

ANNUAL MEETING - JUNE 1973A groundfish survey off West Greenland (Divisions 1C-F),
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by

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Cruise 8/1972 of RV "Cirolana" (21 November-18 December 1972) was primarily devoted to a groundfish survey of West Greenland. Figure 1 is a track chart showing the areas fished and the positions of hydrographic sections. The positions and depths of all the trawl hauls are given in Table 1; thirty were made but two were not valid because of damage to the gear. Because of the notoriously rough ground on many of the West Greenland banks trawling positions were not random selections, but were chosen carefully using the fishing skipper's expert knowledge of the area aided by such published information as exists (Drever 1971). The depth strata sampled were limited, but the "Anton Dohrn" fished some deeper stations which could be included in future surveys to give wider depth coverage.

GEAR

The Granton trawl used was similar to that described by Jones and Pope (1972). The specifications were:

Headline	23.8 m (78 ft) with 60 x 20 cm (8 inch) deep-sea floats
Groundrope	35.4 m (116 ft)
Bosom	6.1 m (20 ft) with 7 x 53 cm (21 inch) steel bobbins
Bunts	6.1 m (20 ft) each with 3 x 53 cm and 4 x 46 cm (18 inch) bobbins

Dan leno 61 cm (24 inch) ball
Doors 3.35 m (11 ft) x 1.52 m (5 ft), 926 kg
Cod-end 130 mm nominal mesh, lined throughout with 19 mm mesh
Trawl opening approximately 25 m (82 ft) between wing ends.

FISHING RESULTS

The total catch and catch of each of the nine main species is given in kilogrammes per hour in Table 2. Altogether twenty-two species were caught, some were only caught in small numbers and others were insignificant in size. These are listed in Table 3.

Cod

Maximum catch-rate was $2\frac{1}{2}$ metric tons per hour at Cape Farewell where the catch consisted mainly of mature fish (70-85 cm total length) feeding heavily on capelin and polar cod. Other reasonable catches were 1095 kg/hour on No Name Bank and 814 kg/hour in one haul on Fyllas Bank, but these were small fish 40-55 cm total length. The age composition of the catches in total numbers caught for the northern subareas (1C and D) and southern subareas (1E and F) are given below:

Subarea	Age (years)												
	1	2	3	4	5	6	7	8	9	10	11	12	12+
1C and D	4	4	21	640	81	72	52	4	15	5	14	16	13
1E and F	-	35	22	883	133	165	87	392	392	92	24	11	2

Thus the only year-class of immature fish caught in reasonable numbers was that spawned in 1968, while the mature fish at Cape Farewell belonged mainly to the 1963 and 1964 year-classes.

Long rough dab (American plaice) (*Hippoglossoides platessoides*)

Up to 713 kg/hour were caught on Fyllas Bank. South of Fyllas Bank, this species occurred in every haul but only in small quantities. The size composition of the fish sampled is given in Table 4. No age determinations were made.

Catfish

Blue or striped catfish (*Anarhichas lupus*), spotted catfish (*A. minor*) and jelly catfish (*Lycichthys denticulatus*) all occurred widely, but the largest catch was only 210 kg/hour of blue catfish on Fyllas Bank.

Redfish (*Sebastes marinus*)

Best catches were 345 and 185 kg/hour on Fyllas Bank. Elsewhere, redfish were scarce apart from fish less than 5 cm long.

Halibut (*Hippoglossus hippoglossus*)

Halibut occurred in small numbers on most of the banks, but the maximum catch was only 60 kg/hour and the average catch was less than 10 kg/hour.

Only three Greenland halibut (*Reinhardtius hippoglossoides*) and one *Macrourus berglax* were caught, probably because no deep hauls were made.

RV "Anton Dohrn" repeated some of the hauls made by "Cirolana" on Fyllas Bank, and on 9 and 10 December the two ships attempted to fish together at Nanortalik and Cape Farewell. Catches of the two ships were comparable, allowing for differences in the gear used, but gear damage sustained by one or other of the vessels invalidated several of the comparative hauls.

HYDROGRAPHIC RESULTS

Hydrographic sections were worked at Cape Farewell, Cape Desolation, No Name Bank, Danas Bank and Fyllas Bank. Those at Cape Farewell and

Fyllas Bank were completed in collaboration with RV "Anton Dohrn". The data from these sections are included in the report on hydrographic conditions at West Greenland during 1972 (this meeting Doc. No. 73/).

In addition, bottom temperatures were taken at the end of each trawl haul (see Table 1). Apart from the cod at Cape Farewell, where the temperature was just below zero throughout the water column, most of the fish were caught in temperatures above 2°C. Very little ice was encountered during the cruise.

RV "Cirolana" is scheduled to repeat this survey between 25 October and 22 November 1973.

REFERENCES

- Drever, C., 1971. Cod fishing at Greenland. WFA, London.
- Jones, B. J. and Pope, J. G., 1972. A groundfish survey of Faroe Bank. ICNAF Res. Doc. 72/64, 16 pp.

Table 1 "Cirolana" 8/1972, trawl stations

Station number	Position				Depth (metres)	Bottom temperature (°C)
	Shot		Hauled			
9	60°03.5'N	46°00' W	60°06' N	46°08' W	110-112	-
10	59 56	45 49	59 58.5	45 58	116-116	4.64
11	60 21.5	47 10.2	60 17.5	47 14	140-140	4.11
12	60 21.5	47 09.5	60 17.5	47 13.5	132-140	-
18	61 18	49 59.5	61 18.5	50 05	120-132	3.56
19	61 37	50 34.8	61 35.5	50 29.5	132-132	4.25
24	62 37.5	51 34	62 40	51 37	132-128	2.67
25	62 26	51 19	62 29.5	51 14.5	140-138	3.46
26	62 29.2	51 17.5	62 33.5	51 27	88- 98	2.74
27	62 35	51 23	62 36	51 15	82- 68	1.54
33	63 33.2	52 40.5	63 34.8	52 32.3	128-140	3.38
[34	63 41.5	52 53	63 46.5	52 57.5	124-144]	-
35	63 48.5	53 01	63 51.3	53 02.5	154-128	4.00
36	63 53	53 07.5	63 56.7	53 13.5	238-225	4.96
37	63 55.5	53 07	63 53.2	53 01.5	130-122	3.00
41	64 19	53 25.5	64 16	53 30.5	256-260	5.00
42	64 16.5	53 33	64 16	53 41.3	250-234	5.32
43	63 38.8	52 22	63 35	52 26.2	140-132	4.18
44	63 42.4	52 56	63 45.3	53 00	130-160	3.26
45	63 47.2	53 00.5	63 50.2	53 01.7	160-128	2.81
46	63 56.5	53 17	63 59.3	53 14.5	234-138	5.06
48	62 58.4	51 57.5	63 00	51 49.5	130-140	2.73
49	60 08.5	46 34	60 08.5	46 27	116-120	3.77
[50	60 06.4	46 24.5	60 04.1	46 21.5	120-112]	2.75
51	60 08.5	46 08.3	60 06	46 03	97- 98	1.27
52	60 03	45 40.5	60 00.4	45 39	108-122	1.06
53	59 49.5	45 38	59 47.4	45 38	138-138	1.18
54	59 45	45 25	59 44	45 23	140-140	-
55	59 41.6	44 05.4	59 42	43 56.7	136-152	0.44
56	59 43.2	43 51.5	59 45.7	43 57.8	140-102	-0.12

[] indicates hauls where the gear was damaged.

Table 2 Total catch and catch of major species in kilogrammes per hour

Species	Marana Bank	Fyllas Bank	Fiske-naes	Maras Bank
	41 42	33 35 36	37 43 44 45 46	48 24 25 26 27
Catfish: blue	90 163	180 33 91	86 210 48 38 60	72 69 44 18 59
spotted	- 16	51 50 32 10	138 23 21 -	- 50 - 14 109
jelly	25 182	126 22 21 - 17	30 10 -	90 32 11 49
Cod	156 80	106 56 814 34	202 219 69 114 118	113 179 30 -
Dab, long rough	203 121	508 546 40 404	713 322 219 115 86	94 45 1 9
Halibut	6 4	27 - 33 14 8 9 2 11	- 14 -	3 6 8 2
Lumpsucker	- -	- 5 - - - 14 -	- -	- 11 - 7
<u>Raja radiata</u>	3 2	2 2 13 87 6 2 1 -	- 4	12 1 - 11
Redfish	8 48	3 + 345 9 4 4 1 185 5	-	25 2 4 -
Total (all species)	491 619	1003 714 1391 644 1298 657 375 485 345	-	456 320 85 251

F 7

No Name Bank	Malene-fjæld	Nanortalik	Cape Farewell
18†	19 11 12	9† 10 49 51 52* 53* 54* 55 56†	55 56†
120	20 24 11	- 16 25 7 - 45 1 - 7	-
9	32 - -	62 45 32 74 - - 66 - 26	-
26	24 14 65	- - 16 10 - - - 12	-
1095	213 646 341	81 40 206 152 39 33 30 927 2490	-
4	1 30 24	26 20 24 3 4 19 6 7 6	-
60	3 7 8	- - 9 - - - - -	-
-	- 24 14	+ - 3 - 15 - 54 24 42	-
1	- - -	12 3 7 - - 8 - -	-
38	2 3 +	+ + - + - + 3 -	-
1003	293 748 463	181 124 322 246 58 105 160 2583	-

† long tow, catch reduced to kg/hour.

Table 4 Length distribution of long rough dabs (numbers of fish from sampled stations)

Length group (cm)	Subareas		
	C, D	E, F	
6-8	6	40	
9-11	12	58	
12-14	69	15	
15-17	414	64	
18-20	878	107	
21-23	1 666	67	
24-26	2 202	57	
27-29	1 092	39	
30-32	795	31	
33-35	1 231	12	
36-38	911	17	
39-41	635	19	
42-44	154	6	
45-47	107	3	
48-50	19	-	
51-53	1	-	
Total number	10 192	535	

Table 3 List of species incidental to those in Table 2

<u>Greenland halibut (Reinhardtius hippoglossoides)</u>	at Stations 33, 42
<u>Witch (Glyptocephalus cynoglossus)</u>	at Station 9
<u>Triglops pingelii</u>	
<u>Arteidiellus sp.</u>	
<u>Aspidophoroides monopterygius</u>	
<u>Capelin (Mallotus villosus)</u>	
<u>Lumpenus lumpretaeformis</u>	
<u>Careproctus sp.</u>	
<u>Eumicrotremus spinosus</u>	
<u>Sandeel (Ammodytes sp.)</u>	
<u>Macrourus berglax</u>	at Station 36
<u>Polar cod (Boreogadus saida)</u>	
<u>Myxine glutinosa</u>	

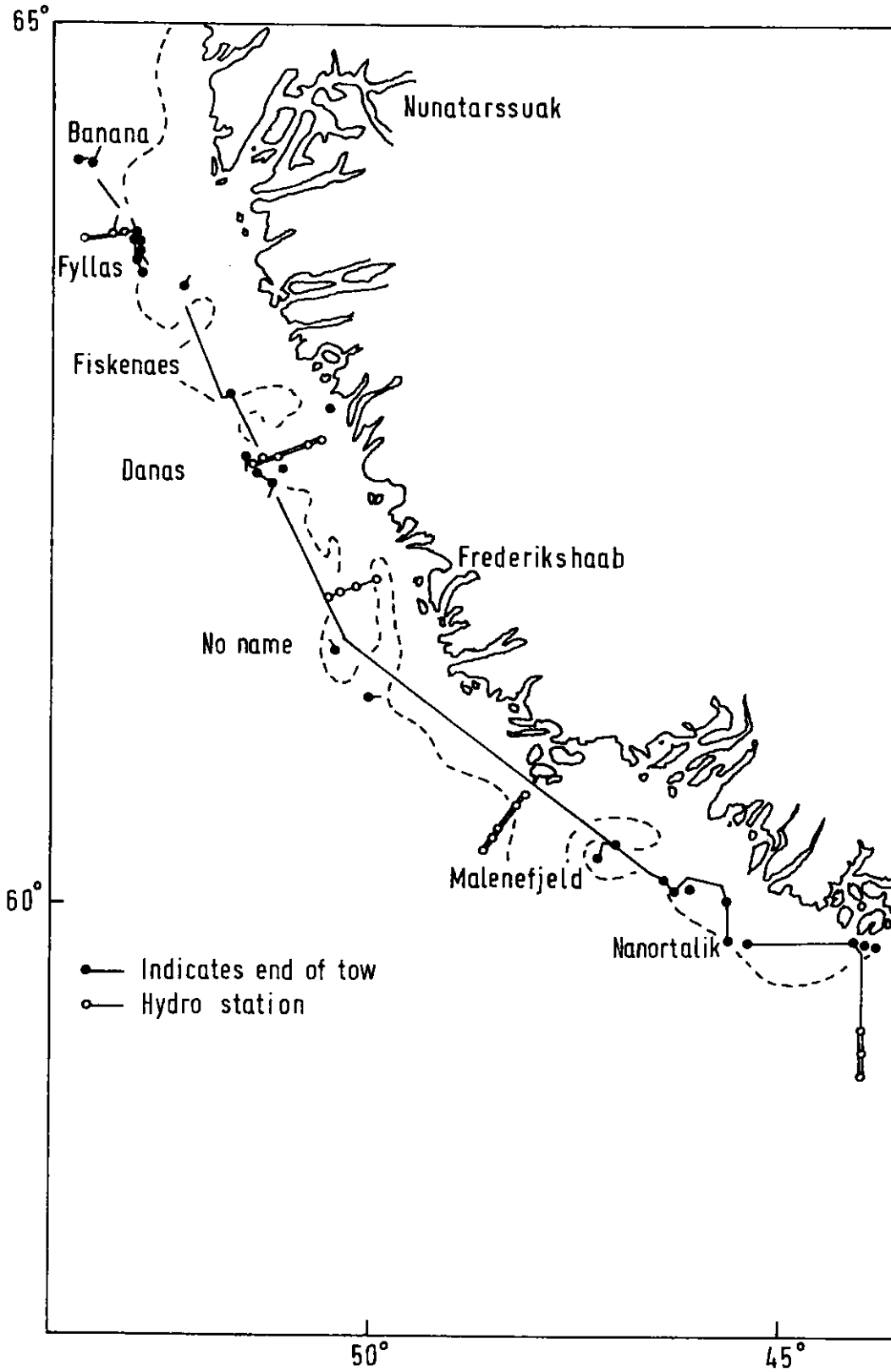


Figure 1 Track chart of RV "Cirolana" 8/72.