

INTERNATIONAL COMMISSION FOR



THE NORTHWEST ATLANTIC FISHERIES

Serial No. 2985
(B.g.14)

ICNAF Res.Doc. 73/46
(also ICES/ICNAF Salmon Doc. 73/11)

ANNUAL MEETING - JUNE 1973

Catches of species other than salmon taken by
drift nets at West Greenland during 1972

by

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Introduction

During August-September 1972 research vessels from Canada, Denmark, France and Scotland participated in an International Salmon Tagging Experiment at West Greenland. During the drift net fishing for salmon, several species of birds, mammals and fish other than salmon were taken in the drift nets. The species which occurred with most frequency was the thick-billed murre *Uria lomvia*. The catch per unit effort of murre in 1972 is compared to those obtained by Tull, Germain and May (1972).

Gear and Fishing

Drift nets used by all vessels were of standard design. Equal numbers of 5- and 6-inch monofilament nets were used in each set. Each net was 25 fath long. The 5-inch nets were 35 meshes (13.0 feet) deep while the 6-inch nets were 25 meshes (10.7 feet) deep. The basic gear unit consisted of 20 nets arranged as follows: 10 monofilament, 5 inch; 10 monofilament, 6 inch. The number of units fished per set varied from 1 to 6 depending on weather conditions. The nets were usually set at dawn and were patrolled in small rubber boats until noon when the nets were hauled back on board the larger vessel.

In all 97 sets were made in the West Greenland-Labrador Sea area (Fig. 1).

Treatment of Data

The catches of each species are expressed as the number caught per mile-hour of net fished. The catches from 5- and 6-inch mesh nets were not separated and hence could not be treated separately.

Survey Area

The area covered by the tagging program was those waters within 70 nautical miles of the West Greenland coast and which lie between 60°N and 70°N (Fig. 1). For reference purposes this overall area was divided into four smaller areas:

Table 1 Catches and catches per mile-hour of species other than salmon taken during driftnet fishing at west Greenland and Labrador Sea during August-October 1972.

Position		Date	Temp °C	Species	No. caught	Effort (mile- hrs.)	Catch per mile-hr.
Lat. N	Long. W						
<u>A. T. Cameron</u>							
56°48'45"	50°25'00"	Aug. 9	7.8	Common lumpfish	1	29.100	0.03
61°04'00"	51°17'30"	" 11	4.9	Common lumpfish	1	27.000	0.04
62°11'25"	50°17'23"	" 12	4.8	Porpoise	2	9.450	0.21
65°10'00"	54°57'30"	" 17	3.9	Common lumpfish	1	26.400	0.04
65°46'30"	53°49'30"	" 20	4.3	Common lumpfish	3	26.400	0.11
66°09'30"	55°32'30"	" 27	2.9	Thick-billed murre	2	8.850	0.23
67°30'15"	55°07'30"	" 29	3.1	Porpoise	1	27.300	0.04
67°25'30"	54°06'15"	" 31	2.8	Harp seal	1	24.600	0.04
69°08'30"	52°34'15"	Sept. 2	4.0	Black guillemot	2	24.600	0.08
				Common lumpfish	1	24.900	0.04
				Black guillemot	1	24.900	0.04
				Kittiwake	1	24.900	0.04
67°10'30"	54°31'00"	" 5	3.3	Thick-billed murre	1	24.900	0.04
				Thick-billed murre	30	30.000	1.00
69°29'30"	54°54'00"	" 10	3.4	Common murre	1	30.000	0.03
				Thick-billed murre	2	21.900	0.09
70°01'45"	57°29'00"	" 11	2.3	Dovekie	1	21.900	0.05
				Thick-billed murre	1	24.000	0.04
69°02'00"	56°00'15"	" 12	3.0	Dovekie	6	24.000	0.25
				Thick-billed murre	1	21.600	0.05
67°10'00"	54°27'45"	" 14	3.4	Black guillemot	1	8.550	0.12
67°11'00"	55°48'30"	" 16	2.7	Thick-billed murre	5	25.800	0.19
				Dovekie	3	25.800	0.12
67°37'00"	54°09'30"	" 19	3.3	Common lumpfish	2	25.200	0.08
				Thick-billed murre	49	25.200	1.94
67°36'15"	54°08'00"	" 20	3.3	Thick-billed murre	19	24.600	0.77
				Black guillemot	1	24.600	0.04
				King eider	1	24.600	0.04
				Common lumpfish	1	24.600	0.04
67°17'45"	54°25'08"	" 22	3.4	Thick-billed murre	13	24.300	0.53
				Common murre	1	24.300	0.04
<u>Scotia</u>							
65°47'30"	53°42'30"	Aug. 13	3.4	Porpoise	1	24.900	0.04
67°11'30"	54°25'00"	" 15	2.6	Porpoise	1	37.200	0.03
67°59'30"	54°22'30"	" 16	2.7	Common lumpfish	2	30.300	0.07
66°44'00"	54°46'00"	" 20	2.6	Thick-billed murre	1	13.200	0.08
65°09'30"	53°55'30"	" 21	4.1	Puffin	2	45.600	0.04
				Thick-billed murre	3	45.600	0.07
65°00'30"	53°41'30"	" 26	2.7	Common lumpfish	1	10.350	0.10
<u>Cryos</u>							
61°11'42"	49°15'24"	Aug. 28	1.0	Thick-billed murre	1	29.750	0.03
61°19'06"	51°13'06"	" 29	3.8	Thick-billed murre	3	29.250	0.10
63°21'03"	54°01'27"	Sept. 1	3.4	Thick-billed murre	1	22.750	0.04
61°09'57"	49°13'21"	" 3	1.5	Black guillemot	2	29.250	0.07
61°11'45"	51°01'51"	" 4	5.0	Thick-billed murre	1	24.500	0.04
				Porpoise	2	24.500	0.08
63°20'33"	51°40'00"	" 6	3.6	Thick-billed murre	227	29.890	7.59
				Porpoise	1	29.890	0.03

Table 1 (cont'd.)

Position		Date	Temp. °C.	Species	No. caught	Effort (mile- hrs.)	Catch per mile-hr.
Lat. N	Long. W						
<u>Cryos (cont'd.)</u>							
63°21'18"	52°25'12"	Sept. 7	2.1	Thick-billed murre	2	9.750	0.21
64°09'54"	52°42'33"	" 10	2.0	Thick-billed murre	5	28.000	0.18
65°36'45"	53°46'39"	" 11	3.0	American plaice	2	33.000	0.06
				Common lumpfish	2	33.000	0.06
				Thick-billed murre	16	33.000	0.48
65°39'21"	53°50'39"	" 12	3.0	Thick-billed murre	3	27.500	0.11
				Black guillemot	1	27.500	0.04
				Common lumpfish	4	27.500	0.15
65°39'06"	53°46'42"	" 13	2.9	Thick-billed murre	2	8.250	0.24
65°08'30"	53°04'00"	" 16	2.5	Thick-billed murre	30	30.000	1.00
				Black guillemot	1	30.000	0.03
64°55'24"	52°52'21"	" 18	2.4	Thick-billed murre	13	18.300	0.71
65°10'30"	53°00'33"	" 22	2.4	Thick-billed murre	12	25.250	0.48
62°08'00"	50°08'21"	" 23	1.7	Thick-billed murre	1	4.800	0.21
<u>Adolf Jensen</u>							
67°10'42"	54°32'42"	Aug. 6	4.1	Porpoise	3	31.750	0.09
				Common lumpfish	2	31.750	0.06
67°56'54"	54°17'54"	" 7	2.8	Cod	1	23.250	0.04
64°50'24"	52°30'36"	" 11	4.1	Porpoise	1	28.750	0.03
63°16'00"	51°09'30"	" 16	6.1	Arctic char	2	6.300	0.32
62°44'45"	50°45'36"	" 18	3.0	Thick-billed murre	2	15.150	0.13
61°02'36"	47°56'00"	" 21	5.1	Arctic char	1	5.550	0.18
63°23'54"	51°43'54"	" 24	2.1	Thick-billed murre	1	10.050	0.10
63°24'06"	51°28'12"	" 25	2.5	Dovekie	1	6.200	0.16
63°43'30"	51°57'30"	" 26	3.1	Thick-billed murre	3	13.200	0.23
63°45'00"	51°52'00"	" 27	3.0	Puffin	1	34.250	0.03
				Black guillemot	1	34.250	0.03
64°10'00"	52°41'00"	Sept. 1	2.4	Thick-billed murre	8	28.000	0.29
65°12'24"	53°04'30"	" 2	3.4	Common lumpfish	1	7.650	0.13
65°21'12"	52°34'12"	" 4	3.6	Black guillemot	1	5.900	0.17
67°09'48"	54°23'42"	" 5	3.2	Thick-billed murre	6	26.000	0.23
64°55'00"	52°22'45"	" 16	3.0	Common lumpfish	1	22.750	0.04
65°07'42"	52°33'48"	" 19	3.1	Thick-billed murre	2	9.150	0.22
				Black guillemot	3	9.150	0.33
65°19'48"	53°00'00"	" 21	3.1	Common lumpfish	1	11.550	0.09
64°54'06"	52°33'24"	" 22	2.8	Thick-billed murre	5	23.250	0.22
				Black guillemot	2	23.250	0.09
63°55'36"	52°05'54"	" 23	2.6	Thick-billed murre	4	4.700	0.85
62°55'48"	50°47'00"	" 27	2.6	Thick-billed murre	4	13.750	0.29
				Common lumpfish	1	13.750	0.07
61°19'18"	49°00'00"	Oct. 2	2.0	Thick-billed murre	1	14.250	0.07
61°18'18"	48°57'45"	" 4	1.4	Common lumpfish	5	19.750	0.25

Table 2. Total effort, salmon and thick-billed murre catches, August-October, 1972. 5- and 6-inch mesh nets combined.

Area	Date	Total effort (mile-hrs.)	Total no. of salmon caught	Salmon mile-hr.	Total no. of murre caught	Murres mile-hr.	Murres salmon
I	Aug. 8-Sept. 12	166.800	18	0.1079	5	0.0300	0.278
II	Aug. 2-Sept. 22	565.354	411	0.7270	125	0.2211	0.304
III	Aug. 10-Sept. 22	675.100	628	0.9302	99	0.1466	0.158
IV	Aug. 10-Oct. 15	473.890	543	1.1458	251	0.5297	0.462
Labrador Sea	Aug. 9-26	72.600	158	2.1763	0	0.0000	0.000
I-IV	Aug. 2-Oct. 15	1881.144	1600	0.8505	480	0.2552	0.300

Area I 68°N to 70°N
 Area II 66°N to 68°N
 Area III 64°N to 66°N
 Area IV 61°N to 64°N

One set made by the F.R.S. Scotia at 60°25'N; 50°13'W has been included with the Area IV data.

The two stations fished in the Labrador Sea were located at positions: 56°45'N; 50°30'W and 58°05'N; 52°20'W.

Results

(a) Thick-Billed Murre (*Uria lomvia*)

Thick-billed murre were taken in greater numbers by the drift nets than other species of birds (Table 1). A total of 480 murre was caught by the four research vessels during August-October. The murre were least abundant in Area I and most abundant in Area IV along the West Greenland coast (Table 2, Fig. 2). No murre were taken in the Labrador Sea. The catch per mile-hour of murre in 1972 (0.2552) was only 17% of the 1969-71 average murre/effort obtained by the A.T. Cameron's drift net fishing at West Greenland (Tull, Germain and May, 1972). The number of murre per salmon caught (0.3) was only 19.5% of the 1969-71 average of 1.54 obtained from results of fishing by the A.T. Cameron.

(b) Common Murre (*Uria aalge*)

A total of two (2) common murre was caught in Area II in two sets in the vicinity of Station 8 (Table 1, Fig. 2).

(c) Black Guillemot (*Cepphus grylle*)

A total of sixteen (16) black guillemots was captured in 11 of the 97 drift net sets. One (1) was captured in Area I, 4 in Area II, 8 in Area III, and 3 in Area IV (Table 1, Fig. 2). No black guillemots were caught in the Labrador Sea.

(d) Dovekie (*Plautus alle*)

A total of eleven (11) dovekies was caught in 4 sets - 7 in Area I, 3 in Area II and 1 in Area IV (Table 1, Fig. 2).

(e) King Eider Duck (*Somateria spectabilis*)

Only 1 king eider duck was caught. This was caught in Area III (Table 1, Fig. 2).

(f) Kittiwake (*Rissa tridactyla*)

Only 1 kittiwake was caught in the nets. This was caught in Area I (Table 1, Fig. 2).

(g) Puffin (*Fratercula arctica*)

A total of 3 puffins was caught in 2 drift net sets - 2 in Area III and 1 in Area IV (Table 1, Fig. 2).

(h) Common Lumpfish (*Cyclopterus lumpus*)

A total of 30 common lumpfish was caught in 17 drift nets. Of these 1 was caught in Area I, 7 in Area II, 14 in Area III, 7 in Area IV and 1 from the Labrador Sea (Table 1, Fig. 2). The largest single catch consisting of 5 lumpfish (0.25 per mile-hour) occurred in Area IV on October 4.

(i) American Plaice (*Hippoglossoides platessoides*)

Two American plaice were caught in one set in Area III (Table 1, Fig. 2).

(j) Cod (*Gadus morhua*)

Only 1 cod was caught in the drift nets. This one was taken in Area II (Table 1, Fig. 2).

(k) Arctic Char (*Salvelinus alpinus*)

Three (3) Arctic char were caught in Area IV during August 16-21 in two drift net sets.

(1) Common Porpoise (*Phocoena phocoena*)

A total of 12 common porpoises was captured in 8 of the 97 drift nets. Five (5) porpoises were taken in Area II, 2 in Area III and 5 in Area IV. In one set in Area IV on August 6, 3 porpoises were caught (Table 1, Fig. 2).

(m) Harp seal (*Pagophilus groenlandicus*)

One young harp seal was captured in the nets on August 31 in Area II (67°26'N, 54°06'W). Examination of the stomach for food items revealed that it was empty.

Reference

Tull, C. E., P. Germain and A. W. May. 1972. Mortality of thick-billed murrelets in the West Greenland salmon fishery. *Nature*, Vol. 237, No. 5349: 42-44.

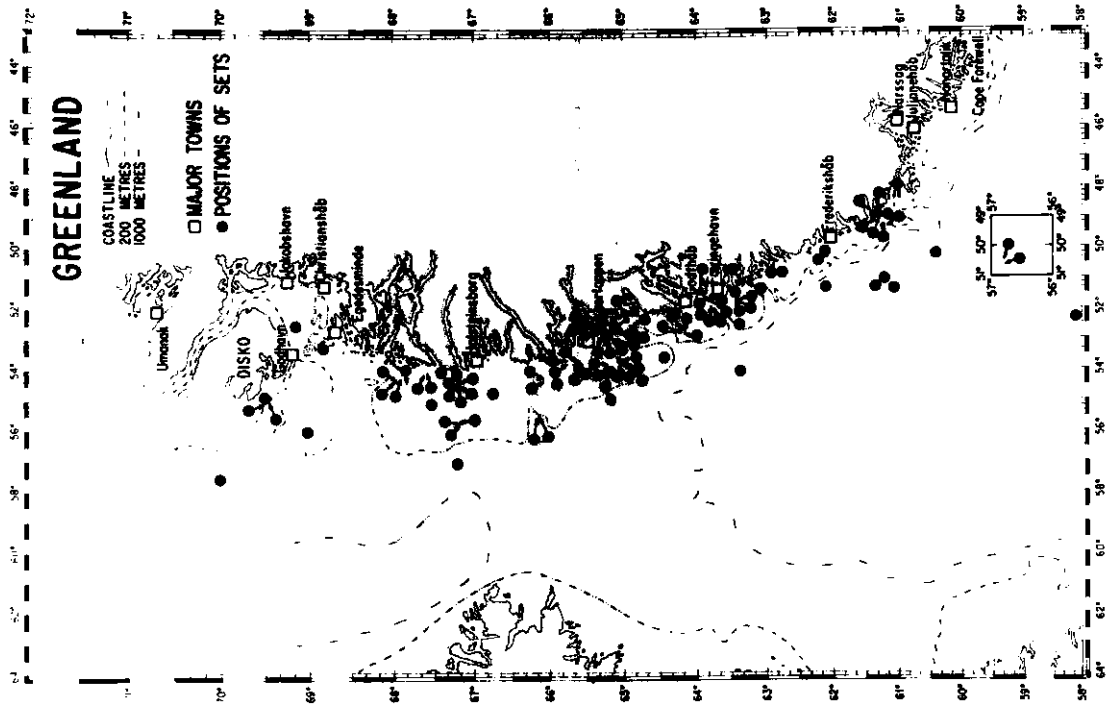


Fig. 1. Area map of West Greenland showing major towns and positions of all drift net sets fished by the A.T. Cameron, Adolf Jensen, Cryos and Scotia during August 2-October 15, 1972.

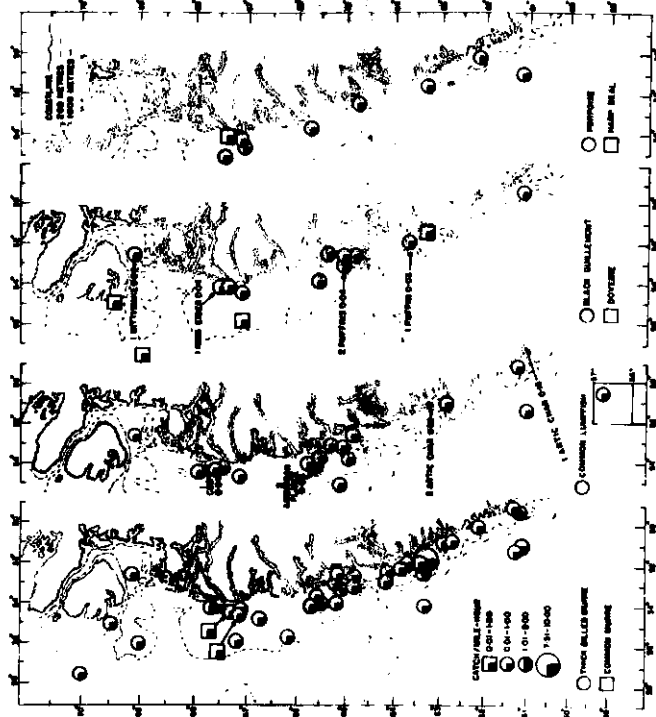


Fig. 2. Area map of West Greenland showing the positions of catches and relative catch sizes of all species other than salmon taken by drift nets during August 2-October 15, 1972. Catches are expressed as the number caught per mile-hour of net fished.

