	3	3	-	-	-	-	-	6	
93-95	-	-	-	-	-	-	-	3	-	-	-	-	3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
105-107	-	-	-	-	-	-	-	-	3	-	-	-	3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
114-116	-	-	-	-	-	-	-	-	-	3	-	-	3	
Total Number	88	102	118	64	55	56	22	15	12	6	-	3	541	
Mean Length	47.2	52.4	58.0	58.9	64.3	71.2	68.5	77.2	76.0	100.0	...	88.0	59.2	

The sample data are given on page 142.

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)

AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 30,32,34

by Mario J. Ruivo
Glicinia V. Quartin

Male	DORY VESSELS - Commercial Catches before Discarding										IB	June
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total
Age	4	5	6	7	8	9	10	11	12	13	14	
3-cm group	F R E Q U E N C I E S in ‰											
45-47	3	10	-	-	-	-	-	-	-	-	-	13
48-50	7	3	-	-	-	-	-	-	-	-	-	10
51-53	3	13	7	-	-	-	-	-	-	-	-	23
54-56	-	20	20	-	-	-	-	-	-	-	-	40
57-59	-	10	40	3	-	-	-	-	-	-	-	53
60-62	-	3	97	7	-	-	-	-	-	-	-	107
63-65	-	-	104	3	-	-	-	-	-	-	-	107
66-68	-	-	40	7	-	-	-	-	-	-	-	47
69-71	-	-	20	3	3	10	-	-	-	-	-	36
72-74	-	-	7	7	-	-	-	-	-	-	-	14
75-77	-	-	-	-	3	10	-	3	-	-	3	19
78-80	-	-	3	-	3	3	-	-	-	-	-	9
81-83	-	-	-	-	3	-	-	3	-	-	-	6
84-86	-	-	-	-	-	3	-	7	-	-	-	10
87-89	-	-	-	-	-	-	-	-	-	-	-	-
90-92	-	-	-	-	-	-	-	-	-	-	-	-
93-95	-	-	-	-	-	-	-	-	-	3	-	3
Total Number	13	59	338	30	12	26	-	13	-	3	3	497
Mean Length	49.2	53.3	62.7	66.0	76.8	74.7	...	83.6	...	94.0	76.0	63.2

The sample data are given on page 142.

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 30,32,34by Mario J. Ruivo
Glicinia V. Quartin

Female	DORY VESSELS - Commercial Catches before Discarding													1B	June
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	- 1941	Total	
Age	4	5	6	7	8	9	10	11	12	13	14	15	- 18		
3-cm group	FREQUENCIES in ‰														
45-47	10	-	-	-	-	-	-	-	-	-	-	-	-	10	
48-50	7	13	10	-	-	-	-	-	-	-	-	-	-	30	
51-53	3	20	10	-	-	-	-	-	-	-	-	-	-	33	
54-56	-	10	33	-	-	-	-	-	-	-	-	-	-	43	
57-59	-	23	57	-	-	-	-	-	-	-	-	-	-	80	
60-62	-	10	90	7	-	-	-	-	-	-	-	-	-	107	
63-65	-	-	50	7	-	-	-	-	-	-	-	-	-	57	
66-68	-	-	17	10	3	-	-	-	-	-	-	-	-	30	
69-71	-	-	-	7	10	3	-	-	-	-	-	-	-	20	
72-74	-	-	-	-	3	7	-	-	-	-	-	-	-	10	
75-77	-	-	-	3	7	10	-	-	-	3	-	-	-	23	
78-80	-	-	-	-	3	-	3	-	3	-	-	-	-	9	
81-83	-	-	-	-	3	10	-	7	3	-	-	-	-	23	
84-86	-	-	-	-	-	7	-	-	3	-	-	-	-	10	
87-89	-	-	-	-	-	-	-	-	-	-	-	-	3	3	
90-92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
93-95	-	-	-	-	-	-	-	-	3	-	-	-	-	3	
96-98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
99-101	-	-	-	-	-	-	-	-	-	-	-	3	-	3	
Total Number	20	76	267	34	29	37	3	7	12	3	-	3	- 3	494	
Mean Length	48.0	54.9	59.8	66.6	73.6	78.5	79.0	82.0	85.0	76.0	... 100.0	... 88.0		62.7	

The sample data are given on page 142.

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 37,38,40by Mario J. Ruiivo
Glicinia V. Quartin

Male	DORY VESSELS - Commercial Catches before Discarding										LB	July
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total
Age	4	5	6	7	8	9	10	11	12	13	14	
3-om group	FREQUENCIES in ‰											
42-44	13	-	-	-	-	-	-	-	-	-	-	13
45-47	23	3	3	-	-	-	-	-	-	-	-	29
48-50	17	13	7	-	-	-	-	-	-	-	-	37
51-53	23	27	3	-	-	-	-	-	-	-	-	53
54-56	3	23	23	-	-	-	-	-	-	-	-	49
57-59	-	37	13	-	-	-	-	-	-	-	-	50
60-62	-	7	50	-	-	-	-	-	-	-	-	57
63-65	-	-	43	7	-	-	-	-	3	-	-	53
66-68	-	3	40	10	-	-	-	-	-	-	-	53
69-71	-	-	3	10	3	-	-	-	-	-	-	16
72-74	-	-	7	-	3	3	-	-	3	-	-	16
75-77	-	-	-	-	3	-	-	-	3	-	-	6
78-80	-	-	-	-	7	-	3	-	3	-	-	13
81-83	-	-	-	-	-	3	-	7	3	-	-	13
84-86	-	-	-	-	-	-	3	-	3	-	3	9
87-89	-	-	-	-	-	-	-	-	-	-	3	3
Total Number	79	113	192	27	16	6	6	7	18	-	6	470
Mean Length	48.2	55.2	51.8	67.3	75.6	77.5	82.0	82.0	76.5	...	86.5	60.3

The sample data are given on page 142.

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 37,38,40by Mario J. Ruivo
Glicinia V. Quartin

Female	DORY VESSELS - Commercial Catches before Discarding													1B	July
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	Total
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
3-cm group	F R E Q U E N C I E S in ‰														
39-41	7	-	-	-	-	-	-	-	-	-	-	-	-	-	7
42-44	23	-	-	-	-	-	-	-	-	-	-	-	-	-	23
45-47	33	-	-	-	-	-	-	-	-	-	-	-	-	-	33
48-50	13	10	-	-	-	-	-	-	-	-	-	-	-	-	23
51-53	7	13	3	-	-	-	-	-	-	-	-	-	-	-	23
54-56	-	23	-	-	-	-	-	-	-	-	-	-	-	-	23
57-59	-	17	37	-	-	-	-	-	-	-	-	-	-	-	54
60-62	-	13	47	7	-	-	-	-	-	-	-	-	-	-	67
63-65	-	7	47	3	-	-	-	-	-	-	-	-	-	-	57
66-68	-	-	37	3	-	3	-	-	-	-	-	-	-	-	43
69-71	-	-	20	7	7	-	-	-	-	-	-	-	-	-	34
72-74	-	-	3	17	10	-	-	-	3	-	-	-	-	-	33
75-77	-	-	-	-	3	3	3	3	-	-	-	-	-	-	12
78-80	-	-	-	-	10	10	-	-	7	3	-	-	-	-	30
81-83	-	-	-	-	-	3	-	3	7	3	-	-	-	-	16
84-86	-	-	-	-	3	-	-	-	3	3	-	-	-	-	9
87-89	-	-	-	-	-	3	-	-	-	-	-	-	-	-	3
90-92	-	-	-	-	-	-	-	-	-	-	-	-	3	3	6
93-95	-	-	-	-	-	-	-	3	7	-	-	-	-	3	13
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108-110	-	-	-	-	-	-	-	-	-	-	-	-	7	-	7
Total Number	83	83	194	37	33	22	3	9	27	9	-	-	10	6	516
Mean Length	45.6	56.1	66.0	68.9	75.5	78.6	76.0	84.0	83.7	82.0	...	...	103.6	92.5	64.1

The sample data are given on page 142.

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)

AGE/LENGTH FREQUENCIES - COD¹⁾

by Mario J. Ruivo
Glicinia V. Quartin

Serial Nos. 50,52,53

Male	DORY VESSELS - Commercial Catches before Discarding											1B	August
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	Total
Age	4	5	6	7	8	9	10	11	12	13	14	15	
3-cm group	F R E Q U E N C I E S in ‰												
45-47	13	-	-	-	-	-	-	-	-	-	-	-	13
48-50	10	-	3	-	-	-	-	-	-	-	-	-	13
51-53	13	13	-	-	-	-	-	-	-	-	-	-	26
54-56	-	23	-	3	-	-	-	-	-	-	-	-	26
57-59	-	17	23	-	-	-	-	-	-	-	-	-	40
60-62	-	23	30	-	-	-	-	-	-	-	-	-	53
63-65	-	7	40	-	-	-	-	-	-	-	-	-	47
66-68	-	7	77	-	-	-	-	-	-	-	-	-	84
69-71	-	-	47	10	3	-	-	-	-	-	-	-	60
72-74	-	-	23	-	-	7	-	-	-	-	-	-	30
75-77	-	-	-	-	-	13	3	-	3	-	-	-	19
78-80	-	-	-	-	-	3	-	3	-	-	-	-	6
81-83	-	-	-	-	-	3	3	3	-	-	-	-	9
84-86	-	-	-	-	-	-	-	-	-	-	3	-	3
87-89	-	-	-	-	-	-	-	-	-	-	-	-	-
90-92	-	-	-	-	-	-	-	-	-	-	-	3	3
Total Number	36	90	243	13	3	26	6	6	3	-	3	3	432
Mean Length	49.0	58.3	65.8	66.5	70.0	76.2	79.0	80.5	76.0	...	85.0	91.0	64.2

The sample data are given on page 142.

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial Nos. 50,52,53

Female	DORY VESSELS - Commercial Catches before Discarding													IB	August	
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1940	-	1936	Total
Age	4	5	6	7	8	9	10	11	12	13	14	-	19	-	23	
3-cm group	F R E Q U E N C I E S in ‰															
45-47	17	3	-	-	-	-	-	-	-	-	-	-	-	-	-	20
48-50	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
51-53	13	3	-	-	-	-	-	-	-	-	-	-	-	-	-	16
54-56	-	20	3	-	-	-	-	-	-	-	-	-	-	-	-	23
57-59	-	33	13	-	-	-	-	-	-	-	-	-	-	-	-	46
60-62	-	30	43	-	-	-	-	-	-	-	-	-	-	-	-	73
63-65	-	13	77	-	-	-	-	-	-	-	-	-	-	-	-	90
66-68	-	3	80	7	-	-	-	-	-	-	-	-	-	-	-	90
69-71	-	-	50	13	-	-	-	-	-	-	-	-	-	-	-	73
72-74	-	-	23	7	-	-	-	-	-	-	-	-	-	-	-	30
75-77	-	-	7	-	10	-	-	-	-	-	-	-	-	-	-	17
78-80	-	-	7	-	3	7	-	-	-	-	-	-	-	-	-	17
81-83	-	-	-	3	-	7	-	3	3	-	-	-	-	-	-	16
84-86	-	-	-	-	-	-	-	-	3	7	-	-	-	-	-	10
87-89	-	-	-	-	-	7	-	-	3	-	3	-	-	-	-	13
90-92	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	3
93-95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
96-98	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
105-107	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120-122	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
Total Number	43	105	313	30	13	21	-	3	12	7	6	-	3	-	3	559
Mean Length	48.7	58.8	64.2	71.2	76.7	83.0	...	82.0	90.3	85.0	89.5	...	97.0	...	121.0	66.3

The sample data are given on page 142.

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 27,28,35,36by Mario J. Ruiivo
Glicinia V. Quartin

Male	DORY VESSELS - Commercial Catches before Discarding													IC	June
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	Total
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
3-cm group	FREQUENCIES in ‰														
42-44	3	-	-	-	-	-	-	-	-	-	-	-	-	-	3
45-47	8	-	-	-	-	-	-	-	-	-	-	-	-	-	8
48-50	8	3	-	-	-	-	-	-	-	-	-	-	-	-	11
51-53	-	10	5	-	-	-	-	-	-	-	-	-	-	-	15
54-56	-	8	10	-	3	-	-	-	-	-	-	-	-	-	21
57-59	-	8	5	3	-	-	-	-	-	-	-	-	-	-	16
60-62	-	3	30	3	-	-	-	-	-	-	-	-	-	-	36
63-65	-	3	43	-	-	-	-	-	-	-	-	-	-	-	46
66-68	-	3	55	-	-	-	-	-	-	-	-	-	-	-	58
69-71	-	-	10	15	8	8	-	-	5	-	-	-	-	-	46
72-74	-	-	5	8	3	20	-	-	8	-	-	-	-	-	44
75-77	-	-	-	-	5	13	3	10	15	13	-	-	-	-	59
78-80	-	-	-	-	3	13	3	10	18	5	-	10	3	-	65
81-83	-	-	-	-	-	-	3	13	5	8	-	5	3	-	37
84-86	-	-	-	-	3	3	-	-	5	8	3	-	-	-	22
87-89	-	-	-	-	-	-	-	-	-	3	-	-	3	3	9
90-92	-	-	-	-	-	-	-	-	-	-	-	3	-	3	6
93-95	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3
96-98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	-	-	-	-	-	3	-	3
Total Number	19	38	163	29	25	57	9	33	59	37	3	18	12	6	508
Mean Length	46.8	56.5	64.0	68.7	72.6	75.3	79.0	79.3	78.2	80.6	85.0	81.8	88.0	89.1	70.5

The sample data are given on page 142.

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)

AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 27,28,35,36

by Mario J. Ruivo
Glicinia V. Quartin

Female	DORY VESSELS - Commercial Catches before Discarding													IC	June
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945 - 1942	1941 - 1938	Total		
Age	4	5	6	7	8	9	10	11	12	13	14 - 17	18 - 21			
3-cm group	FREQUENCIES in ‰														
39-41	5	-	-	-	-	-	-	-	-	-	-	-	5		
42-44	5	-	-	-	-	-	-	-	-	-	-	-	5		
45-47	8	-	-	-	-	-	-	-	-	-	-	-	8		
48-50	8	8	-	-	-	-	-	-	-	-	-	-	16		
51-53	-	8	-	-	-	-	-	-	-	-	-	-	8		
54-56	-	23	8	-	-	-	-	-	-	-	-	-	31		
57-59	-	13	23	-	-	-	-	-	-	-	-	-	36		
60-62	-	3	38	8	-	-	-	-	-	-	-	-	49		
63-65	-	-	30	3	-	-	-	-	-	-	-	-	33		
66-68	-	-	40	10	-	3	-	-	-	-	-	-	53		
69-71	-	3	23	13	3	3	-	-	3	-	-	-	48		
72-74	-	-	13	3	3	5	3	-	-	-	-	-	27		
75-77	-	-	-	3	13	13	3	5	3	5	-	-	45		
78-80	-	-	-	5	3	10	3	3	23	3	3	-	53		
81-83	-	-	-	-	5	5	5	5	13	3	-	3	39		
84-86	-	-	-	-	-	5	3	3	8	-	3	3	25		
87-89	-	-	-	-	-	-	-	3	10	3	3	5	24		
90-92	-	-	-	-	-	-	-	-	5	-	-	-	5		
93-95	-	-	-	-	-	-	3	-	3	-	-	5	11		
96-98	-	-	-	-	-	-	-	-	3	5	-	-	8		
-	-	-	-	-	-	-	-	-	-	-	-	-	-		
117-119	-	-	-	-	-	-	-	-	-	-	-	-	3		
120-122	-	-	-	-	-	-	-	-	-	3	-	-	3		
Total Number	26	58	175	45	27	44	20	19	71	22	9	13	535		
Mean Length	45.2	55.5	64.0	71.5	76.4	77.2	81.6	81.4	83.2	89.8	84.0	96.0	82.0	118.0	70.6

The sample data are given on page 142.

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 41 and 42by Mario J. Ruivo
Glicinia V. Quartin

Male	DORY VESSELS - Commercial Catches before Discarding													IC	July
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	Total
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
3-cm group	FREQUENCIES in ‰														
42-44	13	-	-	-	-	-	-	-	-	-	-	-	-	-	13
45-47	13	7	-	-	-	-	-	-	-	-	-	-	-	-	20
48-50	20	13	-	-	-	-	-	-	-	-	-	-	-	-	33
51-53	20	20	-	-	-	-	-	-	-	-	-	-	-	-	40
54-56	-	20	13	-	-	-	-	-	-	-	-	-	-	-	33
57-59	-	7	13	-	-	-	7	-	-	-	-	-	-	-	27
60-62	-	-	7	-	-	-	7	-	-	-	-	-	-	-	14
63-65	-	-	27	7	-	7	-	-	-	-	-	-	-	-	41
66-68	-	-	40	7	-	7	-	-	7	-	-	-	-	-	61
69-71	-	-	13	-	-	7	-	7	7	-	-	-	-	-	34
72-74	-	-	-	7	13	-	-	7	13	7	-	-	-	-	47
75-77	-	-	-	-	7	7	-	7	27	-	-	-	-	-	48
78-80	-	-	-	-	-	7	-	-	34	-	7	7	7	-	62
81-83	-	-	-	-	-	-	-	-	20	7	-	-	-	7	34
84-86	-	-	-	-	7	-	-	7	-	7	-	7	-	-	28
87-89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90-92	-	-	-	-	-	-	-	-	-	-	-	-	7	-	7
Total Number	66	67	113	21	27	35	14	28	108	21	7	14	14	7	542
Mean Length	48.1	52.3	63.8	68.0	76.9	71.2	59.7	76.0	76.4	80.0	79.0	82.0	85.0	82.0	66.9

The sample data are given on page 142.

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial Nos. 41 and 42

Female	DORY VESSELS - Commercial Catches before Discarding													IC	July
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
3-on group	F R E Q U E N C I E S in ‰														
42-44	7	-	-	-	-	-	-	-	-	-	-	-	-	-	7
45-47	-	7	-	-	-	-	-	-	-	-	-	-	-	-	7
48-50	-	7	-	-	-	-	-	-	-	-	-	-	-	-	7
51-53	-	7	7	-	-	-	-	-	-	-	-	-	-	-	14
54-56	-	-	13	7	-	-	-	-	-	-	-	-	-	-	20
57-59	-	-	7	-	-	-	-	-	-	-	-	-	-	-	7
60-62	-	-	7	20	-	-	-	-	-	-	-	-	-	-	27
63-65	-	-	-	54	-	-	7	-	-	-	-	-	-	-	61
66-68	-	-	-	34	20	-	-	-	-	-	-	-	-	-	54
69-71	-	-	-	13	27	7	-	-	-	-	-	-	-	-	47
72-74	-	-	-	7	13	-	-	-	-	-	-	-	-	-	20
75-77	-	-	-	-	-	13	13	-	7	13	-	-	-	-	46
78-80	-	-	-	-	-	-	13	-	-	7	-	-	-	-	20
81-83	-	-	-	-	-	-	7	7	7	13	-	-	-	7	41
84-86	-	-	-	-	-	-	-	-	-	27	7	-	7	-	41
87-89	-	-	-	-	-	-	7	7	-	13	-	-	-	-	27
90-92	-	-	-	-	-	-	-	7	-	-	-	-	-	-	7
93-95	-	-	-	-	-	-	-	-	-	-	7	-	-	-	7
96-98	-	-	-	-	-	-	-	-	-	-	7	-	-	-	7
Total Number	7	21	34	135	60	20	47	21	14	73	21	-	7	7	467
Mean Length	43.0	49.0	56.2	64.9	69.7	73.9	77.7	87.0	79.0	82.8	92.0	...	85.0	82.0	71.2

The sample data are given on page 142.

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial Nos. 55 and 57

Male	DORY VESSELS - Commercial Catches before Discarding													1C	August
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	Total	
Age	4	5	6	7	8	9	10	11	12	13	14	15	16		
3-cm group	FREQUENCIES in ‰														
42-44	5	-	-	-	-	-	-	-	-	-	-	-	-	5	
45-47	40	-	-	-	-	-	-	-	-	-	-	-	-	40	
48-50	20	-	-	-	-	-	-	-	-	-	-	-	-	20	
51-53	15	5	5	-	-	-	-	-	-	-	-	-	-	25	
54-56	5	35	5	-	-	-	-	-	-	-	-	-	-	45	
57-59	-	30	10	-	-	-	-	-	-	-	-	-	-	40	
60-62	-	5	5	5	-	-	-	-	-	-	-	-	-	15	
63-65	-	10	51	5	-	5	-	-	-	-	-	-	-	71	
66-68	-	-	66	5	-	-	-	-	-	-	-	-	-	71	
69-71	-	-	30	15	5	-	10	-	5	-	5	-	-	70	
72-74	-	-	5	5	5	5	5	-	15	5	-	-	-	45	
75-77	-	-	-	5	-	-	-	-	5	-	-	-	-	10	
78-80	-	-	-	-	5	-	-	5	15	-	-	-	-	25	
81-83	-	-	-	-	-	5	5	-	5	-	-	-	5	20	
84-86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
87-89	-	-	-	-	-	-	5	-	5	-	-	-	-	10	
Total Number	85	85	177	40	15	15	25	5	50	5	5	-	5	512	
Mean Length	48.1	57.3	65.4	68.9	74.0	73.0	76.6	79.0	77.2	73.0	70.0	...	82.0	64.3	

The sample data are given on page 142.

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial Nos. 55 and 57

Female	DORY VESSELS - Commercial Catches before Discarding										1C	August
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total
Age	4	5	6	7	8	9	10	11	12	13	14	
3-cm group	FREQUENCIES in ‰											
42-44	5	-	-	-	-	-	-	-	-	-	-	5
45-47	5	-	-	-	-	-	-	-	-	-	-	5
48-50	30	15	-	-	-	-	-	-	-	-	-	45
51-53	15	15	-	-	-	-	-	-	-	-	-	30
54-56	10	30	-	-	-	-	-	-	-	-	-	40
57-59	-	51	10	-	-	-	-	-	-	-	-	61
60-62	-	15	10	10	-	-	-	-	-	-	-	35
63-65	-	-	26	-	-	-	-	-	-	-	-	26
66-68	-	5	46	20	-	-	-	-	-	-	-	71
69-71	-	-	40	-	-	-	5	-	-	-	-	45
72-74	-	-	10	5	15	5	-	-	-	-	-	35
75-77	-	-	5	-	10	-	15	-	-	-	-	30
78-80	-	-	-	-	-	5	-	5	-	-	5	15
81-83	-	-	-	5	-	5	-	-	-	-	5	15
84-86	-	-	-	-	-	5	-	-	-	-	-	5
87-89	-	-	-	-	-	-	-	5	5	-	-	10
-	-	-	-	-	-	-	-	-	-	-	-	-
105-107	-	-	-	-	-	-	-	-	-	5	-	5
108-110	-	-	-	-	-	-	-	-	5	-	-	5
Total Number	65	131	147	40	25	20	20	10	10	5	10	483
Mean Length	49.9	56.3	67.0	68.1	74.2	80.0	74.5	83.5	98.5	106.0	80.5	64.8

The sample data are given on page 142.

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾

Serial Nos. 20,21,22

by Mario J. Ruivo
Glicinia V. Quartin

Male		DORY VESSELS - Commercial Catches before Discarding										ID	June
Year-Class	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	Total	
Age	6	7	8	9	10	11	12	13	14	15	16		
3-cm group	FREQUENCIES in ‰												
57-59	7	-	-	-	-	-	-	-	-	-	-	7	
60-62	3	-	-	-	-	-	-	-	-	-	-	3	
63-65	-	-	-	3	-	-	-	-	-	-	-	3	
66-68	3	3	-	3	-	-	-	-	-	-	-	9	
69-71	3	7	7	13	-	7	3	-	-	-	-	40	
72-74	3	-	13	34	7	7	34	3	-	-	-	101	
75-77	-	-	7	40	-	17	60	13	-	-	-	137	
78-80	-	-	-	20	-	3	37	13	3	-	-	76	
81-83	-	-	7	13	7	3	13	-	3	-	3	49	
84-86	-	-	-	-	-	-	20	-	7	-	3	30	
87-89	-	-	-	-	-	-	7	3	-	-	-	10	
Total Number	19	10	34	126	14	37	174	32	13	-	6	465	
Mean Length	64.2	69.1	74.9	75.2	77.5	75.0	78.5	78.1	82.4	...	83.1	75.8	

Female		DORY VESSELS - Commercial Catches before Discarding										ID	June
Year-Class	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	Total
Age	6	7	8	9	10	11	12	13	14	15	16	17	
3-cm group	FREQUENCIES in ‰												
57-59	-	-	3	-	-	-	-	-	-	-	-	-	3
60-62	-	-	-	-	-	-	-	-	-	-	-	-	-
63-65	10	-	-	-	-	-	-	-	-	-	-	-	10
66-68	3	-	-	-	-	-	-	-	-	-	-	-	3
69-71	3	3	3	7	-	-	-	-	-	-	-	-	16
72-74	-	3	7	30	3	13	13	-	-	-	-	-	69
75-77	-	10	10	7	3	17	23	-	7	-	-	-	77
78-80	-	-	7	17	10	7	44	17	3	3	3	-	111
81-83	-	-	-	20	3	17	44	3	20	-	-	-	107
84-86	-	-	3	3	-	10	20	7	-	7	3	-	53
87-89	-	-	-	3	-	7	3	-	7	7	3	-	30
90-92	-	-	3	-	-	-	3	3	3	3	10	3	28
93-95	-	-	-	-	-	3	3	3	3	-	-	-	12
96-98	-	-	-	-	-	3	-	-	3	-	-	-	6
Total Number	16	16	36	87	19	77	153	33	46	20	19	3	525
Mean Length	65.7	74.0	76.0	78.4	78.1	80.9	81.9	83.8	84.2	86.1	87.7	91.0	80.7

The sample data are given on page 142.

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial Nos. 23 and 25

Male	DORY VESSELS - Commercial Catches before Discarding										ID	June
Year-Class	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total	
Age	5	6	7	8	9	10	11	12	13	14		
3-cm group	FREQUENCIES in ‰											
48-50	5	-	-	-	-	-	-	-	-	-	5	
51-53	-	5	-	-	-	-	-	-	-	-	5	
54-56	25	5	-	-	-	-	-	-	-	-	30	
57-59	25	10	5	-	-	-	-	-	-	-	40	
60-62	20	55	-	-	-	-	-	-	-	-	75	
63-65	-	90	10	-	-	-	-	-	-	-	100	
66-68	-	85	15	5	-	-	-	-	-	-	105	
69-71	-	30	10	5	10	-	-	-	-	-	55	
72-74	-	10	-	5	10	-	-	5	-	-	30	
75-77	-	-	10	20	-	-	-	-	-	-	30	
78-80	-	-	-	-	-	-	-	-	-	5	5	
81-83	-	-	-	-	-	10	-	10	-	-	20	
84-86	-	-	-	-	5	-	-	-	-	-	5	
Total Number	75	290	50	35	25	10	-	15	-	5	505	
Mean Length	57.2	64.7	67.9	73.4	74.2	82.0	...	79.0	...	79.0	66.3	

Female	DORY VESSELS - Commercial Catches before Discarding										ID	June
Year-Class	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total	
Age	5	6	7	8	9	10	11	12	13	14		
3-cm group	FREQUENCIES in ‰											
54-56	5	5	-	-	-	-	-	-	-	-	10	
57-59	25	10	-	-	-	-	-	-	-	-	35	
60-62	15	25	-	-	-	-	-	-	-	-	40	
63-65	10	65	-	5	-	-	-	-	-	-	80	
66-68	-	105	5	-	-	-	-	-	-	-	110	
69-71	-	55	20	15	5	-	-	-	-	-	95	
72-74	-	15	5	5	-	-	-	-	-	-	25	
75-77	-	5	-	10	5	-	-	10	-	-	30	
78-80	-	-	5	5	10	-	5	10	-	-	35	
81-83	-	-	-	-	-	-	-	-	-	-	-	
84-86	-	-	-	5	10	-	-	-	-	-	15	
87-89	-	-	-	-	10	-	-	-	-	-	10	
90-92	-	-	-	-	-	-	-	-	-	-	-	
93-95	-	-	-	-	-	-	-	-	-	5	5	
Total Number	55	285	35	45	40	-	5	20	-	5	490	
Mean Length	59.6	66.3	71.3	73.7	81.3	...	79.0	77.5	...	94.0	68.7	

The sample data are given on page 142.

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 43,44,46by Mario J. Ruivo
Glicinia V. Martin

Male	DORY VESSELS - Commercial Catches before Discarding																ID	July
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	-	1938	Total		
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	-	21			
3-cm group	F R E Q U E N C I E S in %/oo																	
51-53	7	7	3	-	-	-	-	-	-	-	-	-	-	-	-	17		
54-56	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	3		
57-59	-	7	7	-	-	-	-	-	-	-	-	-	-	-	-	14		
60-62	-	23	10	-	-	-	-	-	-	-	-	-	-	-	-	33		
63-65	-	3	13	-	-	-	-	-	-	-	-	-	-	-	-	16		
66-68	-	-	17	-	3	-	-	-	-	3	-	-	-	-	-	23		
69-71	-	-	20	-	-	3	-	-	-	-	-	-	-	-	-	23		
72-74	-	-	3	10	7	10	3	3	-	-	-	-	-	-	-	36		
75-77	-	-	3	13	17	13	-	-	3	-	-	-	-	-	-	49		
78-80	-	-	3	10	17	3	7	-	7	-	-	-	-	-	-	47		
81-83	-	-	-	3	10	10	7	7	3	13	7	-	-	-	-	60		
84-86	-	-	-	3	3	7	-	3	10	10	-	-	-	-	-	36		
87-89	-	-	-	-	-	-	-	3	-	10	7	-	-	-	-	20		
90-92	-	-	-	-	-	7	3	3	7	3	-	-	-	-	-	23		
93-95	-	-	-	-	-	-	-	-	3	7	3	-	3	-	-	16		
96-98	-	-	-	-	-	-	-	3	-	3	-	-	-	-	-	6		
99-101	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	10		
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
105-107	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	3		
108-110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
111-113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3		
Total Number	7	40	82	39	57	53	26	16	56	43	10	3	3	-	3	438		
Mean Length	52.0	59.1	65.8	77.2	77.6	79.6	83.6	82.6	88.7	85.2	85.6	106.0	94.0	...	112.0	76.9		

The sample data are given on page 142.

(cont'd.)

- 1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos. 43,44,46by Mario J. Ruivo
Glicinia V. Quartin

Female	DORY VESSELS - Commercial Catches before Discarding														ID	July
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	Total	
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
3-cm group	FREQUENCIES in ‰															
48-50	10	-	-	-	-	-	-	-	-	-	-	-	-	-	10	
51-53	-	10	-	-	-	-	-	-	-	-	-	-	-	-	10	
54-56	-	13	-	-	-	-	-	-	-	-	-	-	-	-	13	
57-59	-	20	3	-	-	-	-	-	-	-	-	-	-	-	23	
60-62	-	17	17	3	-	-	-	-	-	-	-	-	-	-	37	
63-65	-	3	23	3	-	-	-	-	-	-	-	-	-	-	29	
66-68	-	-	27	3	-	-	-	-	-	-	-	-	-	-	30	
69-71	-	3	27	13	-	-	-	-	3	-	-	-	-	-	46	
72-74	-	-	13	13	7	10	3	3	3	-	-	-	-	-	52	
75-77	-	-	3	30	3	30	3	-	7	-	3	-	-	-	79	
78-80	-	-	-	3	3	30	3	3	20	-	-	-	-	-	62	
81-83	-	-	-	-	-	10	3	7	3	10	-	-	-	-	33	
84-86	-	-	-	-	-	7	-	10	17	3	-	-	-	-	37	
87-89	-	-	-	-	-	7	3	-	10	-	-	3	-	-	23	
90-92	-	-	-	-	-	3	-	3	17	-	-	-	-	-	23	
93-95	-	-	-	-	-	-	7	3	7	-	3	-	-	-	20	
96-98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
99-101	-	-	-	-	-	-	-	3	3	3	-	-	-	-	9	
102-104	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	
105-107	-	-	-	-	-	-	-	-	3	-	-	-	-	3	6	
Total Number	10	66	113	68	13	97	22	32	96	16	6	3	-	3	545	
Mean Length	49.0	58.9	66.9	72.8	75.7	79.2	84.2	85.5	85.9	85.9	85.0	88.0	...	106.0	74.8	

The sample data are given on page 142.

(cont'd.)

1) The length frequencies of these samples are given in Table 12; the age frequencies are given in Table 25.

TABLE 32 PORTUGAL - 1959
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial No. 59

Male	DORY VESSELS - Commercial Catches before Discarding											ID	August
Year-Class	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	Total
Age	5	6	7	8	9	10	11	12	13	14	15	16	
3-cm group	F R E Q U E N C I E S in ‰												
54-56	10	-	-	-	-	-	-	-	-	-	-	-	10
57-59	-	-	-	-	-	-	-	-	-	-	-	-	-
60-62	10	30	-	-	-	-	-	-	-	-	-	-	40
63-65	-	40	20	-	-	-	-	-	-	-	-	-	60
66-68	10	81	10	-	-	-	-	-	-	-	-	-	101
69-71	-	40	10	-	10	-	-	-	-	-	-	-	60
72-74	-	20	20	10	10	-	10	20	-	-	10	-	100
75-77	-	10	30	-	20	-	10	-	10	-	-	-	80
78-80	-	20	-	20	20	-	-	10	-	-	10	-	80
81-83	-	-	-	-	20	-	-	20	-	-	-	-	40
84-86	-	-	-	-	10	-	-	-	-	-	-	10	20
87-89	-	-	-	-	-	-	-	10	-	-	-	-	10
Total Number	30	241	90	30	90	-	20	60	10	-	20	10	601
Mean Length	61.0	68.1	71.0	77.0	78.0	...	74.1	79.1	76.5	...	75.1	85.0	72.1

Female	DORY VESSELS - Commercial Catches before Discarding									ID	August
Year-Class	1954	1953	1952	1951	1950	1949	1948	1947		Total	
Age	5	6	7	8	9	10	11	12			
3-cm group	F R E Q U E N C I E S in ‰										
63-65	10	40	-	-	-	-	-	-	-	50	
66-68	10	10	10	30	-	-	-	-	-	60	
69-71	-	30	20	30	-	-	-	-	-	80	
72-74	-	20	40	-	10	-	-	-	-	70	
75-77	-	10	-	-	-	-	10	10	-	30	
78-80	-	-	-	10	10	-	-	-	-	20	
81-83	-	-	10	-	10	-	-	-	-	20	
84-86	-	-	-	-	10	10	-	-	-	20	
87-89	-	-	-	-	10	-	-	-	10	20	
90-92	-	-	-	-	-	-	-	-	10	10	
93-95	-	-	-	-	10	-	-	-	-	10	
Total Number	20	110	80	70	60	10	10	30		390	
Mean Length	65.0	68.6	72.9	70.0	83.5	85.0	76.0	85.0		73.7	

The sample data are given on page 142.

1) The length frequencies of this sample are given in Table 12; the age frequencies are given in Table 25.

TABLE 33 PORTUGAL - 1959

SAMPLE DATA
for Table 32by Mario J. Ruivo
Glicinia V. Quartin

OTTER TRAWLERS - Commercial Catches before Discarding

Division	1D	1D	1E	4W north	4W south	4W south
Month	April	May	May	March	February	March
Serial Numbers	1,2	4,5	7,13,15,16	12,13,14	1	3,6,8,10
Number of Samples	2	2	4	3	1	4
Number of Fish	199	199	396	300	100	400
Mean Age	6.1	6.3	7.3	5.6	5.8	6.5
Mean Length (cm)	67.1	63.4	65.1	57.9	55.8	58.2
Mesh Size (mm)	117	117	117	117	117	117
Range of Depths (fm)	33-36	33-35	116-167	85-120	105	50-140

DORY VESSELS - Commercial Catches before Discarding

Division	1B	1B	1B	1C	1C
Month	June	July	August	June	July
Serial Numbers	30,32,34	37,38,40	50,52,53	27,28,35,36	41,42
Number of Samples	3	3	3	4	2
Number of Fish	299	300	300	399	149
Mean Age	6.5	6.5	6.3	8.4	8.3
Mean Length (cm)	64.1	62.4	65.5	70.4	68.9
Hook Size	14½	14½	14½	14½	14½
Range of Depths (fm)	30-40	25-30	15-30	40-65	45-50

DORY VESSELS - Commercial Catches before Discarding

Division	1C	1D	1D	1D	1D
Month	August	June	June	July	August
Serial Numbers	55,57	20,21,22	23,25	43,44,46	59
Number of Samples	2	3	2	3	1
Number of Fish	198	299	200	299	99
Mean Age	6.6	10.9	6.7	8.7	7.9
Mean Length (cm)	64.4	78.2	67.4	74.9	73.0
Hook Size	14½	14½	14½	14½	14½
Range of Depths (fm)	45-50	25-145	25-27	27-30	26

TABLE 34 PORTUGAL - 1959

WEIGHT TABLE - COD

by Mario J. Ruivo
Glicinia V. QuartinData on weights in grams of whole fish,
the liver, the gonads, and the intestines,
stratified by size classes

Greenland										
Sex cm group	♂♂					♀♀				
	Number Sampled	Total Weight	Wt. of Livers	Wt. of Gonads	Wt. of Intestines	Number Sampled	Total weight	Wt. of Livers	Wt. of Gonads	Wt. of Intestines
42	9	671	29	>10	44	4	570	33	>10	43
47	6	935	39	>10	46	6	786	33	>10	66
52	6	1283	72	>10	83	4	1421	80	>10	110
57	26	1619	68	>11	126	38	1573	78	>10	113
62	57	2013	94	>19	131	53	2109	105	15	146
67	89	2473	109	21	161	41	2633	137	31	169
72	44	3211	144	34	187	36	3170	169	50	179
77	33	3774	183	43	212	51	3728	171	68	254
82	12	4341	215	61	209	33	4477	223	82	281
87	10	5813	296	68	334	15	5413	303	90	358
92	5	7107	444	97	396	5	6688	403	110	347

HADDOCK

Guide to Tables

The numbers in the guide are page numbers. For a length frequency reference the page number alone is given. For an age/length key or frequency the page number is followed by K.

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Division	OTTER TRAWL				OTHER GEARS			
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3O	153	153						
3P						152		
3P south	153							
4T		147	147					
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4W	149	147,149	149,150	150			152	
4X		147	147	147,148	151,154	150,151 154	150,154	150,151 154
5Y					155	155	155	155
5Z					158,159 161K,162K	158,161K	158,159 161K,162K	159,162K

TABLE 35 CANADA (Maritimes) - 1959

LENGTH FREQUENCIES - HADDOCK

by W.R. Martin

D.N. Fitzgerald

Commercial Landings

Vessel Type	Otter Trawlers							
	0-25			26-50		51-150		
Vessel Tonnage Class	4X			4T		4W	4X	
Division	June	Sept.	October	June	July	April	August	Sept.
Month	June	Sept.	October	June	July	April	August	Sept.
2-cm group	F R E Q U E N C I E S in ‰							
26-27	-	-	-	-	-	-	3	-
28-29	-	1	-	-	-	-	10	-
30-31	3	1	1	-	-	-	30	-
32-33	18	4	2	-	-	-	50	5
34-35	31	24	19	-	-	-	104	-
36-37	89	48	47	-	2	-	104	-
38-39	120	75	63	14	5	-	160	20
40-41	148	113	129	40	28	56	117	60
42-43	145	161	174	73	63	126	94	95
44-45	119	171	146	86	85	46	77	100
46-47	96	153	144	65	93	80	83	170
48-49	66	85	110	82	105	150	63	130
50-51	60	60	74	103	145	190	23	145
52-53	43	36	37	61	67	92	20	115
54-55	22	32	21	36	76	48	10	50
56-57	18	19	16	64	54	56	7	20
58-59	10	6	11	73	74	68	23	55
60-61	6	8	3	51	65	24	3	25
62-63	3	2	3	54	34	16	3	5
64-65	1	-	-	48	29	36	10	-
66-67	1	-	-	42	22	4	3	5
68-69	1	1	-	36	15	4	3	-
70-71	-	-	-	33	13	4	-	-
72-73	-	-	-	15	18	-	-	-
74-75	-	-	-	12	5	-	-	-
76-77	-	-	-	6	2	-	-	-
78-79	-	-	-	3	-	-	-	-
80-81	-	-	-	-	-	-	-	-
82-83	-	-	-	3	-	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000	1000
Serial Numbers								
Number of Samples	3	2	2	1	3	1	1	1
Number Fish Measured	2060	800	700	300	600	200	300	200
Mean Length (cm)	43.57	44.79	44.78	54.41	52.80	50.44	41.44	48.65
Mean Weight (Kg)	0.81	1.08	1.10	1.64	1.63	1.31	0.89	1.42
Total Wt. Landed (Tons)	1809 ¹⁾	1236 ¹⁾	689 ¹⁾	1466 ¹⁾	413 ¹⁾	5262 ¹⁾	1487 ¹⁾	1236 ¹⁾
Wt. Landings Sampled	8	2	3	2	25	45	6	3
Mesh Size (inches)	3½ & 4½	4	4	4½	4½	4½	4½	4
Range of Depths (fm)	20-30	...	...	50-60	30-70	55-70	12	50

1) Includes all Canadian (Maritimes & Quebec) landings.

(cont'd.)

TABLE 35 CANADA (Maritimes) - 1959
(cont'd.)

LENGTH FREQUENCIES - HADDOCK

by W.R. Martin
D.M. Fitzgerald

Commercial Landings

Vessel Type	Otter Trawlers							
	51-150				151-500			
Vessel Tonnage Class	4X				4W			
Division								
Month	October	Nov.	Feb.	May	June	August	Sept.	October
2-cm group	FREQUENCIES in ‰							
30-31	-	-	-	-	-	-	4	-
32-33	-	-	-	-	-	-	1	-
34-35	-	-	-	-	-	-	4	-
36-37	10	6	8	-	18	-	20	-
38-39	15	29	31	-	47	-	43	14
40-41	35	75	86	32	89	14	121	72
42-43	68	69	101	16	115	61	194	193
44-45	90	110	156	95	109	164	176	272
46-47	100	81	89	162	118	277	109	220
48-49	138	150	98	138	146	224	68	87
50-51	113	104	74	188	104	81	43	37
52-53	113	92	91	98	81	85	22	11
54-55	82	87	56	87	59	48	48	21
56-57	72	87	63	76	36	18	52	25
58-59	52	63	46	36	32	23	50	14
60-61	40	23	28	24	37	5	29	12
62-63	45	6	21	15	5	-	9	7
64-65	18	12	21	24	4	-	5	7
66-67	5	-	18	6	-	-	-	4
68-69	2	6	7	-	-	-	2	2
70-71	-	-	-	3	-	-	-	-
72-73	2	-	3	-	-	-	-	-
74-75	-	-	-	-	-	-	-	-
76-77	-	-	-	-	-	-	-	-
78-79	-	-	-	-	-	-	-	2
80-81	-	-	3	-	-	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000	1000
Serial Numbers								
Number of Samples	1	1	1	1	1	1	2	1
Number Fish Measured	400	173	200	200	200	200	400	200
Mean Length (cm)	50.99	49.62	49.41	50.76	47.81	48.04	46.60	46.21
Mean Weight (Kg)	1.63	1.31	1.33	1.30	1.08	1.08	1.00	1.04
Total Wt. Landed (Tons)	689 ¹⁾	570 ¹⁾	104 ¹⁾	738 ¹⁾	1310 ¹⁾	219 ¹⁾	551 ¹⁾	549 ¹⁾
Wt. Landings Sampled	1	2	13	31	27	75	96	12
Mesh Size (inches)	4½	4½	4½	4¾	4¾	4½	3½ & 4½	4½
Range of Depths (fm)	...	26-120	80-90	19-26	23-24	22-26	20-26	26-30

1) Includes all Canadian (Maritimes & Quebec) landings.

(cont'd.)

TABLE 35 CANADA (Maritimes) - 1959
(cont'd.)

LENGTH FREQUENCIES - HADDOCK

by W.R. Martin
D.N. Fitzgerald

Commercial Landings

Vessel Type	Otter Trawlers						
Vessel Tonnage Class	151-500						
Division	4V-W			4W			
Month	September	November	January	February	March	April	July
2-cm group	FREQUENCIES in ‰						
30-31	-	-	-	-	-	-	6
32-33	-	-	-	-	-	-	30
34-35	-	-	1	1	-	-	36
36-37	-	6	4	1	1	-	115
38-39	-	90	20	9	18	-	80
40-41	11	213	59	39	41	24	88
42-43	81	152	78	45	61	68	143
44-45	227	163	93	58	57	76	136
46-47	252	90	78	58	72	76	85
48-49	206	47	107	84	117	159	71
50-51	59	85	130	110	114	148	79
52-53	44	39	112	97	119	131	46
54-55	33	48	90	108	116	80	26
56-57	17	45	66	90	87	83	20
58-59	25	11	47	83	69	66	13
60-61	17	4	34	70	40	32	16
62-63	8	7	28	49	26	20	7
64-65	4	-	16	35	25	12	3
66-67	8	-	13	24	12	11	-
68-69	4	-	12	16	12	5	-
70-71	4	-	7	14	10	5	-
72-73	-	-	1	2	2	1	-
74-75	-	-	3	3	-	3	-
76-77	-	-	-	3	-	-	-
78-79	-	-	1	1	-	-	-
80-81	-	-	-	-	1	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000
Serial Numbers							
Number of Samples	1	1	6	8	4	5	1
Number Fish Measured	200	200	1650	1790	1000	985	200
Mean Length (cm)	48.08	45.31	50.83	53.65	52.03	51.43	44.08
Mean Weight (Kg)	1.15	1.03	1.37	1.73	1.58	1.37	0.99
Total Wt. Landed (Tons)	1738 ¹⁾	1538 ¹⁾	2170 ¹⁾	2856 ¹⁾	4679 ¹⁾	5262 ¹⁾	669 ¹⁾
Wt. Landings Sampled	17	20	305	294	197	229	35
Mesh Size (inches)	3 $\frac{3}{4}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$ -4 $\frac{7}{8}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$ -4 $\frac{3}{4}$	4 $\frac{3}{4}$
Range of Depths (fm)	22-26	26-35	40-80	35-95	65-70	45-72	25-30

1) Includes all Canadian (Maritimes & Quebec) landings.

(cont'd.)

TABLE 35 CANADA (Maritimes) - 1959
(cont'd.)

LENGTH FREQUENCIES - HANDOCK

by W.R. Martin
D.N. Fitzgerald

Commercial Landings

Vessel Type	Otter Trawlers			Longliners			
Vessel Tonnage Class	151-500			0-25			
Division	4W			4X			
Month	August	October	December	June	August	September	December
2-cm group	FREQUENCIES in ‰						
30-31	-	-	-	-	-	4	-
32-33	17	-	-	-	-	9	-
34-35	28	-	-	-	4	23	-
36-37	124	-	28	8	8	30	10
38-39	164	61	205	37	21	44	57
40-41	90	209	267	20	31	55	13
42-43	85	187	153	20	57	64	50
44-45	150	171	136	86	45	70	33
46-47	56	104	48	37	66	74	97
48-49	41	62	41	53	96	84	97
50-51	75	80	18	98	141	87	120
52-53	55	65	18	86	143	78	150
54-55	37	37	41	106	123	82	107
56-57	37	12	12	82	108	77	134
58-59	32	8	9	78	70	70	83
60-61	9	4	12	119	35	50	23
62-63	-	-	3	73	24	41	17
64-65	-	-	6	33	12	27	3
66-67	-	-	3	24	6	22	-
68-69	-	-	-	16	5	4	3
70-71	-	-	-	8	3	2	3
72-73	-	-	-	12	2	1	-
74-75	-	-	-	-	-	-	-
76-77	-	-	-	-	-	1	-
78-79	-	-	-	4	-	-	-
80-81	-	-	-	-	-	-	-
82-83	-	-	-	-	-	1	-
Total ‰	1000	1000	1000	1000	1000	1000	1000
Serial Numbers							
Number of Samples	1	1	1	1	4	6	1
Number Fish Measured	200	200	200	245	1400	1378	300
Mean Length (cm)	44.07	45.07	43.30	54.26	51.66	50.41	51.15
Mean Weight (Kg)	0.94	1.00	0.88	1.75	1.69	1.85	1.47
Total Wt. Landed (Tons)	1047 ¹⁾	1352 ¹⁾	874 ¹⁾	1809 ¹⁾	1487 ¹⁾	1236 ¹⁾	393 ¹⁾
Wt. Landings Sampled	47	28	21	1	19	3	1
Mesh (in.) or Hook Size	4 $\frac{3}{4}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$	#6/0	#6/0	#6/0	#6/0
Range of Depths (fm)	23-32	22-32	28-38	30-40	20-40	30	30-40

1) Includes all Canadian (Maritimes & Quebec) landings.

(cont'd.)

TABLE 35 CANADA (Maritimes) - 1959
(cont'd.)

LENGTH FREQUENCIES - HADDOCK

by W.R. Martin
D.N. Fitzgerald

Commercial Landings

Vessel Type	Longliners						
Vessel Tonnage Class	26-50						
Division	4V				4X		
Month	July	August	September	October	January	April	December
2-cm group	F R E Q U E N C I E S in ‰						
32-33	-	-	10	-	3	-	-
34-35	-	-	-	-	6	-	-
36-37	-	-	15	7	8	1	10
38-39	2	1	25	64	12	2	25
40-41	5	4	30	88	31	6	29
42-43	11	8	35	105	40	12	43
44-45	9	20	55	105	41	19	57
46-47	25	29	90	85	40	13	74
48-49	54	42	65	95	72	62	100
50-51	57	50	110	85	95	45	110
52-53	70	86	65	102	107	91	110
54-55	131	93	115	58	97	103	104
56-57	138	129	85	71	107	143	86
58-59	122	123	85	54	76	139	69
60-61	113	116	90	41	78	91	57
62-63	73	82	25	27	55	100	39
64-65	54	66	25	10	41	103	45
66-67	43	44	30	-	38	26	20
68-69	39	48	20	-	28	19	14
70-71	34	30	5	3	12	6	6
72-73	9	11	5	-	4	16	2
74-75	2	12	10	-	3	-	-
76-77	7	5	-	-	3	-	-
78-79	-	-	-	-	2	-	-
80-81	-	-	-	-	1	-	-
82-83	2	1	-	-	-	3	-
84-85	-	-	-	-	-	-	-
86-87	-	-	-	-	-	-	-
88-89	-	-	5	-	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000
Serial Numbers							
Number of Samples	3	4	1	1	3	1	1
Number Fish Measured	442	800	200	295	964	332	510
Mean Length (cm)	57.87	58.29	53.22	48.98	54.46	57.46	52.70
Mean Weight (Kg)	2.04	2.06	1.58	1.36	1.89	2.13	2.00
Total Wt. Landed (Tons)	189 ¹⁾	219 ¹⁾	551 ¹⁾	549 ¹⁾	443 ¹⁾	904 ¹⁾	393 ¹⁾
Wt. Landings Sampled	1	2	1	1	3	26	1
Hook Size	#6/0	#6/0	#6/0	#6/0	#6/0	#6/0	#6/0
Range of Depths (fm)	20-30	20-30	30-40	28-35	40-45	40	40

1) Includes all Canadian (Maritimes & Quebec) landings.

(cont'd.)

TABLE 35 CANADA (Maritimes) - 1959
(cont'd.)

LENGTH FREQUENCIES - HADDOCK

by W.R. Martin
D.N. Fitzgerald

Commercial Catches - Measured at Sea

Vessel Type	Otter Trawlers			
Vessel Tonnage Class	151-500			
Division	3P	4W-W		4W
Month	June	June	July	August
2-cm group	FREQUENCIES in ‰			
22-23	-	1	-	-
24-25	4	-	-	-
26-27	11	1	-	1
28-29	22	5	3	2
30-31	53	21	5	7
32-33	20	24	26	27
34-35	13	60	72	74
36-37	35	87	116	125
38-39	63	81	107	129
40-41	63	81	90	106
42-43	68	87	104	92
44-45	74	96	102	108
46-47	57	95	83	82
48-49	35	63	64	61
50-51	31	62	52	58
52-53	42	63	56	44
54-55	50	51	45	36
56-57	53	39	28	22
58-59	70	24	20	12
60-61	65	27	11	7
62-63	59	11	6	3
64-65	42	6	3	3
66-67	15	6	3	1
68-69	17	3	3	-
70-71	15	3	1	-
72-73	4	3	-	-
74-75	9	-	-	-
76-77	4	-	-	-
78-79	4	-	-	-
80-81	2	-	-	-
Total ‰	1000	1000	1000	1000
Serial Numbers				
Number of Samples	1	1	2	1
Number Fish Measured	542	1086	1998	2542
Mean Length (cm)	49.39	45.27	44.01	43.05
Mean Weight (Kg)	1.33	0.98	0.93	0.87
Total Wt. Landed (Tons)	183 ¹⁾	1759 ¹⁾	858 ¹⁾	1047 ¹⁾
Estimated No. Landed				
Mesh Size (inches)	4 $\frac{7}{8}$ -5	4 $\frac{1}{2}$ -4 $\frac{3}{4}$	4 $\frac{1}{4}$ -5	4 $\frac{1}{2}$
Range of Depths (fm)	31-40	20-35	20-35	20-27

1) Includes all Canadian (Maritimes & Quebec) landings.

TABLE 36 CANADA (Newfoundland) - 1959

LENGTH FREQUENCIES - HADDOCK

by A.M. Fleming

Commercial Landings

Vessel Type	Otter Trawlers							
Vessel Tonnage Class	151-500							
Division	3N		30					3P south
Month	January	August	January	Feb.	March	April	May	January
2-cm group	FREQUENCIES in ‰							
22-23	-	-	-	-	-	-	1	-
24-25	1	-	-	-	-	-	-	-
26-27	8	-	1	1	-	-	1	-
28-29	26	4	4	1	2	1	5	-
30-31	92	14	21	18	16	5	20	12
32-33	205	125	81	72	52	29	48	15
34-35	186	222	168	143	93	87	78	42
36-37	115	170	169	164	106	126	94	47
38-39	82	104	149	153	134	152	112	77
40-41	99	87	120	161	169	183	168	109
42-43	74	69	110	133	150	157	162	118
44-45	51	52	66	85	104	116	123	130
46-47	28	48	57	40	79	60	80	98
48-49	12	35	26	16	45	38	49	53
50-51	10	28	11	8	24	24	29	40
52-53	5	21	8	2	13	12	15	43
54-55	3	7	4	-	7	5	9	42
56-57	2	7	1	2	3	2	4	49
58-59	-	7	1	1	2	2	2	35
60-61	-	4	-	1	1	1	-	37
62-63	-	-	1	-	1	2	1	22
64-65	-	-	-	-	-	1	-	14
66-67	-	-	-	-	-	-	-	4
68-69	-	-	-	-	-	1	-	8
70-71	-	-	-	-	-	-	-	2
72-73	-	-	-	-	-	-	-	-
74-75	-	-	-	-	-	-	-	-
76-77	-	-	-	-	-	-	-	2
Total ‰	999	1004	998	1001	1001	1004	1001	999
Serial Numbers								
Number of Samples	16	1	4	6	13	7	6	2
Number Fish Measured	4490	289	1347	1704	4243	2129	1645	440
Mean Length (cm)	36.69	38.95	38.94	39.04	40.81	40.93	41.17	46.39
Mean Weight (Kg)	0.45	0.68	0.55	0.55	0.62	0.62	0.61	1.08
Total Wt. Landed (Tons)	1958	83	1303	1180	3483	4982	894	308
Est. Number (millions)	4.320	0.121	2.486	2.157	5.624	7.980	1.465	0.286
Mesh Size (inches)	4 man.	4 man.	4 man.	4 man.	4 man.	4 man.	4 man.	4 man.
Range of Depths (fm)	32-45	23-24	37-56	47-100	65-140	50-140	43-80	100-110

TABLE 37 UNITED STATES/CANADA CO-OPERATIVE LENGTH FREQUENCIES - Haddock by J. McCann
PROGRAMME - 1959/60 F. Dreyer

W.R. Martin

D.N. Fitzgerald

ALL GEARS - Commercial Landings (in hundreds) Division 4X

Length cms.	Feb. -Apr.	May-July	Aug. -Oct.	Nov. -Jan.	Total
27	--	--	5	--	5
28	--	--	10	--	10
29	--	--	5	--	5
30	--	12	38	--	50
31	--	58	54	--	112
32	--	147	38	--	185
33	--	153	142	--	295
34	19	178	296	--	493
35	19	289	232	17	557
36	19	686	331	--	1036
37	76	682	548	76	1382
38	156	912	677	173	1918
39	326	1053	781	311	2471
40	462	1193	969	190	2814
41	535	1075	1006	229	2845
42	1119	1084	1339	330	3872
43	1132	1027	1521	371	4051
44	1097	1192	1234	326	3849
45	1214	1314	1597	370	4495
46	1208	933	1537	441	4119
47	1448	901	1516	669	4534
48	1572	815	1324	629	4340
49	1777	1171	1499	551	4998
50	1368	1194	1358	500	4420
51	1457	1041	1096	541	4135
52	1881	1206	1412	445	4944
53	1848	1006	1152	744	4750
54	1910	1090	1245	491	4736
55	1554	1131	1159	433	4277
56	1634	1240	1004	641	4519
57	1384	822	887	447	3540
58	1368	856	845	402	3471
59	1142	844	703	347	3036
60	879	909	610	162	2560
61	755	877	466	212	2310
62	627	658	384	149	1818
63	627	581	272	90	1570
64	616	351	284	105	1356
65	449	305	154	40	948
66	265	183	114	33	595
67	185	244	61	32	522
68	142	103	35	18	298
69	91	140	35	39	305
70	87	105	2	6	200
71	43	11	--	26	80
72	26	96	12	7	141
73	87	57	6	2	152
74	--	--	--	1	1
75	--	--	--	--	--
76	14	--	--	--	14
77	--	--	5	--	5
78	--	--	--	--	--
79	--	--	--	--	--
80	--	--	--	--	--
81	--	--	--	--	--
82	19	42	--	--	61
Total	32,637	29,967	30,000	10,596	103,200

(cont'd.)

The Samples and Landings Data are given on page 156.

TABLE 37 UNITED STATES/CANADA CO-OPERATIVE LENGTH FREQUENCIES - HADDOCK by J. McCann
(cont'd.) PROGRAMME - 1959/60

F. Dreyer
W.R. Martin
D.W. Fitzgerald

ALL GEARS - Commercial Landings (in hundreds) Division 5X

Length cms.	Feb. -Apr.	May-July	Aug. -Oct.	Nov. -Jan.	Total
34	-	-	-	2	2
35	4	-	10	-	14
36	4	8	5	4	21
37	37	48	46	6	137
38	87	49	27	36	199
39	183	100	122	27	432
40	292	199	124	92	707
41	397	222	224	148	991
42	362	243	211	200	1016
43	532	282	252	308	1374
44	535	263	301	388	1487
45	490	291	453	343	1577
46	566	398	394	467	1825
47	503	380	447	342	1672
48	549	306	399	406	1660
49	532	397	401	450	1780
50	462	333	313	390	1498
51	518	277	327	354	1476
52	472	363	331	379	1545
53	430	355	290	343	1418
54	454	318	291	398	1459
55	427	300	277	329	1333
56	394	339	298	263	1294
57	368	278	246	234	1126
58	332	262	266	194	1054
59	267	264	213	181	925
60	211	219	208	105	743
61	148	215	216	117	696
62	142	213	194	99	648
63	91	198	165	55	509
64	93	149	158	43	443
65	66	108	99	69	342
66	55	94	74	18	241
67	43	61	75	9	188
68	28	57	82	25	192
69	31	47	36	12	126
70	9	48	33	6	96
71	18	34	34	14	100
72	17	21	15	10	63
73	8	12	11	1	32
74	-	9	15	5	29
75	2	1	5	1	9
76	-	2	-	-	2
77	-	2	-	1	3
78	-	-	-	-	-
79	-	-	-	-	-
80	-	-	-	-	-
81	-	-	-	4	4
Total	10,159	7,763	7,688	6,878	32,488

The Samples and Landings Data are given on page 157.

TABLE 38 UNITED STATES/CANADA CO-OPERATIVE PROGRAMME - 1959/60
 SAMPLES AND LANDINGS DATA - HADLOCK
 for Table 37

by J. McCann
 F. Dreyer
 W.R. Martin
 D.N. Fitzgerald

ALL GEARS - Commercial Landings Division 4X

Quarters	Feb. -Apr.	May-July	Aug. -Oct.	Nov. -Jan.	Total
No. samples	60	39	43	17	159
No. measured	3107	3689	6007	2217	15020
Mean wt. of fish (kg.)	1.63	1.39	1.19	1.51	1.42
Mean length of fish (cms.)	52.2	49.7	48.8	50.7	50.3
Wt. landings sampled ^{1/}	12.57	5.36	8.19	3.52	29.64
Wt. total landings ^{1/}	5305	4172	3563	1604	14644
Est. no. in landings ^{2/}	3.263	2.997	3.000	1.060	10.320

^{1/} Metric tons, round, fresh

(cont'd.)

^{2/} In millions

TABLE 38 UNITED STATES/CANADA CO-OPERATIVE PROGRAMME - 1959/60
(cont'd.)

SAMPLES AND LANDINGS DATA - HADLOCK
for Table 37

by J. McCann
F. Dreyer
W.R. Martin
D.N. Fitzgerald

ALL GEARS - Commercial Landings

Division 5Y

Quarters	Feb. -Apr.	May-July	Aug. -Oct.	Nov. -Jan.	Total
No. samples	96	88	88	65	337
No. measured	4247	3756	4296	2782	15081
Mean wt. of fish (kg.)	1.39	1.57	1.64	1.51	1.52
Mean length of fish (cms.)	50.2	52.2	51.9	50.7	51.1
Wt. landings sampled ^{1/}	6.36	6.35	7.94	4.54	251.9
Wt. total landings ^{1/}	1417	1215	1261	1039	4934
Est. no. in landings ^{2/}	1.016	0.776	0.769	0.688	3.249

^{1/} Metric tons, round, fresh

^{2/} In millions

TABLE 39 UNITED STATES - 1959/60

LENGTH FREQUENCIES - HADDOCK

by J. McCann
F. Jreyer

Length cm	Numbers Landed (in hundreds)						
	1959 Feb.	Mar.	Apr.	May	June	July	Aug.
31	--	--	--	--	--	--	--
32	--	--	--	--	13	--	--
33	--	--	--	--	13	11	28
34	44	--	8	17	96	22	28
35	29	21	8	79	186	82	86
36	--	--	17	207	197	236	114
37	98	88	59	222	431	387	254
38	293	159	163	577	492	537	526
39	211	116	173	805	652	835	847
40	437	213	209	952	766	944	1170
41	318	268	305	1185	716	1613	1441
42	583	453	339	1117	813	1469	1734
43	632	638	267	1185	1087	2048	1947
44	732	573	370	1351	1298	1828	2092
45	782	688	541	1703	1288	1744	2072
46	734	693	600	1800	1427	1588	1648
47	1008	781	734	1739	1283	1580	1366
48	820	854	748	1789	1513	1632	1856
49	1014	767	650	1704	1484	1301	1807
50	714	665	819	1743	1422	1374	1756
51	826	679	824	1552	1413	1306	1745
52	764	793	903	1596	1343	1343	1331
53	805	905	763	1656	1361	978	1197
54	657	890	688	1279	1102	730	1082
55	662	609	540	1504	838	756	778
56	683	634	525	1213	863	635	758
57	627	644	474	1330	849	649	499
58	557	554	477	903	668	498	531
59	489	527	364	956	710	372	382
60	522	457	377	926	599	302	303
61	399	392	316	997	500	251	223
62	364	360	294	664	524	224	159
63	339	298	292	725	357	192	145
64	297	251	360	693	341	239	114
65	292	220	269	559	307	48	117
66	206	151	216	544	236	84	43
67	123	131	252	334	227	132	20
68	163	100	206	325	181	114	--
69	161	97	159	364	128	16	9
70	137	72	188	233	169	73	9
71	87	57	120	170	74	57	34
72	67	61	113	139	57	46	40
73	55	32	75	108	59	5	--
74	41	29	114	93	36	5	11
75	30	4	78	39	15	30	11
76	22	8	40	39	23	25	--
77	4	--	40	8	--	--	--
78	10	--	51	23	--	--	--
79	5	--	21	15	--	--	--
80	--	--	4	15	--	--	--
81	--	--	11	--	8	--	--
82	--	--	10	--	--	--	--
83	--	--	--	--	--	--	--
84	--	--	11	--	--	--	--
85	--	--	--	--	--	--	--
86	--	--	6	--	--	--	--
Total	17843	15932	15191	37177	28165	28341	30313

The Samples and Landings Data are given on page 160.

(cont'd.)

TABLE 39 UNITED STATES - 1959/60
(cont'd.)

LENGTH FREQUENCIES - HADDOCK

by J. McCann
F. Dreyer

Length cm	Division 5Z					Total
	Sept.	Oct.	Nov.	Dec.	1960 Jan.	
31	--	--	7	--	--	7
32	--	--	4	--	--	17
33	--	18	--	12	--	82
34	15	63	15	24	7	339
35	158	18	57	28	87	839
36	137	90	63	44	114	1219
37	275	136	127	76	187	2340
38	499	218	141	121	216	3942
39	818	327	197	165	339	5485
40	1124	407	226	193	252	6893
41	1769	716	331	305	272	9230
42	1859	843	557	354	280	10401
43	2120	915	517	486	300	12142
44	2655	1151	740	548	322	13660
45	2586	960	758	528	542	14192
46	1961	1090	846	686	602	13675
47	2164	1018	821	625	655	13774
48	2470	777	764	599	789	14611
49	1875	759	812	528	688	13389
50	1680	675	711	571	729	12859
51	1655	577	607	510	664	12358
52	1364	477	525	502	567	11508
53	1358	449	437	490	516	10915
54	996	482	354	501	548	9309
55	801	343	409	486	505	8231
56	688	410	380	437	472	7698
57	591	291	315	403	514	7186
58	525	291	385	349	450	6188
59	410	247	258	252	398	5365
60	358	188	256	249	393	4930
61	254	159	291	230	338	4350
62	173	147	204	252	240	3605
63	127	125	154	295	315	3364
64	159	151	144	233	350	3332
65	70	54	112	117	253	2418
66	67	70	95	274	197	2183
67	24	56	108	117	140	1664
68	54	28	98	149	109	1527
69	20	16	55	120	99	1244
70	40	34	46	131	105	1237
71	30	19	63	92	88	891
72	24	9	57	84	75	772
73	3	17	32	37	39	462
74	3	3	23	69	40	467
75	--	--	13	4	42	266
76	--	--	17	--	34	208
77	7	--	7	--	33	99
78	--	--	6	--	14	104
79	--	--	3	--	--	44
80	3	--	3	--	6	31
81	--	--	--	--	6	25
82	--	--	--	--	--	10
83	--	--	--	--	--	--
84	--	--	--	--	--	11
85	--	--	--	--	--	--
86	--	--	--	--	--	6
Total	33960	14824	13151	12276	13951	261104

The Samples and Landings Data are given on page 160.

TABLE 40 UNITED STATES - 1953/50

SAMPLES AND LANDINGS DATA - HALIBOOK
for Table 39by J. McCann
F. Dreyer

Division 52

Month	1959					
	Feb.	Mar.	Apr.	May	June	July
Days Fished	683	500	449	1264	898	730
No. Length Samples	60	66	62	85	80	84
No. Scale Samples	42	48	61	71	67	54
No. Fish Measured	2545	2770	2350	3293	3252	2943
No. Fish Aged	354	404	511	600	561	443
Mean Weight Fish (kg)	1.67	1.60	1.60	1.48	1.44	1.26
Mean Length Fish (cm)	52.0	52.2	53.7	51.7	50.4	48.0
Est. Weight Landings Sampled ²⁾	4.97	5.08	4.13	5.53	5.52	3.84
Weight Total Landings ²⁾	2978	2555	2437	5507	4047	3566
Est. No. in Total Landings ³⁾	1.784	1.593	1.519	3.718	2.817	2.834

Month	1960						Total
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	
Days Fished	842	1175	605	779	921	972	9848 ^{1/}
No. Length Samples	52	84	62	72	40	54	801
No. Scale Samples	22	58	34	48	24	22	551
No. Fish Measured	1899	3238	2148	2692	1427	2053	30610
No. Fish Aged	167	491	271	394	193	180	4569
Mean Weight Fish (kg)	1.26	1.27	1.33	1.53	1.72	1.74	1.45
Mean Length Fish (cm)	47.8	47.7	48.3	50.4	52.1	52.4	50.2
Est. Weight Landings Sampled ²⁾	2.66	4.98	3.23	4.60	2.48	3.64	506.6
Weight Total Landings ²⁾	3817	4313	1977	2016	2110	2426	37749
Est. No. in Total Landings ³⁾	3.031	3.396	1.482	1.315	1.228	1.393	26.110

1) Actual days fished (weighted by seasons) 9432.

2) Metric tons, round fresh.

3) In millions.

TABLE 41 UNITED STATES - 1959/60

AGE/LENGTH FREQUENCIES - HADDOCK

by J. McCann
F. Dreyer

Division	SZ							
Quarter	February-April							
Age-Group	II	III	IV	V	VI	VII	VIII	IX+
3-cm group	FREQUENCIES in ‰							
33-35	936	64	-	-	-	-	-	-
36-38	599	401	-	-	-	-	-	-
39-41	277	579	144	-	-	-	-	-
42-44	104	649	215	32	-	-	-	-
45-47	-	515	408	77	-	-	-	-
48-50	-	331	495	142	32	-	-	-
51-53	-	45	417	449	75	14	-	-
54-56	-	13	253	526	130	71	7	-
57-59	-	-	106	569	225	85	15	-
60-62	-	-	20	288	357	305	30	-
63-65	-	-	-	212	272	414	102	-
66-68	-	-	-	119	173	408	233	67
69-71	-	-	-	-	147	299	233	321
72-74	-	-	-	-	-	312	257	431
75-77	-	-	-	-	-	146	363	491
78-80	-	-	-	-	-	-	242	758
81-83	-	-	-	-	-	-	-	1000
84-86	-	-	-	-	-	-	-	1000

Division	SZ								
Quarter	May-July								
Age-Group	I	II	III	IV	V	VI	VII	VIII	IX+
3-cm group	FREQUENCIES in ‰								
30-32	-	1000	-	-	-	-	-	-	-
33-35	-	1000	-	-	-	-	-	-	-
36-38	8	913	79	-	-	-	-	-	-
39-41	-	781	203	16	-	-	-	-	-
42-44	-	492	472	25	11	-	-	-	-
45-47	-	126	697	151	20	6	-	-	-
48-50	-	10	522	345	108	15	-	-	-
51-53	-	10	248	490	219	31	2	-	-
54-56	-	-	69	446	336	110	32	7	-
57-59	-	-	12	278	425	199	73	7	6
60-62	-	-	-	47	368	342	186	48	9
63-65	-	-	-	-	196	332	346	81	45
66-68	-	-	-	-	118	188	452	173	69
69-71	-	-	-	-	-	33	534	288	145
72-74	-	-	-	-	-	-	77	382	541
75-77	-	-	-	-	-	-	6	140	854
78-80	-	-	-	-	-	-	94	283	623
81-83	-	-	-	-	-	-	-	-	1000

(cont'd.)

REDFISH

Guide to Tables

The numbers in the guide are page numbers. For a length frequency reference the page number alone is given. For an age frequency the page number is followed by A.

PAGE NUMBERS

Division	OTTER TRAWL			
	January-March	April-June	July-September	October-December
1C		205A	175	176,205A
1D	167	167,176,206A	176,177,206A	167,177
1E		177,206A	177,206A	
2J		170,202A	170,202A	
3K	170,202A	170,171,202A	171,202A,203A	171,203A
3L	171,172,203A	172,203A	172,178,204A	173,204A
3M	173,204A	173,204A	174,204A,205A	174,205A
3N	174		165,174,179	179
3D	175,180	166,175,181	181,182	182
3P		183		
4R			166	
4S		166		
4R-S		184	184,185	185
4V		186	187	
4W	188	189	190	191
4X	192	193	194	194
5Y	195	196	197	198
5Z	199	200	200,201	

TABLE 42 CANADA (Newfoundland) - 1959

LENGTH FREQUENCIES - REDFISH

by A.M. Fleming

Commercial Landings

Vessel Type	Otter Trawlers								
Vessel Tonnage Class	151-500								
Division	3N								
Month	July			August			September		
	Mentella ¹⁾			Mentella			Mentella		
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	FREQUENCIES in ‰								
16	2	-	2	-	-	-	-	-	-
17	-	2	2	-	-	-	-	-	-
18	2	2	4	-	-	-	-	-	-
19	2	-	2	-	-	-	-	-	-
20	6	3	9	-	3	3	2	1	3
21	12	11	23	6	-	6	13	1	14
22	13	11	24	24	6	30	16	8	24
23	32	14	46	35	15	50	34	12	46
24	68	20	88	85	12	97	63	26	89
25	112	37	149	111	41	152	88	27	115
26	103	41	144	100	50	150	97	40	137
27	69	61	130	59	73	132	69	42	111
28	28	53	81	32	50	82	50	69	119
29	15	31	46	12	62	74	28	71	99
30	12	38	50	6	59	65	17	50	67
31	12	23	35	15	53	68	5	36	41
32	13	20	33	3	24	27	5	34	39
33	11	8	19	6	15	21	2	21	23
34	14	15	29	3	9	12	1	14	15
35	7	11	18	-	6	6	-	23	23
36	5	12	17	-	6	6	-	19	19
37	1	14	15	-	9	9	-	11	11
38	-	14	14	-	6	6	-	2	2
39	-	9	9	-	-	-	-	1	1
40	-	7	7	-	6	6	-	-	-
41	-	3	3	-	3	3	-	-	-
42	-	2	2	-	-	-	-	-	-
43	-	1	1	-	-	-	-	-	-
44	-	2	2	-	-	-	-	-	-
Total ‰	539	465	1004	497	508	1005	490	508	998
Serial Numbers									
Number of Samples			3			1			3
Number Fish Measured	461	442	903	169	172	341	405	419	824
Mean Length (cm)			27.54			27.25			27.58
Mean Weight (Kg)			0.35			0.29			0.30
Total Wt. Landed (Tons)			429			446			374
Est. Number (millions)			1.233			1.545			1.255
Mesh Size (inches)			2 $\frac{3}{4}$ man.			2 $\frac{3}{4}$ man.			2 $\frac{3}{4}$ man.
Range of Depths (fm)			140-180			165-185			110-180

1) One marinus-type redfish found in samples.

(cont'd.)

TABLE 42 CANADA (Newfoundland) - 1959
(cont'd.)

LENGTH FREQUENCIES - REDFISH

by A.M. Fleming

Commercial Landings

Vessel Type	Otter Trawlers								
	151-500								
Vessel Tonnage Class									
Division	3D			4R			4S		
Month	May			August			July		
	Mentella ¹⁾			Mentella			Mentella		
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	FREQUENCIES in ‰								
15	-	1	1	-	-	-	-	-	-
16	1	-	1	-	-	-	-	-	-
17	1	1	2	-	-	-	-	-	-
18	2	-	2	-	-	-	-	-	-
19	3	-	3	-	-	-	1	1	2
20	12	2	14	1	1	2	2	2	4
21	15	8	23	-	-	-	6	3	9
22	24	8	32	1	1	2	6	4	10
23	49	15	64	1	1	2	8	6	14
24	107	24	131	1	1	2	10	11	21
25	137	45	182	3	2	5	18	10	28
26	107	59	166	8	1	9	18	9	27
27	49	112	161	7	4	11	32	12	44
28	7	99	106	14	2	16	34	18	52
29	1	60	61	12	4	16	37	22	59
30	-	27	27	8	7	15	28	15	43
31	-	10	10	19	7	26	28	15	43
32	-	7	7	47	6	53	45	21	66
33	-	4	4	69	10	79	58	23	81
34	-	1	1	113	15	128	73	14	87
35	-	-	-	115	26	141	65	15	80
36	-	-	-	78	36	114	50	35	85
37	-	-	-	31	63	94	33	33	66
38	-	1	1	10	86	96	5	58	63
39	-	-	-	2	86	88	-	49	49
40	-	-	-	-	58	58	-	38	38
41	-	-	-	-	32	32	-	20	20
42	-	-	-	-	7	7	-	7	7
43	-	-	-	-	1	1	-	1	1
Total ‰	515	484	999	540	457	997	557	442	999
Serial Numbers									
Number of Samples			3			2			1
Number Fish Measured	577	560	1137	1592	1347	2939	548	437	985
Mean Length (cm)			25.77			35.33			32.77
Mean Weight (Kg)			0.24			0.68			0.57
Total Wt. Landed (Tons)			456			529			76
Est. Number (millions)			1.876			0.780			0.132
Mesh Size (inches)			2 $\frac{3}{4}$ min.			2 $\frac{3}{4}$ min.			2 $\frac{3}{4}$ min.
Range of Depths (fm)			80-125			122-160			125-175

1) 2 marinus-type redfish found in samples.

TABLE 43 DENMARK (Greenland) - 1959 LENGTH FREQUENCIES - REDFISH¹⁾ by Paul M. Hansen

SHRIMP TRAWL - Research Catches

Location	Godthåb Fjord ID				
	March	June	October	November	December
Month					
cm	FREQUENCIES in ‰				
6	-	4	-	1	-
7	-	29	5	1	3
8	1	39	54	35	22
9	1	16	46	43	55
10	22	29	14	9	12
11	95	66	10	11	8
12	118	130	30	27	10
13	61	164	57	76	48
14	93	94	80	116	104
15	139	87	69	72	101
16	76	119	62	60	67
17	36	67	99	99	88
18	21	24	95	102	111
19	28	16	36	59	69
20	32	17	41	25	33
21	31	16	23	27	32
22	26	7	46	27	51
23	29	7	46	45	44
24	24	5	49	31	35
25	24	6	39	28	18
26	22	3	30	20	22
27	12	3	22	25	17
28	14	2	18	12	18
29	14	1	8	15	6
30	12	2	2	7	4
31	12	2	3	4	6
32	7	5	7	4	7
33	5	5	-	1	-
34	8	3	1	-	4
35	11	3	1	-	1
36	8	5	-	4	2
37	7	4	1	3	-
38	4	8	1	1	-
39	4	5	-	3	-
40	1	3	-	4	1
>40	3	6	3	1	-
Total ‰	1001	1002	998	998	999
Number of Fish Measured	2117	2621	871	747	967
Number of Hauls	1	2	1	1	1
Mean Length (cm)	17.7	...	17.8	17.7	17.8
Range of Depths (m)	240	250 & ca. 260	...	240	240

1) These frequencies continue a series begun in 1952. The earlier data were published in the Sampling Yearbook Vols. 1, 2 and 3.

TABLE 44 ICELAND - 1959 LENGTH FREQUENCIES - REDFISH¹⁾ by Jón Jónsson

OTTER TRAWLERS - Survey Catch

Division	3K						3L		
	July						July		
Month	Marinus			Mentella			Mentella		
	♂♂	♀♀	Total	♂♂	♀♀	Total ²⁾	♂♂	♀♀	Total ²⁾
Sex	FREQUENCIES in %								
cm									
24	-	-	-	2	-	1	1	-	1
25	-	-	-	1	2	2	3	1	3
26	-	-	-	-	2	3	4	2	5
27	12	4	16	6	3	6	6	3	8
28	24	33	57	13	4	14	10	7	16
29	16	17	33	17	13	31	11	12	23
30	25	16	41	22	25	54	15	9	23
31	21	33	54	29	28	61	19	15	33
32	24	29	53	25	19	65	37	20	55
33	12	33	45	35	27	74	47	21	67
34	16	21	37	57	21	91	80	32	108
35	29	20	49	49	29	94	76	37	111
36	57	29	86	65	40	99	61	38	98
37	33	33	66	47	40	77	49	35	85
38	41	3	44	39	37	63	31	40	70
39	33	8	41	41	34	63	15	35	51
40	12	12	24	47	20	56	13	43	58
41	16	-	16	20	21	36	10	34	50
42	4	4	8	6	29	28	7	23	34
43	-	-	-	11	21	27	3	32	37
44	-	4	4	3	17	21	2	23	30
45	8	8	16	2	10	10	-	15	16
46	-	4	4	-	7	7	-	10	10
47	8	-	8	-	6	5	-	4	4
48	4	12	20	-	3	3	-	1	3
49	4	4	8	-	3	2	-	1	2
50	4	17	21	-	-	-	-	-	-
51	4	-	4	-	1	1	-	1	1
52	8	4	12	-	-	-	-	-	-
53	33	-	33	-	-	-	-	-	-
54	21	8	29	-	-	-	-	-	-
55	12	-	12	-	-	-	-	-	-
56	16	-	16	-	-	-	-	-	-
57	21	-	21	-	-	-	-	-	-
58	12	4	16	-	-	-	-	-	-
59	33	4	37	-	-	-	-	-	-
60	12	-	12	-	-	-	-	-	-
61	12	-	12	-	-	-	-	-	-
62	16	-	16	-	-	-	-	-	-
63	8	4	12	-	-	-	-	-	-
64	4	-	4	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
78	4	-	4	-	-	-	-	-	-
Total %	623	373	996	537	462	999	500	499	1002
Number of Samples			2	5	5	6	15	15	17
Number Fish Measured	153	91	244	502	432	1400	1409	1395	3769
Range of Depths (fm)	170-200			170-225			165-230		

(cont'd.)

- 1) These frequencies are based on samples taken on an exploratory cruise. Samples were taken from the catches of most drags. A copy of the original tables, which give the length frequencies of the samples individually, is filed in the Secretariat.
- 2) Additional samples - not sexed - were used in compiling the total length frequency.

TABLE 44 ICELAND - 1959
(cont'd.)LENGTH FREQUENCIES - REDFISH¹⁾

by Jón Jónsson

OTTER TRAWLERS - Survey Catch

Division	31 July											
	Marinus			Am. Rosefish			Mentella			Small Selected Mentella		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total ²⁾
Sex	FREQUENCIES in ‰											
cm												
10	-	-	-	-	-	-	-	-	-	5	-	1
11	-	-	-	-	-	-	-	-	-	-	-	1
12	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	5
16	2	-	2	-	-	-	1	-	1	5	10	15
17	-	-	-	-	-	-	1	-	2	10	-	15
18	2	-	2	-	-	-	2	-	2	-	5	11
19	-	-	-	-	20	20	2	1	3	5	15	30
20	4	4	8	-	-	-	3	4	7	30	20	60
21	6	2	8	-	-	-	5	2	7	75	70	121
22	7	6	13	-	41	41	4	7	11	111	98	172
23	2	7	9	20	41	61	7	4	10	126	75	131
24	2	2	4	20	-	20	4	9	13	50	91	138
25	4	2	6	20	21	41	7	5	12	50	40	111
26	7	7	14	-	-	-	4	4	9	30	25	45
27	13	2	15	-	-	-	6	7	13	15	10	36
28	6	1	7	41	20	61	14	7	20	-	-	17
29	7	4	11	-	-	-	20	12	40	-	10	20
30	9	6	15	20	41	61	15	22	57	5	5	31
31	11	4	15	20	20	40	55	20	83	5	5	17
32	9	9	18	20	61	81	62	30	100	-	-	8
33	22	9	31	82	-	82	78	53	111	5	-	11
34	19	7	26	143	82	225	65	45	110	-	-	1
35	11	13	24	21	61	82	44	40	84	-	-	-
36	13	26	39	20	62	82	30	37	74	-	-	-
37	30	20	50	-	41	41	25	54	79	-	-	1
38	37	21	58	-	41	41	14	47	61	-	-	2
39	32	16	48	-	20	20	7	44	51	-	-	-
40	34	28	62	-	-	-	5	18	22	-	-	-
41	45	26	71	-	-	-	1	12	13	-	-	-
42	41	28	69	-	-	-	-	2	2	-	-	-
43	37	37	74	-	-	-	-	-	1	-	-	-
44	35	36	71	-	-	-	-	-	-	-	-	-
45	20	28	48	-	-	-	-	-	-	-	-	-
46	41	22	63	-	-	-	-	-	-	-	-	-
47	9	19	28	-	-	-	-	-	-	-	-	-
48	11	11	22	-	-	-	-	-	-	-	-	-
49	2	19	21	-	-	-	-	-	-	-	-	-
50	2	7	9	-	-	-	-	-	-	-	-	-
51	2	7	9	-	-	-	-	-	-	-	-	-
52	2	13	15	-	-	-	-	-	-	-	-	-
53	-	4	4	-	-	-	-	-	-	-	-	-
54	-	6	6	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-	-	-	-
56	-	-	-	-	-	-	-	-	-	-	-	-
57	2	-	2	-	-	-	-	-	-	-	-	-
Total ‰	540	459	999	427	572	999	427	502	928	527	472	1000
Number of Samples			5			1			14			4
Number Fish Measured	290	247	537	21	25	49	1226	1227	2453	105	94	891
Range of Depths (fm)	150-180			150-160			150-250			170-178		

1) These frequencies are based on samples taken on an exploratory cruise. Samples were taken from the catches of most drags. A copy of the original tables, which give the length frequencies of the samples individually, is filed in the Secretariat.

2) Additional samples - not sexed - were used in compiling the total length frequency.

TABLE 45 UNION OF SOVIET SOCIALIST
REPUBLICS - 1959

LENGTH FREQUENCIES - REDFISH

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division	2J						3K					
	June		July		August		January		February		April	
Month	Mentella		Mentella		Mentella		Mentella		Mentella		Mentella	
Sex	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀
2-cm group	F R E Q U E N C I E S in ‰											
21-22	1	-	-	1	1	2	-	-	-	-	-	-
23-24	1	-	4	4	3	7	-	-	-	-	2	-
25-26	13	3	10	9	13	23	-	-	-	-	4	-
27-28	30	16	31	21	52	42	27	45	4	7	12	2
29-30	98	29	97	38	83	63	122	130	49	54	128	40
31-32	156	51	135	45	95	59	160	108	118	113	113	50
33-34	194	45	217	80	183	83	117	132	140	133	139	60
35-36	279	90	288	117	326	150	176	152	211	189	154	135
37-38	152	109	151	152	165	145	101	108	159	154	88	84
39-40	54	204	57	219	60	165	85	103	140	137	105	90
41-42	9	200	7	119	12	126	138	140	102	110	67	101
43-44	7	128	2	115	4	67	53	56	61	70	50	31
45-46	3	78	1	47	2	48	21	26	11	23	25	114
47-48	-	35	-	18	-	14	-	-	2	5	21	104
49-50	3	11	-	12	-	5	-	-	1	3	41	55
51-52	-	-	-	3 ¹⁾	-	-	-	-	-	1	35	43
53-54	-	-	-	-	-	-	-	-	1	1	-	15
55-56	-	-	-	-	-	-	-	-	-	-	15	20
57-58	-	-	-	-	-	-	-	-	-	-	-	46
59-60	-	-	-	-	-	-	-	-	-	-	-	4
>60	-	-	-	-	-	-	-	-	-	-	-	6
Total ‰	1000	999	1000	1000	999	999	1000	1000	999	1000	999	1000
Number Fish Measured	698	1443	8836	8863	6553	7063	188	463	5227	8333	9075	3075
Mean Length (cm)	34.25	39.59	34.23	38.39	34.41	37.07	35.73	35.85	36.65	36.91	37.23	42.13
Percentage of Total	32.6	67.4	49.9	50.1	49.2	51.8	28.9	71.1	38.5	61.5	50.2	49.8
Tot. Wt. Landed(Tons)												

1) >50 cm.

(cont'd.)

TABLE 45 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1959

LENGTH FREQUENCIES - REDFISH

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division	Ж										Л	
	May		June		July		August		December		January	
Month	Mentella		Mentella		Mentella		Mentella		Mentella		Mentella	
Sex	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀
2-cm group	F R E Q U E N C I E S in ‰											
<20	-	-	1	-	-	-	-	1	-	-	-	-
21-22	-	-	3	1	1	2	3	6	-	-	-	-
23-24	-	-	4	5	10	6	7	12	1	2	-	2
25-26	8	-	44	18	27	14	22	17	15	13	-	12
27-28	5	-	68	48	64	44	56	40	69	41	7	13
29-30	200	54	104	61	125	76	88	66	107	38	45	68
31-32	113	86	134	59	143	69	114	63	169	87	259	120
33-34	8	-	153	53	219	64	198	85	248	100	313	98
35-36	168	81	198	81	238	83	283	86	209	113	293	165
37-38	155	139	122	114	116	106	151	101	134	136	60	113
39-40	58	169	88	197	41	194	48	146	37	180	16	218
41-42	137	109	41	167	10	154	19	166	7	157	7	111
43-44	53	54	23	103	3	120	7	118	2	84	-	57
45-46	92	208	4	41	2	50	3	71	1	38	-	17
47-48	3	87	2	25	-	13	1	17	-	8	-	5
49-50	-	5	2	15	-	3	-	5	-	2	-	1
51-52	-	2	5	4	-	1	-	-	-	-	-	-
53-54	-	-	1	2	-	-	-	-	-	-	-	-
55-56	-	2	2	3	-	-	-	-	-	-	-	-
57-58	-	2	1	1	-	-	-	-	-	-	-	-
59-60	-	-	-	2	-	-	-	-	-	-	-	-
>60	-	2	-	-	-	-	-	-	-	-	-	-
Total ‰	1000	1000	1000	1000	999	999	1000	1000	999	999	1000	1000
Number Fish Measured	380	369	1000	1388	3217	4914	2357	3846	2657	3448	869	1636
Mean Length (cm)	36.49	40.31	34.29	38.19	33.33	37.67	34.09	37.71	33.51	37.41	33.79	36.65
Percentage of Total	50.7	49.3	41.9	58.1	39.6	60.4	38.0	62.0	43.5	56.5	34.7	65.3
Tot. Wt. Landed(Tons)												

(cont'd.)

TABLE 45 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1959

LENGTH FREQUENCIES - REDFISH

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division	3L											
Month	February		March		May		June		July		August	
	Mentella		Mentella		Mentella		Mentella		Mentella		Mentella	
Sex	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
2-cm group	F R E Q U E N C I E S in ‰											
<20	1	-	1	-	-	-	1	2	-	-	-	-
21-22	5	3	-	1	-	-	5	-	2	-	1	-
23-24	10	8	2	-	1	1	2	1	3	5	5	4
25-26	15	14	7	-	6	7	9	8	10	16	35	25
27-28	35	23	17	4	21	24	10	23	54	42	57	64
29-30	71	42	46	9	35	16	45	40	74	46	76	78
31-32	119	65	120	23	183	58	148	28	124	67	173	99
33-34	189	87	264	33	243	30	258	62	272	112	309	97
35-36	253	151	416	95	356	79	306	117	265	119	264	124
37-38	113	151	109	154	113	109	144	142	122	155	59	138
39-40	78	168	17	321	38	196	63	266	42	171	12	197
41-42	40	128	-	221	3	253	7	168	17	123	6	103
43-44	39	79	1	104	1	124	1	94	9	86	1	44
45-46	16	46	-	31	-	73	1	38	3	38	1	17
47-48	9	18	-	3	-	22	-	8	2	16	-	7
49-50	5	9	-	-	-	8	-	3	-	3	-	2
51-52	2	5	-	1	-	-	-	-	-	-	-	-
53-54	-	2	-	-	-	-	-	-	-	-	-	-
55-56	-	1	-	-	-	-	-	-	-	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000	1000	999	999	999	999
Number Fish Measured	2433	4062	810	1000	630	863	1141	1141	2403	3326	2502	2941
Mean Length (cm)	35.11	37.69	34.31	39.41	34.29	39.51	34.47	38.39	34.09	37.27	33.15	36.03
Percentage of Total	37.5	62.5	44.7	55.3	42.2	57.8	50.0	50.0	41.9	58.1	46.0	54.0
Tot. Wt. Landed(Tons)												

(cont'd.)

TABLE 45 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1959

LENGTH FREQUENCIES - REDFISH

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division	3L		3M							
	December		March		April		May		June	
Month	Mentella		Mentella		Mentella		Mentella		Mentella	
Sex	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀
2-cm group	F R E Q U E N C I E S in ‰									
<20	-	-	2	-	-	-	-	-	79	36
21-22	-	-	12	2	-	-	-	1	27	53
23-24	2	-	10	2	1	-	1	2	-	36
25-26	11	1	12	8	10	1	19	15	158	36
27-28	15	3	18	1	35	8	54	56	105	18
29-30	37	15	44	17	178	72	197	134	105	18
31-32	123	38	118	29	170	101	375	212	184	18
33-34	250	60	207	83	97	69	200	160	105	18
35-36	196	106	363	146	200	196	130	249	105	143
37-38	112	204	167	218	110	156	18	99	132	107
39-40	131	239	32	321	112	123	4	56	-	303
41-42	75	178	13	123	64	104	1	11	-	143
43-44	33	94	-	29	5	44	-	3	-	53
45-46	13	43	1	10	11	65	-	2	-	18
47-48	2	16	-	1	6	42	-	-	-	-
49-50	-	3	-	-	1	17	-	-	-	-
>50	-	-	-	10	-	2	-	-	-	-
Total ‰	1000	1000	999	1000	1000	1000	999	1000	1000	1000
Number Fish Measured	480	817	2564	926	4149	3814	3215	3267	38	56
Mean Length (cm)	35.71	39.01	34.39	38.03	35.11	37.71	31.87	33.49	29.99	35.99
Percentage of Total	37.0	63.0	73.7	26.3	52.0	48.0	49.5	50.5	40.4	59.6
Tot. Wt. Landed (Tons)										

(cont'd.)

TABLE 45 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1959

LENGTH FREQUENCIES - REDFISH

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division	34								3N	
	July		August		September		December		Jan. & Aug.	
Month	Mentella		Mentella		Mentella		Mentella		Mentella	
Sex	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀
2-cm group	F R E Q U E N C I E S in ‰									
<20	-	3	-	9	-	2	-	1	-	1
21-22	-	6	4	12	1	8	4	-	6	23
23-24	2	13	6	13	3	6	3	2	31	43
25-26	12	15	9	16	3	9	9	8	176	103
27-28	42	46	37	37	15	11	10	9	182	138
29-30	181	113	173	102	143	79	37	18	220	177
31-32	245	167	260	134	288	152	160	62	211	137
33-34	271	189	255	139	208	129	267	93	82	70
35-36	176	217	180	203	214	217	284	208	68	109
37-38	52	140	58	210	95	265	171	257	19	102
39-40	15	67	15	103	26	92	41	219	5	67
41-42	2	18	2	14	3	19	11	87	-	19
43-44	1	5	-	6	-	8	-	27	-	7
45-46	-	1	-	2	-	3	-	6	-	3
47-48	-	-	-	-	-	-	2	2	-	-
Total ‰	999	1000	999	1000	999	1000	999	999	1000	999
Number Fish Measured	4868	4973	6127	9281	3256	3793	2078	2713	2159	4481
Mean Length (cm)	34.45	33.75	32.61	34.19	32.11	34.98	34.49	37.11	29.59	31.56
Percentage of Total	49.5	50.5	39.7	60.3	46.3	53.7	43.5	56.5	32.5	67.5
Tot. Wt. Landed (Tons)										

(cont'd.)

TABLE 45 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1959

LENGTH FREQUENCIES - REDFISH

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division	30		1C							
	March-May		April		June		August		September	
Month	Mentella		Marinus		Marinus		Marinus		Marinus	
Sex	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀
2-cm group	F R E Q U E N C I E S in ‰									
<20	25	53	-	-	-	-	-	-	-	-
21-22	39	61	-	-	-	-	-	-	-	-
23-24	128	75	-	-	-	-	-	-	-	-
25-26	423	175	-	-	-	-	-	-	-	-
27-28	281	215	-	-	-	-	-	-	-	-
29-30	77	232	33 ¹⁾	19 ¹⁾	10 ¹⁾	-	98 ¹⁾	74 ¹⁾	15 ¹⁾	13 ¹⁾
31-32	11	92	9	12	-	-	22	19	7	7
33-34	5	44	19	20	20	-	29	27	16	14
35-36	8	39	50	46	-	-	87	78	36	33
37-38	-	12	111	106	20	21	187	163	106	95
39-40	2	1	170	162	40	42	209	204	158	176
41-42	-	-	190	187	50	53	152	164	166	173
43-44	-	-	187	187	105	138	121	130	231	192
45-46	-	-	94	111	85	75	45	62	103	119
47-48	-	-	43	60	171	149	18	32	50	81
49-50	-	-	16	25	95	96	8	18	24	35
51-52	-	-	8	7	95	53	2	5	16	17
53-54	-	-	8	7	95	96	2	2	16	11
55-56	-	-	8	5	30	75	2	3	13	8
57-58	-	-	11	9	114	117	3	3	17	10
59-60	-	-	14	16	20	53	4	5	15	6
>60	-	-	29	21	50	32	11	11	11	10
Total ‰	999	999	1000	1000	1000	1000	1000	1000	1000	1000
Number Fish Measured	1303	2158	5216	4029	104	94	5171	3932	3539	3011
Mean Length (cm)	26.07	27.65	42.13	42.45	49.23	49.83	38.99	39.87	42.87	42.79
Percentage of Total	37.7	62.3	56.5	43.5	52.5	47.5	56.8	43.2	54.0	46.0
Tot. Wt. Landed (Tons)										

1) <30 cm.

(cont'd.)

TABLE 45 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1959

LENGTH FREQUENCIES - REDFISH

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division	IC		ID							
Month	November		April		May		June		July	
	Marinus		Marinus		Marinus		Marinus		Marinus	
Sex	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
2-cm group	F R E Q U E N C I E S in ‰									
<30	30	32	3	4	-	-	5	17	-	-
31-32	68	45	10	4	-	4	21	32	-	-
33-34	120	78	13	4	-	4	64	60	7	-
35-36	137	127	19	11	13	12	81	95	-	-
37-38	174	183	32	28	49	49	174	140	-	-
39-40	139	127	84	86	80	106	153	162	15	39
41-42	81	85	197	121	160	82	158	128	15	65
43-44	40	45	236	189	338	278	157	146	83	130
45-46	13	47	126	218	129	159	83	83	241	91
47-48	14	19	87	146	129	131	48	67	376	415
49-50	6	24	58	79	27	65	14	24	135	117
51-52	22	35	19	14	9	16	7	9	15	52
53-54	33	24	10	14	5	16	6	6	15	13
55-56	17	24	7	11	5	12	7	9	8	13
57-58	51	49	23	14	9	25	5	4	38	26
59-60	19	35	39	28	4	25	5	4	30	13
>60	36	21	37	29	43	16	12	14	22	26
Total ‰	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Number Fish Measured	630	575	309	280	225	245	1323	1114	133	77
Mean Length (cm)	40.85	41.79	45.17	45.73	44.81	45.05	41.03	40.99	48.01	47.61
Percentage of Total	52.3	47.7	52.5	47.5	47.9	52.1	54.3	45.7	63.3	36.7
Tot. Wt. Landed (Tons)										

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
and G.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	3L		
Month	July		
Sex	♂♂	♀♀	Total
cm	FREQUENCIES in ‰		
22	-	5	5
23	10	5	15
24	30	5	35
25	30	10	40
26	30	10	40
27	20	30	50
28	35	30	65
29	20	30	50
30	20	45	65
31	45	35	80
32	50	25	75
33	35	20	55
34	40	35	75
35	60	25	85
36	25	20	45
37	5	25	30
38	5	45	50
39	-	60	60
40	-	20	20
41	-	10	10
42	-	25	25
43	-	15	15
44	-	10	10
Total ‰	460	540	1000
Number of Fish Measured	92	108	200

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	31								
	July			September			October		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	F R E Q U E N C I E S in ‰								
cm									
18	10	10	20	-	-	-	-	-	-
19	-	10	10	-	-	-	-	-	-
20	10	20	30	-	-	-	10	-	10
21	30	35	65	5	10	15	20	-	20
22	40	45	85	20	5	25	50	-	50
23	95	45	140	40	15	55	30	10	40
24	60	30	90	65	10	75	90	10	100
25	105	35	140	45	15	60	90	30	120
26	40	65	105	60	15	75	30	60	90
27	10	90	100	35	80	115	50	100	150
28	5	85	90	25	65	90	30	50	80
29	5	30	35	35	85	120	50	30	80
30	5	45	50	5	40	45	30	30	60
31	-	15	15	35	70	105	10	40	50
32	-	-	-	15	20	35	-	10	10
33	-	15	15	5	25	30	-	10	10
34	-	-	-	-	25	25	10	30	40
35	-	10	10	5	35	40	10	20	30
36	-	-	-	5	30	35	-	20	20
37	-	-	-	-	25	25	10	-	10
38	-	-	-	-	5	5	-	-	-
39	-	-	-	-	5	5	-	10	10
40	-	-	-	-	15	15	-	20	20
41	-	-	-	-	5	5	-	-	-
Total ‰	415	585	1000	400	600	1000	520	480	1000
Number Fish Measured	83	117	200	80	120	200	52	48	100

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTTER TRAWLEES - Commercial Landings

Division	30								
	January			February			March		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	FREQUENCIES in ‰								
16	10	-	10	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-
18	-	20	20	5	-	5	-	-	-
19	20	20	40	5	-	5	10	3	13
20	10	-	10	10	-	10	10	3	13
21	20	-	20	20	15	35	10	10	20
22	50	10	60	45	25	70	35	15	50
23	90	20	110	100	35	135	60	17	77
24	90	10	100	135	30	165	163	38	201
25	190	50	240	135	85	220	157	77	234
26	120	30	150	75	80	155	97	55	152
27	20	70	90	20	90	110	12	88	100
28	10	80	90	-	25	25	5	62	67
29	-	40	40	-	30	30	3	33	36
30	-	10	10	-	10	10	3	10	13
31	-	-	-	-	5	5	-	8	8
32	-	-	-	-	10	10	-	10	10
33	-	-	-	-	5	5	-	-	-
34	-	10	10	-	-	-	-	3	3
35	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	-
37	-	-	-	-	5	5	-	-	-
Total ‰	630	370	1000	550	450	1000	565	432	997
Number of Fish Measured	63	37	100	110	90	200	228	172	400

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	30								
	April			May			August		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	FREQUENCIES in ‰								
cm									
17	3	-	3	-	3	3	-	-	-
18	18	-	18	1	1	2	-	-	-
19	7	3	10	6	6	12	-	-	-
20	10	5	15	11	6	17	15	-	15
21	20	10	30	18	10	28	30	15	45
22	43	12	55	34	17	51	30	20	50
23	65	22	87	80	36	116	35	25	60
24	157	48	205	144	40	184	105	35	140
25	155	50	205	140	76	216	110	25	135
26	80	108	188	60	82	142	45	65	110
27	18	50	68	16	94	110	25	80	105
28	10	37	47	4	59	63	25	85	110
29	-	22	22	-	26	26	-	115	115
30	-	32	32	-	20	20	-	50	50
31	-	10	10	-	7	7	-	10	10
32	-	-	-	-	-	-	-	15	15
33	-	3	3	-	3	3	-	25	25
34	-	-	-	-	-	-	-	5	5
35	-	3	3	-	-	-	-	5	5
36	-	-	-	-	-	-	-	5	5
Total ‰	586	415	1001	514	486	1000	420	580	1000
Number of Fish Measured	234	166	400	361	339	700	84	116	200

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	30					
	September			November		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	FREQUENCIES in ‰					
cm						
19	-	-	-	3	-	3
20	-	-	-	7	-	7
21	10	-	10	20	7	27
22	30	10	40	23	7	30
23	30	-	30	63	27	90
24	50	-	50	100	37	137
25	170	10	180	113	53	166
26	50	20	70	43	70	113
27	50	90	140	17	97	114
28	70	60	130	7	120	127
29	20	100	120	-	63	63
30	-	60	60	-	63	63
31	-	50	50	3	10	13
32	10	40	50	-	20	20
33	-	20	20	-	13	13
34	-	40	40	-	10	10
35	-	-	-	-	3	3
36	-	-	-	-	-	-
37	-	10	10	-	-	-
Total ‰	490	510	1000	399	600	999
Number of Fish Measured	49	51	100	120	180	300

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTHER TRAWLERS - Commercial Landings

Division	3P		
Month	June		Total
Sex	♂♂	♀♀	
cm	FREQUENCIES in ‰		
19	5	-	5
20	10	-	10
21	5	-	5
22	30	20	50
23	5	5	10
24	25	-	25
25	15	20	35
26	35	10	45
27	50	20	70
28	35	55	90
29	20	65	85
30	10	110	120
31	-	135	135
32	-	105	105
33	-	85	85
34	-	35	35
35	-	50	50
36	-	35	35
37	-	5	5
Total ‰	245	755	1000
Number of Fish Measured	49	151	200

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTLER TRAWLERS - Commercial Landings

Division	4R-S								
	June			July			August		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	FREQUENCIES in ‰								
cm									
17	-	1	1	-	-	-	-	-	-
18	-	-	-	3	-	3	-	-	-
19	3	3	6	3	-	3	-	-	-
20	6	1	7	-	3	3	2	-	2
21	3	4	7	8	3	11	2	-	2
22	4	2	6	8	8	16	-	2	2
23	5	4	9	-	3	3	6	6	12
24	17	7	24	12	8	20	16	2	18
25	22	14	36	25	12	37	8	16	24
26	32	24	56	30	10	40	38	-	38
27	56	25	81	42	12	54	50	24	74
28	43	39	82	62	20	82	70	16	86
29	48	41	89	27	30	57	34	36	70
30	40	43	83	37	27	64	22	42	64
31	32	73	105	52	37	89	44	56	100
32	41	63	104	52	65	117	48	84	132
33	36	43	79	25	90	115	38	82	120
34	19	36	55	18	80	98	14	92	106
35	12	21	33	8	40	48	12	40	52
36	9	19	28	10	30	40	6	22	28
37	-	36	36	3	30	33	4	16	20
38	1	30	31	-	27	27	2	22	24
39	-	29	29	-	25	25	-	10	10
40	-	9	9	3	10	13	-	12	12
41	-	2	2	-	3	3	-	4	4
42	-	-	-	-	-	-	-	-	-
43	-	1	1	-	-	-	-	-	-
Total ‰	429	570	999	428	573	1001	416	584	1000
Number Fish Measured	514	686	1200	171	229	400	208	292	500

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	4R-S					
	September			November		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	FREQUENCIES in ‰					
19	3	-	3	10	-	10
20	-	-	-	-	-	-
21	-	3	3	-	-	-
22	3	-	3	10	-	10
23	-	-	-	10	-	10
24	7	3	10	30	10	40
25	20	-	20	50	30	80
26	43	17	60	30	40	70
27	53	17	70	70	70	140
28	73	33	106	40	60	100
29	33	53	86	60	90	150
30	37	43	80	30	120	150
31	47	47	94	40	110	150
32	53	73	126	10	10	20
33	23	60	83	-	20	20
34	23	73	96	-	10	10
35	13	33	46	-	10	10
36	13	17	30	-	-	-
37	7	13	20	-	20	20
38	-	17	17	-	10	10
39	-	20	20	-	-	-
40	-	10	10	-	-	-
41	-	7	7	-	-	-
42	-	-	-	-	-	-
43	-	-	-	-	-	-
44	-	-	-	-	-	-
45	-	3	3	-	-	-
46	-	-	-	-	-	-
47	-	3	3	-	-	-
Total ‰	451	545	996	390	610	1000
Number of Fish Measured	136	164	300	39	61	100

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	W								
	April			May			June		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	FREQUENCIES in ‰								
17	10	10	20	-	10	10	2	2	4
18	-	10	10	-	-	-	2	-	2
19	10	10	20	-	-	-	2	2	4
20	70	50	120	-	-	-	17	2	19
21	30	20	50	-	20	20	20	10	30
22	80	50	130	10	10	20	28	28	56
23	30	50	80	20	20	40	47	40	87
24	80	70	150	50	10	60	43	22	65
25	10	90	100	10	10	20	65	33	98
26	40	90	130	30	10	40	73	50	123
27	-	60	60	40	90	130	53	20	73
28	10	70	80	10	50	60	35	42	77
29	-	20	20	20	10	30	47	32	79
30	-	10	10	30	40	70	30	30	60
31	-	10	10	40	30	70	22	18	40
32	-	-	-	40	10	50	12	40	52
33	-	10	10	20	10	30	5	18	23
34	-	-	-	10	20	30	5	25	30
35	-	-	-	-	70	70	3	22	25
36	-	-	-	-	90	90	-	22	22
37	-	-	-	-	70	70	-	7	7
38	-	-	-	-	50	50	-	15	15
39	-	-	-	-	20	20	-	5	5
40	-	-	-	-	20	20	-	3	3
41	-	-	-	-	-	-	-	2	2
42	-	-	-	-	-	-	-	-	-
43	-	-	-	-	-	-	-	-	-
44	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	2	2
Total ‰	370	630	1000	330	670	1000	511	492	1003
Number of Fish Measured	37	63	100	33	67	100	306	294	600

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	4V								
	July			August			September		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	F R E Q U E N C I E S in ‰								
cm									
16	-	-	-	-	3	3	-	-	-
17	-	-	-	3	-	3	-	-	-
18	-	10	10	5	10	15	7	7	14
19	20	-	20	3	5	8	7	10	17
20	20	30	50	8	20	28	10	7	17
21	-	10	10	10	10	20	37	17	54
22	60	20	80	35	32	67	57	20	77
23	50	70	120	70	42	112	70	40	110
24	40	50	90	75	37	112	93	47	140
25	100	40	140	82	57	139	87	77	164
26	40	80	120	52	42	94	27	50	77
27	60	60	120	25	60	85	27	60	87
28	30	80	110	30	65	95	13	77	90
29	10	50	60	18	57	75	13	30	43
30	10	20	30	8	23	31	3	17	20
31	-	-	-	-	37	37	-	37	37
32	-	20	20	-	23	23	-	13	13
33	-	10	10	-	15	15	-	13	13
34	-	-	-	-	8	8	-	10	10
35	-	10	10	-	20	20	3	10	13
36	-	-	-	-	5	5	-	-	-
37	-	-	-	-	3	3	-	3	3
38	-	-	-	-	-	-	-	3	3
39	-	-	-	-	3	3	-	-	-
Total ‰	440	560	1000	424	577	1001	454	548	1002
Number of Fish Measured	44	56	100	169	231	400	136	164	300

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - HADFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTHEL TRAWLEFS - Commercial Landings

Division	4w								
	January			February			March		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	F R E Q U E N C I E S in ‰								
15	-	-	-	-	-	-	3	-	3
16	3	-	3	7	3	10	-	3	3
17	7	-	7	3	-	3	13	3	16
18	7	3	10	17	-	17	15	5	20
19	22	13	35	30	33	63	22	22	44
20	38	15	53	47	37	84	50	22	72
21	52	38	90	70	67	137	95	42	137
22	103	67	170	126	70	196	127	70	197
23	80	85	165	50	77	127	82	85	167
24	58	80	138	20	90	110	47	70	117
25	28	75	103	10	87	97	25	68	93
26	12	58	70	-	57	57	8	45	53
27	2	47	49	3	40	43	3	30	33
28	-	33	33	7	30	37	-	20	20
29	-	32	32	-	13	13	-	13	13
30	-	25	25	-	7	7	3	8	11
31	-	13	13	-	-	-	-	-	-
32	-	2	2	-	-	-	-	-	-
33	-	2	2	-	-	-	-	3	3
Total ‰	412	588	1000	390	611	1001	493	509	1002
Number of Fish Measured	247	353	600	117	183	300	197	203	400

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	April			May			June		
	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex									
cm	FREQUENCIES in ‰								
15	3	-	3	-	-	-	-	-	-
16	-	-	-	1	-	1	-	-	-
17	-	5	5	4	-	4	10	-	10
18	10	8	18	7	9	16	-	-	-
19	25	15	40	14	9	23	10	-	10
20	60	47	107	20	11	31	-	-	-
21	72	47	119	49	31	80	30	30	60
22	70	47	117	63	37	100	50	30	80
23	87	67	154	86	41	127	20	60	80
24	62	72	134	87	83	170	80	30	110
25	35	80	115	56	69	125	30	70	100
26	20	27	47	33	53	86	50	20	70
27	10	30	40	10	44	54	50	40	90
28	5	32	37	10	43	53	50	50	100
29	5	17	22	6	27	33	10	20	30
30	3	8	11	3	17	20	60	30	90
31	-	10	10	-	14	14	20	30	50
32	-	10	10	-	26	26	20	20	40
33	-	-	-	-	21	21	10	20	30
34	-	8	8	-	7	7	-	20	20
35	-	-	-	-	3	3	-	20	20
36	-	-	-	-	4	4	-	-	-
37	-	-	-	-	1	1	-	10	10
Total ‰	467	530	997	449	550	999	500	500	1000
Number of Fish Measured	187	213	400	314	386	700	50	50	100

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	4W								
	July			August			September		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	FREQUENCIES in ‰								
15	-	-	-	-	-	-	5	-	5
16	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	10	5	15
19	5	15	20	-	10	10	25	10	35
20	30	15	45	30	20	50	50	20	70
21	15	35	50	60	60	120	105	35	140
22	50	50	100	70	40	110	135	50	185
23	85	80	165	110	30	140	125	75	200
24	65	60	125	130	20	150	70	55	125
25	50	55	105	100	30	130	15	70	85
26	35	60	95	30	80	110	-	70	70
27	15	60	75	-	50	50	5	35	40
28	-	60	60	-	20	20	5	10	15
29	5	25	30	-	-	-	5	-	5
30	-	25	25	-	10	10	-	-	-
31	-	25	25	-	30	30	-	5	5
32	-	5	5	-	20	20	-	5	5
33	5	30	35	10	40	50	-	-	-
34	-	15	15	-	-	-	-	-	-
35	-	20	20	-	-	-	-	-	-
36	-	5	5	-	-	-	-	-	-
Total ‰	360	640	1000	540	460	1000	555	445	1000
Number of Fish Measured	72	128	200	54	46	100	111	89	200

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.J. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTHER TRAWLERS - Commercial Landings

Division	4W								
	October			November			December		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	FREQUENCIES in ‰								
14	-	-	-	-	-	-	10	-	10
15	-	-	-	-	-	-	-	-	-
16	-	3	3	-	-	-	10	10	20
17	-	-	-	5	-	5	10	10	20
18	3	5	8	35	10	45	-	-	-
19	10	-	10	40	30	70	50	-	50
20	35	10	45	80	55	135	40	10	50
21	75	22	97	110	60	170	70	20	90
22	127	65	192	100	75	175	140	60	200
23	100	75	175	65	55	120	70	50	120
24	72	72	144	45	65	110	70	70	140
25	45	75	120	10	75	85	30	80	110
26	17	45	62	-	35	35	30	50	80
27	17	32	49	-	25	25	10	50	60
28	5	32	37	-	5	5	10	10	20
29	-	22	22	-	10	10	-	20	20
30	-	20	20	-	-	-	-	10	10
31	-	5	5	5	5	10	-	-	-
32	-	5	5	-	-	-	-	-	-
33	-	3	3	-	-	-	-	-	-
Total ‰	506	491	997	495	505	1000	550	450	1000
Number of Fish Measured	203	197	400	99	101	200	55	45	100

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	4K								
	January			March			May		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	FREQUENCIES in ‰								
cm									
15	3	5	8	-	-	-	-	-	-
16	8	5	13	3	3	6	-	-	-
17	20	5	25	10	3	13	-	-	-
18	28	18	46	25	10	35	2	4	6
19	45	30	75	33	23	56	6	16	22
20	60	52	112	67	35	102	32	10	42
21	82	72	154	75	52	127	54	20	74
22	87	62	149	122	85	207	60	46	106
23	50	47	97	40	47	87	66	56	122
24	52	45	97	42	42	84	60	54	114
25	23	62	85	47	33	80	56	70	126
26	8	52	60	30	40	70	50	62	112
27	3	38	41	3	52	55	10	94	104
28	3	18	21	-	35	35	6	52	58
29	-	10	10	-	23	23	-	46	46
30	-	3	3	-	17	17	-	26	26
31	-	3	3	-	3	3	-	22	22
32	-	-	-	-	-	-	-	10	10
33	-	-	-	-	-	-	-	6	6
34	-	-	-	-	-	-	-	4	4
Total ‰	472	527	999	497	503	1000	402	598	1000
Number of Fish Measured	188	212	400	199	201	400	201	299	500

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTHER TRAWLERS - Commercial Landings

Division	4X								
	June			July			August		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	FREQUENCIES in ‰								
15	-	-	-	-	-	-	3	-	3
16	-	-	-	-	2	2	4	-	4
17	-	-	-	2	2	4	1	1	2
18	-	-	-	8	8	16	4	7	11
19	30	20	50	17	7	24	10	1	11
20	10	-	10	43	20	63	21	14	35
21	50	20	70	55	38	93	34	29	63
22	90	70	160	63	55	118	41	44	85
23	150	50	200	60	43	103	49	41	90
24	70	140	210	52	50	102	49	44	93
25	20	50	70	45	65	110	27	44	71
26	10	60	70	35	30	65	40	46	86
27	-	50	50	27	47	74	43	51	94
28	10	50	60	23	23	46	27	41	68
29	-	-	-	20	35	55	19	44	63
30	-	50	50	10	33	43	23	36	59
31	-	-	-	2	33	35	14	24	38
32	-	-	-	2	28	30	9	41	50
33	-	-	-	-	8	8	4	26	30
34	-	-	-	-	3	3	1	20	21
35	-	-	-	-	2	2	-	6	6
36	-	-	-	-	3	3	-	9	9
37	-	-	-	-	-	-	-	3	3
38	-	-	-	-	-	-	-	-	-
39	-	-	-	-	-	-	-	1	1
40	-	-	-	-	-	-	-	1	1
Total ‰	440	560	1000	464	535	999	423	574	997
Number of Fish Measured	44	56	100	278	322	600	297	403	700

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTHER TRAWLERS - Commercial Landings

Division	4K					
Month	September			November		
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	F R E Q U E N C I E S in ‰					
15	2	-	2	-	-	-
16	2	-	2	-	-	-
17	4	8	12	-	-	-
18	14	8	22	-	-	-
19	40	12	52	-	-	-
20	46	52	98	10	-	10
21	112	54	166	-	20	20
22	108	68	176	30	-	30
23	76	90	166	20	10	30
24	30	84	114	40	20	60
25	24	60	84	40	30	70
26	12	32	44	70	40	110
27	2	20	22	70	30	100
28	-	16	16	120	40	160
29	-	14	14	60	90	150
30	-	4	4	50	20	70
31	-	2	2	20	60	80
32	2	-	2	10	40	50
33	-	-	-	-	20	20
34	-	2	2	-	20	20
35	-	-	-	-	-	-
36	-	-	-	-	-	-
37	-	-	-	-	20	20
Total ‰	474	526	1000	540	460	1000
Number of Fish Measured	237	263	500	54	46	100

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and C.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	5Y								
	January			February			March		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	FREQUENCIES in ‰								
11	6	-	6	-	-	-	-	-	-
12	4	1	5	-	-	-	-	-	-
13	4	3	7	6	2	8	-	-	-
14	7	6	13	4	4	8	-	-	-
15	36	6	42	2	2	4	1	1	2
16	36	21	57	12	14	26	4	2	6
17	51	43	94	20	24	44	7	3	10
18	49	47	96	54	36	90	11	7	18
19	44	33	77	48	36	84	17	15	32
20	33	19	52	42	38	80	19	14	33
21	30	34	64	60	28	88	25	21	46
22	34	29	63	42	42	84	43	27	70
23	29	36	65	50	24	74	51	29	80
24	34	19	53	50	42	92	55	37	92
25	43	21	64	48	40	88	55	32	87
26	40	33	73	38	26	64	55	28	83
27	39	24	63	20	24	44	61	34	95
28	16	13	29	12	12	24	51	44	95
29	11	14	25	12	16	28	18	46	64
30	1	14	15	2	16	18	12	33	45
31	-	21	21	-	14	14	8	33	41
32	-	7	7	-	16	16	-	31	31
33	-	6	6	-	4	4	-	26	26
34	-	3	3	-	10	10	-	19	19
35	-	-	-	-	6	6	-	15	15
36	-	-	-	-	-	-	-	7	7
37	-	-	-	-	2	2	-	1	1
38	-	-	-	-	-	-	-	1	1
39	-	-	-	-	-	-	-	1	1
Total ‰	547	453	1000	522	478	1000	493	507	1000
Number of Fish Measured	383	317	700	261	239	500	740	760	1500

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTHEL TRAWLERS - Commercial Landings

Division	5Y								
	April			May			June		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	FREQUENCIES in ‰								
14	1	-	1	-	-	-	1	-	1
15	-	-	-	-	-	-	1	-	1
16	1	-	1	-	-	-	1	1	2
17	1	1	2	-	-	-	1	2	3
18	2	1	3	-	1	1	2	7	9
19	2	5	7	8	2	10	5	7	12
20	9	5	14	8	17	25	10	3	13
21	18	16	34	23	20	43	12	8	20
22	33	22	55	40	30	70	35	26	61
23	51	34	85	60	31	91	61	35	96
24	61	40	101	58	39	97	58	41	99
25	69	53	122	81	36	117	80	45	125
26	83	42	125	56	48	104	90	39	129
27	71	55	126	69	49	118	70	59	129
28	42	45	87	60	50	110	38	59	97
29	35	38	73	21	38	59	18	52	70
30	12	41	53	16	31	47	11	36	47
31	4	34	38	5	36	41	1	24	25
32	1	25	26	1	21	22	-	19	19
33	-	21	21	-	21	21	-	8	8
34	-	15	15	-	12	12	1	11	12
35	-	10	10	-	9	9	-	9	9
36	-	2	2	-	3	3	-	5	5
37	-	1	1	-	-	-	-	6	6
38	-	-	-	-	-	-	-	1	1
39	-	-	-	-	-	-	-	1	1
Total ‰	496	506	1002	506	494	1000	496	504	1000
Number of Fish Measured	644	656	1300	456	444	900	643	657	1300

(cont'd.)

TABLE 46 UNITED STATES - 1953 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke
OTTER TRAWLERS - Commercial Landings

Division	5Y								
	July			August			September		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	FREQUENCIES in ‰								
15	-	-	-	-	1	1	-	-	-
16	-	-	-	1	-	1	-	-	-
17	1	-	1	1	-	1	-	-	-
18	5	-	5	9	1	10	2	1	3
19	6	4	10	5	5	10	1	2	3
20	3	9	12	16	20	36	5	1	6
21	14	13	27	11	20	31	8	8	16
22	45	19	64	34	36	70	12	10	22
23	58	31	89	44	37	81	22	19	41
24	66	53	119	44	63	107	32	18	50
25	67	46	113	44	37	81	42	26	68
26	74	57	131	56	44	100	50	33	83
27	60	44	104	69	34	103	89	32	121
28	39	51	90	57	39	96	87	52	139
29	32	55	87	24	46	70	50	58	108
30	15	26	41	16	35	51	35	69	104
31	4	38	42	9	39	48	21	66	87
32	1	16	17	-	27	27	10	55	65
33	-	14	14	1	39	40	4	35	39
34	-	15	15	-	19	19	2	24	26
35	-	11	11	-	11	11	-	12	12
36	-	4	4	1	4	5	-	4	4
37	-	1	1	-	1	1	-	1	1
38	-	3	3	-	-	-	-	1	1
Total ‰	490	510	1000	442	558	1000	472	527	999
Number of Fish Measured	490	510	1000	353	447	800	803	897	1700

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	5Y								
	October			November			December		
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	FREQUENCIES in ‰								
17	-	-	-	3	-	3	7	-	7
18	-	-	-	-	-	-	-	-	-
19	-	-	-	7	7	14	3	-	3
20	20	10	30	7	13	20	7	3	10
21	10	20	30	20	10	30	10	17	27
22	100	60	160	23	13	36	30	13	43
23	60	20	80	57	27	84	50	10	60
24	70	60	130	107	33	140	73	13	86
25	80	80	160	77	30	107	90	27	117
26	60	40	100	67	43	110	80	43	123
27	90	20	110	70	50	120	87	53	140
28	60	20	80	63	30	93	60	37	97
29	20	40	60	43	37	80	23	37	60
30	-	30	30	17	30	47	7	40	47
31	-	20	20	10	17	27	10	53	63
32	-	10	10	7	23	30	3	33	36
33	-	-	-	-	20	20	-	30	30
34	-	-	-	-	7	7	-	30	30
35	-	-	-	-	17	17	-	7	7
36	-	-	-	3	10	13	-	10	10
37	-	-	-	-	3	3	-	3	3
Total ‰	570	430	1000	581	420	1001	540	459	999
Number of Fish Measured	57	43	100	174	126	300	162	138	300

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and C.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	%								
	January			March			May		
Month	33	99	Total	33	99	Total	33	99	Total
Sex	33	99	Total	33	99	Total	33	99	Total
cm	F R E Q U E N C I E S in ‰								
16	-	-	-	5	-	5	-	-	-
17	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-
20	-	5	5	5	-	5	-	10	10
21	-	-	-	5	-	5	10	-	10
22	-	-	-	-	-	-	-	-	-
23	-	-	-	15	5	20	-	-	-
24	5	-	5	25	5	30	30	10	40
25	10	-	10	50	20	70	-	-	-
26	35	5	40	25	30	55	10	-	10
27	60	5	65	50	25	75	30	20	50
28	165	15	180	65	30	95	50	-	50
29	170	5	175	55	25	80	110	-	110
30	140	15	155	60	10	70	140	10	150
31	45	-	45	10	5	15	70	10	80
32	20	15	35	-	40	40	-	20	20
33	-	65	65	-	70	70	10	50	60
34	-	50	50	-	45	45	-	30	30
35	-	60	60	-	85	85	-	70	70
36	-	30	30	-	80	80	-	120	120
37	-	65	65	-	80	80	-	130	130
38	-	15	15	-	40	40	-	50	50
39	-	-	-	-	20	20	-	10	10
40	-	-	-	-	15	15	-	-	-
Total ‰	650	350	1000	370	630	1000	430	540	1000
Number of Fish Measured	130	70	200	74	126	200	46	54	100

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	SZ					
Month	June			July		
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	FREQUENCIES in ‰					
17	-	-	-	10	-	10
18	-	-	-	-	-	-
19	-	10	10	-	-	-
20	5	5	10	20	10	30
21	-	5	5	30	30	60
22	20	10	30	-	10	10
23	20	15	35	20	-	20
24	25	15	40	70	20	90
25	20	25	45	110	40	150
26	35	20	55	50	30	80
27	55	20	75	30	10	40
28	95	20	115	120	20	140
29	75	30	105	40	10	50
30	80	15	95	40	40	80
31	35	35	70	10	20	30
32	5	20	25	-	40	40
33	5	45	50	-	30	30
34	-	55	55	-	20	20
35	-	95	95	-	30	30
36	-	35	35	-	40	40
37	-	25	25	-	30	30
38	-	15	15	-	20	20
39	-	10	10	-	-	-
Total ‰	475	525	1000	550	450	1000
Number of Fish Measured	95	105	200	55	45	100

(cont'd.)

TABLE 46 UNITED STATES - 1959 LENGTH FREQUENCIES - REDFISH by G.F. Kelly, A.M. Barker
(cont'd.) and G.M. Clarke

OTTER TRAWLERS - Commercial Landings

Division	52					
Month	August			September		
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total
cm	F R E Q U E N C I E S in ‰					
17	-	2	2	-	-	-
18	5	-	5	-	-	-
19	5	5	10	7	3	10
20	3	5	8	3	-	3
21	8	15	23	7	-	7
22	23	10	33	17	7	24
23	38	5	43	13	13	26
24	25	25	50	10	3	13
25	40	23	63	27	7	34
26	60	20	80	13	13	26
27	70	42	112	20	20	40
28	45	42	87	40	13	53
29	82	35	117	47	-	47
30	80	38	118	27	30	57
31	27	32	59	7	23	30
32	5	23	28	-	43	43
33	-	27	27	-	67	67
34	-	30	30	-	107	107
35	-	35	35	-	107	107
36	-	23	23	-	117	117
37	-	38	38	-	87	87
38	-	5	5	-	60	60
39	-	2	2	-	43	43
40	-	-	-	-	-	-
41	-	2	2	-	-	-
Total ‰	516	484	1000	238	763	1001
Number of Fish Measured	206	194	400	71	229	300

TABLE 47 UNION OF SOVIET SOCIALIST
REPUBLICS - 1959

AGE FREQUENCIES - REDFISH

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division		2I						3K					
Month		June		July		August		February		April		July	
		Mentella		Mentella		Mentella		Mentella		Mentella		Mentella	
Sex		♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀
Year-Class	Age	F R E Q U E N C I E S in ‰											
1952	7	-	-	-	-	-	-	11	-	-	-	7	-
1951	8	-	-	-	-	-	10	11	-	-	-	-	-
1950	9	-	-	-	-	-	-	-	-	-	-	7	-
1949	10	-	-	-	-	27	-	22	-	12	10	50	15
1948	11	-	-	-	-	107	20	11	4	37	-	50	52
1947	12	-	7	59	11	93	80	89	44	85	19	136	82
1946	13	-	36	-	33	146	190	67	41	37	29	143	37
1945	14	-	22	103	66	360	180	156	74	61	87	165	208
1944	15	50	36	88	88	120	170	156	115	97	58	107	118
1943	16	100	65	162	88	67	110	89	110	122	116	100	37
1942	17	200	51	162	131	53	30	122	125	122	127	114	148
1941	18	150	58	118	110	-	60	100	115	110	146	57	163
1940	19	200	87	131	143	27	20	100	121	73	116	36	74
1939	20	50	116	118	143	-	20	44	104	110	137	28	44
1938	21	-	138	44	77	-	70	22	54	61	97	-	-
1937	22	50	101	-	33	-	10	-	54	37	10	-	15
1936	23	150	94	-	33	-	20	-	16	24	19	-	-
1935	24	50	58	15	22	-	10	-	20	12	19	-	-
1934	25	-	58	-	22	-	-	-	4	-	10	-	7
1933	26	-	51	-	-	-	-	-	-	-	-	-	-
1932	17	-	22	-	-	-	-	-	-	-	-	-	-
Total ‰		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Number of Fish Aged		20	138	68	91	75	100	90	298	82	103	140	135
Mean Weight (Kg)		0.75	1.08	0.57	0.95	0.63	0.80	0.64	0.95	0.97	1.13	0.52	0.93
Tot. Wt. Landed(Tons)													

(cont'd.)

TABLE 47 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1959

AGE FREQUENCIES - REDFISH

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division		X						3L					
Month		August		September		December		February		March		May	
		Mentella		Mentella		Mentella		Mentella		Mentella		Mentella	
Sex		♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀
Year-Class	Age	F R E Q U E N C I E S in ‰											
1950	9	-	6	11	-	-	-	12	-	-	-	-	-
1949	10	-	6	11	10	28	-	35	4	-	-	15	-
1948	11	-	6	43	31	28	29	81	4	-	12	15	-
1947	12	34	13	32	21	167	15	104	22	-	-	46	12
1946	13	103	38	54	41	167	29	116	26	125	48	92	-
1945	14	69	57	108	124	83	73	128	48	125	61	155	12
1944	15	69	57	118	94	111	89	93	59	125	61	246	61
1943	16	69	76	118	82	111	59	151	92	375	120	215	24
1942	17	103	82	118	113	167	89	84	99	250	169	108	146
1941	18	103	64	182	103	28	95	104	143	-	120	77	73
1940	19	139	114	85	113	55	95	23	117	-	157	31	196
1939	20	139	127	54	62	55	163	23	121	-	96	-	172
1938	21	34	127	22	113	-	66	46	128	-	48	-	146
1937	22	69	133	11	62	-	95	-	44	-	36	-	61
1936	23	69	63	11	21	-	51	-	44	-	48	-	49
1935	24	-	25	11	10	-	22	-	26	-	24	-	12
1934	25	-	6	-	-	-	15	-	15	-	-	-	12
1933	26	-	-	11	-	-	15	-	8	-	-	-	24
Total ‰		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Number of Fish Aged		29	158	93	97	36	136	86	272	8	83	65	82
Mean Weight (Kg)		0.67	1.00	0.63	0.95	0.61	1.07	0.62	1.06	0.68	1.04	0.64	1.10
Tot. Wt. Landed(Tons)													

(cont'd.)

TABLE 47 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1959

AGE FREQUENCIES - REDFISH

by Ju. Ju. Marti
V.I. Travin
E.I. Surkova
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division		3L				3M							
Month		July		October		March		April		May		July	
		Mentella		Mentella		Mentella		Mentella		Mentella		Mentella	
Sex		♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀
Year-Class	Age	F R E Q U E N C I E S in ‰											
1951	8	-	-	-	-	-	-	5	-	11	-	5	-
1950	9	-	6	-	-	-	-	11	-	21	23	27	32
1949	10	12	6	28	12	-	18	33	5	63	81	144	84
1948	11	101	13	85	-	40	36	89	17	168	93	182	189
1947	12	164	32	127	36	32	18	94	45	189	128	203	169
1946	13	203	71	99	48	128	109	172	89	189	128	215	243
1945	14	166	242	183	83	280	127	166	107	168	174	160	126
1944	15	203	175	197	107	144	200	83	107	126	128	27	63
1943	16	127	229	113	48	136	73	44	94	11	93	21	42
1942	17	12	110	56	59	112	165	100	60	32	93	16	42
1941	18	12	84	42	83	72	109	83	120	-	23	-	-
1940	19	-	26	28	119	24	36	50	68	11	12	-	-
1939	20	-	6	14	107	-	55	27	63	11	-	-	-
1938	21	-	-	14	59	16	18	11	73	-	12	-	-
1937	22	-	-	14	48	16	36	11	52	-	12	-	-
1936	23	-	-	-	131	-	-	-	34	-	-	-	10
1935	24	-	-	-	48	-	-	16	30	-	-	-	-
1934	25	-	-	-	12	-	-	5	12	-	-	-	-
1933	26	-	-	-	-	-	-	-	24	-	-	-	-
Total ‰		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Number of Fish Aged		79	154	71	84	125	55	181	178	95	86	187	95
Mean Weight (Kg)		0.58	0.99	0.53	0.93	0.67	0.84	0.55	0.90	0.47	0.55	0.58	0.62
Tot. Wt. Landed(Tons)													

(cont'd.)

TABLE 47 UNION OF SOVIET SOCIALIST
 (cont'd.) REPUBLICS - 1959

AGE FREQUENCIES - REDFISH

 by Ju. Ju. Marti
 V.I. Travin
 E.I. Surkova
 E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division		M						IC					
Month		August		September		December		April		August		September	
		Mentella		Mentella		Mentella		Marinus		Marinus		Marinus	
Sex		♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
Year-Class	Age	F R E Q U E N C I E S in ‰											
1952	7	6	-	-	-	-	-	-	-	10	-	-	-
1951	8	6	4	-	-	-	-	-	-	-	10	11	-
1950	9	46	8	52	22	-	-	-	-	20	21	-	-
1949	10	64	53	78	22	20	14	-	-	31	21	-	-
1948	11	160	80	65	44	51	-	-	22	92	32	-	-
1947	12	154	145	78	51	122	70	12	-	51	32	-	11
1946	13	154	164	78	22	133	125	-	44	41	63	34	11
1945	14	131	168	91	102	275	194	46	44	51	42	22	11
1944	15	131	130	195	109	154	153	128	77	123	158	34	44
1943	16	57	110	155	117	112	125	163	154	194	168	124	67
1942	17	28	57	91	124	92	167	174	187	112	95	91	100
1941	18	40	50	78	139	41	55	198	219	123	169	158	145
1940	19	17	11	13	66	-	14	116	55	71	105	112	78
1939	20	6	8	26	58	-	55	70	66	71	32	135	78
1938	21	-	4	-	66	-	14	46	55	-	21	79	145
1937	22	-	-	-	51	-	14	35	22	-	21	67	111
1936	23	-	4	-	7	-	-	-	22	-	10	22	78
1935	24	-	4	-	-	-	-	-	11	-	-	67	67
1934	25	-	-	-	-	-	-	-	-	10	-	22	11
1933	26	-	-	-	-	-	-	12	22	-	-	11	11
1932	27	-	-	-	-	-	-	-	-	-	-	11	-
1931	28	-	-	-	-	-	-	-	-	-	-	-	32
Total ‰		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Number of Fish Aged		175	262	77	137	98	72	86	91	98	95	89	90
Mean Weight (Kg)		0.51	0.62	0.47	0.68	0.64	0.84	1.15	1.15	0.86	0.90	1.47	1.57
Tot. Wt. Landed(Tons)													

(cont'd.)

AMERICAN PLAICE

Guide to Tables

The numbers in the guide are page numbers. For a length frequency reference the page number alone is given.

PAGE NUMBERS

Division	OTTER TRAWL			
	January-March	April-June	July-September	October-December
3L		210	210,211	211
3N		212	212	212,213
3P south	213			
4T			209	

TABLE 48 CANADA (Maritimes) - 1959 LENGTH FREQUENCIES - AM. PLAICE by W.R. Martin
D.N. Fitzgerald

OTTER TRAWLERS - Commercial Landings

Vessel Tonnage Class	26-50
Division	4T
Month	July
cm	FREQUENCIES in ‰
34	23
35	17
36	17
37	28
38	28
39	23
40	17
41	11
42	51
43	51
44	23
45	51
46	6
47	41
48	57
49	57
50	23
51	46
52	46
53	51
54	41
55	91
56	41
57	34
58	41
59	6
60	11
61	23
62	11
63	17
64	6
65	-
66	11
Total ‰	1000
Serial Numbers	
Number of Samples	1
Number Fish Measured	175
Mean Length (cm)	49.58
Mean Weight (Kg)	1.70
Total Wt. Landed (Tons)	413 ¹⁾
Wt. of Landings Sampled	6
Mesh Size (inches)	4½
Range of Depths (fm)	15-20

1) Includes all Canadian (Maritimes & Quebec) landings.

TABLE 49 CANADA (Newfoundland) - 1959 LENGTH FREQUENCIES - AM. PLAICE by A.M. Fleming

Commercial Landings									
Vessel Type	Otter Trawlers								
Vessel Tonnage Class	151-500								
Division	3L								
Month	May			June			August		
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
2-cm group	FREQUENCIES in ‰								
18-19	1	1	2	-	-	-	-	-	-
20-21	1	2	3	-	-	-	-	-	-
22-23	2	2	4	-	-	-	-	-	-
24-25	2	1	3	-	-	-	-	-	-
26-27	6	4	10	-	-	-	3	-	3
28-29	8	2	10	-	-	-	8	-	8
30-31	25	9	34	16	10	26	26	-	26
32-33	34	9	43	31	10	41	26	7	33
34-35	52	15	67	62	26	88	38	3	41
36-37	66	25	91	78	16	94	45	3	48
38-39	91	30	121	93	21	114	44	14	58
40-41	100	32	132	124	47	171	92	13	105
42-43	102	34	136	57	31	88	83	36	119
44-45	78	35	113	73	16	89	44	50	94
46-47	42	32	74	36	62	98	37	54	91
48-49	9	35	44	10	62	72	23	63	86
50-51	2	31	33	-	57	57	3	91	94
52-53	1	26	27	-	16	16	3	62	65
54-55	-	15	15	-	21	21	-	48	48
56-57	-	14	14	-	5	5	-	38	38
58-59	-	11	11	-	-	-	-	30	30
60-61	-	8	8	-	21	21	-	8	8
62-63	-	3	3	-	-	-	-	10	10
64-65	-	4	4	-	-	-	-	-	-
Total ‰	622	380	1002	580	421	1001	475	530	1005
Serial Numbers									
Number of Samples			10			1			2
Number Fish Measured	1318	831	2149	112	81	193	206	251	457
Mean Length (cm)			41.43			42.02			45.06
Mean Weight (Kg)			0.65			0.76			0.87
Total Wt. Landed (Tons)			888			1104			901
Est. Number (millions)			1.371			1.145			1.030
Mesh Size (inches)			4 min.			4 min.			4 min.
Range of Depths (fm)			43-65			64-68			85-110

(cont'd.)

TABLE 49 CANADA (Newfoundland) - 1959 LENGTH FREQUENCIES - AM. PLAICE by A.M. Fleming
(cont'd.)

Commercial Landings

Vessel Type	Otter Trawlers								
Vessel Tonnage Class	151-500								
Division	3L						3N		
Month	September			November			May		
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
2-cm group	FREQUENCIES in ‰								
28-29	-	-	-	-	2	2	-	-	-
30-31	-	2	2	-	4	4	16	11	27
32-33	3	2	5	-	-	-	21	-	21
34-35	6	5	11	11	6	17	90	53	143
36-37	18	5	23	11	13	24	53	58	111
38-39	24	11	35	22	16	38	85	42	127
40-41	31	16	47	35	26	61	116	42	158
42-43	39	39	78	45	62	107	69	42	111
44-45	45	56	101	89	85	174	58	26	84
46-47	54	64	118	44	74	118	42	37	79
48-49	21	61	82	17	115	132	37	21	58
50-51	6	64	70	9	87	96	5	21	26
52-53	3	75	78	-	72	72	5	11	16
54-55	-	105	105	-	44	44	-	11	11
56-57	-	86	86	-	48	48	-	-	-
58-59	-	68	68	-	35	35	-	21	21
60-61	-	45	45	-	13	13	-	-	-
62-63	-	18	18	-	-	-	-	5	5
64-65	-	16	16	-	17	17	-	-	-
66-67	-	7	7	-	-	-	-	-	-
68-69	-	3	3	-	2	2	-	-	-
70-71	-	1	1	-	-	-	-	-	-
Total ‰	250	749	999	283	721	1004	597	401	998
Serial Numbers									
Number of Samples			5			2			1
Number Fish Measured	194	611	805	100	260	360	113	76	189
Mean Length (cm)			49.85			47.37			41.11
Mean Weight (Kg)			1.32			1.09			0.71
Total Wt. Landed (Tons)			1188			479			332
Est. Number (millions)			0.904			0.437			0.470
Mesh Size (inches)			4 max.			4 max.			4 max.
Range of Depths (fm)			90-130			80-125			34-42

(cont'd.)

TABLE 49 CANADA (Newfoundland) - 1959 LENGTH FREQUENCIES - AM. PLAICE by A.M. Fleming
(cont'd.)

Commercial Landings

Vessel Type	Otter Trawlers								
Vessel Tonnage Class	151-500								
Division	3N								
Month	June			August			October		
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
2-cm group	FREQUENCIES in ‰								
26-27	-	-	-	4	-	4	-	-	-
28-29	-	-	-	4	4	8	-	-	-
30-31	-	5	5	9	-	9	3	1	4
32-33	38	14	52	25	4	29	13	4	17
34-35	43	57	100	30	30	60	40	10	50
36-37	33	67	100	76	21	97	68	28	96
38-39	76	29	105	76	21	97	87	26	113
40-41	57	29	86	119	42	161	79	27	106
42-43	86	71	157	127	34	161	84	36	120
44-45	71	33	104	85	34	119	77	56	133
46-47	48	33	81	30	64	94	39	63	102
48-49	43	19	62	13	38	51	23	51	74
50-51	24	43	67	-	30	30	10	56	66
52-53	-	10	10	-	30	30	1	38	39
54-55	-	14	14	-	9	9	-	31	31
56-57	-	29	29	-	9	9	-	21	21
58-59	-	19	19	-	17	17	-	13	13
60-61	-	5	5	-	4	4	-	11	11
62-63	-	-	-	-	9	9	-	5	5
64-65	-	5	5	-	-	-	-	-	-
66-67	-	-	-	-	-	-	-	-	-
68-69	-	-	-	-	-	-	-	-	-
70-71	-	-	-	-	4	4	-	-	-
Total ‰	519	482	1001	598	404	1002	524	477	1001
Serial Numbers									
Number of Samples			1			1			5
Number Fish Measured	109	101	210	141	95	236	583	524	1107
Mean Length (cm)			42.53			42.55			43.82
Mean Weight (Kg)			0.78			0.79			0.92
Total Wt. Landed (Tons)			338			106			989
Est. Number (millions)			0.427			0.135			1.079
Mesh Size (inches)			4 min.			4 min.			4 min.
Range of Depths (fm)			32-47			26-35			30-115

(cont'd.)

TABLE 49 CANADA (Newfoundland) - 1959 LENGTH FREQUENCIES - AM. PLAICE by A.M. Fleming
(cont'd.)

Commercial Landings

Vessel Type	Otter Trawlers								
Vessel Tonnage Class	151-500								
Division	3N			3P			3P south		
Month	November			December			March		
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
2-cm group	FREQUENCIES in ‰								
16-17	-	-	-	-	-	-	-	1	1
18-19	-	-	-	-	-	-	1	1	2
20-21	-	-	-	-	-	-	6	2	8
22-23	-	-	-	-	-	-	22	6	28
24-25	-	-	-	-	-	-	18	13	31
26-27	-	1	1	1	-	1	30	8	38
28-29	2	-	2	3	2	5	36	18	54
30-31	6	5	11	4	4	8	45	12	57
32-33	22	12	34	17	10	27	52	17	69
34-35	42	19	61	40	17	57	53	22	75
36-37	73	19	92	60	14	74	49	26	75
38-39	72	34	106	64	35	99	57	36	93
40-41	92	43	135	86	35	121	33	31	64
42-43	84	43	127	89	39	128	37	40	77
44-45	72	35	107	94	35	129	20	56	76
46-47	42	56	98	57	44	101	18	50	68
48-49	22	48	70	41	31	72	5	41	46
50-51	5	40	45	8	42	50	6	29	35
52-53	2	34	36	2	37	39	2	19	21
54-55	1	26	27	1	39	40	1	18	19
56-57	-	21	21	-	28	28	-	11	11
58-59	-	19	19	-	12	12	-	14	14
60-61	-	7	7	-	13	13	-	13	13
62-63	-	3	3	-	1	1	-	13	13
64-65	-	2	2	-	1	1	-	7	7
66-67	-	-	-	-	-	-	-	2	2
68-69	-	-	-	-	-	-	-	3	3
70-71	-	-	-	-	-	-	-	1	1
72-73	-	-	-	-	-	-	-	-	-
74-75	-	-	-	-	-	-	-	-	-
76-77	-	-	-	-	-	-	-	1	1
Total ‰	537	467	1004	567	439	1006	491	511	1002
Serial Numbers									
Number of Samples			9			5			4
Number Fish Measured	1029	942	1971	647	493	1140	469	489	958
Mean Length (cm)			43.12			43.73			39.51
Mean Weight (Kg)			0.85			0.88			0.66
Total Wt. Landed (Tons)			883			1061			594
Est. Number (millions)			1.036			1.206			0.897
Mesh Size (inches)		4 man. & 3 $\frac{3}{4}$ nyl.				3 $\frac{3}{4}$ nyl.			4 man.
Range of Depths (fm)			31-125			30-65			80-90

PREVIOUS ISSUES OF THE SAMPLING YEARBOOK

Sampling Yearbook Vol. 1, for the years 1955 and 1956.

Halifax, N. S., Canada, 1958.

Sampling Yearbook Vol. 2, for the year 1957.

Halifax, N. S., Canada, 1959.

Sampling Yearbook Vol. 3, for the year 1958.

Halifax, N. S., Canada, 1960.