

TABLE 30 UNION OF SOVIET SOCIALIST
REPUBLICS - 1960AGE FREQUENCIES - COD¹⁾
by sexes,
with mean length at each ageby V.I.Travin
E.M.Mankevich

OTTER TRAWLERS - Exploratory Catches

Division		IC											
Month		April					May						
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1957	3	4	1	5	38.29	37.00	37.99	-	-	-	-	-	-
>1956	<4	-	-	-	-	-	-	25	12	37	37.06	37.42	37.15
1956	4	35	25	60	50.02	51.68	50.68	48	39	87	46.96	52.24	49.00
1955	5	89	79	168	58.15	60.52	59.35	88	38	126	56.44	57.91	56.83
1954	6	99	141	240	65.35	69.58	65.53	141	37	178	62.98	64.24	63.28
1953	7	142	252	394	69.64	70.75	70.42	284	126	410	68.38	71.14	69.37
1952	8	21	14	35	67.51	75.43	72.46	31	21	52	70.06	76.06	72.22
1951	9	40	-	40	77.11	-	77.11	14	13	27	78.91	83.14	80.89
1950	10	-	18	18	-	76.00	76.00	35	12	47	76.03	85.27	78.61
1949	11	-	-	-	-	-	-	-	-	-	-	-	-
1948	12	-	-	-	-	-	-	10	2	12	79.72	79.00	79.51
1947	13	13	-	13	82.00	-	82.00	2	3	5	79.00	76.00	77.14
1946	14	-	-	-	-	-	-	-	3	3	-	85.00	85.00
1945	15	-	-	-	-	-	-	5	3	8	86.38	85.00	85.87
1944	16	-	6	6	-	85.00	85.00	3	-	3	82.00	-	82.00
<1944	>16	10	11	21	92.74	93.85	93.34	3	2	5	98.17	97.51	97.99
Total %oo		453	547	1000	/			689	311	1000	/		
Serial Numbers													
Number of Samples		1						1					
Number Fish Measured		1962						4900					
Mean Age		6.6						6.6					
Mean Weight (Kg)		2.44						2.78					
Total Wt. Landed (Tons)													
Estimated No. Landed													
Mesh Size (mm)													
Range of Depths (fm)		82-148						36-120					

1) The length frequencies of these samples are given in Table 19; the age/length frequencies are given in Table 38.

(cont'd.)

TABLE 30 UNION OF SOVIET SOCIALIST
 (cont'd.) REPUBLICS - 1960

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

 by V.I. Travin
 E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division		IC						ID					
Month		June						April					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
>1957	<3	-	1	1	31.00	31.00	31.00	1	1	2	33.58	31.90	32.59
1957	3	60	53	113	39.22	38.50	38.89	5	5	10	40.66	41.29	40.93
1956	4	65	67	132	46.81	47.35	47.08	206	174	380	47.89	48.10	47.98
1955	5	110	104	214	58.30	58.00	58.18	63	52	115	56.50	56.50	56.50
1954	6	75	124	199	66.82	67.09	67.00	56	82	138	63.88	65.95	65.11
1953	7	66	174	240	70.78	73.90	73.09	112	157	269	69.52	72.22	71.11
1952	8	7	38	45	73.00	78.28	77.50	18	27	45	71.23	76.57	74.47
1951	9	6	19	25	79.00	84.19	82.18	8	5	13	76.24	76.27	76.24
1950	10	9	-	9	79.00	-	79.00	3	8	11	79.00	77.35	77.86
<1950	>10	10	12	22	86.59	88.15	87.43	-	-	-	-	-	-
1949	11	-	-	-	-	-	-	3	4	7	70.00	79.00	74.74
1948	12	-	-	-	-	-	-	-	-	-	-	-	-
1947	13	-	-	-	-	-	-	-	4	4	-	88.00	88.00
1946	14	-	-	-	-	-	-	-	-	-	-	-	-
1945	15	-	-	-	-	-	-	-	2	2	-	79.00	79.00
<1945	>15	-	-	-	-	-	-	2	2	4	97.24	97.93	97.63
Total %oo		408	592	1000	/			477	523	1000	/		
Serial Numbers													
Number of Samples		2						2					
Number Fish Measured		3546						6289					
Mean Age		5.7						5.6					
Mean Weight (Kg)		1.54						1.90					
Total Wt. Landed (Tons)													
Estimated No. Landed													
Mesh Size (mm)													
Range of Depths (fm)		33-109						33-205					

1) The length frequencies of these samples are given in Table 19; the age/length frequencies are given in Table 38.

(cont'd.)

TABLE 30 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960

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

by V.I. Travin
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Division		1D						1E					
Month		May						May					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
>1957	<3	-	-	-	31.00	31.00	31.00	-	-	-	-	-	-
1957	3	37	34	71	39.34	47.71	44.14	-	-	-	-	-	-
>1956	<4	-	-	-	-	-	-	1	1	2	32.50	32.50	32.50
1956	4	195	143	338	48.58	48.64	48.61	84	100	184	45.22	44.80	44.98
1955	5	44	35	79	59.11	58.87	59.02	10	9	19	57.58	50.95	54.43
1954	6	80	86	166	65.59	67.72	66.64	53	35	88	65.08	66.70	65.62
1953	7	94	155	249	71.74	71.92	71.86	168	108	276	70.84	71.65	71.14
1952	8	23	35	58	75.64	76.75	76.33	43	32	75	75.67	71.80	73.63
1951	9	7	8	15	76.63	81.40	79.18	42	23	65	77.47	80.86	78.67
1950	10	3	11	14	83.32	84.64	84.34	88	32	120	79.42	77.74	78.88
1949	11	1	2	3	79.00	82.00	81.13	14	12	26	84.91	83.44	84.19
1948	12	1	1	2	79.00	85.00	82.30	41	47	88	81.16	83.14	82.27
1947	13	-	3	3	-	88.69	88.69	21	22	43	80.89	82.15	81.58
1946	14	-	1	1	-	88.00	88.00	5	8	13	89.08	82.87	85.30
<1946	>14	-	-	-	-	-	-	1	-	1	103.00	103.00	103.00
1945	15	1	-	1	85.00	-	85.00	-	-	-	-	-	-
<1945	>15	-	-	-	100.00	100.00	100.00	-	-	-	-	-	-
Total %oo		486	514	1000				571	429	1000			
Serial Numbers													
Number of Samples		3						1					
Number Fish Measured		14086						2182					
Mean Age		5.6						7.8					
Mean Weight (Kg)		2.80						3.18					
Total Wt Landed(Tons)													
Estimated No. Landed													
Mesh Size (mm)													
Range of Depths (fm)		22-113						44-208					

1) The length frequencies of these samples are given in Table 19; the age/length frequencies are given in Table 38.

(cont'd.)

TABLE 30 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960AGE FREQUENCIES - COD¹⁾
by sexes,
with mean length at each age1F by V.I. Travin
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

2I by V.I. Travin

Division		1F						2I					
Month		April						May					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1957	3	7	-	7	41.50	-	41.50	4	8	12	31.00	25.00	26.32
1956	4	268	258	526	43.33	42.61	43.00	18	20	38	37.84	31.66	33.82
1955	5	77	74	151	49.51	49.42	49.48	17	27	44	40.30	42.58	41.83
1954	6	13	20	33	58.00	60.50	59.50	31	49	80	44.47	46.69	45.88
1953	7	90	67	157	64.00	63.10	63.61	60	87	147	48.46	48.91	48.73
1952	8	23	37	60	69.58	69.19	69.34	62	73	135	50.41	51.73	51.13
1951	9	23	7	30	73.42	77.50	74.35	66	65	131	53.95	53.59	53.74
1950	10	10	23	33	76.00	76.42	76.30	48	65	113	52.21	55.78	54.16
1949	11	-	3	3	-	73.00	73.00	35	66	101	54.64	56.62	55.87
1948	12	-	-	-	-	-	-	35	27	62	56.23	60.25	57.82
1947	13	-	-	-	-	-	-	15	21	36	60.79	61.00	60.88
1946	14	-	-	-	-	-	-	25	21	46	63.31	61.45	62.38
1945	15	-	-	-	-	-	-	24	10	34	62.17	64.27	62.71
1944	16	-	-	-	-	-	-	7	7	14	65.35	69.22	67.33
1943	17	-	-	-	-	-	-	3	2	5	67.00	71.77	69.70
1942	18	-	-	-	-	-	-	-	2	2	-	69.28	69.28
1941	19	-	-	-	-	-	-	-	-	-	-	-	-
1940	20	-	-	-	-	-	-	-	-	-	-	106.00	106.00
Total %oo		511	489	1000				450	550	1000			
Serial Numbers					/						/		
Number of Samples		1						14					
Number Fish Measured		299						17241					
Mean Age		5.30						9.12					
Mean Weight (Kg)		1.40						1.35					
Total Wt. Landed (Tons)													
Estimated No. Landed													
Mesh Size (mm)													
Range of Depths (fm)		77-82						123-253					

1) The length frequencies of these samples are given in Table 19; the age/length frequencies are given in Table 38.

(cont'd.)

TABLE 30 UNION OF SOVIET SOCIALIST
 (cont'd.) REPUBLICS - 1960

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

by V.I.Travin

OTTER TRAWLERS - Exploratory Catches

Division		21											
Month		June						November					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1958	2	-	4	4	-	31.30	31.30	-	-	-	-	-	-
1957	3	55	53	108	27.46	27.97	27.73	-	-	-	-	-	-
1956	4	35	49	84	34.90	36.22	35.74	26	44	70	45.79	44.29	44.86
1955	5	41	36	77	43.60	46.06	44.83	76	81	157	49.66	51.58	50.56
1954	6	68	63	131	45.54	47.62	47.05	71	67	138	52.06	53.02	52.54
1953	7	88	39	127	49.36	52.45	50.50	32	117	149	57.49	57.49	57.49
1952	8	80	76	156	53.98	53.44	54.40	45	94	139	59.36	60.76	60.01
1951	9	39	39	78	56.80	58.63	57.85	54	63	117	59.74	60.88	60.31
1950	10	23	14	37	57.04	64.21	59.74	15	44	59	60.22	61.36	61.09
1949	11	33	26	59	57.28	57.61	57.46	34	56	90	62.29	63.37	62.98
1948	12	28	18	46	58.45	60.85	59.32	19	22	41	62.71	66.64	64.81
1947	13	10	25	35	58.00	62.86	61.48	12	8	20	67.39	67.06	67.21
1946	14	14	20	34	61.00	65.50	63.61	12	4	16	63.28	67.00	63.94
1945	15	-	16	16	-	62.72	62.72	-	-	-	-	-	-
1944	16	3	-	3	60.42	-	60.42	-	-	-	-	-	-
1943	17	-	4	4	-	67.00	67.00	-	4	4	-	73.00	73.00
-	-	-	-	-	-	-	-	-	-	-	-	-	-
1937	23	-	1	1	-	79.00	79.00	-	-	-	-	-	-
Total %oo		517	483	1000				396	604	1000			
Serial Numbers													
Number of Samples				26						77			
Number Fish Measured				5910						4972			
Mean Age				7.56						7.72			
Mean Weight (Kg)				1.50						2.04			
Mean Length (cm)				49.36						56.83			
Total Wt. Landed (Tons)													
Estimated No. Landed													
Mesh Size (mm)													
Range of Depths (fm)				97-266						77-296			

1) The length frequencies of these samples are given in Table 19; the age/length frequencies are given in Table 38.

(cont'd.)

TABLE 30 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960

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

by V.I.Travin

OTTER TRAWLERS - Exploratory Catches

Division		2I						3K					
Month		December						February					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1958	2	-	-	-	-	-	-	1	-	1	22.00	-	22.00
1957	3	3	7	10	41.50	41.50	41.50	14	11	25	32.66	34.00	33.70
1956	4	36	39	75	41.98	43.24	42.80	28	42	70	39.58	41.86	40.66
1955	5	88	95	183	49.03	51.52	50.35	162	107	269	48.43	47.92	48.25
1954	6	61	99	160	55.81	54.61	55.27	89	54	143	51.49	54.16	52.48
1953	7	39	58	97	57.43	58.09	57.79	75	50	125	54.07	56.98	55.27
1952	8	57	78	135	57.88	61.54	60.13	81	59	140	60.16	62.44	61.15
1951	9	33	38	71	59.86	60.94	60.49	28	-	28	59.38	-	59.38
1950	10	49	54	103	62.02	64.42	63.37	23	23	46	68.20	65.04	66.16
1949	11	34	17	51	61.57	64.63	62.53	7	-	7	79.00	-	79.00
1948	12	20	49	69	65.95	71.08	70.30	24	6	30	77.97	64.00	74.11
1947	13	8	4	12	64.00	67.00	64.96	50	60	110	72.73	73.15	73.09
1946	14	16	4	20	61.67	64.00	62.17	-	-	-	-	-	-
1945	15	4	4	8	64.00	64.00	64.00	-	6	6	-	88.00	88.00
1944	16	6	-	6	70.00	-	70.00	-	-	-	-	-	-
Total %oo		454	546	1000				582	418	1000			
Serial Numbers													
Number of Samples		31						16					
Number Fish Measured		1934						1593					
Mean Age		7.67						7.218					
Mean Weight (Kg)		1.68						1.64					
Mean Length (cm)		57.16						55.66					
Total Wt. Landed (Tons)													
Estimated No. Landed													
Mesh Size (mm)													
Range of Depths (fm)		134-225						151-192					

¹⁾The length frequencies of these samples are given in Table 19; the age/length frequencies are given in Table 38.

(cont'd.)

TABLE 30 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960

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

by V.I. Travin

OTTER TRAWLERS - Exploratory Catches

Division		3K						3M					
Month		June						March					
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1957	3	24	16	40	28.60	27.50	28.27	-	-	-	-	-	-
1956	4	59	62	121	36.73	36.19	36.46	-	-	-	-	-	-
1955	5	68	51	119	45.49	45.64	45.64	21	8	29	47.80	47.29	47.56
1954	6	73	73	146	48.55	48.70	48.61	308	156	464	51.73	53.29	52.02
1953	7	61	67	128	54.73	53.98	54.37	149	93	242	53.92	57.55	55.09
1952	8	46	54	100	53.08	57.04	55.33	12	6	18	59.20	58.00	58.81
1951	9	29	52	81	58.48	60.67	59.53	26	14	40	59.29	67.15	61.12
1950	10	17	47	64	57.76	60.94	60.10	28	12	40	62.32	62.71	62.35
1949	11	23	40	63	58.69	59.23	59.68	50	55	105	63.85	67.18	65.56
1948	12	18	40	58	62.92	64.57	63.88	8	11	19	71.25	69.45	69.55
1947	13	12	23	35	66.37	64.96	65.41	-	18	18	-	69.20	69.34
1946	14	6	15	21	58.00	65.92	64.18	6	12	18	78.14	82.62	81.13
1945	15	4	6	10	67.00	67.55	67.33	3	1	4	75.25	85.00	76.43
1944	16	6	6	12	68.50	67.55	68.26	-	2	2	-	101.00	101.00
1943	17	2	-	2	64.00	-	64.00	-	1	1	-	115.00	115.00
Total %oo		448	552	1000	/			611	389	1000	/		
Serial Numbers													
Number of Samples		7						20					
Number Fish Measured		1582						1721					
Mean Age		7.77						7.51					
Mean Weight (Kg)		1.68						2.54					
Mean Length (cm)		51.73						56.50					
Total Wt Landed (Tons)													
Estimated No. Landed													
Mesh Size (mm)													
Range of Depths (fm)		90-217			125-236								

¹⁾The length frequencies of these samples are given in Table 19; the age/length frequencies are given in Table 38.

(cont'd.)

TABLE 30 UNION OF SOVIET SOCIALIST
 (cont'd.) REPUBLICS - 1960

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

by V.I.Travin

OTTER TRAWLERS - Exploratory Catches

Division		34						38					
Month		July											
Year- Class	Age	%oo Frequency			Mean Length			%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1958	2	14	21	35	26.95	26.83	26.80	193	150	343	21.88	21.46	21.64
1957	3	51	52	103	34.66	36.55	35.45	212	75	287	25.18	25.42	25.27
1956	4	51	34	85	42.88	43.90	43.30	35	17	52	41.29	44.71	42.61
1955	5	7	30	37	49.00	50.05	50.02	33	59	92	51.01	54.13	53.38
1954	6	172	168	340	53.71	55.57	54.70	14	26	40	60.50	62.08	61.54
1953	7	105	126	231	55.06	55.51	55.27	16	31	47	67.60	69.76	68.70
1952	8	12	12	24	55.73	58.00	56.61	21	26	47	73.57	72.49	72.85
1951	9	19	-	19	59.05	-	59.45	5	2	7	79.00	76.00	77.00
1950	10	12	13	25	62.37	56.20	60.50	7	-	7	86.00	-	86.00
1949	11	45	24	69	63.34	55.00	62.17	14	19	33	72.25	90.34	85.85
1948	12	7	20	27	61.00	67.00	65.36	-	-	-	-	-	-
1947	13	-	5	5	-	76.00	76.00	2	10	12	70.00	197.00	91.60
1946	14	-	-	-	-	-	-	9	-	9	101.50	-	101.50
1945	15	-	-	-	-	-	-	-	5	5	-	115.00	115.00
1944	16	-	-	-	-	-	-	7	-	7	91.00	-	91.00
1942	17	-	-	-	-	-	-	-	12	12	-	109.00	109.00
Total %oo		495	505	1000				568	432	1000			
Serial Numbers					/						/		
Number of Samples		41						4					
Number Fish Measured		1648						425					
Mean Age		6.60						4.34					
Mean Weight (Kg)		1.50						...					
Mean Length (cm)		51.73						39.28					
Total Wt Landed(Tons)													
Estimated No. Landed													
Mesh Size (mm)													
Range of Depths (fm)		94-283						111-198					

1) The length frequencies of these samples are given in Table 19; the age/length frequencies are given in Table 38.

(cont'd.)

TABLE 30 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960

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

by V.I.Travin

OTTER TRAWLERS - Exploratory Catches

Division		N						P					
Month		September						January					
Year- Class	Age	%/oo Frequency			Mean Length			%/oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1956	4	54	76	130	48.01	49.07	48.13	35	71	106	46.00	42.79	43.75
1955	5	351	362	713	55.03	54.64	54.73	389	283	672	49.21	49.78	49.45
1954	6	66	51	117	58.66	58.72	58.78	65	37	102	56.26	57.85	56.71
1953	7	8	13	21	70.00	62.80	65.50	29	8	37	64.45	69.12	65.44
1952	8	-	11	11	-	71.00	68.20	23	28	51	69.82	63.82	66.49
1951	9	-	2	2	-	94.00	94.00	6	6	12	73.00	66.58	70.09
1950	10	-	-	-	-	-	-	9	7	16	75.25	80.50	78.01
1949	11	-	-	-	-	-	-	-	-	-	-	-	-
1948	12	4	-	4	73.00	-	73.00	-	-	-	-	-	-
1947	13	-	-	-	-	-	-	2	-	2	85.00	-	85.00
1946	14	-	2	2	-	106.00	106.00	-	-	-	-	-	-
1945	15	-	-	-	-	-	-	-	2	2	-	73.00	73.00
Total %/oo		483	517	1000				558	442	1000			
Serial Numbers													
Number of Samples		10						8					
Number Fish Measured		467						2335					
Mean Age		5.12						4.96					
Mean Weight (Kg)		1.66						1.49					
Mean Length (cm)		55.06						51.85					
Total Wt Landed(Tons)													
Estimated No. Landed													
Mesh Size (mm)													
Range of Depths (fm)		22-31						84-159					

1) The length frequencies of these samples are given in Table 19; the age/length frequencies are given in Table 38.

(cont'd.)

TABLE 30 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960

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

by V.I. Travin

OTTER TRAWLERS - Exploratory Catches

Division		3P					
Month		February					
Year- Class	Age	%oo Frequency			Mean Length		
		♂♂	♀♀	Tot.	♂♂	♀♀	Tot.
1958	2	-	4	4	-	25.00	25.00
1957	3	62	45	107	32.14	32.24	32.29
1956	4	136	173	309	41.92	41.08	41.44
1955	5	196	310	506	47.95	48.31	48.10
1954	6	29	9	38	55.51	50.50	54.55
1953	7	9	7	16	66.40	64.00	65.33
1952	8	9	4	13	77.50	79.00	77.28
1951	9	4	3	7	73.00	70.00	70.75
Total %oo		445	555	1000	/		
Serial Numbers							
Number of Samples		9					
Number Fish Measured		550					
Mean Age		4.61					
Mean Weight (Kg)		0.87					
Mean Length (cm)		45.34					
Total Wt. Landed (Tons)							
Estimated No. Landed							
Mesh Size (mm)							
Range of Depths (fm)		57-185					

1) The length frequencies of these samples are given in Table 19; the age/length frequencies are given in Table 38.

TABLE 31 DENMARK (Greenland) - 1960

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches												Serial No. 1	
Location	IB - Store Hellefiske Bank - 66°40'N, 54°25'W												
Gear	Handline												
Month	July												
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	-	1947	1946	1945	Total
Age	3	4	5	6	7	8	9	10	-	13	14	15	
3-cm group	ACTUAL NUMBERS OF OTOLITHS READ												
33-35	1	-	-	-	-	-	-	-	-	-	-	-	1
36-38	-	-	-	-	-	-	-	-	-	-	-	-	-
39-41	4	-	-	-	-	-	-	-	-	-	-	-	4
42-44	6	1	-	-	-	-	-	-	-	-	-	-	7
45-47	2	3	1	-	-	-	-	-	-	-	-	-	6
48-50	-	5	1	1	-	-	-	-	-	-	-	-	7
51-53	-	11	3	-	-	-	-	-	-	-	-	-	14
54-56	-	13	4	-	1	-	-	-	-	-	-	-	18
57-59	-	7	14	-	-	-	-	-	-	-	-	-	21
60-62	-	1	27	1	2	-	-	-	-	-	-	-	31
63-65	-	-	13	7	6	-	-	-	-	-	-	-	26
66-68	-	-	10	7	6	-	-	-	-	-	-	-	23
69-71	-	-	2	4	24	2	1	-	-	-	-	-	33
72-74	-	-	-	3	19	3	-	-	-	-	-	-	25
75-77	-	-	-	1	9	4	-	-	-	-	-	-	14
78-80	-	-	-	-	2	2	2	3	-	-	-	-	9
81-83	-	-	-	-	5	-	-	2	-	1	-	-	8
84-86	-	-	-	-	2	-	1	-	-	-	-	-	3
87-89	-	-	-	-	-	-	-	1	-	-	-	1	2
90-92	-	-	-	-	-	-	-	-	-	1	-	-	1
Total Number	13	41	75	24	76	11	4	6	-	2	-	1	253
Mean Length (cm)													64.2

1) The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

SAMPLE DATA

(cont'd.)

Sample Serial Nos.	1
Number of Fish	253
Mean Age	5.9
Mean Length (cm)	64.2
Range of Depths (fm)	ca. 27.3

TABLE 31 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches

Serial No. 1a

Location	1B - Store Hellefiske Bank - 66°40'N, 54°25'W																	Total
Gear	Longlines																	
Month	July																	
Year-Class	19 57	19 56	19 55	19 54	19 53	19 52	19 51	19 50	19 49	19 48	19 47	19 46	19 45	19 44	19 43	19 42	19 41	
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ																	
42-44	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
45-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48-50	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
51-53	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
54-56	-	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
57-59	-	-	17	-	1	-	-	-	-	-	-	-	-	-	-	-	-	18
60-62	-	-	23	8	-	-	-	-	-	-	-	-	1	-	-	-	-	32
63-65	-	-	12	7	8	1	-	-	-	-	-	-	-	-	-	-	-	28
66-68	-	-	2	3	16	1	-	1	-	-	1	-	-	-	-	-	-	24
69-71	-	-	1	9	23	1	1	-	-	-	-	-	-	-	-	-	-	35
72-74	-	-	1	1	18	7	2	4	-	-	-	-	-	-	-	-	-	33
75-77	-	-	-	-	13	6	2	3	-	-	3	-	1	-	-	-	-	28
78-80	-	-	-	-	6	3	1	4	1	1	3	-	1	-	-	-	-	20
81-83	-	-	-	-	1	1	-	4	-	-	4	1	-	-	-	1	-	12
84-86	-	-	-	-	-	1	1	2	-	-	3	-	1	1	-	-	-	9
87-89	-	-	-	-	-	-	-	-	-	2	8	-	1	1	-	-	-	12
90-92	-	-	-	-	-	-	-	-	-	-	4	1	1	1	-	2	-	9
93-95	-	-	-	-	-	-	-	-	-	1	-	-	2	1	1	-	-	5
96-98	-	-	-	-	-	-	-	1	-	-	3	1	-	-	-	-	1	6
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
102-104	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	2
105-107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Total Number	1	9	62	28	86	21	7	19	1	4	30	3	8	5	1	5	1	291
Mean Length (cm)																		79.3

1) The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

SAMPLE DATA

(cont'd.)

Sample Serial Nos.	1a
Number of Fish	291
Mean Age	8.1
Mean Length (cm)	79.3
Mean Weight (Kg)	3.9
Range of Depths (fm)	25-74

TABLE 31 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches		Serial No. 2													
Location	IC - Lille Hellefiske Bank - 65°06'N, 54°02'W														
Gear	Handline														
Month	July														
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	Total
Age	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ														
60-62	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2
63-65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
66-68	1	6	2	-	1	-	-	-	-	-	-	-	-	-	10
69-71	-	4	12	-	-	-	-	-	-	-	-	-	-	-	16
72-74	-	4	12	7	-	3	-	-	1	-	-	-	-	-	27
75-77	-	1	14	5	4	4	-	1	4	-	-	-	-	-	33
78-80	-	-	12	6	4	10	1	2	6	-	1	-	-	-	42
81-83	-	-	6	3	5	14	-	1	7	-	-	-	1	-	37
84-86	-	-	1	-	2	6	1	1	10	-	2	-	-	-	23
87-89	-	-	-	1	1	7	-	1	3	-	1	-	-	1	15
90-92	-	-	-	-	1	-	1	1	3	-	2	-	-	2	10
93-95	-	-	-	-	-	-	-	-	1	1	-	-	-	-	2
96-98	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
99-101	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
105-107	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Total Number	3	15	59	22	18	44	4	8	35	1	6	-	1	4	220
Mean Length (cm)															79.2

1) The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

SAMPLE DATA

(cont'd.)

Sample Serial Nos.	2
Number of Fish	220
Mean Age	9.5
Mean Length (cm)	79.2

TABLE 31 DENMARK (Greenland) - 1960 AGE/LENGTH KEY - COD¹⁾ by Paul M. Hansen
(cont'd.)

West Greenland (Banks) - Research Catches		Serial No. 3														
Location	IC - Lille Hellefiske Bank - 65°07'N, 53°15'W															
Gear	Handline															
Month	July															
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1942	1941	Total
Age	4	5	6	7	8	9	10	11	12	13	14	15	-	18	19	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ															
45-47	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
48-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51-53	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
54-56	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
57-59	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	3
60-62	-	4	1	-	-	-	-	-	-	-	-	-	-	-	-	5
63-65	-	4	2	3	-	-	-	-	-	-	-	-	-	-	-	9
66-68	-	2	9	2	-	-	1	-	-	-	-	-	-	-	-	14
69-71	-	-	4	13	-	-	-	-	-	-	-	-	-	-	-	17
72-74	-	-	2	17	-	2	4	-	-	1	-	-	-	-	-	26
75-77	-	-	1	13	3	1	4	1	1	-	-	-	-	-	-	24
78-80	-	-	-	15	7	4	6	-	-	3	-	-	-	-	-	35
81-83	-	-	-	2	2	2	8	-	1	10	-	-	-	-	-	25
84-86	-	-	-	4	3	5	4	-	-	3	-	-	-	-	-	19
87-89	-	-	-	1	1	1	2	-	-	1	-	-	-	-	1	7
90-92	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3
93-95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
96-98	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	2
Total Number	4	13	19	70	16	15	29	1	2	21	-	1	-	1	1	193
Mean Length (cm)															74.7	

1) The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	3
Number of Fish	193
Mean Length (cm)	74.7

TABLE 31 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hensen

West Greenland (Banks) - Research Catches

Serial No. 2A

Location	IC - Lille Hellefiske Bank - 65°06'N, 54°02'W																Total
Gear	Longline																
Month	July																
Year-Class	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	
Age	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39
3-cm group	ACTUAL NUMBER OF OTOLITHS READ																
57-59	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
60-62	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
63-65	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
66-68	3	6	3	-	-	1	-	-	-	-	-	-	-	-	-	-	13
69-71	-	2	9	2	-	-	-	1	-	-	-	-	-	-	-	-	14
72-74	-	2	17	5	3	5	-	3	-	-	-	-	-	-	-	-	35
75-77	-	-	7	4	5	3	-	5	1	1	-	-	-	-	-	-	26
78-80	-	-	9	3	3	10	1	3	19	1	-	-	-	-	-	-	49
81-83	-	-	3	2	2	7	-	1	16	3	1	3	-	-	-	-	38
84-86	-	-	-	-	-	4	-	5	16	1	2	-	2	1	-	-	31
87-89	-	-	-	-	3	3	-	2	8	1	2	-	1	3	-	-	23
90-92	-	-	-	1	-	3	-	3	4	1	3	1	1	-	-	-	17
93-95	-	-	-	-	-	-	-	-	3	-	-	-	-	2	-	1	6
96-98	-	-	-	-	-	-	-	-	2	-	-	1	-	-	1	-	4
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Total Number	10	10	48	17	16	36	1	14	78	8	9	5	4	6	1	-	264
Mean Length (cm)																	80.5

1) The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	2a
Number of Fish	264
Mean Age	10.7
Mean Length (cm)	80.5
Range of Depths (fm)	44-55

TABLE 31 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

100

West Greenland (Banks) - Research Catches

Serial No. 3a

Location	1C - Lille Hellefiiske Bank - 65°07'N, 53°15'W																		
Gear	Longline																		
Month	July																		
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	Total
Age	3	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	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
45-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48-50	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
51-53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
54-56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
57-59	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
60-62	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
63-65	-	-	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	5
66-68	-	-	1	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	5
69-71	-	-	1	1	7	-	-	-	-	-	-	-	-	-	-	-	-	-	9
72-74	-	-	-	2	9	2	1	2	-	-	-	-	-	-	-	-	-	-	16
75-77	-	-	-	-	9	1	2	4	-	-	4	1	-	-	-	-	-	-	21
78-80	-	-	-	-	4	3	-	3	-	1	2	-	1	-	-	-	-	-	14
81-83	-	-	-	-	2	3	3	4	1	2	5	1	1	-	-	-	-	-	22
84-86	-	-	-	-	-	2	4	5	-	2	11	1	2	-	1	-	-	-	28
87-89	-	-	-	-	-	-	-	4	-	2	6	1	1	-	-	-	-	-	14
90-92	-	-	-	-	-	-	-	1	-	-	3	2	-	-	-	1	-	-	7
93-95	-	-	-	-	-	-	-	1	-	-	2	2	-	-	-	-	-	-	5
96-98	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	2
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
117-119	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
120-122	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
123-125	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	2
Total Number	1	1	8	10	33	11	10	25	1	7	35	8	7	1	2	1	1	1	163
Mean Length (cm)																			77.5

¹⁾The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

SAMPLE DATA: Sample Serial Nos. - 3a; Number of Fish - 163; Mean Age - 10.1; Mean Length (cm) - 77.5;

Range of Depths (fm) - 44-71.

(cont'd.)

TABLE 31 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches

Serial No. 4

Location	LC - Banana Bank - 64°25'N, 53°13'W																
Gear	Handline																
Month	July																
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ																
36-38	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
39-41	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
42-44	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
45-47	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
48-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51-53	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
54-56	-	6	3	-	-	-	-	-	-	-	-	-	-	-	-	-	9
57-59	-	1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	4
60-62	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	5
63-65	-	-	3	2	-	-	-	-	-	-	-	-	-	-	-	-	5
66-68	-	-	1	4	2	-	1	-	-	-	-	-	-	-	-	-	8
69-71	-	-	-	2	3	-	-	-	-	-	-	-	-	-	-	-	5
72-74	-	-	-	-	10	1	-	-	-	-	-	-	-	-	-	-	11
75-77	-	-	-	-	5	1	-	-	-	-	-	-	-	-	-	-	6
78-80	-	-	-	-	9	-	-	3	-	-	1	-	-	-	-	-	13
81-83	-	-	-	-	5	6	2	4	-	-	1	-	-	-	-	-	18
84-86	-	-	-	-	1	-	2	7	1	2	4	-	1	-	-	1	19
87-89	-	-	-	-	-	-	2	4	1	-	3	-	1	1	-	-	12
90-92	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3
93-95	-	-	-	-	-	-	-	1	-	2	2	-	-	1	-	-	6
96-98	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2
99-101	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Total Number	8	14	14	9	35	8	7	19	2	4	17	-	2	2	-	1	142
Mean Length (cm)																	72.0

¹⁾The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.
SAMPLE DATA: Sample Serial Nos. - 4; Number of Fish - 142; Mean Age - 8.0; Mean Length (cm) - 72.0.

(cont'd.)

TABLE 31 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches

Serial No. 4A

Location	1C - Banana Bank - 64°25'N, 53°13'W																
Gear	Longline																
Month	July																
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ																
39-41	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
42-44	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
45-47	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
48-50	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2
51-53	-	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	5
54-56	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	4
57-59	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	6
60-62	-	-	9	2	-	-	-	-	-	-	-	-	-	-	-	-	11
63-65	-	-	3	8	-	-	-	-	-	-	-	-	-	-	-	-	11
66-68	-	-	1	5	6	-	-	-	-	-	-	-	-	-	-	-	12
69-71	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	7
72-74	-	-	-	4	13	2	2	-	-	-	-	-	-	-	-	-	21
75-77	-	-	-	-	14	2	1	-	-	1	1	-	-	-	-	-	19
78-80	-	-	-	-	6	4	3	5	-	1	1	-	-	-	1	-	21
81-83	-	-	-	-	3	2	3	6	-	1	9	1	-	-	-	1	26
84-86	-	-	-	-	4	1	1	8	2	1	4	1	-	-	-	-	22
87-89	-	-	-	-	-	-	1	3	1	-	4	-	-	-	-	-	9
90-92	-	-	-	-	-	-	-	1	-	1	7	-	2	-	-	-	11
93-95	-	-	-	-	-	-	-	1	-	1	3	-	-	-	-	-	5
96-98	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	5
99-101	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
102-104	-	-	-	-	-	-	-	-	-	-	3	-	1	-	1	-	5
Total Number	4	7	23	19	53	11	11	24	3	6	38	2	3	-	2	1	207
Mean Length (cm)																	76.3

¹⁾The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.
SAMPLE DATA: Sample Serial Nos. - 4a; Number of Fish - 207; Mean Age - 8.7; Mean Length (cm) - 76.3.

(cont'd.)

TABLE 31 DENMARK (Greenland) - 1960 AGE/LENGTH KEY - COD¹⁾ by Paul M. Hansen
(cont'd.)

West Greenland (Banks) - Research Catches		Serial No.8												
Location	ID - Fylla Bank - 64°01'N, 52°26'W													
Gear	Handline													
Month	July													
Year-Class	1957	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	15	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ													
42-44	2	-	-	-	-	-	-	-	-	-	-	-	-	2
45-47	-	1	-	-	-	-	-	-	-	-	-	-	-	1
48-50	-	5	-	-	-	-	-	-	-	-	-	-	-	5
51-53	-	16	-	-	-	-	-	-	-	-	-	-	-	16
54-56	-	17	1	1	-	-	-	-	-	-	-	-	-	19
57-59	-	9	8	-	-	-	-	-	-	-	-	-	-	17
60-62	-	2	21	6	1	-	-	-	-	-	-	-	-	30
63-65	-	-	22	12	3	-	-	-	-	-	-	-	-	37
66-68	-	1	11	14	13	2	-	1	-	-	-	-	-	42
69-71	-	-	4	10	20	1	-	1	-	-	-	-	-	36
72-74	-	-	-	2	32	3	3	5	-	1	3	-	-	49
75-77	-	-	-	2	26	6	4	4	-	-	1	-	-	43
78-80	-	-	-	-	13	4	1	2	-	1	1	1	-	23
81-83	-	-	-	-	3	3	2	5	1	2	9	2	-	27
84-86	-	-	-	-	1	-	-	-	1	1	3	-	1	7
87-89	-	-	-	-	-	1	1	1	-	-	-	-	1	4
90-92	-	-	-	-	-	-	-	-	1	-	-	-	-	1
93-95	-	-	-	-	-	-	-	-	-	-	-	-	-	-
96-98	-	-	-	-	-	-	1	-	-	-	-	-	-	1
99-101	-	-	-	-	-	-	-	1	1	-	-	-	-	2
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-
105-107	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total Number	2	51	67	47	112	20	12	20	4	5	17	3	3	363
Mean Length (cm)														69.1

1) The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	.8
Number of Fish	363
Mean Age	6.9
Mean Length (cm)	69.1
Mean Weight (Kg)	3.0
Range of Depths (fm)	82-98

TABLE 31 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

404

West Greenland (Banks) - Research Catches		Serial No. 5														
Location	ID - Fylla Bank - 64°03'N, 52°28'W															
Gear	Longline															
Month	February															
Year-Class	1956	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	18	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ															
45-47	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
48-50	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
51-53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
54-56	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	2
57-59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60-62	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	4
63-65	-	-	2	4	-	-	-	-	-	-	-	-	-	-	-	6
66-68	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	6
69-71	-	-	-	9	1	-	-	-	-	-	-	-	-	-	-	10
72-74	-	-	-	1	2	-	1	-	-	2	-	-	-	-	-	6
75-77	-	-	-	2	2	2	-	1	1	1	-	-	-	-	-	9
78-80	-	-	-	-	1	-	1	-	3	3	-	-	1	-	-	9
81-83	-	-	-	-	3	2	1	2	-	3	-	-	-	-	1	12
84-86	-	-	-	-	-	-	1	-	-	4	-	3	-	1	-	9
87-89	-	-	-	-	-	-	-	-	1	1	-	1	-	-	-	3
90-92	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2
93-95	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Total Number	1	2	4	25	9	4	4	3	5	16	-	5	1	1	1	81
Mean Length (cm)																71.8

1) The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

SAMPLE DATA: Sample Serial Nos. - 5; Number of Fish - 81; Mean Age - 9.7; Mean Length (cm) - 71.8; (cont'd.)
Mean Weight (Kg) - 4.307; Range of Depths (fm) - 49-68.

TABLE 31 DENMARK (Greenland) - 1960 AGE/LENGTH KEY - COD¹⁾ by Paul M. Hansen
(cont'd.)

West Greenland (Banks) - Research Catches		Serial No. 6												
Location	ID - Fylla Bank - 63°58'N, 53°28'W													
Gear	Longline													
Month	April													
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1934	Total
Age	5	6	7	8	9	10	11	12	13	14	15	-	26	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ													
54-56	-	1	-	-	-	-	-	-	-	-	-	-	-	1
57-59	2	1	-	-	-	-	-	-	-	-	-	-	-	3
60-62	-	3	5	-	-	-	-	-	-	-	-	-	-	8
63-65	-	1	21	-	-	-	-	-	-	-	-	-	-	22
66-68	-	3	19	-	-	-	-	-	-	-	-	-	-	22
69-71	-	1	26	2	-	-	-	-	-	-	-	-	-	29
72-74	-	-	30	6	4	2	-	-	1	-	-	-	-	43
75-77	-	-	7	3	-	-	-	-	4	-	-	-	-	14
78-80	-	-	6	-	1	2	-	-	2	1	-	-	-	12
81-83	-	-	1	2	-	4	-	1	-	-	1	-	-	9
84-86	-	-	-	1	1	3	-	1	1	-	-	-	-	7
87-89	-	-	-	-	-	1	-	-	1	1	-	-	-	3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
96-98	-	-	-	-	-	-	-	-	-	-	-	-	1	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
114-116	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Total Number	2	10	115	14	6	12	-	2	10	2	1	-	1	175
Mean Length (cm)														72.3

1) The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

SAMPLE DATA

(cont'd.)

Sample Serial Nos.	6
Number of Fish	175
Mean Age	7.9
Mean Length (cm)	72.3
Mean Weight (Kg)	3.2
Range of Depths (fm)	46-82

TABLE 31 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches

Serial No. 8a

Location	1D - Fylla Bank - 64°01'N, 52°26'W																		
Gear	Longline																		
Month	July																		
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	Total
Age	3	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																		
39-41	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
54-56	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
57-59	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
60-62	-	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
63-65	-	1	2	2	3	-	1	-	-	-	-	-	-	-	-	-	-	-	9
66-68	-	-	2	4	4	-	-	1	-	1	-	-	-	-	-	-	-	-	12
69-71	-	-	1	2	7	-	-	-	-	-	1	-	-	-	-	-	-	-	11
72-74	-	-	-	1	9	2	1	-	-	1	1	-	-	-	-	-	-	1	16
75-77	-	-	-	-	7	2	1	1	-	1	2	1	-	-	-	-	-	-	15
78-80	-	-	-	-	4	-	-	4	-	2	7	-	-	-	-	-	-	-	17
81-83	-	-	-	-	1	-	1	1	1	1	4	1	1	-	-	1	-	-	12
84-86	-	-	-	-	-	1	-	-	-	-	6	-	1	-	1	1	-	-	10
87-89	-	-	-	-	-	-	-	2	2	-	1	-	1	-	-	-	-	-	6
90-92	-	-	-	-	1	-	-	1	-	-	2	-	-	-	-	-	-	-	4
93-95	-	-	-	-	-	-	-	1	-	1	1	-	-	-	-	-	-	-	3
96-98	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	1	-	-	3
99-101	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	2
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Total Number	1	4	10	9	36	5	4	13	3	7	25	2	4	-	1	5	-	1	130
Mean Length (cm)																			75.7

1) The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

SAMPLE DATA: Sample Serial Nos. - 8a; Number of Fish - 130; Mean Age - 9.5; Mean Length (cm) - 75.6; (cont'd.)
Range of Depths (fm) - 82.

TABLE 31 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches

Serial No. 9

Location	1D - Fylla Bank - 63°41'N, 52°24'W																	
Gear	Longline																	
Month	July																	
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	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																	
51-53	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63-65	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
66-68	-	-	1	2	2	-	-	-	-	-	-	-	-	-	-	-	-	5
69-71	-	-	-	7	-	-	-	-	-	-	-	-	-	1	-	-	-	8
72-74	-	-	1	6	-	-	1	-	-	3	-	-	-	1	-	-	1	13
75-77	-	-	-	5	-	-	4	-	1	2	-	-	-	-	2	-	-	14
78-80	-	-	-	4	-	1	3	-	5	6	1	-	-	-	1	-	-	21
81-83	-	-	-	-	-	3	4	-	-	5	2	1	1	1	1	-	-	18
84-86	-	-	-	-	-	-	5	-	1	8	1	-	-	1	-	-	-	16
87-89	-	-	-	-	-	-	2	-	3	3	-	1	-	-	-	-	-	9
90-92	-	-	-	-	-	-	1	-	-	4	-	1	1	-	1	-	-	8
93-95	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
96-98	-	-	-	-	-	-	-	-	-	2	-	-	-	-	1	-	-	3
99-101	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	2
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
105-107	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	2
Total Number	1	-	3	24	2	4	20	-	10	34	4	5	2	4	8	-	1	122
Mean Length (cm)																		80.6

1) The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

SAMPLE DATA: Sample Serial Nos. - 9; Number of Fish - 122; Mean Age - 11.5; Mean Length (cm) - 80.6; (cont'd.)
Range of Depths (fm) - 38-55.

TABLE 31 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches		Serial No. 10								
Location	LD - Fiskenaes Bank - 63°28'N, 52°08'W									
Gear	Handline									
Month	July									
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	Total
Age	5	6	7	8	9	10	11	12	13	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ									
57-59	1	-	-	-	-	-	-	-	-	1
60-62	-	-	-	-	-	-	-	-	-	-
63-65	-	2	2	-	-	-	-	-	-	4
66-68	-	5	1	-	-	-	-	-	-	6
69-71	-	2	8	1	1	-	-	-	-	12
72-74	-	3	6	1	-	-	-	-	-	10
75-77	-	-	8	1	-	-	-	-	-	9
78-80	-	-	5	3	-	2	1	-	-	12
81-83	-	-	6	5	2	4	1	-	1	18
84-86	-	-	-	1	6	6	-	3	1	17
87-89	-	-	1	-	2	1	-	-	1	5
90-92	-	-	-	-	-	1	-	-	-	2
93-95	-	-	-	-	-	-	-	-	1	1
96-98	-	-	-	-	-	-	-	-	-	-
99-101	-	-	-	-	-	1	-	-	-	2
102-104	-	-	-	-	-	-	-	-	1	1
105-107	-	-	-	-	1	-	-	-	-	1
Total Number	1	12	37	12	12	15	2	3	7	101
Mean Length (cm)										76.3

1) The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	10
Number of Fish	101
Mean Age	8.3
Mean Length (cm)	76.3

TABLE 31 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches

Serial No.10a

Location	ID - Fiskenaas Bank - 63°28'N, 52°08'W															
Gear	Longline															
Month	July															
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1942	-	1939	Total
Age	5	6	7	8	9	10	11	12	13	14	15	-	18	-	21	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ															
51-53	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60-62	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2
63-65	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	3
66-68	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	8
69-71	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	6
72-74	-	2	6	3	-	1	1	-	-	-	-	-	-	-	-	13
75-77	-	-	4	1	1	4	-	-	-	-	-	-	-	-	-	10
78-80	-	-	2	3	3	4	-	-	2	-	-	-	-	-	-	14
81-83	-	-	4	2	1	2	1	6	2	-	-	-	-	-	-	18
84-86	-	-	-	2	1	3	1	2	5	-	-	-	-	-	1	15
87-89	-	-	-	-	1	4	1	5	2	1	1	-	-	-	-	15
90-92	-	-	-	-	2	4	-	-	3	-	1	-	-	-	-	10
93-95	-	-	-	-	-	3	-	2	5	-	1	-	1	-	-	12
96-98	-	-	-	-	-	2	-	-	1	1	-	-	-	-	-	4
99-101	-	-	-	-	-	-	-	1	2	-	-	-	1	-	-	4
102-104	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	2
105-107	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
108-110	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	2
Total Number	6	8	23	12	9	27	4	16	24	2	4	-	4	-	1	140
Mean Length (cm)																83.4

¹⁾The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	10a
Number of Fish	140
Mean Age	10.1
Mean Length (cm)	83.4
Range of Depths (fm)	33-44

TABLE 31 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD1

by Paul M. Hansen

Location	West Greenland (Banks) - Research Catches											Serial No.11	Total
Gear	1D - Dana Bank - 62°49'N, 51°09'W											11	
Month	August												
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	
Age	4	5	6	7	8	9	10	11	12	13	14	15	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ												
48-50	1	-	-	-	-	-	-	-	-	-	-	-	1
51-53	4	-	-	-	-	-	-	-	-	-	-	-	4
54-56	-	-	-	-	-	-	-	-	-	-	-	-	-
57-59	-	-	-	-	-	-	-	-	-	-	-	-	1
60-62	-	1	-	-	-	-	-	-	-	-	-	-	1
63-65	-	1	-	1	-	-	-	-	-	-	-	-	4
66-68	-	-	-	-	-	-	-	-	-	-	-	-	-
69-71	-	-	3	4	-	-	-	-	-	-	-	-	1
72-74	-	-	1	8	3	-	-	-	-	-	-	-	2
75-77	-	-	1	6	4	1	1	-	-	-	-	-	-
78-80	-	-	-	10	4	5	4	-	1	-	-	-	7
81-83	-	-	-	4	1	5	4	1	1	2	-	-	14
84-86	-	-	-	3	3	7	1	-	6	-	-	-	19
87-89	-	-	-	2	2	5	5	1	10	-	-	2	30
90-92	-	-	-	2	2	8	1	-	3	2	1	-	26
93-95	-	-	-	-	3	4	1	-	6	-	3	-	23
96-98	-	-	-	-	1	5	-	2	4	-	1	3	23
99-101	-	-	-	-	-	1	-	1	1	-	-	-	14
102-104	-	-	-	-	-	2	-	-	1	-	1	-	10
105-107	-	-	-	-	-	1	1	1	4	1	-	-	2
Total Number	5	2	5	40	17	18	42	3	5	37	5	8	187
Mean Length (cm)	-	-	-	-	-	-	-	-	-	-	-	-	79.0

1) The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

SAMPLE DATA	
Sample Serial Nos.	11
Number of Fish	187
Mean Age	9.7
Mean Length (cm)	79.0

(cont'd.)

TABLE 31 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Banks) - Research Catches		Serial No. 11a													
Location	ID - Dana Bank - 62°49'N, 51°09'W														
Gear	Longline														
Month	August														
Year-Class	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	Total
Age	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ														
57-59	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
60-62	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
63-65	2	1	-	-	-	-	-	-	-	-	-	-	-	-	3
66-68	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
69-71	2	-	2	-	-	-	-	-	-	-	-	-	-	-	4
72-74	-	3	1	1	2	-	-	1	-	-	-	-	-	-	8
75-77	-	1	-	1	1	-	1	4	-	-	-	-	-	-	8
78-80	-	-	-	1	2	-	-	2	1	-	-	-	-	-	6
81-83	-	-	-	1	3	1	1	8	-	3	-	-	-	-	17
84-86	-	-	-	-	4	-	1	4	-	1	1	-	-	-	11
87-89	-	-	-	2	2	1	2	4	-	1	-	-	-	1	13
90-92	-	-	-	-	1	-	-	4	-	-	-	1	-	-	6
93-95	-	-	-	-	1	1	-	4	-	-	-	-	-	-	6
96-98	-	-	-	-	-	1	1	5	-	-	-	-	-	-	7
99-101	-	-	-	-	-	-	-	3	-	-	1	1	-	-	5
102-104	-	-	-	-	-	-	1	1	-	-	-	-	-	-	2
105-107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108-110	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
111-113	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
126-128	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Total Number	7	5	3	6	16	4	7	41	1	6	2	2	1	1	102
Mean Length (cm)															83.3

1) The length frequencies of these samples are given in Table 10; the age frequencies are given in Table 23.

SAMPLE DATA

Sample Serial Nos.	11a
Number of Fish	102
Mean Age	11.6
Mean Length (cm)	83.3
Range of Depths (fm)	33-44

TABLE 32 DENMARK (Greenland) - 1960

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

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West Greenland (Inshore and Fjords) - Research Catches

Serial No. 33

Location	ID - Godthåb Fjord - 64°24'N, 50°23'W																		
Gear	Handline																		
Month	February																		
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939	Total
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ																		
36-38	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
39-41	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
42-44	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
45-47	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
48-50	-	5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
51-53	-	11	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
54-56	-	15	5	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	23
57-59	-	15	7	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	23
60-62	-	4	5	4	7	-	-	-	-	-	-	-	-	-	-	-	-	-	20
63-65	-	-	1	-	8	2	-	-	-	-	-	-	-	-	-	-	-	-	11
66-68	-	1	-	2	8	-	-	1	-	-	1	-	-	-	-	-	-	-	13
69-71	-	-	-	-	10	-	7	1	1	2	-	1	-	-	-	-	-	-	22
72-74	-	-	-	1	15	4	3	-	1	2	-	-	-	-	1	-	-	-	27
75-77	-	-	-	2	6	-	4	3	1	2	-	1	-	-	1	-	1	-	21
78-80	-	-	-	-	3	-	2	1	1	1	-	3	-	-	2	1	-	-	14
81-83	-	-	-	-	-	1	3	1	4	4	-	-	-	-	2	-	-	-	15
84-86	-	-	-	-	-	-	1	2	-	2	-	1	1	-	-	-	-	-	7
87-89	-	-	-	-	-	-	-	-	1	1	1	3	-	-	-	-	1	-	7
90-92	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
93-95	-	-	-	-	-	-	-	-	-	2	-	1	-	-	1	-	-	-	4
96-98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Total Number	5	54	19	11	59	7	21	9	9	16	2	10	1	1	7	1	3	1	236
Mean Length (cm)																			67.8

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

SAMPLE DATA: Sample Serial Nos. - 33; Number of Fish - 236; Mean Age - 8.8; Mean Length (cm) - 67.8; (cont'd.)
Mean Weight (Kg) - 3.6; Range of Depths (fm) - 131.

TABLE 32 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 34

Location	ID - Godthåb Fjord - 64°24'N, 50°23'W																		
Gear	Handline																		
Month	February																		
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939	1938	Total
Age	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ																		
57-59	3	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
60-62	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
63-65	-	-	3	6	1	1	-	-	-	-	-	-	-	-	-	-	-	-	11
66-68	-	-	2	7	-	2	-	-	-	-	-	-	-	-	-	-	-	-	11
69-71	-	-	4	6	-	1	-	-	2	-	1	-	-	-	-	-	-	-	14
72-74	-	-	1	13	1	5	3	1	3	-	2	-	-	1	-	-	-	-	30
75-77	-	-	1	9	-	4	1	1	2	-	3	1	1	3	1	-	-	-	27
78-80	-	-	-	5	1	4	3	3	1	-	1	-	3	2	-	2	-	-	25
81-83	-	-	-	2	-	2	2	2	4	1	6	1	-	1	-	-	-	1	22
84-86	-	-	-	-	-	-	-	-	2	-	1	-	-	1	-	2	-	-	6
87-89	-	-	-	-	-	-	1	-	1	-	2	1	-	-	-	2	1	-	8
90-92	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	2
93-95	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
96-98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
99-101	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	2
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
117-119	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Total Number	3	-	17	52	3	20	10	7	15	2	17	3	4	9	1	9	1	1	174
Mean Length (cm)																			75.4

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

SAMPLE DATA: Sample Serial Nos. - 34; Number of Fish - 174; Mean Age - 10.9; Mean Length (cm) - 75.4; (cont'd.)
Mean Weight (Kg) - 4.5; Range of Depths (fm) - 131.

TABLE 32 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

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West Greenland (Inshore and Fjords) - Research Catches

Serial No. 35

Location	ID - Godthåb Fjord - 64°24'N, 50°23'W																	
Gear	Handline																	
Month	February																	
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939	Total
Age	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
3-cm group	ACTUAL NUMBER OF OTOLITHS HEAD																	
54-56	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
57-59	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3
60-62	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
63-65	-	-	1	4	-	1	-	1	-	-	-	-	-	-	-	-	-	7
66-68	-	1	-	9	1	-	1	-	1	-	-	-	-	-	-	-	-	13
69-71	-	-	-	6	-	4	2	-	-	-	-	-	-	-	-	-	-	12
72-74	-	-	-	7	-	2	1	2	-	-	-	-	-	-	-	1	-	13
75-77	-	-	-	3	1	4	-	-	1	-	1	-	-	3	-	-	1	14
78-80	-	-	1	2	-	3	1	-	3	-	2	-	-	-	-	1	-	13
81-83	-	-	-	-	-	-	2	1	-	-	-	-	1	1	1	-	-	6
84-86	-	-	-	-	-	2	1	-	-	1	1	-	-	-	-	-	-	5
87-89	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	2
90-92	-	-	-	-	-	-	1	-	1	-	2	-	-	-	-	-	1	5
Total Number	3	3	2	32	2	16	10	4	6	1	6	-	2	4	1	2	2	96
Mean Length (cm)																		73.9

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

SAMPLE DATA: Sample Serial Nos. - 35; Number of Fish - 96; Mean Age - 10.7; Mean Length (cm) - 73.9; (cont'd.)
Mean Weight (Kg) - 4.5.

TABLE 32 DENMARK (Greenland) - 1960 AGE/LENGTH KEY - COD¹⁾ by Paul M. Hansen
(cont'd.)

West Greenland (Inshore and Fjords) - Research Catches											Serial No. 24	
Location	ID- Godthåb Fjord - 64°12'N, 51°50'W											
Gear	Handline											
Month	April											
Year-Class	1957	1956	1955	1954	1953	1952	1951	-	1945	-	1942	Total
Age	3	4	5	6	7	8	9	-	15	-	18	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ											
30-32	3	-	-	-	-	-	-	-	-	-	-	3
33-35	12	-	-	-	-	-	-	-	-	-	-	12
36-38	15	1	1	-	-	-	-	-	-	-	-	17
39-41	5	5	-	-	-	-	-	-	-	-	-	10
42-44	-	5	-	-	-	-	-	-	-	-	-	5
45-47	-	14	2	-	-	-	-	-	-	-	-	16
48-50	-	16	-	-	-	-	-	-	-	-	-	16
51-53	-	9	3	-	-	-	-	-	-	-	-	12
54-56	-	3	1	-	1	-	-	-	-	-	-	5
57-59	-	-	5	-	-	-	-	-	-	-	-	5
60-62	-	-	4	-	1	-	-	-	-	-	-	5
63-65	-	-	1	5	1	-	-	-	-	-	-	7
66-68	-	-	-	1	-	-	-	-	-	-	-	1
69-71	-	-	-	-	4	3	-	-	-	-	-	7
72-74	-	-	-	1	1	-	-	-	-	-	-	2
75-77	-	-	-	1	1	1	-	-	1	-	-	4
78-80	-	-	-	-	-	-	-	-	-	-	-	-
81-83	-	-	-	-	2	-	1	-	-	-	-	3
-	-	-	-	-	-	-	-	-	-	-	-	-
90-92	-	-	-	-	-	1	-	-	-	-	1	2
Total Number	35	53	17	8	11	5	1	-	1	-	1	132
Mean Length (cm)												44.3

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

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	24
Number of Fish	132
Mean Age	4.6
Mean Length (cm)	44.3
Mean Weight (Kg)	1.9
Range of Depths (fm)	38-49

TABLE 32 DENMARK (Greenland) - 1960 AGE/LENGTH KEY - COD¹⁾ by Paul M. Hansen
(cont'd.)

West Greenland (Inshore and Fjords) - Research Catches											Serial No. 32
Location	ID - Godthåb Fjord - 64°15'N, 50°53'W										
Gear	Handline										
Month	April										
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949		Total
Age	3	4	5	6	7	8	9	10	11		
3-cm group	ACTUAL NUMBER OF OTOLITHS READ										
30-32	-	1	-	-	-	-	-	-	-	-	1
33-35	-	-	-	-	-	-	-	-	-	-	-
36-38	4	1	-	-	-	-	-	-	-	-	5
39-41	-	9	-	-	-	-	-	-	-	-	9
42-44	-	4	-	-	-	-	-	-	-	-	4
45-47	-	6	-	-	-	-	-	-	-	-	6
48-50	-	10	2	-	-	-	-	-	-	-	12
51-53	-	9	7	1	-	-	-	-	-	-	17
54-56	-	1	1	-	-	-	-	-	-	-	2
57-59	-	-	1	2	1	-	-	-	-	-	4
60-62	-	-	1	2	1	-	-	-	-	-	4
63-65	-	-	-	-	-	-	-	-	-	-	-
66-68	-	-	-	1	-	-	-	-	1	-	2
69-71	-	-	-	-	-	-	-	-	-	-	-
72-74	-	-	-	-	-	-	-	2	-	-	2
75-77	-	-	-	-	-	1	-	-	-	-	1
78-80	-	-	-	-	-	2	-	-	-	-	2
Total Number	4	41	12	6	2	3	-	2	1		71
Mean Length (cm)											50.6

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

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	32
Number of Fish	71
Mean Age	4.9
Mean Length (cm)	50.6
Range of Depths (fm)	33-55

TABLE 32 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 36

Location	ID - Godthåb Fjord - 64°25'N, 50°23'W														
Gear	Handline														
Month	April														
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	- 1940	Total
Age	5	6	7	8	9	10	11	12	13	14	15	16	17	- 20	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ														
45-47	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
48-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51-53	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
54-56	5	-	-	-	-	-	-	-	-	-	-	-	-	-	5
57-59	12	2	-	-	-	-	-	-	-	-	-	-	-	-	14
60-62	14	1	-	1	-	-	-	-	-	-	-	-	-	-	16
63-65	5	2	5	5	-	-	-	-	-	-	-	-	-	-	17
66-68	-	1	3	2	-	4	-	-	-	-	-	-	-	-	10
69-71	-	-	-	13	2	-	1	1	-	-	-	-	-	1	18
72-74	-	-	1	3	-	5	1	-	1	-	3	-	-	-	14
75-77	-	-	-	2	-	3	1	-	1	-	1	1	-	-	9
78-80	-	-	1	-	1	3	-	1	2	-	-	-	-	-	8
81-83	-	-	-	1	-	-	3	-	-	1	-	-	1	-	6
84-86	-	-	-	-	-	2	-	-	2	-	-	-	-	-	4
87-89	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
90-92	-	-	-	-	-	-	-	1	1	-	-	-	-	-	2
Total Number	38	6	10	27	3	18	6	3	7	1	4	1	1	- 1	126
Mean Length (cm)															68.5

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

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	36
Number of Fish	126
Mean Age	8.2
Mean Length (cm)	68.5

TABLE 32 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

ID - Godthåb Fjord - 64°07'N, 52°21'W
Serial No. 25
Handline

Location	June													Total
Gear	Handline													
Month	June													
Year-Class	1957	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	15	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ													
36-38	2	-	-	-	-	-	-	-	-	-	-	-	-	2
39-41	5	2	-	-	-	-	-	-	-	-	-	-	-	7
42-44	4	7	-	-	-	-	-	-	-	-	-	-	-	11
45-47	1	23	-	-	-	-	-	-	-	-	-	-	-	24
48-50	1	50	2	-	-	-	-	-	-	-	-	-	-	53
51-53	1	55	2	-	-	-	-	-	-	-	-	-	-	57
54-56	1	25	3	-	-	-	-	-	-	-	-	-	-	28
57-59	-	2	6	-	-	-	-	-	-	-	-	-	-	8
60-62	-	1	8	2	1	-	-	-	-	-	-	-	-	12
63-65	-	1	1	1	-	-	-	-	-	-	-	-	-	3
66-68	-	1	1	1	1	-	-	-	-	-	-	-	-	3
69-71	-	-	1	-	-	-	-	-	-	-	-	-	-	1
72-74	-	-	1	-	-	-	-	-	-	-	-	-	-	4
75-77	-	-	-	2	1	-	-	-	-	-	-	-	-	3
78-80	-	-	-	1	2	1	1	-	-	-	-	-	-	3
81-83	-	-	-	1	1	-	-	-	-	-	-	-	-	2
84-86	-	-	-	1	1	2	-	-	-	-	-	-	-	1
Number	13	167	24	5	7	1	2	1	-	1	1	-	-	222
Length (cm)	-	-	-	-	-	-	-	-	-	-	-	-	-	52.8

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

SAMPLE DATA	
Sample Serial Nos.	25
Number of Fish	222
Mean Age	4.4
Mean Length (cm)	52.8

(cont'd.)

TABLE 32 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches Serial No. 27

Location	ID - Godthåb Fjord - 64°12'N, 51°42'W										
Gear	Handline										
Month	July										
Year-Class	1958	1957	1956	1955	1954	1953	1952	1951	-	1947	Total
Age	2	3	4	5	6	7	8	9	-	13	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ										
24-26	1	-	-	-	-	-	-	-	-	-	1
27-29	2	1	-	-	-	-	-	-	-	-	3
30-32	1	5	-	-	-	-	-	-	-	-	6
33-35	-	11	-	-	-	-	-	-	-	-	11
36-38	-	21	-	-	-	-	-	-	-	-	21
39-41	-	19	5	-	-	-	-	-	-	-	24
42-44	-	10	11	-	-	-	-	-	-	-	21
45-47	-	1	19	2	-	-	-	-	-	-	22
48-50	-	-	24	-	-	-	-	-	-	-	24
51-53	-	-	23	3	-	-	-	-	-	-	26
54-56	-	-	14	4	-	1	-	-	-	-	19
57-59	-	-	-	2	-	-	-	-	-	-	2
60-62	-	-	-	4	3	-	-	-	-	-	7
63-65	-	-	-	1	1	-	-	-	-	-	2
66-68	-	-	-	1	2	2	-	-	-	-	5
69-71	-	-	-	-	1	-	-	-	-	-	1
72-74	-	-	-	-	-	2	1	1	-	1	5
75-77	-	-	-	-	-	-	-	-	-	-	-
78-80	-	-	-	-	-	-	1	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-
96-98	-	-	-	-	-	-	-	-	-	1	1
Total Number	4	68	96	17	7	5	2	1	-	2	202
Mean Length (cm)											46.8

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

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	27
Number of Fish	202
Mean Age	4.0
Mean Length (cm)	46.8

TABLE 32 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

Location	West Greenland (Inshore and Fjords) - Research Catches								Serial No. 28
	ID - Godthåb Fjord - 64°08'N, 51°48'W								
Year	Handline								
Month	September								
Year-Class	1957	1956	1955	1954	1953	1952	Total		
Age	ACTUAL NUMBER OF OTOLITHS READ								
3-cm group	3	4	5	6	7	8			
30-32	2	-	-	-	-	-			
33-35	3	-	-	-	-	-			
36-38	11	-	-	-	-	-			
39-41	41	-	-	-	-	-			
42-44	37	2	-	-	-	-	2		
45-47	24	4	-	-	-	-	3		
48-50	6	9	-	-	-	-	11		
51-53	-	29	1	-	-	-	43		
54-56	-	15	1	-	-	-	41		
57-59	-	7	1	-	-	-	33		
60-62	-	5	1	-	-	-	36		
63-65	-	1	3	1	-	-	16		
66-68	-	-	5	1	-	-	8		
69-71	-	-	-	1	-	-	9		
72-74	-	-	1	1	-	-	7		
-	-	-	2	1	2	-	5		
81-83	-	-	-	1	-	1	3		
Total Number	124	-	-	-	-	1	219		
Mean Length (cm)	72	14	4	2	3	1	46.8		

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

SAMPLE DATA	
Sample Serial Nos.	28
Number of Fish	219
Mean Age	3.6
Mean Length (cm)	46.8
Mean Weight (Kg)	1.4

(cont'd.)

TABLE 32 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 23

Location	ID - Godthåb Fjord - 64°03'N, 52°12'W															
Gear	Longline															
Month	April															
Year-Class	1956	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	18	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ															
39-41	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
42-44	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
45-47	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
48-50	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3
51-53	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
54-56	1	6	3	-	-	-	-	-	-	-	-	-	-	-	-	10
57-59	-	6	-	1	-	-	-	-	-	-	-	-	-	-	-	7
60-62	-	9	6	4	-	-	-	-	-	-	-	-	-	-	-	19
63-65	-	2	6	2	2	1	-	-	-	-	-	-	-	-	-	13
66-68	-	-	3	6	-	1	2	-	-	1	-	-	-	-	-	13
69-71	-	-	2	5	-	-	2	-	-	-	-	-	-	-	-	9
72-74	-	-	3	4	6	1	1	-	-	-	-	-	-	-	-	15
75-77	-	-	2	1	-	-	1	-	1	1	-	-	-	-	-	6
78-80	-	-	-	2	1	1	-	-	1	-	1	-	-	-	-	6
81-83	-	-	-	-	-	-	2	2	-	1	-	-	-	-	-	5
84-86	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	2
87-89	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2
90-92	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	2
93-95	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	2
96-98	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	2
Total Number	6	25	25	25	9	4	9	2	2	7	2	2	-	1	1	120
Mean Length (cm)																67.6

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

SAMPLE DATA: Sample Serial Nos. - 23; Number of Fish - 120; Mean Age - 7.5; Mean Length (cm) - 67.6; (cont'd.)
Mean Weight (Kg) - 3.1; Range of Depths (fm) - 82.

TABLE 32 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

122

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 26

Location	ID - Godthåb Fjord - 64°06'N, 51°38'W																	
Gear	Longline																	
Month	July																	
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1942	1941	1940	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	-	18	19	20	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ																	
33-35	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45-47	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
48-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51-53	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
54-56	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
57-59	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
60-62	-	-	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	5
63-65	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	2
66-68	-	-	-	1	3	-	-	-	-	-	-	-	-	-	-	-	-	4
69-71	-	-	1	1	3	2	-	1	-	-	-	-	-	-	-	-	-	8
72-74	-	-	-	-	6	6	1	2	-	-	-	-	-	-	-	-	-	15
75-77	-	-	-	-	5	2	-	-	-	1	-	-	-	-	-	-	-	8
78-80	-	-	-	-	2	1	1	1	-	-	1	-	-	-	-	-	-	6
81-83	-	-	-	-	-	2	1	1	-	2	1	-	-	-	-	-	-	7
84-86	-	-	-	-	-	1	-	3	-	-	2	-	-	-	-	-	-	6
87-89	-	-	-	-	-	-	-	3	-	-	1	1	-	-	-	-	-	5
90-92	-	-	-	-	-	1	-	1	-	-	-	-	-	-	1	-	-	3
93-95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
96-98	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
99-101	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
105-107	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Total Number	1	4	4	4	20	16	3	12	-	3	6	2	1	-	1	-	1	78
Mean Length (cm)																		75.2

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

SAMPLE DATA: Sample Serial Nos. - 26; Number of Fish - 78; Mean Age - 8.6; Mean Length (cm) - 75.2; (cont'd.)
Mean Weight (Kg) - 4.2; Range of Depths (fm) - 11-44.

TABLE 32 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 29

Location	ID - Godthåb Fjord - 63°55'N, 51°30'W															
Gear	Longline															
Month	October															
Year-Class	1957	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	15	-	18	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ															
39-41	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
42-44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45-47	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51-53	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
54-56	-	3	1	-	-	-	-	-	-	-	-	-	-	-	-	4
57-59	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
60-62	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-	3
63-65	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	7
66-68	-	-	3	7	3	1	1	-	-	-	-	-	-	-	-	15
69-71	-	-	1	2	8	1	-	2	-	-	-	-	-	-	-	14
72-74	-	1	-	3	3	-	2	4	-	-	4	-	-	-	-	17
75-77	-	-	-	1	3	1	1	3	-	4	5	1	-	-	-	19
78-80	-	-	-	-	2	-	1	9	1	-	5	-	-	-	1	19
81-83	-	-	-	-	2	3	2	6	-	-	8	-	-	-	-	21
84-86	-	-	-	-	2	-	-	5	-	1	5	-	-	-	-	13
87-89	-	-	-	-	1	-	-	-	-	1	6	-	-	-	-	8
90-92	-	-	-	-	-	1	-	-	-	-	1	-	1	-	1	4
93-95	-	-	-	-	-	-	-	1	-	-	2	-	-	-	-	3
96-98	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	2
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
111-113	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
114-116	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Total Number	2	7	8	19	24	7	7	31	1	6	37	2	3	-	2	156
Mean Length (cm)																76.2

1) The length frequencies of these samples are given in Table 11; the age frequencies are given in Table 24.
SAMPLE DATA: See page 124 (cont'd.)

TABLE 32 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 30

Location	ID - Godthåb Fjord - 64°06'N, 51°49'W														Total
Gear	Longline														
Month	November														
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	- 1942	
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	- 18	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ														
42-44	5	-	-	-	-	-	-	-	-	-	-	-	-	-	5
45-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48-50	1	1	-	-	-	-	-	-	-	-	-	-	-	-	2
51-53	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
54-56	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2
57-59	-	2	2	-	-	-	-	-	-	-	-	-	-	-	4
60-62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63-65	-	-	2	1	1	-	-	-	-	-	-	-	-	-	4
66-68	-	-	1	1	1	1	-	-	-	-	-	-	-	-	4
69-71	-	-	1	1	5	-	1	-	-	-	-	-	-	-	8
72-74	-	-	1	2	5	2	-	1	-	-	-	-	-	-	11
75-77	-	-	1	-	7	2	2	1	-	1	2	-	1	-	17
78-80	-	-	-	-	-	2	3	1	1	-	1	-	-	1	9
81-83	-	-	-	-	-	1	-	4	-	1	-	-	1	-	7
84-86	-	-	-	-	-	1	-	2	-	-	3	-	-	-	6
87-89	-	-	-	-	-	-	-	1	1	-	2	-	-	-	4
90-92	-	-	-	-	-	-	-	3	-	-	1	-	-	-	4
93-95	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
96-98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
99-101	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
112-113	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total Number	7	5	8	5	19	9	6	14	3	2	9	-	2	-	91
Mean Length (cm)															73.6

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

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	30
Number of Fish	91
Mean Age	7.6
Mean Length (cm)	73.6
Mean Weight (Kg)	4.5
Range of Depths (fm)	27-60

SAMPLE DATA for Serial No.29, p.123: Sample Serial Nos. - 29; Number of Fish - 156;
Mean Age - 9.3; Mean Length (cm) - 76.2; Mean Weight
(Kg) - 4.8; Range of Depths (fm) - 55-115.

TABLE 32 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Serial No. 31

Location	ID - Godthåb Fjord - 64°07'N, 51°53'W																		
Gear	Longline																		
Month	November																		
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	Total
Age	3	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	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
45-47	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
48-50	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
51-53	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
54-56	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2
57-59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60-62	-	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
63-65	-	-	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
66-68	-	-	4	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	7
69-71	-	-	2	-	4	-	-	-	1	-	3	-	-	-	-	-	-	-	10
72-74	-	-	-	1	9	5	1	1	-	1	2	-	-	-	-	-	-	-	20
75-77	-	-	-	-	10	5	-	4	-	1	5	-	1	-	-	-	-	-	26
78-80	-	-	-	-	3	1	-	5	-	2	-	-	-	1	-	-	-	-	12
81-83	-	-	-	-	3	3	2	2	-	1	5	1	1	-	1	1	-	1	21
84-86	-	-	-	-	1	1	-	4	-	-	3	-	1	1	-	-	-	-	11
87-89	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	-	-	4
90-92	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
93-95	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
96-98	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	1	-	-	4
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Total Number	7	1	15	5	31	16	3	16	1	5	24	1	3	2	2	4	-	2	138
Mean Length (cm)																			75.1

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

SAMPLE DATA: Sample Serial Nos. - 31; Number of Fish - 138; Mean Age - 9.3; Mean Length (cm) - 75.1; Mean Weight (Kg) - 4.6; Range of Depths (fm) - 164. (cont'd.)

TABLE 32 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Location	IF Kitsigsut and Kap Egede 60°10'N, 45°28'W and 60°03'N, 45°08'W															Total
	Gear Handline															
Month	September															
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1942	Total	
Age	4	5	6	7	8	9	10	11	12	13	14	15	-	18		
3-cm group	ACTUAL NUMBER OF OTOLITHS READ															
42-44	3	-	-	-	-	-	-	-	-	-	-	-	-	-	3	
45-47	5	-	-	-	-	-	-	-	-	-	-	-	-	-	5	
48-50	4	-	-	-	-	-	-	-	-	-	-	-	-	-	4	
51-53	11	1	-	-	-	-	-	-	-	-	-	-	-	-	12	
54-56	9	3	-	-	-	-	-	-	-	-	-	-	-	-	12	
57-59	1	5	1	-	-	-	-	-	-	-	-	-	-	-	7	
60-62	-	1	1	3	-	-	-	-	-	-	-	1	-	-	6	
63-65	-	-	2	12	1	-	-	-	-	-	-	-	-	-	15	
66-68	-	-	1	20	6	1	1	1	-	-	-	-	-	-	30	
69-71	-	-	-	17	6	5	5	-	-	1	1	-	-	-	35	
72-74	-	-	-	3	9	6	4	1	-	5	-	-	-	-	28	
75-77	-	-	-	5	5	5	8	1	-	8	-	-	-	-	32	
78-80	-	-	-	2	4	3	9	2	1	6	-	-	-	-	27	
81-83	-	-	-	-	-	-	5	2	-	1	-	-	-	2	10	
84-86	-	-	-	-	-	-	5	1	-	1	-	-	-	-	7	
87-89	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	
Total Number	33	10	5	62	31	20	38	8	1	22	1	1	-	2	234	
Mean Length (cm)															66.9	

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

SAMPLE DATA

(cont'd.)

Sample Serial Nos.	
Number of Fish	234
Mean Age	8.1
Mean Length (cm)	66.9
Mean Weight (Kg)	3.0

TABLE 32 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

West Greenland (Inshore and Fjords) - Research Catches

Location	IF Kitsigssut 60°03'N, 46°10'W and 60°03'N, 46°08'W																			Total
Gear	Longline																			
Month	September-October																			
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	-	1936	
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	-	24	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ																			
42-44	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
45-47	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
48-50	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
51-53	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
54-56	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
57-59	-	-	2	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
60-62	-	-	-	12	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
63-65	-	-	8	22	3	2	-	-	-	7	-	-	-	-	-	-	-	-	-	42
66-68	-	-	-	63	5	-	3	-	-	7	-	-	-	-	-	-	-	-	-	78
69-71	-	-	-	89	5	6	4	1	2	48	13	1	-	-	-	-	-	-	-	169
72-74	-	-	-	80	6	6	10	6	7	58	-	5	-	-	-	-	-	-	-	178
75-77	-	-	-	1	9	11	25	6	3	83	3	2	-	-	-	-	-	-	-	143
78-80	-	-	-	1	2	5	25	6	3	45	4	4	-	-	3	-	-	-	-	98
81-83	-	-	-	-	-	2	17	1	-	20	-	4	1	1	1	-	-	-	-	47
84-86	-	-	-	-	-	1	6	3	1	2	-	2	-	-	1	-	-	-	-	16
87-89	-	-	-	-	-	-	7	2	-	-	-	-	-	-	2	-	2	-	-	13
90-92	-	-	-	-	-	-	1	2	-	-	-	-	-	-	1	-	-	1	-	5
93-95	-	-	-	-	-	-	1	-	-	2	-	-	-	-	-	-	-	-	-	3
96-98	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
114-116	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total Number	6	4	10	269	39	33	99	27	16	274	20	18	1	2	7	-	3	-	1	829
Mean Length (cm)																				73.0

1) The length frequencies of these samples are given in Table 11; the age frequencies are given in Table 24.
SAMPLE DATA: see page 128.

TABLE 33 DENMARK (Greenland) - 1960

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

Greenlanders' - Commercial Landings

Serial No. 14

Location	1A - Claushavn 69°03'N, 51°00'W													Total
Month	August and September													
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1942	
Age	5	6	7	8	9	10	11	12	13	14	15	-	18	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ													
63-65	1	1	2	-	-	-	-	-	-	-	-	-	-	4
66-68	-	2	3	-	-	-	-	-	-	-	-	-	-	5
69-71	-	1	8	-	-	-	-	-	-	-	-	-	-	9
72-74	-	1	23	1	2	-	-	-	-	-	-	-	-	27
75-77	1	-	6	4	2	1	-	-	-	-	-	-	-	14
78-80	-	-	3	2	3	3	-	-	1	-	-	-	-	12
81-83	-	-	1	-	2	-	-	1	-	-	-	-	-	4
84-86	-	-	1	1	1	1	-	-	3	-	-	-	-	7
87-89	-	-	-	-	-	2	-	-	1	-	-	-	1	4
90-92	-	-	-	-	-	-	-	1	4	-	-	-	-	5
93-95	-	-	-	-	-	-	-	-	1	-	1	-	-	2
96-98	-	-	-	-	-	-	-	-	1	-	1	-	-	2
Total Number	2	5	47	8	10	7	-	2	11	-	2	-	1	95
Mean Length (cm)														76.1

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

SAMPLE DATA

(cont'd.)

Sample Serial Nos.	14
Number of Fish	95
Mean Age	8.5
Mean Length (cm)	76.1
Mean weight (Kg)	4.8

SAMPLE DATA for p.127: Sample Serial Nos. --; Number of Fish - 829; Mean Age - 10.9; Mean Length (cm) - 73.0; Mean Weight (Kg) - 3.5; Range of Depths (fm) - 60.

TABLE 33 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

Greenlanders' - Commercial Landings

Serial No. 13

Location	1A - Jakobshavn														Total
Month	September														
Year-Class	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	
Age	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
3-cm group	ACTUAL NUMBER OF OTOLITHS HEAD														
63-65	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
66-68	3	-	-	-	-	-	-	-	-	-	-	-	-	-	3
69-71	3	-	-	-	-	-	1	-	-	-	-	-	-	-	4
72-74	6	3	-	-	-	1	2	-	-	-	-	-	-	-	12
75-77	11	-	1	-	-	-	2	-	1	-	-	-	-	-	15
78-80	3	3	6	7	-	3	8	1	-	-	2	-	-	-	33
81-83	1	1	4	5	-	3	5	1	-	1	-	3	-	-	24
84-86	-	-	-	6	-	-	18	-	4	1	1	2	1	1	34
87-89	-	-	2	5	-	2	13	-	3	2	1	-	-	-	28
90-92	-	-	-	2	-	-	9	-	-	-	2	3	-	-	16
93-95	-	-	-	3	-	2	1	-	2	-	1	3	1	1	14
96-98	-	-	-	-	-	1	3	1	1	-	-	2	1	1	10
99-101	-	-	-	-	-	-	-	-	1	2	-	-	-	-	3
102-104	-	-	-	1	-	-	1	-	-	-	-	-	-	-	2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
114-116	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Total Number	28	7	13	29	-	12	63	3	12	7	7	13	3	3	200
Mean Length (cm)															84.7

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

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	13
Number of Fish	200
Mean Age	12.1
Mean Length (cm)	84.7
Mean Weight (Kg)	6.3

TABLE 33 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

Greenlanders' - Commercial Landings

Serial No. 17

Location	IB - Holsteinsborg 66°55'N, 53°35'W													Total
Month	July-August													
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	-	1944	
Age	3	4	5	6	7	8	9	10	11	12	13	-	16	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ													
30-32	-	1	-	-	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39-41	1	1	-	-	-	-	-	-	-	-	-	-	-	2
42-44	5	-	-	-	-	-	-	-	-	-	-	-	-	5
45-47	1	5	-	-	-	-	-	-	-	-	-	-	-	6
48-50	-	11	2	-	-	-	-	-	-	-	-	-	-	13
51-53	-	6	3	1	-	-	-	-	-	-	-	-	-	10
54-56	-	9	5	-	-	-	-	-	-	-	-	-	-	14
57-59	-	7	11	1	-	-	-	-	-	-	-	-	-	19
60-62	-	-	16	4	2	-	-	-	-	-	-	-	-	22
63-65	-	1	15	3	4	-	-	-	-	-	-	-	-	23
66-68	1	-	2	8	6	-	-	-	-	-	-	-	-	17
69-71	-	-	1	6	13	2	-	-	-	-	-	-	-	22
72-74	-	-	-	1	4	-	1	1	-	-	-	-	-	7
75-77	-	-	1	-	5	3	-	3	-	-	-	-	-	12
78-80	-	-	-	1	3	3	-	2	-	-	-	-	-	9
81-83	-	-	-	-	1	1	-	1	-	1	-	-	-	4
84-86	-	-	-	-	1	-	-	4	-	1	-	-	-	6
87-89	-	-	-	-	-	1	1	-	-	-	-	-	-	2
90-92	-	-	-	-	-	-	-	1	-	-	2	-	-	3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	1	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
111-113	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total Number	8	41	56	25	39	10	2	13	-	2	2	-	1	199
Mean Length (cm)														64.1

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

SAMPLE DATA

(cont'd.)

Sample Serial Nos.	17
Number of Fish	199
Mean Age	5.7
Mean Length (cm)	64.1
Mean Weight (Kg)	2.7

TABLE 33 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

Greenlanders¹ - Commercial Landings

Serial No. 16

Location	IB Niakornarsuk - 68°14'N, 52°42'W Ikerasak, 68°00'N, 53°28'W Agto, 67°56'N, 53°30'W															Total
	August-September															
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	-	1943	1942	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	-	17	18	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ															
45-47	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
48-50	3	3	1	-	-	-	-	-	-	-	-	-	-	-	-	7
51-53	-	4	3	-	-	-	-	-	-	-	-	-	-	-	-	7
54-56	-	8	6	-	-	-	-	-	-	-	-	-	-	-	-	14
57-59	-	1	5	1	4	-	-	-	-	-	-	-	-	-	-	11
60-62	-	-	24	9	7	-	-	-	-	-	-	-	-	-	-	40
63-65	-	-	16	16	9	1	-	-	-	-	-	-	-	-	-	42
66-68	-	-	16	22	41	-	-	-	-	-	-	-	-	-	-	79
69-71	-	-	5	30	71	6	1	1	-	-	-	-	-	-	-	114
72-74	-	-	-	16	67	5	-	-	-	-	-	-	-	-	-	88
75-77	-	-	-	9	79	7	2	2	-	-	1	-	-	-	-	100
78-80	-	-	-	1	32	2	1	5	-	1	6	-	-	-	-	48
81-83	-	-	-	1	16	1	1	6	2	-	12	-	-	-	-	39
84-86	-	-	-	-	6	-	4	4	-	2	15	-	-	-	-	31
87-89	-	-	-	-	4	2	-	4	-	1	7	-	-	-	-	18
90-92	-	-	-	-	1	3	-	6	-	2	10	3	-	1	-	26
93-95	-	-	-	-	-	1	-	2	-	-	2	2	-	-	-	7
96-98	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2
99-101	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
105-107	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Total Number	4	16	76	105	337	28	9	30	2	7	56	5	-	1	1	677
Mean Length (cm)																72.8

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

SAMPLE DATA

(cont'd.)

Sample Serial Nos.	16
Number of Fish	677
Mean Age	7.4
Mean Length (cm)	72.8

TABLE 33 DENMARK (Greenland) - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

Greenlanders' - Commercial Landings

Serial No. 15

Location	IB Akunak - 68°44'N, 52°12'W Egedesminde, 68°42'N, 52°45'W Hunde-ejalnd, 68°51'N, 52°58'W																Total
	September-October																
Month																	Total
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
3-cm group	ACTUAL NUMBER OF OTOLITHS READ																
30-32	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
33-35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36-38	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
39-41	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
42-44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45-47	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	4
48-50	-	1	3	-	1	-	-	-	-	-	-	-	-	-	-	-	5
51-53	-	2	6	-	2	-	-	-	-	-	-	-	-	-	-	-	10
54-56	-	1	2	7	6	-	-	-	-	-	-	-	-	-	-	-	16
57-59	-	-	5	4	11	1	-	-	-	-	-	-	-	-	-	-	21
60-62	-	-	6	9	25	-	-	-	-	-	-	-	-	-	-	-	40
63-65	-	-	8	15	23	2	-	-	-	1	-	2	-	-	-	-	51
66-68	-	-	4	8	18	2	1	4	-	-	1	-	-	-	-	-	38
69-71	-	-	2	9	54	2	2	3	-	-	1	-	-	-	-	-	73
72-74	-	-	1	8	40	3	2	2	-	1	1	-	-	-	-	-	58
75-77	-	-	-	1	41	8	5	4	1	-	3	-	-	-	-	-	63
78-80	-	-	-	2	25	10	9	7	-	1	4	-	-	-	-	1	59
81-83	-	-	-	-	10	4	3	11	-	1	5	-	-	-	1	-	35
84-86	-	-	-	-	5	2	2	10	1	-	5	-	1	-	2	1	29
87-89	-	-	-	-	-	1	2	6	-	-	7	-	-	-	-	-	16
90-92	-	-	-	-	-	-	1	6	-	-	3	-	1	1	-	-	12
93-95	-	-	-	-	-	-	-	1	1	-	-	1	-	-	-	-	3
Total Number	4	6	41	63	261	35	27	54	3	3	31	1	4	1	3	2	539
Mean Length (cm)																	71.1

¹⁾The length frequencies for these samples are given in Table 12; the age frequencies are given in Table 25.
SAMPLE DATA: Sample Serial Nos. - 15; Number of Fish - 539; Mean Age - 7.7; Mean Length (cm) - 71.1.

(cont'd.)

TABLE 33 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

Greenlanders' - Commercial Landings

Serial No. 18

Location	ID Fiskenesstet - 63°42'N, 50°52'W														
Month	July														
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1942	Total
Age	4	5	6	7	8	9	10	11	12	13	14	15	-	18	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ														
45-47	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
48-50	11	-	-	-	-	-	-	-	-	-	-	-	-	-	11
51-53	22	3	-	-	-	-	-	-	-	-	-	-	-	-	25
54-56	14	3	-	-	-	-	-	-	-	-	-	-	-	-	17
57-59	9	5	-	2	-	-	-	-	-	-	-	-	-	-	16
60-62	1	15	4	2	-	-	-	-	-	-	-	-	-	-	22
63-65	-	4	3	2	-	-	-	-	-	-	-	-	-	-	9
66-68	-	3	3	8	7	-	-	-	-	-	-	-	-	-	14
69-71	-	2	6	9	-	-	1	-	-	-	-	-	-	-	18
72-74	-	-	1	13	1	1	4	-	-	-	-	-	-	-	20
75-77	-	-	-	7	2	-	-	-	-	2	-	-	-	-	11
78-80	-	-	-	3	2	2	5	-	1	-	-	-	-	-	13
81-83	-	-	-	1	2	2	1	-	-	1	-	-	-	-	7
84-86	-	-	-	3	-	1	2	-	-	3	-	-	-	-	9
87-89	-	-	-	2	-	-	-	-	-	-	-	1	-	-	3
90-92	-	-	-	-	-	-	-	1	-	1	-	-	-	-	2
93-95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
96-98	-	-	-	-	-	-	-	-	-	1	-	-	-	1	2
Total Number	58	35	17	52	7	6	13	1	1	8	-	1	-	1	200
Mean Length (cm)															65.9

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

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	18
Number of Fish	200
Mean Age	6.4
Mean Length (cm)	65.9
Mean Weight (Kg)	2.8

TABLE 33 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

Greenlanders' - Commercial Landings

Serial No. 19

Location	ID Fiskenesset - 63°42'N, 50°52'W										
Month	September										
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	-	1944	Total
Age	4	5	6	7	8	9	10	11	-	16	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ										
45-47	6	-	-	-	-	-	-	-	-	-	6
48-50	24	1	-	-	-	-	-	-	-	-	25
51-53	53	1	-	-	-	-	-	-	-	-	54
54-56	49	5	-	-	-	-	-	-	-	-	54
57-59	20	8	-	-	-	-	1	-	-	-	29
60-62	2	4	-	-	-	-	-	-	-	-	6
63-65	-	2	-	2	-	-	-	-	-	-	4
66-68	-	1	2	2	-	-	-	-	-	-	5
69-71	-	2	-	1	-	-	-	-	-	-	3
72-74	-	-	-	3	-	-	-	-	-	-	3
75-77	-	-	-	1	-	-	1	1	-	-	3
78-80	-	-	-	-	-	-	1	-	-	-	1
81-83	-	-	-	2	-	-	-	-	-	-	2
84-86	-	-	-	-	-	-	-	-	-	-	-
87-89	-	-	-	-	-	-	1	-	-	-	1
90-92	-	-	-	-	-	-	-	-	-	-	-
93-95	-	-	-	-	1	-	-	-	-	-	1
96-98	-	-	-	-	-	-	1	-	-	-	1
99-101	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	-	-	1	1
Total Number	154	24	2	11	1	-	5	1	-	1	199
Mean Length (cm)											55.0

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

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	19
Number of Fish	199
Mean Age	4.6
Mean Length (cm)	55.0
Mean Weight (Kg)	1.8

TABLE 33 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

Greenlanders' - Commercial Landings

Serial No. 20

Location	1E - Frederikshåb										Total
Month	May-June										
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	Total
Age	4	5	6	7	8	9	10	11	12	13	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ										
39-41	1	-	-	-	-	-	-	-	-	-	1
42-44	15	-	-	-	-	-	-	-	-	-	15
45-47	18	1	1	-	-	-	-	-	-	-	20
48-50	16	-	-	-	-	-	-	-	-	-	16
51-53	12	3	-	-	-	-	-	-	-	-	15
54-56	2	3	1	-	-	-	-	-	-	-	6
57-59	2	7	1	-	-	-	-	-	-	-	10
60-62	-	3	5	1	-	-	-	-	-	-	9
63-65	-	2	1	8	-	-	-	-	-	-	11
66-68	-	1	2	8	-	1	1	-	-	-	13
69-71	-	-	1	13	3	1	-	-	-	-	18
72-74	-	-	-	18	1	-	1	-	-	-	20
75-77	-	-	-	3	6	-	-	-	-	-	9
78-80	-	-	-	3	2	1	2	-	-	-	8
81-83	-	-	-	-	3	-	1	-	-	-	4
84-86	-	-	-	-	-	-	-	-	-	-	-
87-89	-	-	-	1	-	-	1	1	-	1	4
Total Number	66	20	12	55	15	3	6	1	-	1	179
Mean Length (cm)											60.8

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

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	20
Number of Fish	179
Mean Age	5.9
Mean Length (cm)	60.8

TABLE 33 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

Greenlanders' - Commercial Landings

Serial No. 21

Location	1E Frederikshab - 62°00'N, 49°43'W												Total
Month	October												
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	
Age	4	5	6	7	8	9	10	11	12	13	14	15	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ												
45-47	2	-	-	-	-	-	-	-	-	-	-	-	2
48-50	5	-	-	-	-	-	-	-	-	-	-	-	5
51-53	10	1	-	-	-	-	-	-	-	-	-	-	11
54-56	4	4	-	-	-	-	-	-	-	-	-	-	8
57-59	-	2	-	-	-	-	-	-	-	-	-	-	2
60-62	-	1	4	1	-	-	-	-	1	-	-	-	7
63-65	-	4	5	1	-	-	-	-	-	-	-	-	10
66-68	-	-	3	6	4	-	4	-	1	2	-	-	20
69-71	-	1	1	9	3	-	2	2	3	1	-	-	22
72-74	-	-	-	12	3	4	5	-	2	6	-	1	33
75-77	-	-	-	10	2	2	5	2	4	9	1	-	35
78-80	-	-	-	2	2	-	-	-	4	5	-	-	13
81-83	-	-	-	1	1	1	1	1	1	2	-	-	8
84-86	-	-	-	-	-	-	6	-	1	1	-	-	8
87-89	-	-	-	2	-	1	2	-	-	-	1	-	6
90-92	-	-	-	1	-	-	2	-	-	-	-	-	3
-	-	-	-	-	-	-	-	-	-	-	-	-	-
138	-	-	-	-	-	-	-	-	-	1	-	-	1
Total Number	21	13	13	45	15	8	27	5	17	27	2	1	194
Mean Length (cm)													71.1

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

(cont'd.)

SAMPLE DATA

Sample Serial Nos.	21
Number of Fish	194
Mean Age	8.5
Mean Length (cm)	71.1

TABLE 33 DENMARK (Greenland) - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by Paul M. Hansen

Greenlanders' - Commercial Landings

Serial No.22

Location	IF Lichtensau - 60°32'N, 45°34'W											
Month	September											
Year-Class	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1942	Total
Age	7	8	9	10	11	12	13	14	15	-	18	
3-cm group	ACTUAL NUMBER OF OTOLITHS READ											
63-65	2	-	-	-	-	-	-	-	-	-	-	2
66-68	3	1	-	-	-	-	-	-	-	-	-	4
69-71	3	1	-	1	-	-	1	-	-	-	-	6
72-74	1	2	1	2	1	-	2	-	-	-	-	9
75-77	2	1	-	1	-	1	3	-	-	-	-	8
78-80	-	2	1	3	1	2	4	-	-	-	-	13
81-83	1	1	1	5	1	-	2	-	1	-	-	12
84-86	-	-	-	5	1	-	1	-	-	-	-	7
87-89	-	-	-	1	1	-	-	-	-	-	1	3
90-92	-	-	-	1	-	-	1	-	-	-	-	2
93-95	-	-	-	2	1	-	-	-	-	-	-	3
Total Number	12	8	3	21	6	3	14	-	1	-	1	69
Mean Length (cm)												78.5

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

SAMPLE DATA

Sample Serial Nos.	22
Number of Fish	69
Mean Age	10.2
Mean Length (cm)	78.5

TABLE 34 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

OTTER TRAWLERS²⁾ - Commercial Landings

Serial No. 46

Location	1C - Banana Bank												Total
Month	June												
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	<1945	
Age	5	6	7	8	9	10	11	12	13	14	15	>15	
3-cm group	F R E Q U E N C I E S in ‰												
54-56	19	-	-	-	-	-	-	-	-	-	-	-	19
57-59	21	21	-	-	-	-	-	-	-	-	-	-	42
60-62	32	11	32	-	-	-	-	-	-	-	-	-	75
63-65	8	8	68	-	-	-	-	-	-	-	-	-	84
66-68	-	10	115	-	10	-	-	-	-	-	-	-	135
69-71	-	36	178	-	-	-	-	-	-	-	-	-	214
72-74	-	-	134	-	10	-	-	-	-	-	-	-	144
75-77	-	7	72	-	-	21	-	-	-	-	-	-	100
78-80	-	-	29	6	6	11	-	6	11	-	-	-	69
81-83	-	-	5	3	-	13	-	-	15	-	3	3	42
84-86	-	-	2	-	4	13	-	2	8	-	-	-	29
87-89	-	-	-	-	6	6	-	-	5	-	5	2	24
90-92	-	-	-	2	-	2	-	-	5	2	-	5	16
93-95	-	-	-	-	-	-	-	-	-	-	2	2	4
96-98	-	-	-	-	-	-	-	-	2	-	-	-	2
99-101	-	-	-	-	-	1	-	-	-	-	-	-	1
Total Number	80	93	635	11	36	67	-	8	46	2	10	12	1000
Mean Length (cm)			70.7										71.7

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	46
Number of Samples	1
Number of Fish Measured	338
No. of Fish Aged	163
Mean Length (cm)	71.7
Mean Weight (Kg)	2.5
Total Weight Landed (tons)	53
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 34 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹)

by Arno Meyer

(cont'd.)

OTTER TRAWLERS² - Commercial Landings

Serial No. 58

Location	IC - Banana Bank																	Total
Month	December																	Total
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	<1942	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	>18	Total
3-cm group	FREQUENCIES in ‰																	Total
45-47	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
48-50	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
51-53	4	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
54-56	-	21	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
57-59	-	53	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77
60-62	-	48	102	12	6	-	-	-	-	-	-	-	-	-	-	-	-	168
63-65	-	9	137	27	27	-	-	-	-	-	-	-	-	-	-	-	-	200
66-68	-	-	76	49	21	-	-	-	-	-	-	-	-	-	-	-	-	146
69-71	-	-	33	27	47	-	-	-	-	-	-	-	-	-	-	-	-	107
72-74	-	-	13	7	53	-	-	-	-	-	-	-	-	-	-	-	-	73
75-77	-	-	-	9	42	14	-	-	-	-	-	-	-	-	-	-	-	65
78-80	-	-	-	-	37	10	-	-	-	-	-	-	-	-	-	-	-	47
81-83	-	-	-	-	13	-	2	2	-	-	-	-	-	-	-	-	-	17
84-86	-	-	-	-	10	-	6	2	-	-	-	-	-	-	-	-	-	18
87-89	-	-	-	-	4	-	-	1	-	-	3	1	-	1	-	-	-	10
90-92	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2
93-95	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	2
96-98	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
99-101	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	2
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
105-107	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2
108-110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
111-113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
114-116	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total Number	16	149	391	131	262	24	8	6	-	-	6	2	-	2	1	-	2	1000
Mean Length (cm)		58.7	64.6	67.9	73.9													67.4

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

SAMPLE DATA: Sample Serial Numbers-58; Number of Samples-1; Number of Fish Measured-512; No. of Fish Aged-204; Mean Length (cm)-67.4; Mean Weight (Kg)-2.5; Total Weight Landed(t)-101; Mesh Size(mm)-110; (cont'd.) Range of Depths (fm)-100-110 ²⁾ 500-900 gross tons.

TABLE 34 GERMANY - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

OTTER TRAWLERS²⁾ - Commercial Landings

Serial No. 49

Location	IC/D - Fyllas & Lille Hellefiske Bank													Total
Month	July													
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	<1945	
Age	4	5	6	7	8	9	10	11	12	13	14	15	>15	
3-cm group	FREQUENCIES in ‰													
48-50	1	-	-	-	-	-	-	-	-	-	-	-	-	1
51-53	17	-	-	-	-	-	-	-	-	-	-	-	-	17
54-56	41	8	-	4	-	-	-	-	-	-	-	-	-	53
57-59	40	28	11	6	-	-	-	-	-	-	-	-	-	85
60-62	-	64	5	32	-	-	-	-	-	-	-	-	-	101
63-65	-	-	37	35	-	-	-	-	-	-	-	-	-	72
66-68	-	-	17	111	9	-	-	-	-	-	-	-	-	137
69-71	-	-	8	84	-	-	8	-	-	-	-	-	-	100
72-74	-	-	-	81	27	18	9	-	-	-	-	-	-	135
75-77	-	-	-	55	7	14	-	7	-	21	-	-	-	104
78-80	-	-	-	50	-	-	17	-	-	-	-	-	-	67
81-83	-	-	-	11	-	11	18	-	-	11	-	6	-	57
84-86	-	-	-	-	-	7	3	3	-	3	-	-	-	16
87-89	-	-	-	-	-	-	8	-	-	3	-	5	5	21
90-92	-	-	-	-	1	-	5	-	2	-	-	2	-	10
93-95	-	-	-	-	-	-	3	1	-	2	1	1	-	8
96-98	-	-	-	-	-	-	-	-	-	2	-	3	2	7
99-101	-	-	-	-	-	-	1	-	-	1	-	-	-	2
102-104	-	-	-	-	-	-	-	-	-	-	-	1	-	1
105-107	-	-	-	-	-	-	-	-	-	3	-	-	-	3
108-110	-	-	-	-	-	-	-	-	-	1	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
117-119	-	-	-	-	-	-	-	-	-	-	-	1	-	1
>119	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Total Number	99	100	78	469	44	50	72	11	2	47	1	20	7	1000
Mean Length (cm)	56.1	60.2		70.9										70.5

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	49
Number of Samples	1
Number of Fish Measured	449
No. of Fish Aged	189
Mean Length (cm)	70.5
Mean Weight (Kg)	3.3
Total Weight Landed (tons)	21
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 34 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

(cont'd.)

OTTER TRAWLERS²⁾ - Commercial Landings Serial No. 35

Location	1D - Fyllas Bank													Total
Month	April													
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	<1945	
Age	4	5	6	7	8	9	10	11	12	13	14	15	>15	
3-cm group	F R E Q U E N C I E S in ‰													
51-53	-	1	-	-	-	-	-	-	-	-	-	-	-	1
54-56	-	28	4	-	-	-	-	-	-	-	-	-	-	32
57-59	5	43	14	5	-	-	-	-	-	-	-	-	-	67
60-62	-	39	29	7	-	-	-	-	-	-	-	-	-	75
63-65	-	-	30	58	5	-	-	-	-	-	-	-	-	93
66-68	-	-	13	145	13	-	-	-	-	-	-	-	-	171
69-71	-	-	-	190	-	-	-	-	-	-	-	-	-	190
72-74	-	-	-	119	11	11	-	-	-	-	-	-	-	141
75-77	-	-	-	40	27	-	27	-	-	-	-	-	-	94
78-80	-	-	-	-	22	-	21	-	-	-	-	-	-	43
81-83	-	-	-	-	-	-	-	-	-	29	-	-	-	29
84-86	-	-	-	-	-	-	-	-	-	-	-	-	9	9
87-89	-	-	-	-	-	-	-	-	-	12	-	-	-	12
90-92	-	-	-	-	-	-	-	-	-	10	-	-	-	10
93-95	-	-	-	-	-	-	1	-	-	-	-	3	3	7
96-98	-	-	-	-	-	-	-	-	-	-	-	-	9	9
99-101	-	-	-	-	-	-	-	-	-	-	-	5	-	5
102-104	-	-	-	-	-	-	-	-	-	-	-	-	3	3
105-107	-	-	-	-	-	-	-	-	-	2	-	-	-	2
108-110	-	-	-	-	-	-	-	-	-	-	-	-	4	4
111-113	-	-	-	-	-	-	-	-	-	-	-	-	1	1
114-116	-	-	-	-	-	-	-	-	-	-	-	-	1	1
117-119	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>119	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total Number	5	111	90	564	78	11	49	-	-	53	-	8	31	1000
Mean Length (cm)		58.7		70.0										70.8

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA	
Sample Serial Numbers	35
Number of Samples	1
Number of Fish Measured	741
No. of Fish Aged	178
Mean Length (cm)	70.8
Mean Weight (Kg)	2.4
Total Weight Landed (tons)	79
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 34 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

(cont'd.)

OTTER TRAWLERS²⁾ - Commercial Landings

Serial No. 50

Location	ID - Fyllas Bank												Total
Month	August												
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	
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 ‰												
48-50	1	-	-	-	-	-	-	-	-	-	-	-	1
51-53	1	1	-	-	-	-	-	-	-	-	-	-	2
54-56	3	1	-	-	-	-	-	-	-	-	-	-	4
57-59	-	10	-	4	-	-	-	-	-	-	-	-	14
60-62	9	28	28	9	-	-	-	-	-	-	-	-	74
63-65	-	-	30	15	8	-	-	-	-	-	-	-	53
66-68	-	8	50	34	-	-	-	-	-	-	-	-	92
69-71	-	5	39	122	5	5	5	-	5	-	-	-	186
72-74	-	-	7	126	15	7	-	-	-	7	-	-	162
75-77	-	-	-	75	15	10	-	-	10	5	-	-	115
78-80	-	-	8	44	15	-	23	8	8	8	-	-	114
81-83	-	-	-	12	12	16	6	-	12	12	-	-	70
84-86	-	-	-	3	-	-	14	3	-	18	-	3	41
87-89	-	-	-	-	-	4	7	4	-	7	-	-	22
90-92	-	-	-	-	-	-	3	-	-	13	3	-	19
93-95	-	-	-	-	-	-	-	3	3	11	-	3	20
96-98	-	-	-	-	-	-	-	-	-	1	-	-	1
99-101	-	-	-	-	-	-	-	-	-	3	-	1	4
102-104	-	-	-	-	-	-	-	-	-	-	-	3	3
105-107	-	-	-	-	-	-	-	-	-	-	-	3	3
Total Number	14	53	162	444	70	42	58	18	38	85	3	13	1000
Mean Length (cm)			67.5	73.0									74.2

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	50
Number of Samples	1
Number of Fish Measured	449
No. of Fish Aged	189
Mean Length (cm)	74.2
Mean Weight (Kg)	3.0
Total Weight Landed (tons)	101
Mesh Size (mm)	110
Range of Depths (fm)	50-60

TABLE 34 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

(cont'd.)

OTTER TRAWLERS²⁾ - Commercial Landings

Serial Nos. 41-44

Location	LE - Noname Bank													Total
Month	June													
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	<1945	
Age	4	5	6	7	8	9	10	11	12	13	14	15	>15	
3-cm group	FREQUENCIES in ‰													
48-50	-	1	-	-	-	-	-	-	-	-	-	-	-	1
51-53	1	3	-	-	-	-	-	-	-	-	-	-	-	4
54-56	-	1	-	3	-	-	-	-	-	-	-	-	-	4
57-59	-	12	3	-	-	-	-	-	-	-	-	-	-	15
60-62	-	-	15	42	-	-	-	-	-	-	-	-	-	57
63-65	-	-	18	47	-	9	-	-	-	-	-	-	-	74
66-68	-	-	18	55	9	4	4	-	-	-	-	-	-	90
69-71	-	-	18	81	23	5	5	5	-	9	-	-	-	146
72-74	-	-	-	36	5	20	35	10	-	20	-	-	-	126
75-77	-	-	-	14	17	20	31	3	7	31	7	3	3	136
78-80	-	-	-	6	3	14	39	-	11	42	3	3	3	124
81-83	-	-	-	-	-	10	15	2	5	32	3	3	3	73
84-86	-	-	-	-	-	2	19	2	14	18	2	2	-	59
87-89	-	-	-	-	-	2	6	-	5	12	1	4	1	31
90-92	-	-	-	-	-	-	5	2	1	14	-	1	2	25
93-95	-	-	-	-	-	-	5	-	1	4	-	1	-	11
96-98	-	-	-	-	-	-	3	-	2	3	-	-	2	10
99-101	-	-	-	-	-	-	-	-	-	2	-	1	-	3
102-104	-	-	-	-	-	-	-	-	-	-	-	11	-	11
Total Number	1	17	72	284	57	86	167	24	46	187	16	29	14	1000
Mean Length (cm)				68.3		75.5	79.5			81.3				75.1

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	41-44
Number of Samples	4
Number of Fish Measured	1875
No. of Fish Aged	360
Mean Length (cm)	75.1
Mean Weight (Kg)	3.0
Total Weight Landed (tons)	481
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 34 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

(cont'd.)

OTTOR TRAWLERS²⁾ Commercial Landings Serial No. 13

Location	East Greenland - Angmagssalik											
Month	January											
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total
Age	5	6	7	8	9	10	11	12	13	14	15	
3-cm group	FREQUENCIES in ‰											
54-56	2	-	-	-	-	-	-	-	-	-	-	2
57-59	26	-	-	-	-	-	-	-	-	-	-	26
60-62	56	11	-	-	-	-	-	-	-	-	-	67
63-65	14	17	17	-	7	7	-	-	-	-	-	62
66-68	7	51	35	-	7	-	-	-	-	-	-	100
69-71	-	76	19	9	-	37	-	-	-	-	-	141
72-74	-	29	30	8	-	8	8	-	8	-	-	91
75-77	-	15	23	8	15	85	-	-	-	-	-	146
78-80	-	-	40	-	8	82	32	-	-	-	-	162
81-83	-	4	13	9	9	52	18	-	-	-	-	105
84-86	-	-	-	4	4	31	17	-	-	-	4	60
87-89	-	-	-	2	-	10	7	-	-	-	-	19
90-92	-	-	-	3	3	3	-	-	-	-	-	9
93-95	-	-	-	-	-	3	3	-	-	-	-	6
96-98	-	-	-	-	-	2	1	-	-	-	-	3
99-101	-	-	-	-	-	-	-	-	-	-	1	1
Total Number	105	203	177	43	53	320	86	-	8	-	5	1000
Mean Length (cm)	61.4	74.8	73.5			76.0						74.4

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	13
Number of Samples	1
Number of Fish Measured	431
No. of Fish Aged	177
Mean Length (cm)	74.4
Mean weight (Kg)	2.9
Total Weight Landed (tons)	19
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 34 GERMANY
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

OTTER TRAWLERS²⁾ Commercial Landings

Serial No. 16

Location	East Greenland - Angmagssalik								
Month	February								
Year-Class	1954	1953	1952	1951	1950	1949	1948	1947	Total
Age	6	7	8	9	10	11	12	13	
3-cm group	FREQUENCIES in ‰								
63-65	-	9	-	-	10	-	-	-	19
66-68	-	28	18	-	18	-	-	-	64
69-71	-	45	45	9	52	-	-	-	151
72-74	6	30	12	18	45	18	-	-	129
75-77	-	26	13	19	127	13	-	-	198
78-80	-	-	7	21	109	21	-	7	165
81-83	-	-	-	-	90	32	-	5	127
84-86	-	-	5	-	41	15	5	-	66
87-89	-	-	-	3	20	20	-	-	43
90-92	-	-	3	-	11	3	-	3	20
93-95	-	-	-	1	3	5	-	1	10
96-98	-	-	-	-	-	4	-	-	4
99-101	-	-	-	2	-	-	-	-	2
-	-	-	-	-	-	-	-	-	-
111-113	-	-	-	-	-	-	-	2	2
Total Number	6	138	103	73	526	131	5	18	1000
Mean Length (cm)		71.3	73.0		78.3	83.0			77.5

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	16
Number of Samples	1
Number of Fish Measured	369
No. of Fish Aged	184
Mean Length (cm)	77.5
Mean Weight (Kg)	3.2
Total Weight Landed (tons)	85
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 34 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

(cont'd.)

OTTER TRAWLERS²⁾ - Commercial Landings

Serial No. 32

Location	East Greenland - Angmagssalik											Total	
Month	March												
Year-Class	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1942	
Age	6	7	8	9	10	11	12	13	14	15	-	18	
3-cm group	FREQUENCIES in ‰												
60-62	9	-	-	-	-	-	-	-	-	-	-	-	9
63-65	-	38	-	-	-	-	-	-	-	-	-	-	38
66-68	-	12	12	-	12	12	-	-	-	-	-	-	48
69-71	7	44	-	28	14	7	-	-	-	-	-	-	100
72-74	-	33	55	33	77	11	-	-	-	-	-	-	209
75-77	-	37	37	27	16	16	-	-	-	-	-	-	133
78-80	-	27	27	18	83	9	-	9	-	9	-	-	182
81-83	-	8	8	16	69	16	-	16	-	8	-	-	141
84-86	-	-	-	6	61	6	6	-	-	-	-	-	79
87-89	-	-	4	2	14	4	-	4	-	2	-	-	30
90-92	-	-	1	1	2	2	-	6	-	1	-	-	13
93-95	-	-	-	-	3	2	-	2	-	1	-	-	8
96-98	-	-	-	-	3	1	-	1	-	2	-	1	8
99-101	-	-	-	-	1	-	-	-	-	-	-	-	1
102-104	-	-	-	-	-	1	-	-	-	-	-	-	1
Total Number	16	199	144	131	355	87	6	38	-	23	-	1	1000
Mean Length (cm)		72.5	75.9	76.3	79.7								77.3

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	32
Number of Samples	1
Number of Fish Measured	344
No. of Fish Aged	177
Mean Length (cm)	77.3
Mean Weight (Kg)	3.0
Total Weight Landed (tons)	123
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 34 GERMANY - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

OTHER TRAWLERS ²⁾ - Commercial Landings		Serial Nos. 24/27														
Location	East Greenland - Tordenskjold															
Month	March															
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	Total
Age	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
3-cm group	FREQUENCIES in ‰															
54-56	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
58-59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60-62	-	2	20	-	-	2	-	-	-	-	-	-	-	-	-	24
63-65	-	3	42	13	-	6	-	-	-	-	-	-	-	-	-	64
66-68	-	-	37	20	15	10	5	5	10	-	-	5	-	-	-	107
69-71	-	-	69	12	12	20	-	4	-	-	-	-	-	-	-	117
72-74	-	-	75	20	20	32	-	-	16	-	4	-	4	-	-	171
75-77	-	-	20	20	32	68	4	4	16	-	-	-	-	-	-	164
78-80	-	-	19	6	29	38	6	6	22	3	10	-	-	-	3	142
81-83	-	-	10	8	16	41	3	3	13	-	3	-	-	-	-	97
84-86	-	-	-	1	4	27	4	5	14	1	3	-	-	-	-	59
87-89	-	-	-	1	-	15	1	-	7	-	2	-	-	-	-	26
90-92	-	-	-	-	-	3	1	-	7	1	-	-	-	-	-	12
93-95	-	-	-	-	-	-	-	-	-	8	1	-	-	-	-	9
96-98	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	4
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
105-107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108-110	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Total Number	2	5	292	101	128	264	25	28	115	6	22	5	4	-	3	1000
Mean Length (cm)			70.8	72.7	76.1	78.3			81.0							75.5

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	24+27
Number of Samples	2
Number of Fish Measured	937
No. of Fish Aged	203
Mean Length (cm)	75.5
Mean Weight (Kg)	2.9
Total Weight Landed (tons)	14.9
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 34 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

(cont'd.)

OTTER TRAWLERS²⁾ - Commercial Landings

Serial No. 33

Location	East Greenland - Tordenskjold													Total	
Month	April														
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	-	1942	<1942	
Age	5	6	7	8	9	10	11	12	13	14	15	-	18	>18	
3-cm group	FREQUENCIES in ‰														
57-59	3	-	4	-	-	-	-	-	-	-	-	-	-	-	7
60-62	-	3	7	3	-	-	-	-	-	-	-	-	-	-	13
63-65	-	10	18	2	-	-	-	-	-	-	-	-	-	-	30
66-68	-	10	67	-	-	10	-	-	-	-	-	-	-	-	87
69-71	-	-	34	16	4	20	-	-	12	-	-	-	-	-	86
72-74	-	-	55	21	11	27	-	11	11	-	-	-	-	-	136
75-77	-	-	18	14	23	50	14	5	32	-	9	-	-	-	165
78-80	-	-	-	9	19	68	9	9	28	-	9	-	-	-	151
81-83	-	-	-	-	7	46	-	15	37	-	15	-	7	-	127
84-86	-	-	-	4	-	26	4	-	26	-	13	-	13	-	86
87-89	-	-	-	-	-	16	-	8	21	4	8	-	4	-	61
90-92	-	-	-	-	-	7	-	7	3	-	11	-	3	-	31
93-95	-	-	-	-	-	-	-	-	6	-	5	-	-	-	11
96-98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
99-101	-	-	-	-	-	-	-	-	1	-	1	-	-	-	2
102-104	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
105-107	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2
108-110	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
111-113	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
114-116	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
Total Number	3	23	203	69	64	270	27	56	180	4	71	-	28	2	1000
Mean Length			69.8			79.2			81.8						77.8

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	33
Number of Samples	1
Number of Fish Measured	423
No. of Fish Aged	231
Mean Length (cm)	77.8
Mean Weight (Kg)	3.3
Total Weight Landed (tons)	169
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 34 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

(cont'd.)

OTTER TRAWLERS²⁾ - Commercial Landings

Serial No. 45

Location	East Greenland - Fylkir Bank													Total
Month	June													
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	<1945	
Age	4	5	6	7	8	9	10	11	12	13	14	15	>15	
3-cm group	FREQUENCIES in ‰													
48-50	4	-	-	4	-	-	-	-	-	-	-	-	-	8
51-53	3	3	7	6	-	-	-	-	-	-	-	-	-	19
54-56	-	-	7	21	-	-	-	-	-	-	-	-	-	28
57-59	-	16	12	49	8	-	-	-	-	-	-	-	-	85
60-62	-	6	-	104	12	-	-	-	-	-	-	-	-	122
63-65	-	7	-	94	7	14	14	-	-	-	-	-	-	136
66-68	-	-	-	73	54	9	-	-	-	-	-	-	-	136
69-71	-	-	-	56	82	14	7	-	-	-	-	-	-	159
72-74	-	-	-	23	8	23	23	8	-	-	-	-	-	85
75-77	-	-	4	24	4	17	4	4	4	4	-	-	-	65
78-80	-	-	-	6	13	6	21	-	-	-	-	6	-	52
81-83	-	-	-	-	6	3	13	-	-	3	-	3	3	31
84-86	-	-	-	2	-	-	5	-	2	4	-	2	2	17
87-89	-	-	-	-	-	-	-	-	3	6	3	10	-	22
90-92	-	-	-	-	-	-	3	-	-	1	-	5	4	13
93-95	-	-	-	-	1	-	-	-	-	1	-	1	3	6
96-98	-	-	-	-	-	-	-	-	4	-	-	-	3	7
99-101	-	-	-	-	-	-	-	-	-	1	-	2	1	4
102-104	-	-	-	-	-	-	-	-	-	-	-	-	2	2
105-107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108-110	-	-	-	-	-	-	-	-	-	-	-	-	1	1
111-113	-	-	-	-	-	-	-	-	-	-	-	-	-	-
114-116	-	-	-	-	-	-	-	-	-	-	-	-	1	1
>116	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total Number	7	32	30	462	195	86	90	12	13	20	3	29	21	1000
Mean Length (cm)				65.7	69.7									69.3

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	45
Number of Samples	1
Number of Fish Measured	488
No. of Fish Aged	205
Mean Length (cm)	69.3
Mean Weight (Kg)	2.4
Total Weight Landed (tons)	67
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 34 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

(cont'd.)

OTTER TRAWLERS²⁾ Commercial Landings

Serial No. 47

Location	East Greenland - Fylkir Bank													Total
Month	July													
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	<1945	
Age	4	5	6	7	8	9	10	11	12	13	14	15	>15	
3-cm group	FREQUENCIES in ‰													
45-47	3	-	-	-	-	-	-	-	-	-	-	-	-	3
48-50	26	3	-	-	-	-	-	-	-	-	-	-	-	29
51-53	24	9	6	-	-	-	-	-	-	-	-	-	-	39
54-56	21	16	27	5	-	-	-	-	-	-	-	-	-	69
57-59	-	-	42	-	-	-	-	-	-	-	-	-	-	42
60-62	-	25	14	14	-	-	-	-	-	-	-	-	-	53
63-65	-	8	32	43	-	-	-	-	-	-	-	-	-	83
66-68	-	-	-	33	27	-	-	-	-	-	-	-	-	60
69-71	-	-	-	46	12	18	12	-	-	-	-	-	-	88
72-74	-	-	-	84	18	9	9	-	-	-	-	-	-	120
75-77	-	-	-	12	64	12	30	-	-	-	-	-	-	118
78-80	-	-	-	16	8	38	38	-	-	-	-	-	-	100
81-83	-	-	-	6	-	12	38	6	-	-	6	-	-	68
84-86	-	-	-	-	4	9	18	4	-	-	-	-	-	35
87-89	-	-	-	-	6	9	18	3	-	-	-	-	-	36
90-92	-	-	-	-	-	6	18	3	-	-	-	3	3	33
93-95	-	-	-	-	-	-	14	2	-	-	-	-	-	16
96-98	-	-	-	-	-	-	-	-	-	2	-	-	1	3
99-101	-	-	-	-	-	-	1	1	-	-	-	-	-	2
102-104	-	-	-	-	-	-	-	-	-	1	-	-	-	1
105-107	-	-	-	-	-	-	1	-	-	-	-	-	-	1
108-110	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total Number	74	61	121	259	139	113	197	19	-	3	6	3	5	1000
Mean Length (cm)			59.5	70.4	74.8	79.4	82.6							71.7

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	47
Number of Samples	1
Number of Fish Measured	443
No. of Fish Aged	196
Mean Length (cm)	71.7
Mean Weight (Kg)	2.7
Total Weight Landed (tons)	28
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 34 GERMANY - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

OTTEB TRAWLERS²⁾ Commercial Landings

Serial No. 53

Location	East Greenland - Dohrn Bank												Total
Month	September												
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	<1945	
Age	5	6	7	8	9	10	11	12	13	14	15	>15	
3-cm group	FREQUENCIES in ‰												
60-62	2	-	-	-	-	-	-	-	-	-	-	-	2
63-65	-	-	-	10	-	-	-	-	-	-	-	-	10
66-68	7	-	4	4	-	-	-	-	-	-	-	-	15
69-71	14	5	15	10	-	-	-	-	-	-	-	-	44
72-74	4	8	8	14	8	8	-	-	-	-	-	-	50
75-77	5	-	75	5	-	10	-	-	-	-	-	-	95
78-80	-	-	95	7	7	7	-	-	-	-	-	-	116
81-83	-	10	20	10	20	54	20	-	-	-	-	-	134
84-86	-	-	55	22	-	82	-	-	11	-	-	-	170
87-89	-	8	24	8	8	44	40	-	-	-	8	-	140
90-92	-	-	-	9	-	56	18	-	-	-	-	-	83
93-95	-	-	-	-	-	11	11	-	23	-	-	-	45
96-98	-	-	-	-	-	16	24	-	-	-	8	-	48
99-101	-	-	-	-	-	4	9	-	-	-	-	-	13
102-104	-	-	-	-	-	13	-	-	-	-	9	-	22
105-107	-	-	-	-	-	-	3	-	-	-	-	-	3
108-110	-	-	-	-	-	-	-	-	-	-	10	-	10
Total Number	32	31	296	99	43	305	125	-	34	-	35	-	1000
Mean Length (cm)			80.0			87.7	91.5						84.6

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	53
Number of Samples	1
Number of Fish Measured	381
No. of Fish Aged	171
Mean Length (cm)	84.6
Mean Weight (Kg)	4.5
Total Weight Landed (tons)	14
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 34 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

(cont'd.) ²⁾

OTTER TRAWLERS - Commercial Landings

Serial No. 54

Location	East Greenland - Dohrn Bank										
Month	October										
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	-	1945	Total
Age	4	5	6	7	8	9	10	11	-	15	
3-cm group	F R E Q U E N C I E S in ‰										
54-56	1	-	-	-	-	-	-	-	-	-	1
57-59	4	-	-	-	-	-	-	-	-	-	4
60-62	9	3	-	-	-	-	-	-	-	-	12
63-65	8	8	-	-	-	-	-	-	-	-	16
66-68	4	-	4	10	4	-	-	-	-	-	22
69-71	-	-	-	29	12	6	-	-	-	-	47
72-74	-	-	5	61	5	5	11	-	-	-	87
75-77	-	4	-	62	24	4	24	-	-	-	118
78-80	-	-	-	81	31	11	11	-	-	-	134
81-83	-	-	16	40	32	16	56	16	-	-	176
84-86	-	-	11	44	11	-	54	22	-	-	142
87-89	-	-	-	-	7	-	42	43	-	-	92
90-92	-	-	-	14	7	7	32	21	-	-	81
93-95	-	-	-	7	-	-	14	22	-	-	43
96-98	-	-	-	-	-	-	7	7	-	-	14
99-101	-	-	-	-	-	-	4	-	-	3	7
-	-	-	-	-	-	-	-	-	-	-	-
108-110	-	-	-	-	-	-	-	4	-	-	4
Total Number	26	15	36	348	133	49	255	135	-	3	1000
Mean Length (cm)				78.7	79.9		85.5	89.8			81.8

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	54
Number of Samples	1
Number of Fish Measured	386
No. of Fish Aged	188
Mean Length (cm)	81.8
Mean Weight (Kg)	4.3
Total Weight Landed (tons)	39
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 34 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

(cont'd.)

OTTER TRAWLERS²⁾ Commercial Landings Serial Nos. 56/57

Location	East Greenland - Dohrn Bank													
Month	November													
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	<1945	Total
Age	4	5	6	7	8	9	10	11	12	13	14	15	>15	
3-cm group	FREQUENCIES in ‰													
54-56	1	-	-	-	-	-	-	-	-	-	-	-	-	1
57-59	-	2	-	-	-	-	-	-	-	-	-	-	-	2
60-62	3	-	1	-	-	-	-	-	-	-	-	-	-	4
63-65	14	4	-	-	4	-	-	-	-	-	-	-	-	22
66-68	10	-	5	-	5	-	-	-	-	-	-	-	-	20
69-71	-	7	18	28	-	-	4	-	-	-	-	-	-	57
72-74	-	21	17	22	17	4	-	-	-	-	-	-	-	81
75-77	-	10	29	57	10	6	19	3	-	-	-	-	-	134
78-80	-	3	10	57	22	10	45	6	-	-	-	-	-	153
81-83	-	3	9	36	12	27	57	6	-	-	-	-	-	150
84-86	-	-	3	3	24	15	38	3	-	3	-	-	-	89
87-89	-	-	-	6	6	12	58	18	3	-	-	3	-	106
90-92	-	-	2	5	5	2	27	14	-	2	-	2	-	59
93-95	-	-	-	6	-	3	42	-	-	9	-	-	-	60
96-98	-	-	-	3	-	-	25	6	-	3	-	-	-	37
99-101	-	-	-	-	-	5	-	-	-	2	-	3	4	14
102-104	-	-	-	-	-	-	-	-	3	-	-	3	-	6
105-107	-	-	-	-	-	-	-	2	-	-	-	1	1	4
108-110	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Total Number	28	50	94	223	105	84	315	58	6	20	-	12	5	1000
Mean Length (cm)				78.7	79.9		86.6							81.7

1) The length frequencies of these samples are given in Table 13; the age frequencies are given in Table 26.

2) 500-900 gross tons.

SAMPLE DATA

Sample Serial Numbers	56/57
Number of Samples	2
Number of Fish Measured	777
No. of Fish Aged	190
Mean Length (cm)	81.7
Mean Weight (Kg)	4.1
Total Weight Landed (tons)	105
Mesh Size (mm)	110
Range of Depths (fm)	...

TABLE 35 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

OTTER TRAWLERS ²⁾ Research Catches		Serial Nos. 2,3,5,9							
Location	LC - Lille Hellefiske Bank								
Month	April								
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	Total
Age	3	4	5	6	7	8	9	10	
3-cm group	FREQUENCIES in ‰								
30-32	16	-	-	-	-	-	-	-	16
33-35	4	-	-	-	-	-	-	-	4
36-38	20	-	-	-	-	-	-	-	20
39-41	12	12	-	-	-	-	-	-	24
42-44	-	4	-	-	-	-	-	-	4
45-47	-	28	-	-	-	-	-	-	28
48-50	-	20	-	-	-	-	-	-	20
51-53	-	14	38	-	-	-	-	-	52
54-56	-	-	76	-	-	-	-	-	76
57-59	-	-	104	9	-	-	-	-	113
60-62	-	-	63	22	-	-	-	-	85
63-65	-	-	36	57	-	-	-	-	93
66-68	-	-	-	54	72	-	-	-	126
69-71	-	-	-	30	92	-	-	-	122
72-74	-	-	-	-	69	12	-	-	81
75-77	-	-	-	-	48	-	-	-	48
78-80	-	-	-	-	18	-	18	-	36
81-83	-	-	-	-	-	-	12	-	12
84-86	-	-	-	-	-	-	-	20	20
87-89	-	-	-	-	-	-	-	8	8
90-92	-	-	-	-	-	-	-	-	-
93-95	-	-	-	-	-	-	-	8	8
-	-	-	-	-	-	-	-	-	-
111-113	-	-	-	-	-	-	-	4	4
Total Number	52	78	317	172	299	12	30	40	1000
Mean Length (cm)			58.3	65.8	72.0				63.8

1) The length frequencies of these samples are given in Table 14; the age frequencies are given in Table 27.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	2,3,5,9
Number of Samples	4
Number of Fish Measures	248
No. of Fish Aged	83
Mean Length (cm)	63.8
Mean Weight (Kg)	
Total Weight Landed (tons)	
Mesh Size (mm)	110
Range of Depths (fm)	75-100

TABLE 35 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

(cont'd.)²⁾

OTTER TRAWLERS - Research Catches

Serial Nos. 10-12

Location	1D - Fyllas Bank										
Month	April										
Year-Class	1956	1955	1954	1953	1952	1951	1950	-	1945	<1945	Total
Age	4	5	6	7	8	9	10	-	15	>15	
3-cm group	FREQUENCIES in ‰										
36-38	5	-	-	-	-	-	-	-	-	-	5
-	-	-	-	-	-	-	-	-	-	-	-
45-47	14	-	-	-	-	-	-	-	-	-	14
48-50	23	-	-	-	-	-	-	-	-	-	23
51-53	-	-	14	-	-	-	-	-	-	-	14
54-56	9	-	-	-	-	-	-	-	-	-	9
57-59	-	23	-	23	-	-	-	-	-	-	46
60-62	-	-	49	24	-	-	-	-	-	-	73
63-65	-	-	32	96	32	-	-	-	-	-	160
66-68	-	-	30	124	10	10	-	-	-	-	174
69-71	-	-	15	153	-	-	15	-	-	-	183
72-74	-	-	18	74	-	-	18	-	-	-	110
75-77	-	-	-	20	39	10	-	-	-	-	69
78-80	-	-	-	33	17	-	-	-	-	-	50
81-83	-	-	-	-	-	37	-	-	-	-	37
84-86	-	-	-	-	14	-	-	-	-	-	14
87-89	-	-	-	-	5	-	-	-	-	-	5
90-92	-	-	-	-	-	-	-	-	9	-	9
93-95	-	-	-	-	-	-	-	-	-	5	5
Total Number	51	23	158	547	117	57	33	-	9	5	1000
Mean Length (cm)			64.7	69.0	74.5						68.7

1) The length frequencies of these samples are given in Table 14; the age frequencies are given in Table 27.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	10-12
Number of Samples	3
Number of Fish Measured	218
No. of Fish Aged	78
Mean Length (cm)	68.7
Mean Weight (Kg)	
Total Weight Landed (tons)	
Mesh Size (mm)	110
Range of Depths (fm)	80-160

TABLE 35 GERMANY - 1960 AGE/LENGTH FREQUENCIES - COD¹⁾ by Arno Meyer
(cont'd.) 2)

OTTER TRAWLERS - Research Catches		Serial Nos. 10-12										
Location		ID - Fyllas Bank										
Month		April										
Year-Class	Age	1956	1955	1954	1953	1952	1951	1950	-	1945	<1945	Total
		4	5	6	7	8	9	10	-	15	>15	
3-cm group		FREQUENCIES in ‰										
36-38		5	-	-	-	-	-	-	-	-	-	5
-		-	-	-	-	-	-	-	-	-	-	-
45-47		14	-	-	-	-	-	-	-	-	-	14
48-50		23	-	-	-	-	-	-	-	-	-	23
51-53		-	-	14	-	-	-	-	-	-	-	14
54-56		9	-	-	-	-	-	-	-	-	-	9
57-59		-	23	-	23	-	-	-	-	-	-	46
60-62		-	-	49	24	-	-	-	-	-	-	73
63-65		-	-	32	96	32	-	-	-	-	-	160
66-68		-	-	30	124	10	10	-	-	-	-	174
69-71		-	-	15	153	-	-	15	-	-	-	183
72-74		-	-	18	74	-	-	18	-	-	-	110
75-77		-	-	-	20	39	10	-	-	-	-	69
78-80		-	-	-	33	17	-	-	-	-	-	50
81-83		-	-	-	-	-	37	-	-	-	-	37
84-86		-	-	-	-	14	-	-	-	-	-	14
87-89		-	-	-	-	5	-	-	-	-	-	5
90-92		-	-	-	-	-	-	-	-	9	-	9
93-95		-	-	-	-	-	-	-	-	-	5	5
Total Number		51	23	158	547	117	57	33	-	9	5	1000
Mean Length (cm)				64.7	69.0	74.5						68.7

1) The length frequencies of these samples are given in Table 14; the age frequencies are given in Table 27.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	10-12
Number of Samples	3
Number of Fish Measured	218
No. of Fish Aged	78
Mean Length (cm)	68.7
Mean Weight (Kg)	
Total Weight Landed (tons)	
Mesh Size (mm)	110
Range of Depths (fm)	80-160

TABLE 35 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

(cont'd.)

OTTER TRAWLERS²⁾ - Research Catches

Serial Nos. 18-20

1E - Danas Bank

April

Location	1E - Danas Bank										Total
Month	April										
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	Total
Age	4	5	6	7	8	9	10	11	12	13	
3-cm group	FREQUENCIES in ‰										
36-38	5	-	-	-	-	-	-	-	-	-	5
39-41	5	-	-	-	-	-	-	-	-	-	5
42-44	47	-	-	-	-	-	-	-	-	-	47
45-47	98	-	-	-	-	-	-	-	-	-	98
48-50	90	-	-	-	-	-	-	-	-	-	90
51-53	66	-	-	-	-	-	-	-	-	-	66
54-56	22	-	-	11	-	-	-	-	-	-	33
57-59	-	23	-	24	-	-	-	-	-	-	47
60-62	-	17	35	-	-	-	-	-	-	-	52
63-65	-	-	14	43	-	-	-	-	-	-	57
66-68	-	12	-	106	-	-	-	-	-	-	118
69-71	-	-	-	76	22	-	11	-	-	-	109
72-74	-	-	-	99	-	-	-	-	-	-	99
75-77	-	-	-	10	37	10	10	-	-	-	67
78-80	-	-	-	21	27	-	-	-	-	-	42
81-83	-	-	-	6	6	-	11	-	-	-	23
84-86	-	-	-	-	10	-	-	-	-	9	19
87-89	-	-	-	-	-	6	6	-	6	-	18
90-92	-	-	-	-	-	-	-	-	-	-	5
Total Number	333	52	49	396	96	16	38	-	6	14	1000
Mean Length (cm)	48.4		69.5								63.3

1) The length frequencies of these samples are given in Table 14; the age frequencies are given in Table 27.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	18-20
Number of Samples	3
Number of Fish Measured	212
No. of Fish Aged	83
Mean Length (cm)	63.3
Mean Weight (Kg)	
Total weight Landed (tons)	
Mesh Size (mm)	110
Range of Depths (fm)	40-120

TABLE 35 GERMANY - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

OTTER TRAWLERS ²⁾ - Research Catches		Serial Nos. 38-41										
Location	IF - Manortalik Bank											
Month	May											
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	<1947	Total
Age	4	5	6	7	8	9	10	11	12	13	>13	
3-cm group	FREQUENCIES in ‰											
33-35	4	-	-	-	-	-	-	-	-	-	-	14
36-38	7	-	-	-	-	-	-	-	-	-	-	7
39-41	42	-	-	-	-	-	-	-	-	-	-	42
42-44	122	8	-	-	-	-	-	-	-	-	-	130
45-47	37	9	-	-	-	-	-	-	-	-	-	46
48-50	32	-	10	-	-	-	-	-	-	-	-	42
51-53	28	-	-	-	-	-	-	-	-	-	-	28
54-56	-	11	-	-	-	-	-	-	-	-	-	11
57-59	-	-	-	39	-	-	-	-	-	-	-	39
60-62	-	-	-	63	-	-	-	-	-	-	-	63
63-65	-	-	-	32	31	-	-	-	-	-	-	63
66-68	-	-	-	61	15	15	-	-	-	-	-	91
69-71	-	-	-	99	14	-	-	-	-	-	-	113
72-74	-	-	-	67	9	-	9	-	-	-	-	85
75-77	-	-	-	25	-	24	25	-	-	-	-	74
78-80	-	-	-	-	-	22	33	-	-	11	11	77
81-83	-	-	-	-	-	-	29	10	-	10	-	49
84-86	-	-	-	-	-	-	-	-	-	18	-	18
87-89	-	-	-	-	-	-	-	-	-	11	-	11
90-92	-	-	-	-	-	-	-	-	-	7	-	7
Total Number	272	28	10	386	69	61	96	10	-	57	11	1000
Mean Length (cm)	44.8			67.8			79.1					63.6

1) The length frequencies of these samples are given in Table 14; the age frequencies are given in Table 27.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	38-41
Number of Samples	4
Number of Fish Measured	284
No. of Fish Aged	102
Mean Length (cm)	63.6
Mean weight (Kg)	
Total weight Landed (tons)	
Mesh Size (mm)	110
Range of Depths (fm)	160-270

TABLE 35 GERMANY - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

(cont'd.)
OTTER TRAWLERS²⁾ - Research Catches

Serial Nos. 58-73

Location	East Greenland - Discord-Fylkir Bank														Total
Month	May														
Year-Class	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	<1942	
Age	6	7	8	9	10	11	12	13	14	15	16	17	18	>18	
3-cm group	FREQUENCIES in ‰														
54-56	15	-	-	-	-	-	-	-	-	-	-	-	-	-	15
57-59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60-62	-	8	-	-	-	-	-	-	-	-	-	-	-	-	8
63-65	-	8	-	-	-	-	-	-	-	-	-	-	-	-	8
66-68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
69-71	-	23	-	-	8	-	-	8	-	-	-	-	-	-	-
72-74	-	-	-	15	8	-	-	16	-	-	-	-	-	-	39
75-77	-	8	8	8	30	8	-	31	-	-	-	-	-	-	39
78-80	-	7	7	29	64	15	22	37	22	22	-	-	8	-	101
81-83	-	-	-	-	28	24	-	24	-	8	-	8	16	-	225
84-86	-	-	-	24	8	-	8	36	-	16	-	8	8	8	108
87-89	-	-	-	8	30	-	-	30	-	24	-	-	16	-	116
90-92	-	-	-	-	16	8	8	22	-	8	-	-	16	-	108
93-95	-	-	-	-	9	-	-	9	9	26	-	-	9	-	62
96-98	-	-	-	-	-	-	-	-	-	5	-	5	13	-	62
99-101	-	-	-	-	21	-	-	-	-	-	-	-	10	-	23
102-104	-	-	-	-	5	-	-	-	-	5	-	-	5	-	31
105-107	-	-	-	-	-	-	-	-	8	-	-	-	-	-	15
>107	-	-	-	-	-	-	-	-	-	-	-	8	16	8	8
Total Number	15	54	15	84	227	55	38	213	39	114	-	37	93	16	32
Mean Length (cm)					84.3			82.8		88.3					1000
															85.0

1) The length frequencies of these samples are given in Table 14; the age frequencies are given in Table 27.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	58-73
Number of Samples	6
Number of Fish Measured	129
No. of Fish Aged	129
Mean Length (cm)	85.6
Mean Weight (Kg)	
Total Weight Landed (tons)	
Mesh Size (mm)	110
Range of Depths (fm)	100-200

TABLE 35 GERMANY - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

OTTER TRAWLERS ²⁾ Research Catches		Serial Nos. 77-119												
Location	East Greenland - Mosting Bank													
Month	May													
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	<1945	Total
Age	4	5	6	7	8	9	10	11	12	13	14	15	>15	
3-cm group	FREQUENCIES in ‰													
39-41	6	-	-	-	-	-	-	-	-	-	-	-	-	6
42-44	11	-	-	-	-	-	-	-	-	-	-	-	-	11
45-47	14	-	-	-	-	-	-	-	-	-	-	-	-	14
48-50	4	-	-	-	-	-	-	-	-	-	-	-	-	4
51-53	-	-	-	-	-	-	-	-	-	-	-	-	-	-
54-56	-	4	-	-	-	-	-	-	-	-	-	-	-	4
57-59	-	-	4	-	-	-	-	-	-	-	-	-	-	4
60-62	-	-	8	-	-	-	-	-	-	-	-	-	-	8
63-65	-	-	18	8	8	8	-	-	-	-	-	-	-	42
66-68	-	-	14	14	27	-	-	-	-	-	14	-	-	69
69-71	-	-	-	49	9	9	9	-	-	-	-	-	-	76
72-74	-	-	-	54	13	13	26	-	-	-	-	-	-	106
75-77	-	-	-	14	-	14	71	-	-	42	-	-	-	141
78-80	-	-	-	43	-	-	28	-	14	43	-	-	-	128
81-83	-	-	-	-	-	20	79	-	-	20	-	-	-	119
84-86	-	-	-	-	10	-	20	10	-	40	-	-	-	80
87-89	-	-	-	-	-	-	47	-	-	15	-	-	15	77
90-92	-	-	-	-	-	-	18	-	-	-	-	18	-	36
93-95	-	-	-	-	-	-	29	-	-	-	-	-	-	29
96-98	-	-	-	-	-	-	-	8	-	-	-	-	-	8
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	-	-	-	-	4	-	4
105-107	-	-	-	-	-	-	-	-	-	-	-	-	4	4
>107	-	-	-	-	-	-	-	-	-	-	-	-	30	30
Total Number	35	4	44	182	67	64	327	18	14	160	14	22	49	1000
Mean Length (cm)				73.5			82.5			81.5				79.1

1) The length frequencies of these samples are given in Table 14; the age frequencies are given in Table 27.

2) 500-900 gross tons.

(cont'd.)

SAMPLE DATA

Sample Serial Numbers	77-119
Number of Samples	4
Number of Fish Measured	275
No. of Fish Aged	76
Mean Length (cm)	79.1
Mean Weight (Kg)	
Total Weight Landed (tons)	
Mesh Size (mm)	110
Range of Depths (fm)	130-200

TABLE 35 GERMANY - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾

by Arno Meyer

OTTER TRAWLERS ²⁾ Research Catches		Serial Nos. 121+128							
Location	East Greenland - Angmagssalik								
Month	May								
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	Total
Age	4	5	6	7	8	9	10	11	
3-cm group	FREQUENCIES in ‰								
54-56	12	-	-	-	-	-	-	-	12
57-59	12	-	-	-	-	-	-	-	12
60-62	-	12	36	-	-	-	-	-	48
63-65	-	59	24	-	-	-	-	-	83
66-68	-	48	59	12	-	-	-	-	119
69-71	-	24	83	24	12	12	-	-	155
72-74	-	13	76	65	-	-	13	-	167
75-77	-	-	28	39	-	14	14	-	95
78-80	-	-	26	13	-	13	54	13	119
81-83	-	-	12	12	-	12	35	-	71
84-86	-	-	-	15	-	-	44	-	59
87-89	-	-	-	-	-	-	12	-	12
90-92	-	-	-	-	-	-	36	-	36
93-95	-	-	-	-	-	-	12	-	12
Total Number	24	156	344	180	12	51	220	13	1000
Mean Length (cm)		66.9	70.9	75.4			83.9		74.0

1) The length frequencies of these samples are given in Table 14; the age frequencies are given in Table 27.

2) 500-900 gross tons.

SAMPLE DATA	
Sample Serial Numbers	121 128
Number of Samples	2
Number of Fish Measured	84
No. of Fish Aged	84
Mean Length (cm)	74.0
Mean Weight (Kg)	
Total Weight Landed (tons)	
Mesh Size (mm)	110
Range of Depths (fm)	240

TABLE 36 NORWAY - 1960

AGE/LENGTH KEY - COD¹⁾

by E. Bratberg

Male	OTTER TRAWL - Research Catches											IC & ID	April	
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total	
Age	4	5	6	7	8	9	10	11	12	13	14	15		
3-cm group	ACTUAL NUMBER OF OTOLITHS READ													
39-41	1	-	-	-	-	-	-	-	-	-	-	-	1	
42-44	3	-	-	-	-	-	-	-	-	-	-	-	3	
45-47	11	1	-	-	-	-	-	-	-	-	-	-	12	
48-50	17	3	-	-	-	-	-	-	-	-	-	-	20	
51-53	11	6	1	-	-	-	-	-	-	-	-	-	18	
54-56	1	5	-	-	-	-	-	-	-	-	-	-	6	
57-59	-	5	-	-	-	-	-	-	-	-	-	-	5	
60-62	-	1	4	1	-	-	-	-	-	-	-	-	6	
63-65	-	1	1	4	-	-	-	-	-	-	-	-	6	
66-68	-	1	-	6	-	-	-	1	-	-	-	-	8	
69-71	-	-	2	4	3	-	-	-	-	-	-	-	9	
72-74	-	-	-	4	2	1	1	-	-	-	-	-	8	
75-77	-	-	-	1	1	1	-	-	-	-	1	-	4	
Total Number	44	23	8	20	6	2	1	1	-	-	1	-	106	
Mean Length													57.27	

Female	OTTER TRAWL - Research Catches											IC & ID	April	
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total	
Age	4	5	6	7	8	9	10	11	12	13	14	15		
3-cm group	ACTUAL NUMBER OF OTOLITHS READ													
39-41	1	-	-	-	-	-	-	-	-	-	-	-	1	
42-44	3	-	-	-	-	-	-	-	-	-	-	-	3	
45-47	12	1	-	-	-	-	-	-	-	-	-	-	13	
48-50	22	1	-	-	-	-	-	-	-	-	-	-	23	
51-53	14	-	1	-	-	-	-	-	-	-	-	-	15	
54-56	4	4	-	-	-	-	-	-	-	-	-	-	8	
57-59	1	3	1	-	-	-	-	-	-	-	-	-	5	
60-62	-	-	3	1	-	-	-	-	-	-	-	-	4	
63-65	-	-	2	1	-	-	-	-	-	-	-	-	3	
66-68	-	-	3	3	-	-	-	-	-	-	-	-	6	
69-71	-	-	-	6	-	-	-	-	-	-	-	-	6	
72-74	-	-	2	7	2	1	-	-	-	-	-	-	12	
75-77	-	-	-	6	-	-	1	-	-	-	-	-	7	
78-80	-	-	-	-	5	2	-	-	-	-	-	-	7	
81-83	-	-	-	1	-	-	-	-	1	-	-	-	2	
84-86	-	-	-	-	-	-	1	-	-	-	-	-	1	
Total Number	57	9	12	25	7	3	2	-	1	-	-	-	116	
Mean Length	49.07	54.00	63.92	71.80	77.00	77.00	80.00		82.00				59.11	

¹⁾The length frequencies of these samples are given in Table 16; the age frequencies are given in Table 28.

(cont'd.)

TABLE 36 NORWAY - 1960
(cont'd.)

AGE/LENGTH KEY - COD¹⁾

by E. Bratberg

Male		BOTTOM LONGLINE - Research Catches																IC, ID & IE			April			Total		
Year-Class	Age	1956	'55	'54	'53	'52	'51	'50	'49	'48	'47	'46	'45	'44	'43	'42	'41	'40	1C	1D	1E	18	19		20	
3-cm group		ACTUAL NUMBER OF OTOLITHS READ																								
48-50	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
51-53	1	8	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
54-56	2	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9
57-59	-	1	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
60-62	-	3	10	5	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
63-65	-	3	12	21	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37
66-68	-	2	9	32	8	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52
69-71	-	-	3	29	7	3	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	44
72-74	-	-	1	31	11	4	1	-	1	3	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	53
75-77	-	-	-	15	7	3	6	2	2	3	-	3	1	-	-	-	-	-	-	-	-	-	-	-	-	42
78-80	-	-	-	6	7	2	2	-	-	3	1	2	-	-	1	-	-	-	-	-	-	-	-	-	-	24
81-83	-	-	-	4	3	-	1	1	2	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	20
84-86	-	-	-	2	1	-	5	2	-	2	-	1	-	1	-	1	-	-	-	-	-	-	-	-	-	14
87-89	-	-	-	-	-	-	1	-	2	-	2	-	2	-	-	2	-	-	-	-	-	-	-	-	-	9
90-92	-	-	-	-	1	1	-	-	-	-	-	-	-	-	2	-	-	2	-	-	-	-	-	-	-	4
93-95	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	3
96-98	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Total Number	7	25	39	148	46	14	18	6	7	19	5	10	3	4	3	1	-	-	-	-	-	-	-	-	-	355
Mean Length	51.00	63.79	73.83	80.22	80.57	86.40	76.00	85.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71.19
		56.80	70.01	74.43	78.33	82.74	80.10	87.25	95.00																	

1) The length frequencies of these samples are given in Table 16; the age frequencies are given in Table 28.

(cont'd.)

TABLE 36 NORWAY - 1960
(cont'd.)AGE/LENGTH KEY - COD¹⁾

by E. Bratberg

Female	BOTTOM LONGLINE - Research Catches																1C, 1D & 1E	April	
Year-Class	1956	'55	'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	20		
3-cm group	ACTUAL NUMBER OF OTOLITHS READ																		
45-47	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
48-50	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
51-53	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	
54-56	-	8	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	
57-59	-	9	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	14	
60-62	-	5	13	3	-	-	-	-	-	-	-	-	-	-	-	-	-	21	
63-65	-	1	14	17	-	-	-	-	-	-	-	-	-	-	-	-	-	32	
66-68	-	-	9	30	2	1	-	1	-	-	-	-	-	-	-	-	-	43	
69-71	-	-	3	55	8	1	-	-	-	-	-	-	-	-	-	-	-	67	
72-74	-	-	5	41	12	4	3	1	-	-	-	-	-	-	-	-	-	526	
75-77	-	-	-	45	12	7	8	-	1	1	-	1	-	-	-	-	-	75	
78-80	-	-	-	13	17	6	3	2	-	2	1	-	-	-	-	-	-	44	
81-83	-	-	-	9	7	7	5	1	2	8	-	2	1	1	-	-	1	44	
84-86	-	-	-	2	2	11	5	3	2	6	4	1	-	1	1	-	-	38	
87-89	-	-	-	1	1	2	3	2	2	4	3	2	-	2	3	7	-	25	
90-92	-	-	-	-	1	1	2	-	1	3	3	2	-	1	1	-	-	15	
93-95	-	-	-	-	-	1	1	2	2	1	-	-	1	-	1	1	-	10	
96-98	-	-	-	-	-	-	1	1	-	1	-	1	-	-	1	-	-	5	
99-101	-	-	-	-	-	-	-	1	2	1	-	1	-	-	-	-	-	5	
102-104	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2	
105-107	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	
108-110	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	
111-113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
114-116	-	-	-	-	-	-	-	-	1	1	-	-	-	-	1	-	-	3	
Total Number	2	25	51	217	62	41	31	14	13	29	14	10	2	5	8	1	1	526	
Mean Length	47.50	63.92	76.63	81.81	90.62	90.93	88.00	92.62	81.00										
		57.56	72.01	80.51	85.71	87.48	88.10	86.20	93.00									75.29	

1) The length frequencies of these samples are given in Table 16; the age frequencies are given in Table 28.

TABLE 37 PORTUGAL - 1960

AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial Nos. 7-10

Male	OTTER TRAWLERS - Commercial Catches before Discarding											ID	May
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	
3-cm group	FREQUENCIES in ‰												
39-41	10	10	-	-	-	-	-	-	-	-	-	-	20
42-44	-	70	-	-	-	-	-	-	-	-	-	-	70
45-47	-	120	5	-	-	-	-	-	-	-	-	-	125
48-50	-	80	5	-	-	-	-	-	-	-	-	-	85
51-53	-	40	5	-	-	-	-	-	-	-	-	-	45
54-56	-	-	20	-	-	-	-	-	-	-	-	-	20
57-59	-	-	5	-	-	-	-	-	-	-	-	-	5
60-62	-	-	5	5	5	-	-	-	-	-	-	-	15
63-65	-	-	-	5	5	10	-	-	-	-	-	-	20
66-68	-	-	-	10	25	-	-	-	-	-	-	-	35
69-71	-	-	-	-	35	-	-	-	-	-	-	-	35
72-74	-	-	-	-	20	-	-	-	-	-	-	-	20
75-77	-	-	-	-	10	-	-	-	-	-	-	-	10
-	-	-	-	-	-	-	-	-	-	-	-	-	-
84-86	-	-	-	-	-	-	5	-	-	-	-	-	5
Total Number	10	320	45	20	100	10	5	-	-	-	-	-	510
Mean Length	40.0	46.7	54.0	64.8	69.7	64.0	85.0	-	-	-	-	-	53.1

Female	OTTER TRAWLERS - Commercial Catches before Discarding											ID	May
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	Total
Age	3	4	5	6	7	8	9	10	11	12	13	14	
3-cm group	FREQUENCIES in ‰												
39-41	20	15	-	-	-	-	-	-	-	-	-	-	35
42-44	-	45	-	-	-	-	-	-	-	-	-	-	45
45-47	-	50	-	-	-	-	-	-	-	-	-	-	50
48-50	-	65	5	-	-	-	-	-	-	-	-	-	70
51-53	-	40	25	-	-	-	-	-	-	-	-	-	65
54-56	-	15	10	-	-	-	-	-	-	-	-	-	25
57-59	-	-	10	-	-	-	-	-	-	-	-	-	10
60-62	-	-	5	-	-	-	-	-	-	-	-	-	5
63-65	-	-	-	15	5	-	-	-	-	-	-	-	20
66-68	-	-	5	-	15	-	-	-	-	-	-	-	20
69-71	-	-	-	5	10	-	-	-	-	-	-	-	15
72-74	-	-	-	5	20	5	5	-	-	-	-	-	35
75-77	-	-	-	-	10	10	-	-	-	-	-	-	20
78-80	-	-	-	-	20	5	-	-	-	-	-	-	25
81-83	-	-	-	-	20	5	-	10	-	-	-	5	40
-	-	-	-	-	-	-	-	-	-	-	-	-	-
90-92	-	-	-	-	-	-	-	-	-	5	-	5	10
Total Number	20	230	60	25	100	25	5	10	-	5	-	10	490
Mean Length	40.0	47.5	55.3	67.0	74.7	77.2	73.0	82.0	-	91.0	-	86.5	58.4

1) The length frequencies of these samples are given in Table 17; the age frequencies are given in Table 29. Sample data are shown on page 175.

(cont'd.)

TABLE 37 PORTUGAL - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial Nos. 6-8-9

Male	OTTER TRAWLERS - Commercial Catches before Discarding													LE	May
Year-Class	1957	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	15		
3-cm group	FREQUENCIES in ‰														
39-41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
42-44	-	54	7	-	-	-	-	-	-	-	-	-	-	61	
45-47	-	67	20	-	-	-	-	-	-	-	-	-	-	87	
48-50	-	40	13	-	-	-	-	-	-	-	-	-	-	53	
51-53	-	3	10	-	-	-	-	-	-	-	-	-	-	13	
54-56	-	-	10	-	3	-	-	-	-	-	-	-	-	13	
57-59	-	-	-	7	-	-	-	-	-	-	-	-	-	7	
60-62	-	-	-	3	17	-	-	-	-	-	-	-	-	20	
63-65	-	-	-	3	30	-	-	-	-	-	-	-	-	33	
66-68	-	-	-	23	44	-	-	-	-	-	-	-	-	67	
69-71	-	-	-	3	54	-	3	-	-	-	3	-	-	63	
72-74	-	-	-	3	23	3	-	3	-	3	-	-	-	35	
75-77	-	-	-	-	10	3	-	3	-	3	3	-	-	22	
78-80	-	-	-	-	7	-	-	-	-	-	-	-	-	7	
81-83	-	-	-	-	-	3	-	10	-	-	-	-	-	13	
84-86	-	-	-	-	-	-	-	3	-	3	-	-	3	9	
Total Number	-	164	60	42	188	9	3	19	-	9	6	-	3	503	
Mean Length	-	45.9	48.8	65.5	68.3	77.0	70.0	80.1	-	78.0	73.0	-	85.0	59.4	

Female	OTTER TRAWLERS - Commercial Catches before Discarding													LE	May
Year-Class	1957	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	15		
3-cm group	FREQUENCIES in ‰														
39-41	-	3	-	-	-	-	-	-	-	-	-	-	-	3	
42-44	3	44	-	-	-	-	-	-	-	-	-	-	-	47	
45-47	-	74	-	-	-	-	-	-	-	-	-	-	-	74	
48-50	-	64	3	-	-	-	-	-	-	-	-	-	-	67	
51-53	-	13	20	-	-	-	-	-	-	-	-	-	-	33	
54-56	-	3	10	3	-	-	-	-	-	-	-	-	-	16	
57-59	-	-	17	3	7	3	-	-	-	-	-	-	-	30	
60-62	-	-	-	-	10	-	-	-	-	-	-	-	-	10	
63-65	-	-	-	7	10	3	-	-	-	-	-	-	-	20	
66-68	-	-	-	7	37	3	-	-	-	-	-	-	-	47	
69-71	-	-	-	3	20	7	3	-	-	-	-	-	-	33	
72-74	-	-	-	-	10	7	-	7	-	3	-	-	-	27	
75-77	-	-	-	-	7	10	-	7	-	3	-	-	-	27	
78-80	-	-	-	-	-	-	3	-	-	-	-	-	-	3	
81-83	-	-	-	-	3	10	-	7	3	3	3	3	-	32	
84-86	-	-	-	-	-	3	-	3	-	-	3	3	-	12	
87-89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
90-92	-	-	-	-	-	-	-	-	-	3	-	-	-	3	
93-95	-	-	-	-	-	-	-	-	-	-	3	-	-	3	
Total Number	3	201	50	23	104	46	6	24	3	12	9	6	-	487	
Mean Length	43.0	46.7	54.5	63.7	67.7	74.0	74.5	78.0	82.0	80.5	87.0	83.5	-	59.5	

1) The length frequencies of these samples are given in Table 17; the age frequencies are given in Table 29. Sample data are shown on page 175. (cont'd.)

TABLE 37 PORTUGAL - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial Nos. 1-3

Male		OTTER TRAWLERS - Commercial Catches before Discarding								IF	April
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	Total	
Age	4	5	6	7	8	9	10	11	12		
3-cm group	FREQUENCIES in ‰										
39-41	5	-	-	-	-	-	-	-	-	5	
42-44	25	-	-	-	-	-	-	-	-	25	
45-47	15	-	-	-	-	-	-	-	-	15	
48-50	15	5	-	-	-	-	-	-	-	20	
51-53	-	10	-	-	-	-	-	-	-	10	
54-56	-	30	5	-	-	-	-	-	-	35	
57-59	-	5	5	5	-	-	-	-	-	15	
60-62	-	-	25	40	10	-	-	-	-	75	
63-65	-	-	20	65	10	-	-	-	-	95	
66-68	-	-	-	70	5	-	-	-	-	75	
69-71	-	-	5	35	15	20	-	-	-	75	
72-74	-	-	5	45	20	-	5	-	-	75	
75-77	-	-	-	5	10	5	5	-	-	25	
78-80	-	-	-	5	-	-	-	-	-	5	
Total Number	60	50	65	270	70	25	10	-	-	550	
Mean Length	45.0	54.1	62.8	67.0	69.4	71.2	74.5	-	-	62.3	

Female		OTTER TRAWLERS - Commercial Catches before Discarding								IF	April
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	Total	
Age	4	5	6	7	8	9	10	11	12		
3-cm group	FREQUENCIES in ‰										
39-41	10	-	-	-	-	-	-	-	-	10	
42-44	10	-	-	-	-	-	-	-	-	10	
45-47	15	-	-	-	-	-	-	-	-	15	
48-50	-	-	-	-	-	-	-	-	-	-	
51-53	-	10	-	-	-	-	-	-	-	10	
54-56	-	5	-	5	-	-	-	-	-	10	
57-59	-	5	-	5	-	-	-	-	-	10	
60-62	-	-	5	15	-	-	-	-	-	20	
63-65	-	-	10	45	15	5	-	-	-	75	
66-68	-	-	5	55	15	-	5	-	-	80	
69-71	-	-	10	50	15	-	-	-	-	75	
72-74	-	-	-	10	10	5	5	5	-	35	
75-77	-	-	-	10	5	10	10	-	-	35	
78-80	-	-	-	15	-	-	20	5	-	40	
81-83	-	-	-	-	-	5	5	-	-	10	
84-86	-	-	-	-	-	-	-	-	5	5	
87-89	-	-	-	-	5	-	-	-	-	5	
-	-	-	-	-	-	-	-	-	-	-	
123-125	-	-	-	-	-	-	5	-	-	5	
Total Number	35	20	30	210	65	25	50	10	5	450	
Mean Length	43.4	54.3	66.0	67.7	70.2	74.2	81.4	76.0	85.0	67.7	

¹⁾The length frequencies of these samples are given in Table 17; the age frequencies are given in Table 29. Sample data are shown on page 175. (cont'd.)

TABLE 37 PORTUGAL - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial Nos. 37,38,40,41

Male		OTTER TRAWLERS - Commercial Catches before Discarding												ZH	September
Year-Class		1956	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	16	
3-cm group		F R E Q U E N C I E S in ‰													
39-41		10	2	-	-	-	-	-	-	-	-	-	-	-	12
42-44		5	20	5	-	-	-	-	-	-	-	-	-	-	30
45-47		3	23	10	5	2	-	-	-	-	-	-	-	-	43
48-50		-	25	20	13	2	2	5	-	-	-	-	-	-	67
51-53		-	13	18	8	10	10	5	2	-	-	-	-	-	66
54-56		-	2	10	8	20	15	15	5	5	-	-	-	-	80
57-59		-	-	5	15	10	8	-	5	-	8	-	-	3	54
60-62		-	-	2	3	2	2	10	2	13	2	-	-	-	36
63-65		-	-	-	-	-	8	2	10	8	8	2	2	3	43
66-68		-	-	-	-	-	5	-	-	3	10	2	-	-	20
69-71		-	-	-	-	-	-	-	-	-	5	5	-	-	10
72-74		-	-	-	-	-	-	-	-	-	-	-	2	-	2
75-77		-	-	-	-	-	-	-	2	-	-	-	-	-	2
Total Number		18	85	70	52	46	50	37	26	29	33	9	4	6	465
Mean Length		41.8	47.2	50.8	53.4	54.6	57.5	55.9	60.9	61.4	64.2	68.0	68.5	61.0	54.3

Female		OTTER TRAWLERS - Commercial Catches before Discarding												ZH	September
Year-Class		1956	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 ‰													
39-41		8	5	-	-	-	-	-	-	-	-	-	-	-	13
42-44		5	5	13	-	-	-	-	-	-	-	-	-	-	23
45-47		2	18	8	5	-	-	-	-	-	-	-	-	-	33
48-50		-	13	8	5	-	-	-	-	-	-	-	-	-	36
51-53		-	13	28	10	8	8	-	-	-	-	-	-	-	67
54-56		-	-	15	8	13	2	-	2	-	-	-	-	-	40
57-59		-	-	5	15	28	25	18	10	5	2	2	-	-	110
60-62		-	-	-	8	13	10	8	13	2	3	5	2	-	64
63-65		-	-	-	13	5	13	8	5	10	10	-	8	2	74
66-68		-	-	-	-	-	5	8	3	3	3	15	8	3	48
69-71		-	-	-	-	-	-	-	3	8	-	3	8	5	27
72-74		-	-	-	-	-	-	-	3	-	2	-	-	-	5
Total Number		15	54	87	64	67	63	42	39	28	20	25	26	10	540
Mean Length		41.8	47.3	50.3	56.6	57.7	59.5	61.4	62.4	64.7	64.3	65.4	66.6	67.9	57.3

1) The length frequencies of these samples are given in Table 17; the age frequencies are given in Table 29. Sample data are shown on page 175.

(cont'd.)

TABLE 37 PORTUGAL - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial No. 1

Male		OTTER TRAWLERS - Commercial Catches before Discarding												2J	May
Year-Class		1956	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	16	
3-cm group		F R E Q U E N C I E S in ‰													
36-38		10	-	-	-	-	-	-	-	-	-	-	-	-	10
39-41		-	10	-	-	-	-	-	-	-	-	-	-	-	10
42-44		-	10	-	-	-	-	-	-	-	-	-	-	-	10
45-47		-	20	40	30	-	-	10	-	-	-	-	-	-	100
48-50		-	-	10	10	30	20	10	-	-	-	-	-	-	80
51-53		-	-	30	10	10	10	20	-	-	-	-	-	-	80
54-56		-	-	-	20	30	10	30	30	-	-	-	-	-	120
57-59		-	-	10	-	30	20	10	-	10	-	-	10	-	90
60-62		-	-	-	-	-	-	10	10	-	10	-	-	-	30
63-65		-	-	-	-	-	-	-	-	-	-	-	-	-	-
66-68		-	-	-	-	-	-	-	-	-	-	10	-	-	10
69-71		-	-	-	-	-	-	-	-	-	-	-	-	-	-
72-74		-	-	-	-	-	-	-	-	-	-	-	10	-	10
Total Number		10	40	90	70	100	60	90	40	10	10	10	20	-	550
Mean Length		37.0	43.8	49.7	49.9	53.8	53.5	53.7	56.5	58.0	61.0	67.0	65.5	-	52.7

Female		OTTER TRAWLERS - Commercial Catches before Discarding												2J	May
Year-Class		1956	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	16	
3-cm group		F R E Q U E N C I E S in ‰													
45-47		-	-	10	-	-	-	-	-	-	-	-	-	-	10
48-50		-	-	-	10	-	-	10	-	-	-	-	-	-	20
51-53		-	-	-	30	-	20	-	10	-	-	-	-	-	60
54-56		-	-	-	-	20	20	10	-	-	-	10	-	-	60
57-59		-	-	-	-	20	10	40	10	10	-	-	-	-	90
60-62		-	-	-	-	20	10	40	-	10	10	-	-	-	90
63-65		-	-	-	-	-	-	-	-	-	40	-	10	-	50
66-68		-	-	-	-	-	10	10	-	10	20	-	-	-	50
69-71		-	-	-	-	-	-	-	-	10	-	10	-	-	20
Total Number		-	-	10	40	60	70	110	20	40	70	20	10	-	450
Mean Length		-	-	46.0	51.3	58.0	57.1	58.9	55.5	64.0	64.4	62.5	64.0	-	57.9

¹⁾The length frequencies of this sample are given in Table 17; the age frequencies are given in Table 29. Sample data are shown on page 175.

(cont'd.)

TABLE 37 PORTUGAL - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Huivo
Glicinia V. Quartin

Serial Nos. 2,4,7,10,12

Male	OTTER TRAWLERS - Commercial Catches before Discarding													2J	June
Year-Class	1956	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	17	
3-cm group	F R E Q U E N C I E S in ‰														
42-44	2	4	4	4	2	-	-	-	-	-	-	-	-	-	16
45-47	-	4	26	16	4	-	-	-	-	-	-	-	-	-	50
48-50	-	6	16	14	14	6	4	-	-	-	-	-	-	-	60
51-53	-	-	4	20	10	10	8	2	-	2	-	2	-	-	58
54-56	-	-	2	12	8	16	6	10	2	-	-	2	-	-	58
57-59	-	-	2	6	4	8	6	8	2	-	4	2	-	-	42
60-62	-	-	-	2	6	2	6	-	2	8	4	4	-	-	34
63-65	-	-	-	-	2	4	-	2	8	-	6	-	2	-	24
66-68	-	-	-	2	-	2	2	2	4	2	6	-	-	-	20
69-71	-	-	-	-	-	-	2	2	2	4	2	2	-	-	14
72-74	-	-	-	-	-	-	-	-	-	2	-	2	-	-	4
75-77	-	-	-	-	-	-	-	-	-	2	4	-	-	-	6
78-80	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2
Total Number	2	14	54	76	50	48	34	26	20	20	26	16	2	-	388
Mean Length	43.0	46.4	48.0	51.3	52.8	55.6	56.7	58.5	63.4	65.2	65.6	63.6	64.0	-	55.2

Female	OTTER TRAWLERS - Commercial Catches before Discarding													2J	June
Year-Class	1956	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	17	
3-cm group	F R E Q U E N C I E S in ‰														
39-41	-	4	-	-	-	-	-	-	-	-	-	-	-	-	4
42-44	-	6	2	4	-	-	-	-	-	-	-	-	-	-	12
45-47	-	2	16	10	2	-	-	-	-	-	-	-	-	-	30
48-50	-	2	20	26	10	4	6	2	-	-	-	-	-	-	70
51-53	-	2	16	34	16	18	4	10	-	-	-	-	-	-	100
54-56	-	-	2	12	24	30	16	14	4	4	-	-	-	-	106
57-59	-	-	2	20	12	18	30	10	6	2	6	2	-	-	108
60-62	-	-	-	2	4	6	12	6	6	10	8	6	-	-	60
63-65	-	-	-	2	4	-	4	6	8	6	12	8	-	2	52
66-68	-	-	-	-	4	4	-	2	2	4	6	6	-	2	30
69-71	-	-	-	-	-	2	2	4	-	4	8	6	2	-	28
72-74	-	-	-	-	-	-	-	-	2	2	-	2	-	-	6
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
87-89	-	-	-	-	-	-	-	-	-	-	2	-	-	-	2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2
Total Number	-	16	58	110	76	82	74	54	28	32	42	30	4	4	610
Mean Length	-	44.5	49.3	52.2	55.2	57.0	57.4	58.0	61.6	63.3	67.6	65.4	86.5	65.5	56.6

1) The length frequencies of these samples are given in Table 17; the age frequencies are given in Table 29. Sample data are shown on page 175.

(cont'd.)

TABLE 37 PORTUGAL - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾
Serial Nos.13,14,16,18,22,25,26by Mario J. Ruivo
Glicinia V. Quartin

Male		OTTER TRAWLERS - Commercial Catches before Discarding												2J	August
Year-Class		1956	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	16	
3-cm group		FREQUENCIES in ‰													
36-38		-	3	-	-	-	-	-	-	-	-	-	-	-	3
39-41		10	7	3	-	-	-	-	-	-	-	-	-	-	20
42-44		7	17	1	2	-	-	-	-	-	-	-	-	-	27
45-47		2	22	12	12	-	-	-	-	-	-	-	-	-	48
48-50		-	14	12	22	3	3	1	-	-	-	-	-	-	55
51-53		-	1	17	13	16	12	10	2	1	-	-	-	-	72
54-56		-	4	10	4	12	12	3	4	-	-	-	-	-	49
57-59		-	-	4	13	20	10	16	4	9	4	-	-	-	80
60-62		-	-	-	7	9	4	10	6	6	1	1	3	-	47
63-65		-	1	3	1	-	1	9	2	1	3	-	1	1	23
66-68		-	-	-	-	-	3	1	1	-	1	-	-	-	6
69-71		-	-	-	-	-	-	-	1	2	-	2	-	-	5
72-74		-	-	-	-	-	1	-	-	-	-	-	-	-	1
75-77		-	-	-	-	-	-	-	-	-	-	-	-	-	-
78-80		-	-	-	-	-	1	-	-	2	-	-	-	-	3
Total Number		19	69	62	74	60	47	50	20	19	11	3	4	1	439
Mean Length		41.7	45.7	50.9	52.1	55.8	56.8	58.3	59.3	60.2	64.5	67.0	61.7	64.0	53.4

Female		OTTER TRAWLERS - Commercial Catches before Discarding												2J	August	
Year-Class		1956	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	16		
3-cm group		FREQUENCIES in ‰														
36-38		1	-	-	-	-	-	-	-	-	-	-	-	-	1	
39-41		9	6	3	-	-	-	-	-	-	-	-	-	-	18	
42-44		4	7	10	2	-	-	-	-	-	-	-	-	-	23	
45-47		3	13	20	10	-	-	-	-	-	-	-	-	-	46	
48-50		3	14	22	9	10	-	-	2	2	-	-	-	-	62	
51-53		-	7	13	22	7	12	3	-	-	1	-	-	-	65	
54-56		-	6	4	20	22	20	6	4	1	-	1	-	-	84	
57-59		-	3	1	16	16	10	7	12	6	-	-	-	-	71	
60-62		-	-	-	9	19	16	4	4	7	-	3	1	1	64	
63-65		-	-	-	4	7	10	12	9	7	6	4	2	3	64	
66-68		-	-	-	1	1	3	3	6	7	3	7	3	-	34	
69-71		-	-	-	-	-	1	2	-	3	2	2	1	-	11	
72-74		-	-	-	-	-	-	-	-	3	1	1	2	2	9	
75-77		-	-	-	1	-	1	1	-	-	1	-	1	-	5	
-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
90-92		-	-	-	-	-	-	-	-	2	-	-	-	-	2	
93-95		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
96-98		-	-	-	-	-	-	-	-	-	-	1	-	-	1*	
Total Number		20	56	73	94	82	73	38	37	38	14	19	10	6	561*	
Mean Length		42.7	48.0	47.9	54.3	56.9	58.4	61.0	60.4	64.6	66.1	67.0	68.2	66.5	56.1*	

¹⁾The length frequencies of these samples are given in Table 17; the age frequencies are given in Table 29. Sample data are shown on page 175.

* Year-Class, 1943; Length, 96-98 cm; Total Number, 1; Mean Length, 97.0

TABLE 37 PORTUGAL - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial Nos. 29,31,34,35

Male	OTTER TRAWLERS - Commercial Catches before Discarding														2J	September
Year-Class	1956	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	17		
3-cm group	F R E Q U E N C I E S in ‰															
36-38	3	2	-	-	-	-	-	-	-	-	-	-	-	-	5	
39-41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
42-44	2	13	5	-	-	-	-	-	-	-	-	-	-	-	20	
45-47	-	20	20	2	-	-	-	-	-	-	-	-	-	-	42	
48-50	3	8	7	13	5	2	-	-	-	-	-	-	-	-	38	
51-53	-	5	20	25	28	2	5	-	-	2	-	-	-	-	87	
54-56	-	2	13	20	18	8	8	8	-	-	-	-	-	-	77	
57-59	-	-	-	13	13	5	13	-	5	5	5	-	-	-	59	
60-62	-	-	-	5	-	5	-	7	8	8	5	8	3	-	49	
63-65	-	-	-	-	5	-	2	-	2	10	5	-	5	-	29	
66-68	-	-	-	-	2	-	-	-	5	3	3	5	2	-	20	
69-71	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	
Total Number	8	50	65	78	71	22	28	15	23	28	18	13	10	-	429	
Mean Length	43.8	46.3	49.7	53.7	54.9	56.2	56.5	57.8	63.1	61.5	62.0	63.3	63.7	-	54.6	

Female	OTTER TRAWLERS - Commercial Catches before Discarding														2J	September
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	Total	
Age																
3-cm group	F R E Q U E N C I E S in ‰															
39-41	5	7	-	-	-	-	-	-	-	-	-	-	-	-	12	
42-44	10	13	5	-	-	-	-	-	-	-	-	-	-	-	28	
45-47	3	13	15	5	2	-	-	-	-	-	-	-	-	-	38	
48-50	2	8	18	18	13	2	-	-	-	-	-	-	-	-	61	
51-53	-	7	13	25	18	5	2	-	-	2	-	-	-	-	72	
54-56	-	-	10	15	20	13	8	13	-	-	-	-	-	-	79	
57-59	-	-	5	23	15	18	5	18	2	8	-	-	-	-	94	
60-62	-	2	2	8	15	20	18	2	8	-	18	2	-	-	95	
63-65	-	-	-	2	2	7	-	8	-	10	2	2	-	2	35	
66-68	-	-	-	2	5	-	7	2	10	2	5	-	-	-	33	
69-71	-	-	-	-	-	-	-	-	2	-	5	2	5	-	14	
72-74	-	-	-	-	-	-	-	2	-	-	-	-	2	-	4	
75-77	-	-	-	-	-	-	-	-	-	-	2	-	-	-	2	
78-80	-	-	-	-	-	-	-	-	-	-	2	-	-	-	2	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
87-89	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2	
Total Number	20	50	68	98	90	65	40	45	24	22	34	6	7	2	571	
Mean Length	43.3	46.3	50.4	54.3	55.7	58.2	60.0	59.4	66.3	61.0	65.3	65.0	70.9	64.0	57.2	

1) The length frequencies of these samples are given in Table 17; the age frequencies are given in Table 29. Sample data are shown on page 175.

(cont'd.)

TABLE 37 PORTUGAL - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial No. 42

Male		OTTER TRAWLERS - Commercial Catches before Discarding												2J	October
Year-Class		1956	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	16	
3-cm group		F R E Q U E N C I E S in ‰													
42-44		10	-	-	-	-	-	-	-	-	-	-	-	-	10
45-47		10	-	-	10	-	-	-	-	-	-	-	-	-	20
48-50		10	-	40	30	10	20	-	-	-	-	-	-	-	110
51-53		20	-	-	30	10	10	-	-	-	-	-	-	-	70
54-56		10	-	-	10	30	-	20	-	-	10	-	-	-	80
57-59		-	-	-	-	10	30	-	20	30	-	-	-	-	90
60-62		-	-	-	10	-	-	10	10	10	-	10	10	-	60
63-65		-	-	-	-	10	-	-	-	10	-	10	10	-	40
66-68		-	-	-	-	-	-	-	-	-	10	-	-	-	10
69-71		-	-	-	-	-	-	-	-	-	10	10	-	-	20
Total Number		60	-	40	90	70	60	30	30	50	30	30	20	-	510
Mean Length		49.5	-	49.0	51.7	55.4	54.0	57.0	59.0	59.8	64.0	65.0	62.1	-	55.5

Female		OTTER TRAWLERS - Commercial Catches before Discarding												2J	October
Year-Class		1956	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	16	
3-cm group		F R E Q U E N C I E S in ‰													
45-47		10	-	10	-	-	-	-	-	-	-	-	-	-	20
48-50		10	-	30	20	-	-	10	-	-	-	-	-	-	70
51-53		-	10	20	10	10	-	-	-	-	-	-	-	-	50
54-56		-	-	10	20	50	70	10	10	-	-	-	-	-	170
57-59		-	-	-	10	10	10	10	-	-	-	-	-	-	40
60-62		-	-	-	10	-	-	-	10	20	10	-	10	10	70
63-65		-	-	-	-	-	20	-	10	-	-	-	10	-	40
66-68		-	-	-	-	-	-	-	-	10	10	-	-	-	20
69-71		-	-	-	-	-	-	-	-	-	-	-	-	-	-
72-74		-	-	-	-	-	-	-	-	-	-	-	-	10	10
Total Number		20	10	70	70	70	100	30	30	30	20	-	20	20	490
Mean Length		47.5	52.0	50.3	54.1	55.0	57.1	54.0	60.0	63.0	64.0	-	62.5	70.2	56.2

1) The length frequencies of these samples are given in Table 17; the age frequencies are given in Table 29. The sample data are shown on page 175.

(cont'd.)

TABLE 37 PORTUGAL - 1960
(cont'd.)AGE/LENGTH FREQUENCIES - COD¹⁾by Mario J. Ruivo
Glicinia V. Quartin

Serial Nos. 43,44,46,48

Male		OTTER TRAWLEES - Commercial Catches before Discarding														2J	November	Total
Year-Class	Age	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942		
3-cm group		F R E Q U E N C I E S in ‰																
39-41		-	7	2	-	-	-	-	-	-	-	-	-	-	-	-	9	
42-44		5	5	2	-	-	-	-	-	-	-	-	-	-	-	-	12	
45-47		-	10	5	2	2	-	-	-	-	-	-	-	-	-	-	19	
48-50		-	10	3	-	-	-	-	-	-	-	-	-	-	-	-	13	
51-53		-	10	18	7	5	-	2	-	-	-	-	-	-	-	-	42	
54-56		-	13	18	15	13	15	10	-	-	-	-	-	-	-	-	84	
57-59		-	-	5	13	15	10	10	5	3	-	-	-	-	-	-	61	
60-62		-	-	5	15	20	18	13	2	5	3	-	5	-	-	-	86	
63-65		-	-	2	10	8	10	18	-	10	3	8	3	-	-	-	72	
66-68		-	-	-	-	5	7	5	10	10	-	8	2	-	-	-	47	
69-71		-	-	-	5	2	-	2	3	-	2	2	-	3	-	-	19	
72-74		-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	5	
75-77		-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	3	
78-80		-	-	-	-	-	-	3	-	-	-	-	-	2	-	-	5	
-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
93-95		-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	
Total Number		5	55	60	67	70	60	63	20	33	8	18	13	5	-	3	480	
Mean Length		43.0	48.6	53.2	58.5	59.2	60.3	61.7	64.4	65.1	65.0	66.2	66.1	74.6	-	94.0	58.9	

Female		OTTER TRAWLEES - Commercial Catches before Discarding														2J	November	Total
Year-Class	Age	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942		
3-cm group		F R E Q U E N C I E S in ‰																
36-38		3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	
39-41		2	-	3	-	-	-	-	-	-	-	-	-	-	-	-	5	
42-44		8	-	2	-	-	-	-	-	-	-	-	-	-	-	-	10	
45-47		-	13	3	3	-	-	-	-	-	-	-	-	-	-	-	19	
48-50		2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	4	
51-53		-	13	15	2	10	-	-	-	-	-	-	-	-	-	-	40	
54-56		-	5	25	15	10	2	-	2	-	-	-	3	-	-	-	62	
57-59		-	-	10	13	15	8	8	-	2	-	-	-	-	-	-	56	
60-62		-	-	5	8	28	20	15	5	8	2	-	-	-	-	-	91	
63-65		-	-	-	7	18	28	15	18	10	8	-	2	-	-	-	106	
66-68		-	-	3	2	2	10	5	5	13	10	5	3	-	-	-	58	
69-71		-	-	-	-	-	-	-	-	8	2	8	2	3	-	-	23	
72-74		-	-	-	-	-	5	5	3	2	-	5	-	-	-	-	20	
75-77		-	-	-	-	-	-	-	-	2	-	-	2	-	-	2	6	
78-80		-	-	-	-	-	-	-	5	3	-	-	-	-	-	-	8	
81-83		-	-	-	-	-	-	-	-	2	-	-	-	2	-	-	4	
84-86		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
87-89		-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	3	
90-92		-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	
Total Number		15	31	68	50	83	73	48	35	53	28	20	10	5	-	2	521	
Mean Length		42.5	50.0	53.9	58.0	59.5	63.2	63.3	65.0	68.9	69.5	70.9	64.0	76.0	-	76.0	61.2	

¹⁾The length frequencies of these samples are given in Table 17; the age frequencies are given in Table 29. Sample data are shown on page 175.

(cont'd.)

TABLE 37 PORTUGAL - 1960
(cont'd.)

SAMPLE DATA

by Mario J. Huivo
Glicinia V. Quartin

OTTER TRAWLERS - Commercial Catches before Discarding

Division	1D	1E	1F	2H	2J
Month	May	May	April	September	May
Serial Numbers	7-10	6-8-9	1-3	37,38,40,41	1
Number of Samples	2	3	2	4	1
Number of Fish	200	299	200	397	100
Mean Age	5.2	6.1	6.9	8.5	9.2
Mean Length (cm)	55.5	59.7	65.4	55.8	55.7
Mesh Size (mm)	114	114	114	114	114
Range of Depths (m)	65-100	160-200	130-150	196-256	320

OTTER TRAWLERS - Commercial Catches before Discarding

Division	2J				
Month	June	August	September	October	November
Serial Numbers	2,4,7,10,12	13,14,16,18,22,25,26	29,31,34,35	42	43,44,46,48
Number of Samples	5	7	4	1	4
Number of Fish	499	696	399	100	398
Mean Age	9.3	8.1	8.6	8.9	9.3
Mean Length (cm)	56.1	54.8	55.9	55.9	60.1
Mesh Size (mm)	114	114	114	114	114
Range of Depths (m)	230-300	183-228	210-265	146	201-310

TABLE 38 UNION OF SOVIET SOCIALIST
REPUBLICS - 1960AGE/LENGTH FREQUENCIES - COD¹⁾by V.I. Travin
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Location	IC											Total	No. of Otoliths Read
Month	April												
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1947	1944	<1944	Total	No. of Otoliths Read
Age	3	4	5	6	7	8	9	10	13	16	>16		
3-cm group	F R E Q U E N C I E S in ‰											Total	No. of Otoliths Read
33-35	2	-	-	-	-	-	-	-	-	-	-		
36-38	1	-	-	-	-	-	-	-	-	-	-	1	1
39-41	1	1	-	-	-	-	-	-	-	-	-	2	2
42-44	1	6	-	-	-	-	-	-	-	-	-	7	7
45-47	-	9	2	-	-	-	-	-	-	-	-	11	10
48-50	-	13	2	-	-	-	-	-	-	-	-	15	7
51-53	-	14	9	-	-	-	-	-	-	-	-	23	8
54-56	-	11	20	9	-	-	-	-	-	-	-	40	18
57-59	-	3	54	13	3	-	-	-	-	-	-	73	50
60-62	-	3	47	27	16	-	-	-	-	-	-	93	34
63-65	-	-	23	73	36	4	-	-	-	-	-	136	41
66-68	-	-	11	57	95	4	-	-	-	-	-	167	44
69-71	-	-	-	37	100	5	-	-	-	-	-	142	27
72-74	-	-	-	24	88	4	-	-	-	-	-	116	29
75-77	-	-	-	-	-	18	36	18	-	-	-	72	4
78-80	-	-	-	-	38	-	-	-	-	-	-	38	2
81-83	-	-	-	-	14	-	-	-	13	-	-	27	2
84-86	-	-	-	-	4	-	4	-	-	6	-	14	3
87-89	-	-	-	-	-	-	-	-	-	-	5	5	
90-92	-	-	-	-	-	-	-	-	-	-	6	6	
93-95	-	-	-	-	-	-	-	-	-	-	4	4	
96-98	-	-	-	-	-	-	-	-	-	-	3	3	
99-101	-	-	-	-	-	-	-	-	-	-	-	-	
102-104	-	-	-	-	-	-	-	-	-	-	1	1	
105-107	-	-	-	-	-	-	-	-	-	-	1	1	
108-110	-	-	-	-	-	-	-	-	-	-	1	1	
Total Number	5	60	168	240	394	35	40	18	13	6	21	1000	
Mean Length (cm)	37.99	59.35	70.42	77.11	82.00	93.34							
	50.68	65.53	72.46	76.00	85.00								
No. of Oto- liths Read	4	34	79	73	89	5	3	1	1	1			290

¹⁾The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA

Number of Samples	1
Number Fish Measured	1962
Mean Length (cm)	67.18
Mean Weight (Kg)	2.44
Mean Age	6.6
Range of Depths (fm)	82-148

TABLE 38 UNION OF SOVIET SOCIALIST REPUBLICS - 1960
(cont'd.)

AGE/LENGTH FREQUENCIES - COD¹⁾

by V.I. Travin
E.M. Mankevich

OTTER TRAWLERS - Exploratory Catches

Location	IC														Total	No. of Otoliths Read
Month	May															
Year-Class	>1956	1956	1955	1954	1953	1952	1951	1950	1948	1947	1946	1945	1944	<1944	Total	No. of Otoliths Read
Age	<4	4	5	6	7	8	9	10	12	13	14	15	16	>16		
3-cm group	FREQUENCIES in ‰															
30-32	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
33-35	6	-	-	-	-	-	-	-	-	-	-	-	-	-	6	
36-38	17	-	-	-	-	-	-	-	-	-	-	-	-	-	17	
39-41	13	-	-	-	-	-	-	-	-	-	-	-	-	-	13	
42-44	-	21	-	-	-	-	-	-	-	-	-	-	-	-	21	1
45-47	-	11	8	-	-	-	-	-	-	-	-	-	-	-	19	5
48-50	-	18	7	4	-	-	-	-	-	-	-	-	-	-	29	8
51-53	-	27	12	-	-	-	-	-	-	-	-	-	-	-	39	10
54-56	-	6	31	-	-	-	-	-	-	-	-	-	-	-	37	6
57-59	-	4	30	23	-	-	-	-	-	-	-	-	-	-	57	15
60-62	-	-	23	54	18	-	-	-	-	-	-	-	-	-	95	21
63-65	-	-	11	44	58	9	-	-	-	-	-	-	-	-	122	44
66-68	-	-	4	34	98	4	-	-	-	-	-	-	-	-	140	33
69-71	-	-	-	15	106	19	-	4	-	-	-	-	-	-	144	38
72-74	-	-	-	4	89	4	-	11	-	-	-	-	-	-	108	28
75-77	-	-	-	-	29	3	6	10	3	3	-	-	-	-	54	17
78-80	-	-	-	-	12	8	4	8	6	2	-	-	-	-	40	20
81-83	-	-	-	-	-	3	12	6	-	-	-	-	3	-	24	8
84-86	-	-	-	-	-	-	3	-	3	-	3	6	-	-	15	5
87-89	-	-	-	-	-	2	2	2	-	-	-	2	-	-	8	4
90-92	-	-	-	-	-	-	-	6	-	-	-	-	-	-	6	1
93-95	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	
96-98	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	
102-104	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	
Total Number	37	87	126	178	410	52	27	47	12	5	3	8	3	5	1000	
Mean Length (cm)	37.15	56.83	69.37	80.89	79.51	85.00	82.00									
		49.00	63.28	72.22	78.61	77.14	85.87	97.99								
No. of Otoliths Read		18	30	48	114	17	10	15	5	2	1	3	1			264

¹⁾The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.
SAMPLE DATA: No. Samples-1, No. Fish Measured-4900, Mean Length (cm)-65.11, Mean Weight (Kg)-2.78, Mean Age-6.6, (cont'd.)
Range of Depths (fm)-36-120.

TABLE 38 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960
OTTER TRAWLERS - Exploratory Catches

AGE/LENGTH FREQUENCIES - COD¹⁾by V.J.Travin
E.M.Mankevich

Location	IC										Total	No. of Otoliths Read
Month	June											
Year-Class	>1957	1957	1956	1955	1954	1953	1952	1951	1950	<1950	Total	No. of Otoliths Read
Age	<3	3	4	5	6	7	8	9	10	>10		
3-cm group	F R E Q U E N C I E S in ‰										Read	
30-32	1	-	-	-	-	-	-	-	-	-	1	
33-35	-	14	-	-	-	-	-	-	-	-	14	21
36-38	-	37	8	1	-	-	-	-	-	-	46	55
39-41	-	41	12	-	-	-	-	-	-	-	53	82
42-44	-	20	18	1	-	-	-	-	-	-	39	31
45-47	-	1	29	2	-	-	-	-	-	-	32	22
48-50	-	-	34	8	-	-	-	-	-	-	42	30
51-53	-	-	19	31	-	-	-	-	-	-	50	47
54-56	-	-	9	44	4	1	-	-	-	-	58	46
57-59	-	-	1	42	4	-	-	-	-	-	47	36
60-62	-	-	2	37	22	-	-	-	-	-	61	30
63-65	-	-	-	34	45	13	-	-	-	-	92	29
66-68	-	-	-	8	44	22	-	-	-	-	74	10
69-71	-	-	-	-	54	58	4	-	-	-	116	26
72-74	-	-	-	6	19	53	7	7	-	-	92	14
75-77	-	-	-	-	7	38	15	-	-	-	60	8
78-80	-	-	-	-	-	45	-	9	9	-	63	7
81-83	-	-	-	-	-	10	19	-	-	-	29	3
84-86	-	-	-	-	-	-	-	-	-	14	14	
87-89	-	-	-	-	-	-	-	-	-	6	6	
90-92	-	-	-	-	-	-	-	5	-	-	5	1
93-95	-	-	-	-	-	-	-	4	-	-	4	1
96-98	-	-	-	-	-	-	-	-	-	1	1	
99-101	-	-	-	-	-	-	-	-	-	1	1	
Total Number	1	113	132	214	199	240	45	25	9	22	1000	
Mean Length (cm)	31.00	38.89	47.08	58.18	67.00	73.09	77.50	82.18	79.00	87.43		
No. of Oto- liths Read		146	113	136	53	40	6	4	1			499

1) The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA

Number of Samples	2
Number Fish Measured	3546
Mean Length (cm)	62.14
Mean Weight (Kg)	1.54
Mean Age	5.7
Range of Depths (fm)	33-109

TABLE 38 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960
OTTER TRAWLERS - Exploratory Catches

AGE/LENGTH FREQUENCIES - (cont'd)

by V.I. Travin
E.M. Mankevich

Location	ID														
Month	April														
Year-Class	>1957	1957	1956	1955	1954	1953	1952	1951	1950	1949	1947	1945	<1945	Tot.	No. of
Age	<3	3	4	5	6	7	8	9	10	11	13	15	>15		Otoliths
3-cm group	FREQUENCIES in ‰														Head
33-35	2	-	-	-	-	-	-	-	-	-	-	-	-	2	
36-38	-	3	7	-	-	-	-	-	-	-	-	-	-	10	7
39-41	-	3	18	-	-	-	-	-	-	-	-	-	-	21	25
42-44	-	3	51	-	-	-	-	-	-	-	-	-	-	54	55
45-47	-	-	94	4	-	-	-	-	-	-	-	-	-	98	82
48-50	-	1	105	13	-	-	-	-	-	-	-	-	-	119	109
51-53	-	-	75	14	3	-	-	-	-	-	-	-	-	92	59
54-56	-	-	22	30	2	-	-	-	-	-	-	-	-	54	29
57-59	-	-	6	17	10	2	-	-	-	-	-	-	-	35	18
60-62	-	-	-	24	26	6	-	-	-	-	-	-	-	56	26
63-65	-	-	2	11	31	31	2	-	-	-	-	-	-	77	33
66-68	-	-	-	2	42	44	2	-	-	-	-	-	-	90	41
69-71	-	-	-	-	13	56	11	-	3	3	-	-	-	86	32
72-74	-	-	-	-	5	65	10	5	-	-	-	-	-	85	33
75-77	-	-	-	-	4	42	5	2	-	-	-	-	-	53	24
78-80	-	-	-	-	-	13	9	6	3	4	-	2	-	37	12
81-83	-	-	-	-	2	6	4	-	5	-	-	-	-	17	8
84-86	-	-	-	-	-	4	2	-	-	-	-	-	-	6	3
87-89	-	-	-	-	-	-	-	-	-	-	4	-	-	4	1
90-92	-	-	-	-	-	-	-	-	-	-	-	-	2	2	
93-95	-	-	-	-	-	-	-	-	-	-	-	-	1	1	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
108-110	-	-	-	-	-	-	-	-	-	-	-	-	1	1	
Total Number	2	10	380	115	138	269	45	13	11	7	4	2	4	1000	
Mean Length (cm)	32.59	47.98	65.11	74.47	77.86	88.00	97.63								
	40.93	56.50	71.11	76.24	74.74	79.00									
No. of Otoliths Read		10	317	66	62	111	18	5	4	2	1	1			597

1) The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA

Number of Samples	2
Number Fish Measured	6289
Mean Length (cm)	59.92
Mean Weight (Kg)	1.90
Mean Age	5.6
Range of Depths (fm)	33-205

TABLE 38 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960
OTTER TRAWLERS - Exploratory Catches

AGE/LENGTH FREQUENCIES - COD¹⁾by V.I. Travin
E.M. Mankevich

Location	ID														Total	No. of Otoliths Read
Month	May															
Year-Class	1957	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	15			
3-cm group	F R E Q U E N C I E S in ‰															
33-35	3	-	-	-	-	-	-	-	-	-	-	-	-	3	2	
36-38	12	-	-	-	-	-	-	-	-	-	-	-	-	12	10	
39-41	21	5	-	-	-	-	-	-	-	-	-	-	-	26	34	
42-44	10	39	-	-	-	-	-	-	-	-	-	-	-	49	28	
45-47	7	84	-	-	-	-	-	-	-	-	-	-	-	91	39	
48-50	-	118	4	-	-	-	-	-	-	-	-	-	-	122	54	
51-53	-	67	13	3	-	-	-	-	-	-	-	-	-	83	25	
54-56	18	18	8	2	-	-	-	-	-	-	-	-	-	46	18	
57-59	-	3	10	15	2	-	-	-	-	-	-	-	-	30	18	
60-62	-	-	26	16	10	-	-	-	-	-	-	-	-	52	26	
63-65	-	4	12	33	19	3	-	-	-	-	-	-	-	71	49	
66-68	-	-	-	32	36	2	-	-	-	-	-	-	-	70	59	
69-71	-	-	5	30	55	8	1	-	-	-	-	-	-	99	85	
72-74	-	-	-	23	50	9	2	1	-	-	-	-	-	85	72	
75-77	-	-	-	9	39	8	2	-	-	-	-	-	-	58	75	
78-80	-	-	1	3	25	14	4	3	1	1	-	-	-	52	56	
81-83	-	-	-	-	7	8	2	5	2	-	-	-	-	24	21	
84-86	-	-	-	-	5	5	2	1	-	1	-	-	1	15	13	
87-89	-	-	-	-	1	-	2	-	-	-	2	1	-	6	8	
90-92	-	-	-	-	-	1	-	2	-	-	1	-	-	4	5	
93-95	-	-	-	-	-	-	-	1	-	-	-	-	-	1	1	
96-98	-	-	-	-	-	-	-	1	-	-	-	-	-	1	1	
Total Number	71	338	79	166	249	58	15	14	3	2	3	1	1	1000		
Mean Length (cm)	44.14	48.61	59.02	66.64	71.86	76.33	79.18	81.13	82.30	84.34	88.69	88.00	85.00			
No. of Oto- liths Read	55	149	41	130	228	55	16	14	3	2	4	1	1		699	

1) The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA

Number of Samples	3
Number Fish Measured	14086
Mean Length (cm)	60.82
Mean Weight (Kg)	2.80
Mean Age	5.6
Range of Depths (fm)	22-113

TABLE 38 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960
OTTER TRAWLERS - Exploratory Catches

AGE/LENGTH FREQUENCIES - COD¹⁾by V.I. Travin
E.M. Mankevich

Location	LE														Tot.	No. of Otoliths Read
Month	May															
Year-Class	>1956	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	<1946			
Age	<4	4	5	6	7	8	9	10	11	12	13	14	>14			
3-cm group	FREQUENCIES in ‰															
30-32	1	-	-	-	-	-	-	-	-	-	-	-	-	1		
33-35	1	-	-	-	-	-	-	-	-	-	-	-	-	1		
36-38	-	5	-	-	-	-	-	-	-	-	-	-	-	5	1	
39-41	-	21	-	-	-	-	-	-	-	-	-	-	-	21	8	
42-44	-	51	-	-	-	-	-	-	-	-	-	-	-	51	17	
45-47	-	64	-	3	-	-	-	-	-	-	-	-	-	67	24	
48-50	-	39	4	-	-	-	-	-	-	-	-	-	-	43	9	
51-53	-	4	8	1	-	-	-	-	-	-	-	-	-	13		
54-56	-	-	4	1	-	-	-	-	-	-	-	-	-	5		
57-59	-	-	-	5	1	-	-	-	-	-	-	-	-	6		
60-62	-	-	-	11	-	12	-	-	-	-	-	-	-	23	2	
63-65	-	-	-	23	28	-	-	-	-	-	-	-	-	51	9	
66-68	-	-	-	12	48	6	-	-	-	-	-	-	-	66	22	
69-71	-	-	3	21	84	6	3	3	-	-	-	-	-	120	41	
72-74	-	-	-	5	51	9	14	22	-	-	5	-	-	106	23	
75-77	-	-	-	6	35	16	10	32	-	10	6	-	-	115	36	
78-80	-	-	-	-	23	17	20	20	-	34	15	3	-	132	46	
81-83	-	-	-	-	6	6	6	25	12	15	3	-	-	73	24	
84-86	-	-	-	-	-	3	5	5	11	10	5	8	-	47	18	
87-89	-	-	-	-	-	-	7	7	-	8	-	-	-	22	6	
90-92	-	-	-	-	-	-	-	6	3	8	6	-	-	23	8	
93-95	-	-	-	-	-	-	-	-	-	3	-	2	-	5	2	
96-98	-	-	-	-	-	-	-	-	-	-	2	-	-	2	3	
99-101	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1	
102-104	-	-	-	-	-	-	-	-	-	-	-	-	1	1		
Total Number	2	184	19	88	276	75	65	120	26	88	43	13	1	1000		
Mean Length (cm)	44.98		65.62		73.63		78.88		82.27		85.30					
No. of Otoliths Read	57	2	20	82	21	20	38	9	30	16	5				300	

1) The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA

Number of Samples	1
Number Fish Measured	2182
Mean Length (cm)	69.07
Mean Weight (Kg)	3.18
Mean Age	7.8
Range of Depths (fm)	44-208

TABLE 38 UNION OF SOVIET SOCIALIST REPUBLICS - 1960
 (cont'd.) OTTER TRAWLERS - Exploratory Catches

AGE/LENGTH FREQUENCIES - COD¹⁾by V.I. Travin
E.M. Mankevich

Location	IF											
Month	April											
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	Total	No. of	
Age	3	4	5	6	7	8	9	10	11		Otoliths	
3-cm group	F R E Q U E N C I E S in ‰											Read
33-35	-	10	-	-	-	-	-	-	-	10	3	
36-38	-	27	-	-	-	-	-	-	-	27	8	
39-41	4	120	3	-	-	-	-	-	-	127	38	
42-44	3	204	10	-	-	-	-	-	-	217	65	
45-47	-	138	40	-	-	-	-	-	-	178	53	
48-50	-	21	30	-	-	-	-	-	-	51	15	
51-53	-	3	44	7	3	-	-	-	-	57	17	
54-56	-	3	20	3	6	-	-	-	-	32	10	
57-59	-	-	4	3	17	-	-	1	-	24	7	
60-62	-	-	-	10	34	3	3	-	-	50	15	
63-65	-	-	-	7	37	13	3	-	-	60	18	
66-68	-	-	-	3	40	4	3	-	-	50	15	
69-71	-	-	-	-	20	13	-	-	-	33	10	
72-74	-	-	-	-	-	27	-	7	3	37	11	
75-77	-	-	-	-	-	-	4	20	-	24	7	
78-80	-	-	-	-	-	-	10	3	-	13	4	
81-83	-	-	-	-	-	-	7	3	-	10	3	
Total Number	7	526	151	33	157	60	30	33	3	1000		
Mean Length (cm)	41.50	43.00	49.48	59.50	63.61	69.34	74.35	76.30	73.00			
No. of Otoliths read	2	157	45	10	47	18	9	10	1		299	

¹⁾The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA

Number of Samples	1
Number Fish Measured	299
Mean Length (cm)	51.49
Mean weight (Kg)	1.40
Mean Age	5.3
Range of Depths (fm)	77-82

TABLE 38 UNION OF SOVIET SOCIALIST REPUBLICS - 1960
(cont'd.)

AGE/LENGTH FREQUENCIES - COD¹⁾

by V.I. Travin

OTTER TRAWLERS - Exploratory Catches

Location	21																Total	No. of Otoliths Read
Month	May																	
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	Total	No. of Otoliths Read
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
3-cm group	F R E Q U E N C I E S in ‰																	
24-26	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	2
27-29	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	1
30-32	3	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	4
33-35	-	7	4	2	2	-	-	-	-	-	-	-	-	-	-	-	15	8
36-38	-	6	10	4	-	-	-	-	-	-	-	-	-	-	-	-	20	19
39-41	-	3	11	8	3	1	-	-	-	-	-	-	-	-	-	-	26	23
42-44	-	5	7	22	20	4	-	1	-	-	-	-	-	-	-	-	59	41
45-47	-	-	2	18	35	21	7	2	-	-	-	-	-	-	-	-	85	37
48-50	-	-	7	11	41	45	19	15	7	4	-	-	-	-	-	-	149	40
51-53	-	-	3	10	23	26	40	25	20	5	5	-	-	-	-	-	157	62
54-56	-	-	-	-	19	22	38	41	29	16	-	-	3	-	-	-	168	53
57-59	-	-	-	2	2	11	14	23	34	14	7	9	-	-	-	-	123	54
60-62	-	-	-	3	2	3	8	3	3	16	8	15	8	3	-	-	72	27
63-65	-	-	-	-	-	1	5	3	7	5	12	14	6	3	-	-	56	42
66-68	-	-	-	-	-	1	-	-	1	1	4	7	5	3	2	2	26	23
69-71	-	-	-	-	-	-	-	-	-	1	-	1	3	2	1	-	8	8
72-74	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	-	6	3
75-77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
78-80	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1
Total Number	12	38	44	80	147	135	131	113	101	62	36	46	34	14	5	2	1000	
Mean Length(cm)	26.50	41.77	45.85	48.61	51.09	53.77	54.28	55.93	57.76	60.82	62.44	62.77	67.21	67.00				
No.Otoliths Read	3	19	31	44	60	50	49	42	41	26	21	27	20	10	4	1		448

1) The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA: No. Samples-14, No. Fish Measured-17241, Mean Length(cm)-52.18, Mean Weight(Kg)-1.35, Mean Age-9.12,
Range of Depths (fm) - 123-253

TABLE 38 UNION OF SOVIET SOCIALIST REPUBLICS - 1960
(cont'd.)

AGE/LENGTH FREQUENCIES - COD¹⁾

by V.I. Travin

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OTTER TRAWLERS - Exploratory Catches

Location	2J																	Total	No. of Otoliths Read
Month	June																		
Year-Class	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1937	Total	No. of Otoliths Read
Age	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	23		
3-cm group	F R E Q U E N C I E S in ‰																		
21-23	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	3
24-26	-	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	14
27-29	2	32	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	26
30-32	-	28	11	-	2	-	-	-	-	-	-	-	-	-	-	-	-	41	23
33-35	2	4	21	11	2	-	-	-	-	-	-	-	-	-	-	-	-	40	22
36-38	-	-	29	3	3	3	-	-	-	-	-	-	-	-	-	-	-	38	12
39-41	-	1	9	16	7	2	-	-	-	-	-	-	-	-	-	-	-	35	20
42-44	-	-	8	6	20	3	8	-	-	3	-	-	-	-	-	-	-	48	17
45-47	-	-	-	9	38	14	6	3	-	-	-	-	-	-	-	-	-	70	24
48-50	-	-	-	16	27	51	12	-	3	-	-	-	-	-	-	-	-	109	28
51-53	-	-	-	12	22	19	41	12	-	7	7	3	-	-	-	-	-	123	38
54-56	-	-	-	-	6	26	32	19	9	21	12	6	3	-	-	-	-	134	48
57-59	-	-	-	4	4	4	36	15	5	14	9	-	5	-	5	-	-	101	21
60-62	-	-	-	-	-	-	5	14	14	5	5	5	10	10	5	-	-	73	15
63-65	-	-	-	-	-	-	-	7	12	12	3	3	10	3	6	3	-	59	19
66-68	-	-	-	-	-	-	-	-	3	-	3	7	3	10	-	-	4	30	9
69-71	-	-	-	-	-	-	-	-	3	3	3	3	-	-	-	-	-	12	4
72-74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
75-77	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	3	2
78-80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
Total Number	4	108	84	77	131	127	156	78	37	59	46	35	34	11	8	4	1	1000	
Mean Length	27.61		44.64		50.53		57.70		57.08		61.34		62.63		67.00				
(cm)	31.00	35.71		47.01		54.43		59.86		59.17		63.38		60.25		79.00			
No. of Otoliths Read	2	57	39	30	44	38	45	22	11	18	13	10	10	3	2	1	1		346

¹⁾The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA: No. Samples-26, No. Fish Measured-5910, Mean Length (cm)-49.23, Mean weight (Kg)-1.50, Mean Age-7.56,
Range of Depths (fm) - 97-266

TABLE 38 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960
OTTER TRAWLERS - Exploratory Catches

AGE/LENGTH FREQUENCIES - COD¹⁾

by V.I.Travin

Location	2J												Total	No. of Otoliths Read
Month	November													
Year-Class	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	Total	No. of Otoliths Read
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 ‰													
42-44	33	19	6	-	-	-	-	-	-	-	-	-	58	9
45-47	33	13	7	-	-	-	-	-	-	-	-	-	53	8
48-50	4	35	34	5	5	-	-	-	-	-	-	-	83	17
51-53	-	61	28	28	6	-	5	-	-	-	-	-	128	23
54-56	-	16	45	42	22	16	3	-	-	-	-	-	144	45
57-59	-	10	10	19	34	41	17	14	7	-	-	-	152	63
60-62	-	3	6	33	30	24	15	33	9	3	3	-	159	53
63-65	-	-	2	12	24	19	12	24	12	5	11	-	121	50
66-68	-	-	-	10	12	5	10	8	2	-	2	-	49	20
69-71	-	-	-	-	6	7	-	7	-	12	-	-	32	5
72-74	-	-	-	-	-	-	-	4	9	-	-	4	17	4
75-77	-	-	-	-	-	-	2	-	2	-	-	-	4	2
Total Number	70	157	138	149	139	112	64	90	41	20	16	4	1000	
Mean Length	50.62		57.49		50.37		63.70		67.15		73.00			
(cm)	44.77	52.54		59.92		61.78		65.02		63.82				
No. of Oto- liths Read	11	33	35	47	49	41	24	32	15	5	6	1		299

1) The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA

Number of Samples	77
Number Fish Measured	4972
Mean Length (cm)	56.89
Mean Weight (Kg)	2.04
Mean Age	7.72
Range of Depths (fm)	77-296

TABLE 38 UNION OF SOVIET SOCIALIST REPUBLICS - 1960 AGE/LENGTH FREQUENCIES - COD¹⁾
(cont'd.)

by V.I. Travin

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OTTER TRAWLERS - Exploratory Catches

Location	2J														Total	No. of Otoliths Read
Month	December															
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	Total	No. of Otoliths Read
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
3-cm group	FREQUENCIES in ‰														Read	
36-38	-	8	6	-	-	-	-	-	-	-	-	-	-	-	14	5
39-41	5	17	1	-	-	-	-	-	-	-	-	-	-	-	23	14
42-44	5	30	17	1	1	-	-	-	-	-	-	-	-	-	54	33
45-47	-	17	25	1	-	-	-	-	-	-	-	-	-	-	43	23
48-50	-	3	47	11	3	2	-	-	-	-	-	-	-	-	66	23
51-53	-	-	38	43	15	9	-	-	-	-	-	-	-	-	105	36
54-56	-	-	36	47	28	14	2	4	4	-	-	-	-	-	135	40
57-59	-	-	-	28	16	36	23	12	4	-	-	8	-	-	127	33
60-62	-	-	10	25	10	35	29	34	19	5	-	-	-	-	167	34
63-65	-	-	3	-	12	27	17	23	8	12	8	8	8	-	126	31
66-68	-	-	-	4	12	-	-	12	16	8	4	4	-	-	60	17
69-71	-	-	-	-	-	12	-	18	-	12	-	-	-	6	48	5
72-74	-	-	-	-	-	-	-	-	-	22	-	-	-	-	22	1
75-77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
78-80	-	-	-	-	-	-	-	-	-	10	-	-	-	-	10	1
Total Number	10	75	183	160	97	135	71	103	51	69	12	20	8	6	1000	
Mean Length (cm)	41.50	42.61	50.29	55.42	57.94	60.20	60.58	63.36	62.65	70.22	65.0	62.20	64.00	70.00		
No. of Otoliths Read	6	41	68	47	27	33	18	23	12	10	3	5	2	1		296

¹⁾The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA

Number of Samples	31
Number Fish Measured	1934
Mean Length (cm)	57.25
Mean Weight (Kg)	1.68
Mean Age	7.67
Range of Depths (fm)	134-225

TABLE 38 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960AGE/LENGTH FREQUENCIES - COD¹⁾

by V.I. Travin

OTTER TRAWLERS - Exploratory Catches

Location	3K														Total	No. of Otoliths
Month	February															
Year-Class	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1945	Total	No. of Otoliths	
Age	2	3	4	5	6	7	8	9	10	11	12	13	15			
3-cm group	FREQUENCIES in ‰														Read	
21-23	1	-	-	-	-	-	-	-	-	-	-	-	-	1	1	
24-26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
27-29	-	6	-	-	-	-	-	-	-	-	-	-	-	6	1	
30-32	-	4	6	-	-	-	-	-	-	-	-	-	-	10	8	
33-35	-	2	7	-	-	-	-	-	-	-	-	-	-	9	7	
36-38	-	13	12	-	-	-	-	-	-	-	-	-	-	25	2	
39-41	-	-	11	12	5	-	-	-	-	-	-	-	-	28	7	
42-44	-	-	11	73	5	-	-	-	-	-	-	-	-	89	17	
45-47	-	-	19	35	16	-	-	-	-	-	-	-	-	70	18	
48-50	-	-	4	54	21	21	-	-	-	-	-	-	-	100	24	
51-53	-	-	-	50	33	37	-	4	-	-	-	-	-	124	30	
54-56	-	-	-	39	39	20	7	-	-	-	-	-	-	105	16	
57-59	-	-	-	6	12	18	49	12	6	-	-	-	-	103	17	
60-62	-	-	-	-	4	13	37	4	8	-	-	-	-	66	16	
63-65	-	-	-	-	8	16	24	8	-	-	9	24	-	89	11	
66-68	-	-	-	-	-	-	23	-	24	-	-	-	-	47	6	
69-71	-	-	-	-	-	-	-	-	-	-	-	23	-	23	1	
72-74	-	-	-	-	-	-	-	-	-	-	-	38	-	38	2	
75-77	-	-	-	-	-	-	-	-	-	9	9	-	-	18	5	
78-80	-	-	-	-	-	-	-	-	-	7	14	-	-	21	3	
81-83	-	-	-	-	-	-	-	-	-	-	-	17	-	17	1	
84-86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
87-89	-	-	-	-	-	-	-	-	-	-	-	-	6	6	1	
90-92	-	-	-	-	-	-	-	-	-	-	-	3	-	3	1	
93-95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
96-98	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
105-107	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	
Total Number	1	25	70	269	143	125	140	28	38	16	32	107	6	1000		
Mean Length	33.64		48.22		55.31		59.29		77.32		72.79					
(cm)	22.00	40.72		52.39		61.15		64.30		73.93		88.00				
No. of Otoliths Read	1	7	20	56	27	23	22	5	8	1	5	11	11		197	

¹⁾The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30. (cont'd.)

SAMPLE DATA

Number of Samples	16
Number Fish Measured	1593
Mean Length (cm)	55.66
Mean Weight (Kg)	1.64
Mean Age	7.22
Range of Depths (fm)	151-192

TABLE 38 UNION OF SOVIET SOCIALIST REPUBLICS - 1960
(cont'd.)

AGE/LENGTH FREQUENCIES - COD¹⁾

by V.I.Travin

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OTTER TRAWLERS - Exploratory Catches

Location	3K																Total	No. of Otoliths Read
Month	June																	
Year-Class	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	Total	No. of Otoliths Read	
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
3-cm group	FREQUENCIES in ‰																Total	No. of Otoliths Read
24-26	8	8	-	-	-	-	-	-	-	-	-	-	-	-	-	16		
27-29	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	1	
30-32	6	15	-	-	-	-	-	-	-	-	-	-	-	-	-	21	7	
33-35	3	24	-	-	-	-	-	-	-	-	-	-	-	-	-	27	8	
36-38	-	34	8	6	-	-	-	-	-	-	-	-	-	-	-	48	17	
39-41	-	16	20	6	2	-	-	-	-	-	-	-	-	-	-	44	26	
42-44	-	22	15	16	6	-	-	-	-	-	-	-	-	-	-	59	24	
45-47	-	2	34	27	6	-	2	-	-	-	-	-	-	-	-	71	34	
48-50	-	-	27	44	12	15	-	-	-	-	-	-	-	-	-	98	40	
51-53	-	-	11	23	32	23	-	-	2	-	-	-	-	-	-	91	32	
54-56	-	-	2	18	28	28	15	10	20	2	-	-	-	-	-	123	61	
57-59	-	-	2	6	17	15	27	20	15	6	-	5	-	-	-	113	52	
60-62	-	-	-	-	16	11	18	22	11	21	6	6	-	-	-	111	41	
63-65	-	-	-	-	-	2	10	10	13	17	15	-	2	6	2	77	31	
66-68	-	-	-	-	9	6	9	-	-	-	9	4	4	-	-	41	9	
69-71	-	-	-	-	-	-	-	-	2	6	3	6	4	3	-	24	8	
72-74	-	-	-	-	-	-	-	2	-	2	2	-	-	3	-	9	4	
75-77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
78-80	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	4	1	
Total Number	40	121	119	146	128	100	81	64	63	54	35	25	10	12	2	1000		
Mean Length (cm)	28.30	45.68		54.46	59.56	58.99	65.29	67.60	64.00									
		36.79	48.52	55.42	59.98	62.83	66.40	67.75										
No. of Oto- liths Read	5	45	54	63	52	41	34	27	28	22	12	7	3	4	1		398	

¹⁾The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA: No Samples-7, No Fish Measured-1582, Mean Length (cm) 51.91, Mean Weight (Kg) -1.68, Mean Age-7.66,
Range of Depths (fm) 90-217.

TABLE 38 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960
OTTER TRAWLERS - Exploratory Catches

AGE/LENGTH FREQUENCIES - COD¹⁾

by V.I. Travin

Location	M													Total	No. of Otoliths Read
Month	March														
Year-Class	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	Total	No. of Otoliths Read
Age	5	6	7	8	9	10	11	12	13	14	15	16	17		
3-cm group	FREQUENCIES in ‰														
39-41	-	17	-	-	-	-	-	-	-	-	-	-	-	17	1
42-44	11	5	5	-	-	-	-	-	-	-	-	-	-	21	4
45-47	3	28	10	-	-	-	-	-	-	-	-	-	-	41	12
48-50	9	85	26	-	-	-	-	-	-	-	-	-	-	120	42
51-53	-	155	52	3	3	3	3	-	-	-	-	-	-	219	76
54-56	6	114	52	3	6	3	-	-	-	-	-	-	-	184	64
57-59	-	38	53	6	12	10	8	3	-	-	-	-	-	130	52
60-62	-	17	28	3	5	8	30	3	3	-	-	-	-	97	35
63-65	-	3	11	-	3	7	23	2	3	-	2	-	-	54	31
66-68	-	2	3	3	3	3	15	2	3	3	-	-	-	37	23
69-71	-	-	2	-	6	1	12	-	2	3	-	-	-	26	17
72-74	-	-	-	-	-	2	6	4	5	-	-	-	-	17	8
75-77	-	-	-	-	-	2	4	-	-	2	-	-	-	8	4
78-80	-	-	-	-	2	1	1	2	-	2	-	-	-	8	5
81-83	-	-	-	-	-	-	-	2	-	2	-	-	-	4	2
84-86	-	-	-	-	-	-	1	1	1	1	1	-	-	5	6
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93-95	-	-	-	-	-	-	1	-	1	-	-	-	-	2	2
96-98	-	-	-	-	-	-	-	-	-	3	-	-	-	3	1
99-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102-104	-	-	-	-	-	-	-	-	-	1	-	-	-	1	2
105-107	-	-	-	-	-	-	-	-	-	-	-	1	1	2	2
108-110	-	-	-	-	-	-	-	-	-	1	1	-	-	2	2
111-113	-	-	-	-	-	-	1	-	-	-	-	-	-	1	2
Total Number	29	464	242	18	40	40	105	19	18	18	4	1	1	999	
Mean Length	52.24		58.49		62.12		69.37		81.82		106.00				
(cm)	47.65	55.12	61.45	65.51	70.00	80.50	106.00								
No. of Otoliths Read	8	161	86	7	19	19	54	9	10	12	3	3	2		393

1) The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA

Number of Samples	20
Number Fish Measured	1721
Mean Length (cm)	56.47
Mean Weight (Kg)	2.54
Mean Age	7.51
Range of Depths (fm)	125-236

TABLE 38 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960
OTTER TRAWLERS - Exploratory Catches

AGE/LENGTH FREQUENCIES-- COD¹⁾

by V.I. Travin

Location	34												Total	No. of Otoliths Read
Month	July													
Year-Class	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	Total	No. of Otoliths Read
Age	2	3	4	5	6	7	8	9	10	11	12	13		
3-cm group	F R E Q U E N C I E S in ‰													
22-23	2	-	-	-	-	-	-	-	-	-	-	-	2	1
24-26	14	1	-	-	-	-	-	-	-	-	-	-	15	17
27-29	16	3	-	-	-	-	-	-	-	-	-	-	19	26
30-32	3	15	1	-	-	-	-	-	-	-	-	-	19	20
33-35	-	26	2	-	-	-	-	-	-	-	-	-	28	15
36-38	-	42	3	-	-	-	-	-	-	-	-	-	45	25
39-41	-	10	20	3	-	-	-	-	-	-	-	-	33	10
42-44	-	6	24	-	-	-	-	-	-	-	-	-	30	5
45-47	-	-	23	3	19	6	3	-	-	-	-	-	54	17
48-50	-	-	12	15	44	18	-	-	-	-	-	-	89	30
51-53	-	-	-	7	78	37	3	-	3	-	-	-	128	38
54-56	-	-	-	9	92	79	-	5	-	9	-	-	194	42
57-59	-	-	-	-	50	70	10	-	10	10	-	-	150	15
60-62	-	-	-	-	36	21	8	14	8	-	8	-	95	13
63-65	-	-	-	-	21	-	-	-	-	43	-	-	64	3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72-74	-	-	-	-	-	-	4	-	-	-	-	-	4	1
75-77	-	-	-	-	-	-	-	-	-	-	-	5	5	1
Total Number	35	103	85	37	340	231	28	19	21	69	27	5	1000	
Mean Length	35.62		50.05		55.27		59.42		62.26		76.00			
(cm)	26.74	43.39		54.78		59.07		58.28		65.22				
No. of Otoliths Read	42	62	25	11	75	46	4	3	4	6	4	1		283

1) The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA

Number of Samples	41
Number Fish Measured	1648
Mean Length (cm)	51.94
Mean Weight (Kg)	1.50
Mean Age	6.31
Range of Depths (fm)	94-283

TABLE 38 UNION OF SOVIET SOCIALIST REPUBLICS - 1960
(cont'd.)

AGE/LENGTH FREQUENCIES - COD¹⁾

by V.I. Travin

OTTER TRAWLERS - Exploratory Catches

Location	3N															Total	No. of Otoliths Read
Month	July																
Year-Class	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949	1947	1946	1945	1944	1942	Total	No. of Otoliths Read
Age	2	3	4	5	6	7	8	9	10	11	13	14	15	16	18		
3-cm group	FREQUENCIES in ‰																
18-20	129	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129	2
21-23	141	120	-	-	-	-	-	-	-	-	-	-	-	-	-	261	13
24-26	59	92	-	-	-	-	-	-	-	-	-	-	-	-	-	151	25
27-29	12	47	-	-	-	-	-	-	-	-	-	-	-	-	-	59	19
30-32	2	9	-	-	-	-	-	-	-	-	-	-	-	-	-	11	4
33-35	-	5	2	-	-	-	-	-	-	-	-	-	-	-	-	7	4
36-38	-	5	10	-	-	-	-	-	-	-	-	-	-	-	-	15	5
39-41	-	9	14	-	-	-	-	-	-	-	-	-	-	-	-	23	8
42-44	-	-	7	2	-	-	-	-	-	-	-	-	-	-	-	9	4
45-47	-	-	12	9	-	-	-	-	-	-	-	-	-	-	-	21	8
48-50	-	-	5	14	-	-	-	-	-	-	-	-	-	-	-	19	5
51-53	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	26	7
54-56	-	-	-	19	7	-	-	-	-	-	-	-	-	-	-	26	8
57-59	-	-	2	5	10	2	-	-	-	-	-	-	-	-	-	19	7
60-62	-	-	-	12	5	2	-	-	-	2	-	-	-	-	-	21	9
63-65	-	-	-	5	14	5	7	-	-	-	-	-	-	-	-	31	11
66-68	-	-	-	-	-	7	7	-	-	-	-	-	-	-	-	14	7
69-71	-	-	-	-	2	12	7	-	-	-	2	-	-	-	-	23	10
72-74	-	-	-	-	2	12	9	-	-	2	-	-	-	-	-	25	8
75-77	-	-	-	-	-	5	10	5	-	-	-	-	-	-	-	20	5
78-80	-	-	-	-	-	2	-	2	-	-	-	-	-	-	-	4	2
81-83	-	-	-	-	-	-	2	-	2	7	-	-	-	-	-	11	4
>83 ²⁾	-	-	-	-	-	-	5	-	5	22	10	9	5	7	12	75	13
Total Number	343	287	52	92	40	47	47	7	7	33	12	9	5	7	12	1000	
Mean Length (cm)	25.27		53.53		68.70		76.86		86.36		101.33		91.00				
	21.64	42.55		61.30		72.94		86.28		92.50		115.00		109.00			
No. Otoliths Read	23	46	18	31	15	18	17	2	2	7	4	2	1	1	1		188

1) The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.
 2) 1952: 87-89(5); 1950: 87-89(5); 1949: 87-89(5), 90-92(10), 93-95(7); 1947(87-89(5); 105-107(5); 1946: 99-101(7); 105-107(2);
 1945: 114-116(5); 1944: 90-92(7); 1942: 108-110(112).
 SAMPLE DATA: No. Samples-4, No. Fish Measured-425, Mean Length(cm)-39.51, Mean Weight(Kg)---, Mean Age-4.33, Range of
 Depths (fm)-111-198

TABLE 38 UNION OF SOVIET SOCIALIST REPUBLICS - 1960
 (cont'd.) AGE/LENGTH FREQUENCIES - COD¹⁾ by V.I.Travin
 OTTER TRAWLERS - Exploratory Catches

Location	3N									Total	No. of Otoliths Read
Month	September										
Year-Class	1956	1955	1954	1953	1952	1951	1948	1946			
Age	4	5	6	7	8	9	12	14			
3-cm group	F R E Q U E N C I E S in ‰										
42-44	19	11	-	-	-	-	-	-	30	3	
45-47	34	19	-	-	-	-	-	-	53	16	
48-50	49	101	7	-	-	-	-	-	157	47	
51-53	22	133	7	2	-	-	-	-	164	53	
54-56	6	218	17	4	-	-	-	-	245	74	
57-59	-	137	30	-	-	-	-	-	167	52	
60-62	-	60	38	4	4	-	-	-	106	32	
63-65	-	23	11	-	-	-	-	-	34	10	
66-68	-	11	7	-	4	-	-	-	22	6	
69-71	-	-	-	-	-	-	-	-	-	-	
72-74	-	-	-	7	-	-	4	-	11	2	
75-77	-	-	-	4	-	-	-	-	4	1	
-	-	-	-	-	-	-	-	-	-	-	
84-86	-	-	-	-	3	-	-	-	3	1	
-	-	-	-	-	-	-	-	-	-	-	
93-95	-	-	-	-	-	2	-	-	2	1	
-	-	-	-	-	-	-	-	2	2	1	
Total Number	130	713	117	21	11	2	4	2	1000		
Mean Length (cm)	48.13	54.73	58.75	65.86	69.72	94.00	73.00	103.00			
No. Otoliths Read	36	217	35	5	3	1	1	1		299	

¹⁾The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA

Number of Samples	10
Number Fish Measured	467
Mean Length (cm)	54.98
Mean Weight (Kg)	1.66
Mean Age	5.12
Range of Depths (fm)	22-31

TABLE 38 UNION OF SOVIET SOCIALIST
(cont'd.) REPUBLICS - 1960
OTTER TRAWLERS - Exploratory Catches

AGE/LENGTH FREQUENCIES - COD¹⁾

by V.I. Travin

Location	3P											
Month	January											
Year-Class	1956	1955	1954	1953	1952	1951	1950	1947	1945	Total	No. of	
Age	4	5	6	7	8	9	10	13	15		Otoliths	
3-cm group	F R E Q U E N C I E S in ‰											Read
39-41	22	23	-	-	-	-	-	-	-	45	2	
42-44	56	70	-	-	-	-	-	-	-	126	9	
45-47	14	140	7	-	-	-	-	-	-	161	24	
48-50	10	156	-	-	-	-	-	-	-	166	54	
51-53	2	160	17	3	-	-	-	-	-	182	66	
54-56	2	89	27	3	6	-	-	-	-	127	47	
57-59	-	23	21	2	2	-	-	-	-	48	23	
60-62	-	11	21	4	2	-	-	-	-	38	18	
63-65	-	-	6	8	11	2	-	-	-	27	13	
66-68	-	-	3	-	12	2	-	-	-	17	10	
69-71	-	-	-	8	10	5	-	-	-	23	14	
72-74	-	-	-	6	4	2	2	-	2	16	8	
75-77	-	-	-	3	-	-	5	-	-	8	3	
78-80	-	-	-	-	4	-	4	-	-	8	2	
81-83	-	-	-	-	-	-	5	-	-	5	1	
84-86	-	-	-	-	-	1	-	2	-	3	3	
Total Number	106	672	102	37	51	12	16	2	2	1000		
Mean Length (cm)	43.75	49.45	56.71	65.44	66.49	70.09	78.01	85.00	73.00			
No. Otoliths Read	12	185	42	18	25	7	5	2	1		297	

1) The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

(cont'd.)

SAMPLE DATA

Number of Samples	8
Number Fish Measured	2335
Mean Length (cm)	51.85
Mean Weight (Kg)	1.49
Mean Age	5.38
Range of Depths (fm)	84-159

TABLE 38 UNION OF SOVIET SOCIALIST REPUBLICS - 1960
 (cont'd.) OTTER TRAWLERS - Exploratory Catches

AGE/LENGTH FREQUENCIES - COD¹⁾

by V.I. Travin

Location	3P										
Month	February										
Year-Class	1958	1957	1956	1955	1954	1953	1952	1951	Total	No. of	
Age	2	3	4	5	6	7	8	9		Otoliths	
3-cm group	FREQUENCIES in ‰										Read
18-20	-	2	-	-	-	-	-	-	2	1	
21-23	-	2	-	-	-	-	-	-	2	1	
24-26	4	-	-	-	-	-	-	-	4	1	
27-29	-	11	-	-	-	-	-	-	11	6	
30-32	-	38	2	-	-	-	-	-	40	19	
33-35	-	43	9	5	-	-	-	-	57	24	
36-38	-	7	51	4	-	-	-	-	62	19	
39-41	-	4	103	22	-	-	-	-	129	41	
42-44	-	-	80	69	-	-	-	-	149	39	
45-47	-	-	47	142	-	-	-	-	189	55	
48-50	-	-	17	124	4	-	-	-	145	36	
51-53	-	-	-	69	7	-	-	-	76	23	
54-56	-	-	-	49	18	4	-	-	71	16	
57-59	-	-	-	17	9	-	-	-	26	3	
60-62	-	-	-	5	-	4	-	-	9	3	
-	-	-	-	-	-	-	-	-	-	-	
69-71	-	-	-	-	-	4	-	5	9	2	
72-74	-	-	-	-	-	4	4	2	10	3	
75-77	-	-	-	-	-	-	-	-	-	-	
78-80	-	-	-	-	-	-	9	-	9	2	
Total Number	4	107	309	506	38	16	13	7	1000		
Mean Length (cm)	25.00	32.24	41.44	48.13	54.52	64.75	77.15	70.15			
No. Otoliths Read	1	47	93	136	8	4	3	2		294	

1) The length frequencies of these samples are given in Table 19; the age frequencies are given in Table 30.

SAMPLE DATA

Number of Samples	9
Number Fish Measured	550
Mean Length (cm)	45.31
Mean Weight (Kg)	0.87
Mean Age	4.61
Range of Depths (fm)	57-185

TABLE 39 PORTUGAL - 1960

WEIGHT TABLE - COD

by Mario J. Ruivo

Glicinia V. Quartin

Data on weights, in grams of whole fish,
the liver, the gonads, and the intestines,
stratified by size classes

Labrador

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
	37	1	570	40	>10	80	-	-	-	-	-
	40	5	513	51	>10	131	3	575	25	>10	85
	43	10	529	42	>11	91	8	840	57	>11	261
	46	34	931	60	>11	86	30	965	97	>42	119
	49	38	1197	85	>17	151	38	1128	74	>17	128
	52	47	1347	80	28	155	43	1326	111	>19	150
	55	49	1530	101	40	168	59	1583	95	>31	179
	58	41	1850	121	51	210	59	1849	124	42	193
	61	24	2150	135	73	248	59	2204	232	49	267
	64	27	2447	132	65	254	35	2542	187	69	300
	67	19	2866	153	160	235	22	2935	172	106	289
	70	6	3295	227	163	332	20	3268	183	58	364
	73	1	3790	210	80	520	6	3703	213	72	460
	76	3	4023	168	203	208	-	-	-	-	-
	79	1	4300	90	340	280	1	4520	250	100	560
	-	-	-	-	-	-	-	-	-	-	-
	88	-	-	-	-	-	1	6800	330	1450	560
	-	-	-	-	-	-	-	-	-	-	-
	103	-	-	-	-	-	1	12500	700	2550	660

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.

PAGE NUMBERS

Division	OTTER TRAWL				OTHER GEARS			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
1B			204, 211A 212K					
2	202	202		202				
3	202, 203	203		203				
3 south	203							
4			199					
5		200		199			201	202
6	199, 200	199, 200	200	200				
7	205	199, 205	199, 205	199, 205	201, 205	201, 205	205	206
8	206	199, 206	206	206	206	206	206	206
9					208, 213K	208, 213K	208, 209 213K, 214K	208, 213K

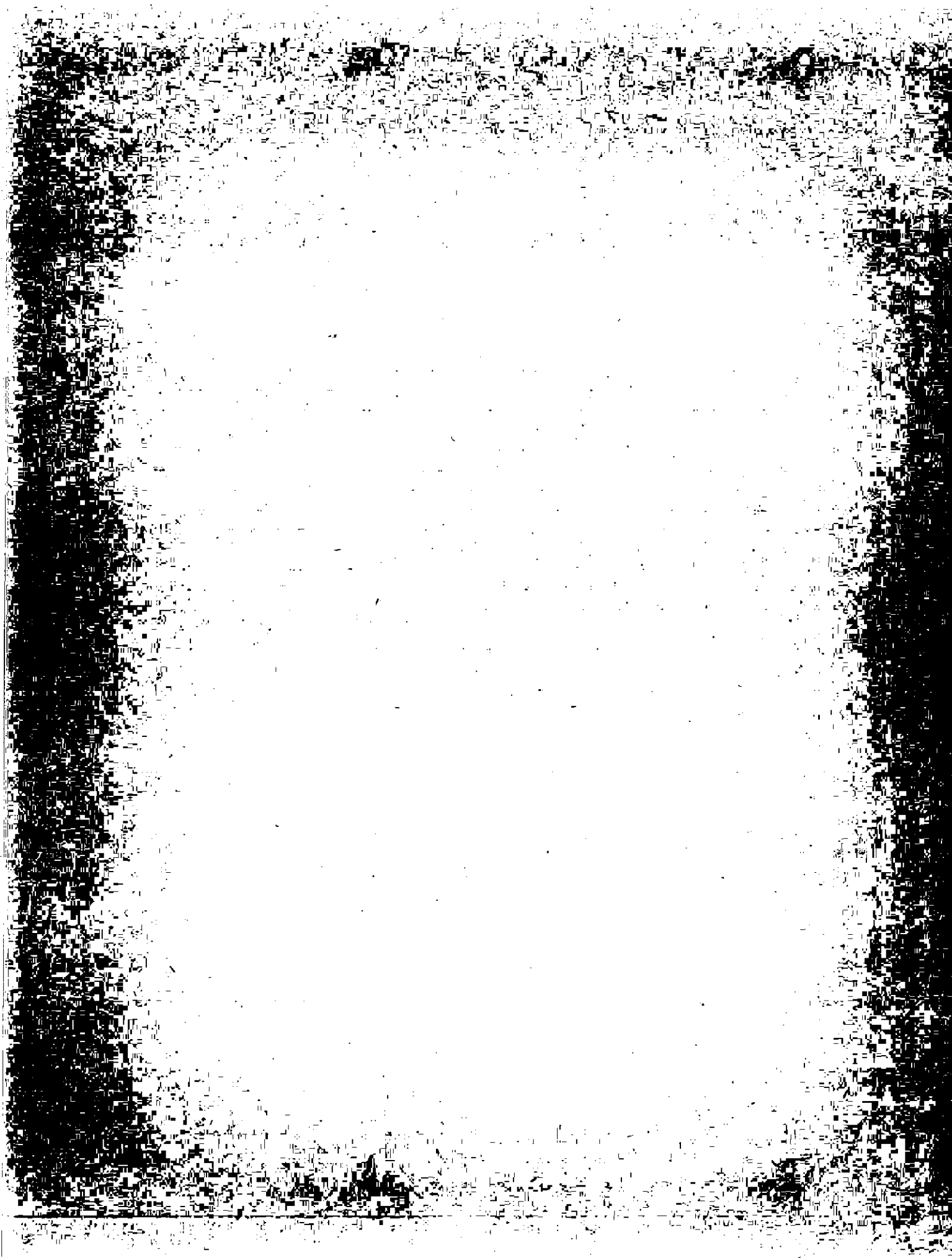


TABLE 40 CANADA (Maritimes) - 1960

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	4X	4T	4W	4W		4X	5Y
Division	4X		4T	4X	4T	4W	4W		4X	5Y
Month	June	Dec.	Sept.	Dec.	July	Dec.	Feb.	April	Sept.	June
2-cm group	F R E Q U E N C I E S in ‰									
26-27	-	3	-	-	-	-	-	-	-	-
28-29	-	5	-	-	-	-	-	-	-	-
30-31	-	4	-	-	-	-	-	-	10	-
32-33	2	15	-	-	3	-	-	-	15	6
34-35	5	59	-	2	35	5	-	-	25	6
36-37	14	120	-	7	65	15	-	16	34	-
38-39	35	124	-	20	64	31	3	41	20	45
40-41	58	114	4	45	115	87	68	139	59	95
42-43	89	76	12	78	115	74	161	204	94	135
44-45	102	65	16	72	115	71	172	147	123	140
46-47	102	65	36	75	103	89	155	122	89	123
48-49	101	71	36	98	93	75	82	126	128	124
50-51	86	64	55	110	92	75	37	41	137	90
52-53	68	46	75	88	55	85	83	31	49	50
54-55	72	51	48	93	42	85	70	37	99	73
56-57	59	35	99	82	39	80	62	24	54	51
58-59	60	24	99	95	13	69	62	24	39	34
60-61	49	21	83	52	20	58	27	13	20	11
62-63	36	16	91	28	8	33	10	11	-	6
64-65	24	10	83	25	3	42	7	11	-	11
66-67	16	9	59	17	13	13	1	7	5	-
68-69	12	2	44	8	5	4	-	4	-	-
70-71	4	1	56	3	-	5	-	2	-	-
72-73	3	-	36	2	-	2	-	-	-	-
74-75	2	-	24	-	-	2	-	-	-	-
76-77	-	-	20	-	2	-	-	-	-	-
78-79	1	-	12	-	-	-	-	-	-	-
80-81	-	-	-	-	-	-	-	-	-	-
82-83	-	-	4	-	-	-	-	-	-	-
84-85	-	-	4	-	-	-	-	-	-	-
86-87	-	-	-	-	-	-	-	-	-	-
88-89	-	-	4	-	-	-	-	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Serial Numbers										
Number of Samples	5	6	1	2	3	2	3	1	1	1
Number Fish Measured	1800	1850	252	600	600	550	600	200	203	178
Mean Length (cm)	50.45	44.76	60.25	51.65	46.10	51.02	48.50	46.33	47.64	47.50
Mean Weight (Kg)	1.41	1.01	2.63	1.46	1.36	1.71	1.23	1.07	1.12	1.22
Total Wt. Landed (Tons)										
Estimated No. Landed										
Mesh Size (inches) ¹⁾	4½n	4¼n	4¾n	4½n	4n	4n	4½n	4½m	4½n	3¾n
Range of Depths (fm)	14	...	24-60	65-75	60-80

1) n = nylon; m = manila.

(cont'd.)

TABLE 40 CANADA (Maritimes) - 1960
(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		4W							
Month	May	June	Feb.	March	March	May	June	July	Aug.	Nov.
2-cm group	F R E Q U E N C I E S in ‰									
36-37	-	-	5	2	-	5	-	-	-	-
38-39	-	11	20	3	-	37	15	6	-	-
40-41	46	91	48	42	-	52	10	6	15	11
42-43	170	160	68	52	46	216	118	183	154	57
44-45	186	217	112	88	97	204	160	309	288	135
46-47	189	168	65	135	125	111	191	200	174	272
48-49	104	154	57	123	152	84	143	112	125	196
50-51	104	74	90	110	126	83	134	39	40	95
52-53	52	34	93	98	100	40	70	46	56	90
54-55	36	37	118	53	92	71	51	40	36	47
56-57	40	6	125	92	60	45	32	13	36	33
58-59	12	9	78	55	61	22	42	13	31	34
60-61	24	12	41	65	52	4	13	10	5	9
62-63	11	12	18	32	26	13	13	10	25	13
64-65	6	6	30	20	22	9	4	10	5	4
66-67	10	3	17	15	20	-	4	3	5	4
68-69	3	3	13	10	10	4	-	-	5	-
70-71	3	3	2	5	5	-	-	-	-	-
72-73	2	-	-	-	5	-	-	-	-	-
74-75	-	-	-	-	1	-	-	-	-	-
76-77	-	-	-	-	-	-	-	-	-	-
78-79	2	-	-	-	-	-	-	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Serial Numbers										
Number of samples	1	1	3	2	4	1	1	1	1	1
Number Fish Measured	200	200	600	400	600	200	200	200	200	200
Mean Length (cm)	47.98	46.69	51.74	51.52	51.99	47.12	46.57	46.88	47.75	48.85
Mean weight (Kg)	1.10	1.04	1.52	1.43	1.22	1.21	1.15	1.21	1.11	1.32
Total Wt.Landed(Tons)										
Estimated No. Landed										
Mesh Size (inches) ¹⁾	4½t	4½m	4½n	4½n	4½m	4½m	4¾n	4½n	4½n	4¾n
Range of Depths (fm)	...	20-31	48-100	42-64	48-70	30-32	28-35	18-26	18-24	26-33

1) t = terylene; m = manila; n = nylon

(cont'd.)

TABLE 40 CANADA (Maritimes) - 1960
(cont'd.)

LENGTH FREQUENCIES - HADDOCK

by W.R.Martin
D.N.Fitzgerald

Commercial Landings

Vessel Type	Longliners					
	0-25			26-50		
Vessel Tonnage Class	4W			4X		
Division	July	November	January	April	May	June
Month	FREQUENCIES in ‰					
2-cm Group	FREQUENCIES in ‰					
32-33	-	-	-	-	3	-
34-35	-	-	-	-	-	-
36-37	-	-	-	-	-	8
38-39	1	5	4	-	3	8
40-41	32	18	8	-	8	12
42-43	51	18	13	10	18	32
44-45	60	80	33	14	19	38
46-47	100	88	52	23	22	40
48-49	78	80	49	23	56	92
50-51	136	110	105	54	84	148
52-53	103	92	149	82	134	135
54-55	103	100	100	94	98	110
56-57	79	92	100	127	103	100
58-59	66	92	105	146	106	100
60-61	52	62	100	108	109	60
62-63	40	42	92	103	97	75
64-65	45	48	38	85	48	30
66-67	19	28	19	33	37	8
68-69	15	15	16	47	19	-
70-71	7	12	14	33	18	2
72-73	4	8	3	9	8	2
74-75	5	-	-	9	6	-
76-77	4	8	-	-	2	-
78-79	-	-	-	-	2	-
80-81	-	2	-	-	-	-
Total ‰	1000	1000	1000	1000	1000	1000
Serial Numbers						
Number of Samples	4	2	1	1	3	1
Number Fish Measured	750	400	400	230	600	400
Mean Length (cm)	53.10	54.29	53.21	58.64	56.65	53.60
Mean Weight (Kg)	1.71	1.94	1.93	2.41	1.99	1.82
Total Wt. Landed (Tons)						
Estimated No. Landed						
Hook Size	#6/0	#6/0	#6/0	#6/0	#6/0	#6/0
Range of Depths (fm)	18-34	30-40	40-50	...	85	40-60

TABLE 41 CANADA (Newfoundland) - 1960

LENGTH FREQUENCIES - HADDOCK

by A.M.Fleming
M. O'Hanlon

Commercial Landings

Vessel Type	Otter Trawlers					
Vessel Tonnage Class	151-500					
Division	3N			3O		
Month	Jan.	Feb.	April	Nov.	Jan.	Feb.
2-cm group	FREQUENCIES in ‰					
22-23	-	-	-	1	-	-
24-25	-	-	-	-	-	-
26-27	-	-	-	-	-	-
28-29	7	-	-	-	1	-
30-31	63	-	-	-	4	-
32-33	129	16	14	11	37	10
34-35	245	63	92	65	121	60
36-37	200	144	257	180	199	165
38-39	101	139	196	218	154	164
40-41	71	131	156	216	140	160
42-43	59	136	117	137	103	154
44-45	46	162	67	58	83	111
46-47	33	97	28	51	74	83
48-49	21	58	39	22	35	44
50-51	13	31	20	23	27	20
52-53	6	16	6	14	12	17
54-55	4	5	3	5	8	7
56-57	3	3	6	1	3	3
58-59	1	-	-	1	-	1
60-61	-	-	-	-	-	1
62-63	-	-	-	-	-	1
64-65	-	-	-	-	1	-
Total ‰	1002	1001	1001	1003	1002	1001
Serial Numbers						
Number of Samples	7	1	1	3	4	8
Number Fish Measured	2379	382	358	878	1207	2531
Mean Length (cm)	37.28	41.72	39.79	40.31	40.17	41.26
Mean Weight (Kg)	0.48	0.67	0.60	0.65	0.61	0.66
Total Wt. Landed (Tons)	342	50	158	162	391	3609
Estimated No. Landed	713,362	75,221	262,616	246,562	640,945	5,478,386
Mesh Size ¹⁾	m&n	n	n	m	m&n	n&d
		(mesh sizes vary from 3 7/8" to 4 3/4")				
Range of Depths (fm)	40-70	55-80	40-46	38-60	37-90	44-100

¹⁾m = manila; n = nylon; d = drilene.

(cont'd.)

TABLE 41 CANADA (Newfoundland) - 1960
(cont'd)

LENGTH FREQUENCIES - HADDOCK

by A.M.Fleming
M. O'Hanlon

Commercial Landings

Vessel Type	Otter Trawlers				
Vessel Tonnage Class	151-500				
Division	30				3P South
Month	March	April	May	November	January
2-cm group	FREQUENCIES in ‰				
28-29	1	-	1	-	-
30-31	6	2	7	1	-
32-33	29	10	35	11	75
34-35	89	60	139	67	128
36-37	165	129	227	199	131
38-39	175	167	209	250	114
40-41	154	169	141	230	96
42-43	135	142	94	97	78
44-45	104	108	66	70	110
46-47	64	87	37	31	78
48-49	37	57	19	23	67
50-51	21	35	11	10	39
52-53	11	13	8	7	18
54-55	6	11	3	3	28
56-57	3	5	2	1	14
58-59	2	4	-	1	4
60-61	1	1	1	-	7
62-63	-	-	-	-	-
64-65	-	-	-	-	7
66-67	-	-	-	-	-
68-69	-	-	-	-	-
70-71	-	-	-	-	4
72-73	-	-	-	-	4
Total ‰	1003	1000	1000	1001	1002
Serial Numbers					
Number of Samples	24	3	16	5	1
Number Fish Measured	10,933	2305	5305	1832	282
Mean Length (cm)	40.54	41.73	39.14	39.78	41.81
Mean Weight (Kg)	0.64	0.70	0.59	0.65	0.79
Total Wt. Landed (Tons)	2767	1931	2394	1199	303
Estimated No. Landed	4,363,181	2,754,533	4,076,303	1,854,547	389,836
Mesh Size ¹⁾	n&n	n&n	m	n&n	m
		(mesh sizes vary from 3 7/8" to 4 3/4")			
Range of Depths (fm)	44-105	42-50	43-60	39-45	90-100

1) m = manila; n = nylon

TABLE 42 GERMANY - 1960

LENGTH FREQUENCIES - HADDOCK¹⁾

by Arno Meyer

Research Catches

Vessel Type	Otter Trawler
Vessel Tonnage Class	500-900
Division	1E
Month	September
2-cm group	FREQUENCIES in ‰
22-23	51
24-25	51
26-27	64
28-29	26
30-31	64
32-33	140
34-35	218
36-37	102
38-39	77
40-41	13
42-43	26
44-45	13
46-47	26
48-49	26
50-51	38
52-53	26
-	-
62-63	26
-	-
74-75	13
Total ‰	1000
Serial Numbers	511-95
Number of Samples	6
Number Fish Measured	78
Mean Length (cm)	36.1
Mean Weight (Kg)	
Total Wt. Landed (Tons)	
Estimated No. Landed	
Mesh Size (mm)	110
Range of Depths (fm)	90-100

1) The age frequencies of these samples are given in Table 45; the age/length frequencies are given in Table 46.

TABLE 43 UNITED STATES/CANADA LENGTH FREQUENCIES - HADDOCK
CO-OPERATIVE PROGRAMME - 1960/61

by J.A. McCann
F.A. Dreyer
A.C. Kohler
D.N. Fitzgerald

Length (cm)	Feb.-Apr.	May-July	Aug.-Oct.	Nov.-Jan.	Total
<361)	-	13	57	239	309
36	-	12	29	149	190
37	68	36	71	222	397
38	180	66	151	216	613
39	338	55	443	335	1171
40	450	194	463	272	1379
41	743	276	446	365	1830
42	1376	277	978	412	3043
43	1420	380	1099	411	3310
44	1636	449	1029	401	3515
45	2121	629	825	401	3976
46	2319	885	696	451	4351
47	3042	1102	832	466	5442
48	3108	1264	1090	462	5924
49	2538	953	972	449	4912
50	2886	1003	1196	362	5447
51	2736	854	798	445	4833
52	2825	1226	932	467	5450
53	2775	1310	974	364	5423
54	2447	1505	1090	399	5441
55	2293	1131	646	409	4479
56	2429	1334	1060	389	5212
57	2230	1413	1100	407	5150
58	1713	1102	761	306	3882
59	1838	945	733	308	3824
60	1207	1084	856	232	3379
61	1106	891	593	214	2804
62	837	760	568	241	2406
63	715	558	440	167	1880
64	572	394	300	168	1434
65	475	342	238	111	1166
66	246	247	170	86	749
67	278	210	217	46	751
68	239	184	143	27	593
69	210	135	106	46	497
70	91	49	15	18	173
71	116	41	30	14	201
72	75	36	15	7	133
73	25	21	15	3	64
74	22	16	45	12	95
75	25	7	-	14	46
76	12	-	-	-	12
77	-	18	15	8	41
78	9	13	-	-	22
Total	49771	23420	22237	10521	105949

The samples and landings data are given on page 207.

(cont'd.)

1) For breakdown, see page 207.

TABLE 43 UNITED STATES/CANADA
(cont'd.) CO-OPERATIVE PROGRAMME
- 1960/61

LENGTH FREQUENCIES - HADDOCK

by J. A. McCann

F. A. Dreyer

A. C. Kohler

D. N. Fitzgerald

ALL GEARS - Commercial Landings (in hundreds)	Division 5Y				Total
Length (cm)	Feb.-Apr.	May-July	Aug.-Oct.	Nov.-Jan.	
<36 ¹⁾	5	-	-	66	71
36	-	34	41	105	180
37	6	45	28	51	130
38	32	63	38	185	318
39	98	270	86	264	718
40	165	228	165	285	843
41	211	362	164	424	1161
42	277	417	274	311	1279
43	285	420	306	404	1415
44	308	301	363	785	1757
45	363	361	391	684	1799
46	346	444	390	486	1666
47	342	349	450	458	1599
48	367	246	428	463	1504
49	442	179	381	440	1442
50	458	333	397	376	1564
51	480	196	350	317	1343
52	450	256	393	301	1400
53	466	199	376	242	1283
54	396	215	320	207	1138
55	449	279	275	166	1169
56	452	310	307	161	1230
57	422	285	286	188	1181
58	322	366	257	206	1151
59	298	307	201	191	997
60	226	262	223	114	825
61	210	222	175	95	702
62	183	190	147	52	572
63	135	198	133	93	559
64	103	178	110	82	473
65	64	169	84	38	355
66	73	92	64	78	307
67	47	100	77	22	246
68	39	86	56	42	223
69	21	83	41	38	183
70	15	50	41	30	136
71	13	31	24	20	88
72	11	29	13	9	62
73	6	22	12	10	50
74	6	31	7	1	45
75	-	10	7	10	27
76	-	7	-	9	16
77	-	8	-	-	8
78	-	-	1	-	1
Total	8592	8233	7882	8509	33216

The samples and landings data are given on page 207.

1) For breakdown, see page 207.

TABLE 43 UNITED STATES/CANADA
(cont'd.) CO-OPERATIVE PROGRAMME
- 1960/61

LENGTH FREQUENCIES - HADDOCK
SAMPLES AND LANDINGS DATA

by J A McCann
F A Dreyer
A C Kohler
D N Fitzgerald

ALL GEARS - Commercial Landings		Division 4X				
Quarters	Feb.-Apr.	May-July	Aug.-Oct.	Nov.-Jan.	Total	
No. Samples	69	23	5	18	115	
No. Measured	6714	3370	1920	5257	17261	
Mean Wt. of Fish (Kg)	1.63	1.68	1.56	1.25	1.59	
Mean Length (cm)	51.9	53.9	51.7	49.6	51.8	
Wt. Landings Sampled ¹⁾	12.30	6.10	3.03	5.83	27.26	
Wt. Total Landings ¹⁾	8096	3946	3475	1313	16830	
Est. No. in Landings ²⁾	4.977	2.342	2.224	1.052	10.595	

		Division 5Y				
Quarters	Feb.-Apr.	May-July	Aug.-Oct.	Nov.-Jan.	Total	
No. Samples	77	20	42	29	168	
No. Measured	3732	1733	3679	2524	11668	
Mean Wt. of Fish (Kg)	1.54	1.56	1.59	1.36	1.51	
Mean Length (cm)	51.9	51.8	51.4	48.5	50.9	
Wt. Landings Sampled ¹⁾	6.09	3.50	6.95	3.39	19.93	
Wt. Total Landings ¹⁾	1317	1286	1260	1155	5018	
Est. No. in Landings ²⁾	0.859	0.822	0.788	0.851	3.320	

1) Metric tons, round fresh

2) In millions

BREAKDOWN OF <36 CM LENGTH FREQUENCIES

Length (cm)	4X				5Y		
	May-July	Aug.-Oct.	Nov.-Jan.	Total	Feb.-Apr.	Nov.-Jan.	Total
26	-	-	4	4	-	-	-
27	-	-	3	3	-	-	-
28	-	-	3	3	-	-	-
29	-	-	8	8	-	-	-
30	-	-	5	5	-	-	-
31	-	-	5	5	-	-	-
32	-	-	14	14	-	9	9
33	1	-	23	24	-	12	12
34	-	43	57	100	-	24	24
35	12	14	117	143	5	21	26
Total	13	57	239	309	5	66	71

TABLE 44 UNITED STATES - 1960/61

LENGTH FREQUENCIES - HADDOCK

by J. A. McCann

F. A. Dreyer

Length (cm)	Numbers Landed (in Hundreds)						
	1960 Feb.	Mar.	Apr.	May	June	July	Aug.
31	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-
33	-	-	-	-	-	46	-
34	-	-	46	-	22	-	27
35	-	-	116	32	123	224	80
36	8	30	208	71	355	468	266
37	40	66	382	79	455	1287	697
38	8	112	590	275	811	1569	1528
39	115	208	694	567	1550	2447	2308
40	197	210	836	708	1920	4011	3835
41	211	257	887	881	1881	3993	4744
42	274	195	874	960	1798	3814	5240
43	474	353	739	1006	1551	3769	5409
44	489	561	898	985	1213	2568	4208
45	795	503	965	630	918	2141	3430
46	819	541	885	900	1031	1336	2521
47	872	779	1158	1073	1062	1308	1620
48	886	780	1148	1011	980	904	1383
49	909	851	1111	1129	1169	1162	1146
50	834	741	992	946	985	845	1195
51	903	670	1051	891	966	952	914
52	995	619	958	868	888	1009	973
53	938	541	916	676	931	900	828
54	878	549	930	659	925	916	876
55	760	470	756	586	806	753	681
56	685	554	723	533	908	666	646
57	709	478	757	515	740	540	554
58	634	380	632	607	757	548	440
59	625	336	672	511	695	474	396
60	522	443	719	446	607	369	305
61	481	311	615	566	581	377	233
62	431	320	577	414	524	244	294
63	336	347	432	430	497	238	213
64	382	295	549	358	407	176	164
65	294	275	468	304	387	205	139
66	322	236	449	315	358	183	124
67	260	213	266	267	330	139	123
68	204	199	318	275	289	146	113
69	175	86	257	245	260	143	107
70	172	113	233	150	241	94	74
71	207	76	161	209	128	62	69
72	118	110	83	129	136	87	49
73 ¹⁾	118	45	74	111	107	37	33
>73 ¹⁾	159	126	245	249	231	166	116
Total	18239	13979	25370	21567	30523	41316	48101

(cont'd.)

The samples and landings data are given on page 210.

1) For breakdown, see page 210.

TABLE 44 UNITED STATES - 1960/61
(cont'd.)

LENGTH FREQUENCIES - HADDOCK

by J. A. McCann
F. A. Dreyer

Length (cm)	Numbers Landed (in Hundreds)					1961	Total
	Sept.	Oct.	Nov.	Dec.	Jan.		
31	-	-	-	-	-	20	20
32	-	24	-	11	40	75	75
33	26	-	-	21	20	113	113
34	52	16	33	53	148	397	397
35	131	187	51	146	178	1268	1268
36	216	349	145	205	191	2512	2512
37	726	697	178	316	283	5206	5206
38	1219	1141	516	446	357	8572	8572
39	1868	1653	646	425	649	13130	13130
40	2755	2167	944	528	640	18751	18751
41	3841	2740	1216	964	750	22365	22365
42	3577	4006	1599	981	1032	24350	24350
43	3750	4261	1710	1533	1462	26017	26017
44	3793	4437	1841	1289	1561	23843	23843
45	3196	3836	1505	1332	1273	20524	20524
46	2158	3005	1289	1108	1114	16707	16707
47	1783	2076	906	905	1131	14673	14673
48	1268	1274	764	758	660	11816	11816
49	1154	886	660	634	678	11489	11489
50	957	489	724	383	344	9435	9435
51	832	619	536	347	408	9089	9089
52	769	599	463	414	401	8956	8956
53	827	412	462	325	435	8191	8191
54	557	453	401	297	369	7810	7810
55	575	448	396	406	341	6978	6978
56	629	464	470	536	400	7214	7214
57	439	319	362	307	379	6099	6099
58	366	354	345	239	408	5710	5710
59	365	334	427	309	327	5471	5471
60	335	328	354	234	301	4963	4963
61	331	233	340	234	256	4558	4558
62	187	249	204	228	319	3991	3991
63	206	161	187	192	331	3570	3570
64	135	156	144	170	242	3178	3178
65	115	125	107	120	188	2727	2727
66	84	77	140	124	157	2569	2569
67	91	62	86	52	220	2109	2109
68	49	68	78	23	229	1991	1991
69	51	101	72	32	125	1654	1654
70	13	58	34	32	85	1299	1299
71	6	50	32	70	103	1173	1173
72	10	22	26	7	72	849	849
73	-	18	16	9	67	635	635
>73 ¹⁾	48	88	61	23	135	1647	1647
Total	39490	39042	20470	16768	18829	333694	333694

The samples and landings data are given on page 210.

1) For breakdown, see page 210.

(cont'd.)

TABLE 45 GERMANY - 1960

AGE FREQUENCIES - HALDOCK¹⁾

by Arno Meyer

Research Catches			
Vessel Type		Otter Trawler	
Vessel Tonnage Class		500-900	
Division		1E	
Month		September	
Year-			
Class	Age	% Frequency	Mean Length
1959	1	205	25.5
1958	2	553	34.8
1957	3	177	43.2
1956	4	26	
<1956	>4	39	
Total %		1000	
Serial Numbers		511-95	
Number of Samples		6	
Number of Fish Aged		78	
Mean Age			
Mean Weight (Kg)			
Total Wt. Landed (Tons)			
Estimated No. Landed			
Mesh Size (mm)		110	
Range of Depths		90-100	

¹⁾The length frequencies of these samples are given in Table 42; the age/length frequencies are given in Table 46.

TABLE 46 GERMANY - 1960

AGE/LENGTH FREQUENCIES - HADDOCK¹⁾

by Arno Meyer

Research Catches

Vessel Type	Otter Trawler					
Vessel Tonnage Class	500-900					
Location	1E					
Month	September					
Year-Class	1959	1958	1957	1956	<1956	Total
Age	1	2	3	4	>4	
2-cm group	FREQUENCIES in ‰					
22-23	51	-	-	-	-	51
24-25	51	-	-	-	-	51
26-27	64	-	-	-	-	64
28-29	26	-	-	-	-	26
30-31	13	51	-	-	-	64
32-33	-	108	32	-	-	140
34-35	-	202	16	-	-	218
36-37	-	102	-	-	-	102
38-39	-	77	-	-	-	77
40-41	-	13	-	-	-	13
42-43	-	-	26	-	-	26
44-45	-	-	13	-	-	13
46-47	-	-	26	-	-	26
48-49	-	-	26	-	-	26
50-51	-	-	38	-	-	38
52-53	-	-	-	26	-	26
-	-	-	-	-	-	-
62-63	-	-	-	-	26	26
-	-	-	-	-	-	-
73-74	-	-	-	-	13	13
Total Number	205	553	177	26	39	1000
Mean Length (cm)	25.5	34.8	43.2			36.1

¹⁾The length frequencies of these samples are given in Table 42; the age frequencies are given in Table 45.

SAMPLE DATA

Sample Serial Numbers	511-95
Number of Samples	6
Number of Fish Measured	78
No. of Fish Aged	78
Mean Length (cm)	36.1
Mean Weight (Kg)	
Total Wt. Landed (Tons)	
Mesh Size (mm)	110
Range of Depths (fm)	90-100

TABLE 47 UNITED STATES - 1960/61

AGE/LENGTH FREQUENCIES - HADDOCK

by J.A. McCann
F.A. Dreyer

Division		SZ								
Quarter		February-April								
Age-Group	I	II	III	IV	V	VI	VII	VIII	IX+	
3-cm group	F R E Q U E N C I E S in ‰									
33-35	-	747	253	-	-	-	-	-	-	
36-38	-	998	2	-	-	-	-	-	-	
39-41	-	818	165	17	-	-	-	-	-	
42-44	-	260	548	121	54	17	-	-	-	
45-47	-	26	712	157	84	21	-	-	-	
48-50	-	-	493	399	79	29	-	-	-	
51-53	-	-	158	472	267	88	12	3	-	
54-56	-	-	52	437	385	72	54	-	-	
57-59	-	-	1	321	377	240	34	7	-	
60-62	-	-	-	88	435	296	119	54	8	
63-65	-	-	-	27	111	526	158	144	34	
66-68	-	-	-	22	112	461	207	156	42	
69-71	-	-	-	-	-	190	407	299	104	
72-74	-	-	-	-	-	174	315	210	301	
75-77	-	-	-	-	-	-	315	273	412	
78-80	-	-	-	-	-	-	-	-	1000	
81-83	-	-	-	-	-	-	-	-	1000	

Division		SZ								
Quarter		May-July								
Age-Group	I	II	III	IV	V	VI	VII	VIII	IX+	
3-cm group	F R E Q U E N C I E S in ‰									
33-35	-	975	25	-	-	-	-	-	-	
36-38	19	980	1	-	-	-	-	-	-	
39-41	-	958	33	5	4	-	-	-	-	
42-44	-	874	112	7	7	-	-	-	-	
45-47	-	368	474	106	52	-	-	-	-	
48-50	-	48	584	289	79	-	-	-	-	
51-53	-	-	446	383	134	37	-	-	-	
54-56	-	-	244	458	217	58	19	4	-	
57-59	-	-	41	415	400	109	28	5	2	
60-62	-	-	10	230	426	245	63	17	9	
63-65	-	-	-	88	340	377	123	61	11	
66-68	-	-	-	17	140	512	181	123	27	
69-71	-	-	-	-	41	268	388	118	185	
72-74	-	-	-	-	-	-	242	252	506	
75-77	-	-	-	-	-	-	204	166	630	
78-80	-	-	-	-	-	-	127	111	762	
81-83	-	-	-	-	-	-	-	-	1000	
84-86	-	-	-	-	-	-	-	-	1000	

(cont'd.)

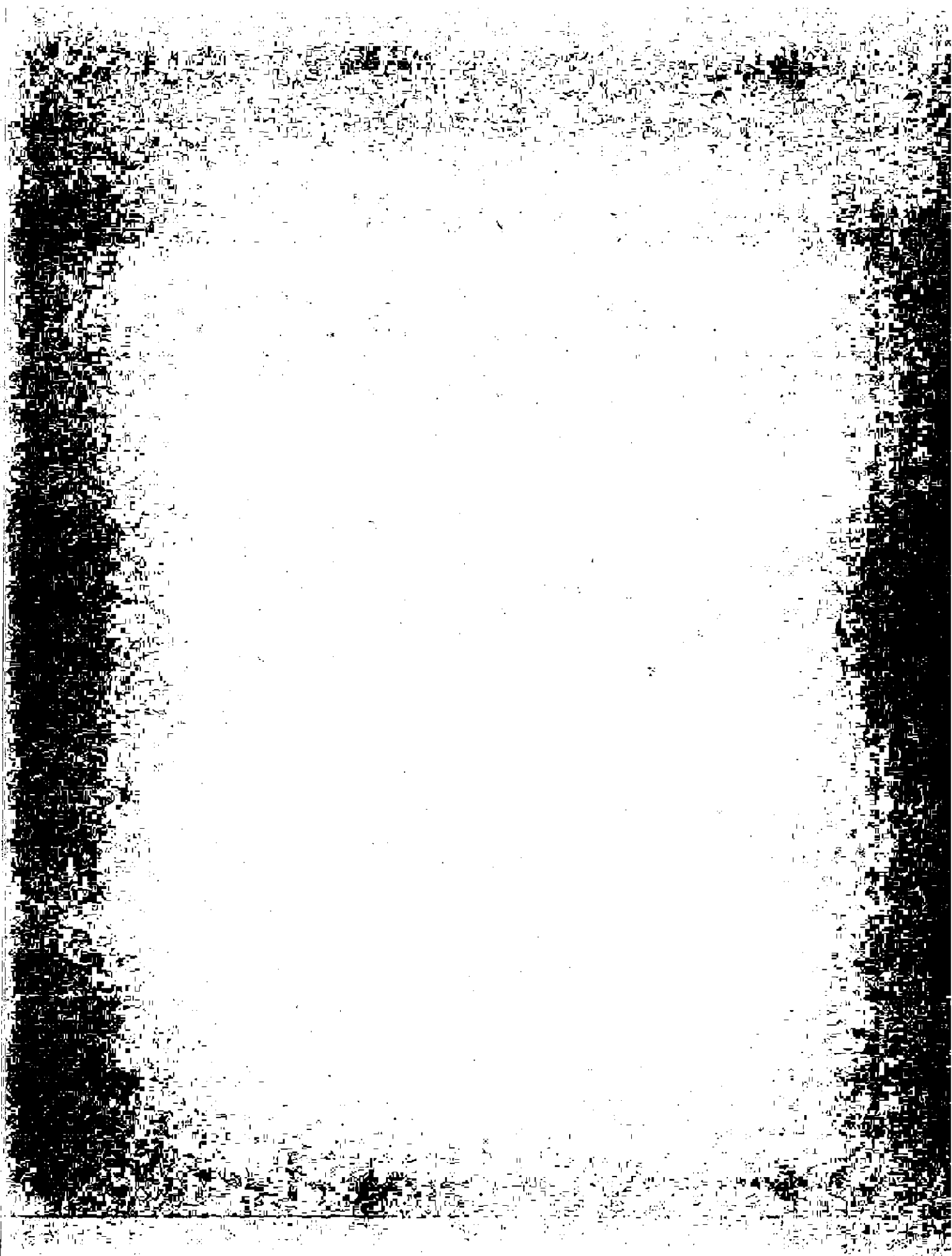


TABLE 48 CANADA (Maritimes) - 1960 LENGTH FREQUENCIES - AM. PLAICE by W.R.Martin
D.N.Fitzgerald

OTTER TRAWLERS - Commercial Landings

Vessel Tonnage Class	0-25
Division	4T
Month	August
cm	FREQUENCIES in ‰
33	4
34	18
35	27
36	75
37	89
38	84
39	66
40	58
41	93
42	53
43	71
44	80
45	49
46	40
47	13
48	22
49	27
50	18
51	13
52	22
53	22
54	18
55	-
56	13
57	9
58	-
59	4
60	4
61	4
62	-
63	-
64	4
Total ‰	1000
Serial Numbers	
Number of Samples	1
Number Fish Measured	226
Mean Length (cm)	42.48
Mean Weight (Kg)	.87
Total Wt. Landed (Tons)	
Mesh Size (inches) ¹⁾	4 8 ^p
Range of Depths (fm)	15-30

1) p = perlon

TABLE 49 CANADA (Newfoundland) - 1960 LENGTH FREQUENCIES - AM. PLAICE by A.M.Fleming
M. O'Hanlon

Commercial Landings									
Vessel Type	Otter Trawlers								
Vessel Tonnage Class	151-500								
Division	3L								
Month	April			May			June		
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total
2-cm group	FREQUENCIES in ‰								
26-27	-	-	-	1	-	1	1	1	2
28-29	-	-	-	3	1	4	1	-	1
30-31	5	14	19	7	4	11	4	1	5
32-33	25	9	34	19	5	24	18	6	24
34-35	48	23	71	33	10	43	55	17	72
36-37	69	28	97	65	28	93	86	32	118
38-39	56	46	102	100	41	141	99	58	157
40-41	91	37	128	86	52	138	80	49	129
42-43	74	65	139	91	64	155	71	55	126
44-45	74	51	125	57	46	103	41	52	93
46-47	53	28	81	29	45	74	24	57	81
48-49	3	32	35	8	50	58	14	43	57
50-51	3	37	40	1	44	45	5	44	49
52-53	-	23	23	1	46	47	1	32	33
54-55	-	37	37	-	29	29	-	28	28
56-57	-	28	28	-	16	16	-	15	15
58-59	-	28	28	-	7	7	-	5	5
60-61	-	14	14	-	7	7	-	3	3
62-63	-	-	-	-	3	3	-	2	2
Total ‰	501	500	1001	501	498	999	500	500	1000
Serial Numbers									
Number of Samples	1			6			4		
Number Fish Measured	197	108	305	911	784	1695	501	585	1086
Mean Length (cm)	42.97			42.85			42.28		
Mean Weight (Kg)	0.71			0.72			0.73		
Total Wt. Landed (Tons)	654			1333			1885		
Est. Number (millions)	0.913			1.857			2.592		
Mesh Size ¹⁾	Lm			Lm&n			Lm&n		
	(mesh sizes vary from 3 7/8" to 4 3/4")								
Range of Depths (fm)	48-60			48-80			55-87		

1) L = large; m = manila; n = nylon

(cont'd.)

TABLE 49 CANADA (Newfoundland) - 1960 LENGTH FREQUENCIES - AM. PLAICE by A.M.Fleming
(cont'd.) M. O'Hanlon

Commercial Landings

Vessel Type	Otter Trawlers									
Vessel Tonnage Class	151-500									
Division	3L									
Month	July			August			September			
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	
2-cm group	FREQUENCIES in ‰									
< 16	2	2	4	-	-	-	-	-	-	
16-17	3	4	7	-	-	-	-	-	-	
18-19	3	3	6	-	-	-	-	-	-	
20-21	5	2	7	-	-	-	1	-	1	
22-23	3	2	5	-	-	-	3	1	4	
24-25	18	3	21	-	-	-	5	3	8	
26-27	20	6	26	-	-	-	6	4	10	
28-29	23	5	28	-	2	2	9	2	11	
30-31	19	1	20	1	2	3	7	3	10	
32-33	15	17	32	10	4	14	25	6	31	
34-35	27	9	36	30	16	46	28	11	39	
36-37	40	8	48	23	21	44	48	11	59	
38-39	53	10	63	73	29	102	68	21	89	
40-41	40	18	58	68	34	102	75	30	105	
42-43	86	23	109	113	34	147	80	37	117	
44-45	66	33	99	75	52	127	72	33	105	
46-47	48	41	89	69	56	125	39	37	76	
48-49	21	59	80	28	59	87	20	50	70	
50-51	6	61	67	7	72	79	15	65	80	
52-53	2	76	78	1	49	50	-	49	49	
54-55	-	46	46	-	30	30	-	55	55	
56-57	-	32	32	-	14	14	-	24	24	
58-59	-	22	22	-	14	14	-	21	21	
60-61	-	9	9	-	6	6	-	13	13	
62-63	-	2	2	-	4	4	-	9	9	
64-65	-	6	6	-	1	1	-	4	4	
66-67	-	4	4	-	-	-	-	8	8	
68-69	-	-	-	-	-	-	-	4	4	
70-71	-	1	1	-	1	1	-	2	2	
Total ‰	500	505	1005	498	500	998	501	503	1004	
Serial Numbers										
Number of Samples			4			3			4	
Number Fish Measured	276	598	874	333	435	768	310	504	814	
Mean Length (cm)			43.30			44.48			44.50	
Mean Weight (Kg)			1.03			0.89			1.11	
Total Wt. Landed (Tons)			1327			1148			890	
Est. Number (millions)			1.293			1.292			0.797	
Mesh Size ¹⁾			Lm			Lm&n			Lm	
			(mesh sizes vary from 3 7/8" to 4 3/4")							
Range of Depths (fm)			80-92			50-93			25-50 90-100	

¹⁾L = large; m = manila; n = nylon

(cont'd.)

TABLE 49 CANADA (Newfoundland) - 1960 LENGTH FREQUENCIES - AM. PLAICE by A.M.Fleming
(cont'd.) M. O'Hanlon

Commercial Landings

Vessel Type	Otter Trawlers									
Vessel Tonnage Class	151-500									
Division	3L									
Month	October			November			December			
Sex	♂	♀	Total	♂	♀	Total	♂	♀	Total	
2-cm group	FREQUENCIES in ‰									
14-15	-	-	-	-	3	3	-	-	-	
-	-	-	-	-	-	-	-	-	-	
22-23	-	3	3	5	-	5	-	-	-	
24-25	-	9	9	-	-	-	-	-	-	
26-27	9	6	15	-	3	3	-	4	4	
28-29	14	16	30	-	3	3	-	2	2	
30-31	14	6	20	-	-	-	-	2	2	
32-33	14	9	23	5	3	8	6	19	25	
34-35	61	25	86	13	3	16	18	12	30	
36-37	47	38	85	53	7	60	51	17	68	
38-39	61	50	111	63	39	102	73	38	111	
40-41	75	60	135	151	50	201	93	55	148	
42-43	108	50	158	95	35	130	97	37	134	
44-45	33	41	74	87	58	145	65	55	120	
46-47	47	72	119	10	60	70	58	56	114	
48-49	19	47	66	19	51	70	28	62	90	
50-51	-	13	13	-	46	46	9	57	66	
52-53	-	25	25	-	22	22	1	29	30	
54-55	-	9	9	-	21	21	-	26	26	
56-57	-	6	6	-	28	28	-	8	8	
58-59	-	3	3	-	26	26	-	6	6	
60-61	-	3	3	-	13	13	-	3	3	
62-63	-	3	3	-	13	13	-	4	4	
64-65	-	-	-	-	15	15	-	5	5	
66-67	-	3	3	-	5	5	-	1	1	
68-69	-	-	-	-	-	-	-	1	1	
Total ‰	502	497	999	501	504	1005	499	499	998	
Serial Numbers										
Number of Samples			1			2			2	
Number Fish Measured	107	159	266	106	232	338	318	342	660	
Mean Length (cm)			41.03			44.48			43.63	
Mean Weight (Kg)			0.74			1.13			0.86	
Total Wt. Landed (Tons)			2138			269			1219	
Est. Number (millions)			2.866			0.237			1.422	
Mesh Size ¹⁾			Lm			Lm			Ln	
			(mesh sizes vary from 3 7/8" to 4 3/4")							
Range of Depths (fm)			39-42			38-45			50-108	
						110-140				

1) L = large; m = manila; n = nylon

(cont'd.)

TABLE 49 CANADA (Newfoundland) - 1960 LENGTH FREQUENCIES - AM. PLAICE by A.M.Fleming
(cont'd.) M. O'Hanlon

Commercial Landings

Vessel Type	Otter Trawlers									
	151-500									
Vessel Tonnage Class	3N									
Division	January			September			October			
Month	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	
2-cm group	FREQUENCIES in ‰									
26-27	-	-	-	-	1	1	-	-	-	
28-29	-	-	-	-	-	-	7	5	12	
30-31	10	3	13	3	4	7	10	18	28	
32-33	14	18	32	30	15	45	40	18	58	
34-35	67	50	117	49	39	88	43	41	84	
36-37	100	61	161	77	37	114	60	18	78	
38-39	91	35	126	76	25	101	60	14	74	
40-41	67	50	117	82	36	118	83	37	120	
42-43	52	29	81	63	32	95	99	46	145	
44-45	57	53	110	69	29	98	66	46	112	
46-47	14	41	55	31	42	73	27	69	96	
48-49	14	44	58	17	51	68	3	46	49	
50-51	10	32	42	3	54	57	3	46	49	
52-53	5	23	28	2	43	45	-	60	60	
54-55	-	23	23	-	38	38	-	14	14	
56-57	-	9	9	-	29	29	-	9	9	
58-59	-	18	18	-	12	12	-	5	5	
60-61	-	12	12	-	9	9	-	5	5	
62-63	-	-	-	-	3	3	-	5	5	
64-65	-	-	-	-	-	-	-	-	-	
66-67	-	-	-	-	3	3	-	-	-	
Total ‰	501	501	1002	502	502	1004	501	502	1003	
Serial Numbers										
Number of Samples			1			3			1	
Number Fish Measured	105	171	276	400	336	736	151	109	260	
Mean Length (cm)			41.70			43.07			42.18	
Mean Weight (Kg)			0.78			0.82			0.85	
Total Wt. Landed (Tons)			215			594			559	
Est. Number (millions)			0.274			0.724			0.658	
Mesh Size ¹⁾			Ln			Ln&d			Ln	
			(mesh sizes vary from 3 7/8" to 4 3/4")							
Range of Depths (fm)			48-60			45-117			48-80	

¹⁾ L = large; m = manila; n = nylon; d = drilene.

(cont'd.)

TABLE 49 CANADA (Newfoundland) - 1960
(cont'd.)

LENGTH FREQUENCIES - AM. PLAICE

by A.M.Fleming
M. O'Hanlon

Commercial Landings

Vessel Type	Otter Trawlers									
Vessel Tonnage Class	151-500									
Division	3N						30			
Month	November			December			November			
Sex	♂♂	♀♀	Total	♂♂	♀♀	Total	♂♂	♀♀	Total	
2-cm group	F R E Q U E N C I E S in ‰									
22-23	-	-	-	3	-	3	-	-	-	
24-25	-	1	1	-	-	-	-	-	-	
26-27	-	-	-	-	-	-	6	-	6	
28-29	2	1	3	-	8	8	-	6	6	
30-31	6	2	8	8	8	16	6	6	12	
32-33	20	12	32	18	4	22	6	12	18	
34-35	30	21	51	21	38	59	13	6	19	
36-37	39	26	65	31	13	44	56	12	68	
38-39	56	28	84	52	17	69	44	36	80	
40-41	86	37	123	84	33	117	75	42	117	
42-43	95	30	125	89	21	110	113	60	173	
44-45	68	43	111	76	38	114	81	60	141	
46-47	56	46	102	73	46	119	75	48	123	
48-49	34	58	92	34	50	84	25	48	73	
50-51	9	53	62	5	46	51	-	18	18	
52-53	-	48	48	3	71	74	-	54	54	
54-55	-	37	37	3	42	45	-	42	42	
56-57	-	22	22	-	29	29	-	30	30	
58-59	-	18	18	-	25	25	-	12	12	
60-61	-	6	6	-	13	13	-	-	-	
62-63	-	9	9	-	-	-	-	-	-	
64-65	-	3	3	-	-	-	-	6	6	
-	-	-	-	-	-	-	-	-	-	
72-73	-	1	1	-	-	-	-	-	-	
Total ‰	501	502	1003	500	502	1002	500	498	998	
Serial Numbers										
Number of Samples			6			1			1	
Number Fish Measured	673	600	1273	191	120	311	80	83	163	
Mean Length (cm)			44.23			44.59			44.03	
Mean Weight (Kg)			0.90			0.91			0.93	
Total Wt. Landed (Tons)			648			459			46	
Est. Number (millions)			0.723			0.503			0.049	
Mesh Size ¹⁾			Lm&n			Lm			Lm	
			(mesh sizes vary from 3 7/8" to 4 3/4")							
Range of Depths (fm)			32-70			38-62			42	

1) L = large; m = manila; n = nylon

TABLE 50 CANADA (Maritimes) - 1960

LENGTH FREQUENCIES - WITCH

by W.R.Martin

D.N.Fitzgerald

DANISH SEINERS - Commercial Landings

Vessel Tonnage Class	51-150
Division	4V
Month	September
cm	FREQUENCIES in ‰
30	5
31	-
32	5
33	5
34	10
35	25
36	50
37	70
38	65
39	70
40	55
41	65
42	80
43	45
44	40
45	25
46	75
47	35
48	25
49	30
50	50
51	25
52	40
53	25
54	45
55	20
56	5
57	-
58	5
59	5
Total ‰	1000
Serial Numbers	
Number of Samples	1
Number Fish Measured	200
Mean Length (cm)	43.66
Mean Weight (Kg)	0.70
Total Wt. Landed (Tons)	
Mesh Size (inches)	4½
Range of Depths (fm)	75-85

