

Northwest Atlantic



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German Research Report for 1992

by

P. Cornus¹, H.-J. Rätz² and M. Stein¹

¹Institute for Sea Fisheries, Hamburg, Palmallee 9
FRG 2000 Hamburg 50

²Branch Office Bremerhaven
Fischkai 35, FRG 2850 Bremerhaven

Sub-area 1

A. Status of the Fishery

No fishing was conducted in 1992 due to low and unprofitable catch rates.

B. Special Studies

1. Environment

During the German groundfish survey, fishery oceanographic measurements were performed at 42 fishing stations by means of CTD/rosette. Due to the late season, standard station work was not done.

Vertical distribution of temperature in the upper 750m of the North Atlantic Ocean was mapped by means of XBT-sections between November 23, 1992 and December 27, 1992 (Fig. 1). These data were transmitted by METEOSAT to the IGOS network.

For the annual meeting of the Scientific Council of NAFO a climatic review for the Greenland area is prepared which comprises information on air temperature anomalies, ice distribution and model assumptions for the low frequency variation of the Greenland climate (Stein, 1993).

2. Biological Studies

Abundance and biomass indices were derived from annual groundfish surveys established in 1982. During the fourth quarter, stratified random surveys covered shelf areas and continental slope off West Greenland (Divisions 1B-1F) outside the 3-mile limit to the 400 m isobath.

In December 1992, only 47 valid hauls were carried out due to technical problems. Although the sampling effort was reduced by 50% as compared with 1991, the survey area was almost completely covered. Total catch amounted to 1,040 kg. 17,604 specimens were classified to 38 taxonomic units. Counts of samples and length measurements by division and species are listed in Table 1 and 2, respectively. Information about length, weight, sex, maturity and age is available for cod on individual basis.

Assessments of stock abundance indices and length structures based on survey data for demersal species (Gadus morhua, Hippoglossoides platessoides, Anarhichas lupus, A. minor and Raja radiata) and redfish (Sebastes marinus and S. mentella) are documented (Rätz 1993 a and b). The results of groundfish surveys revealed that the ichthyofauna off West Greenland showed pronounced negative trends both in aggregate fish abundance and biomass in coherence with fundamental shifts in species dominance. Since 1987, the overall decrease in aggregate abundance and biomass amounted to 85% and 98%, respectively. Very small individuals presently dominate most of demersal fish stocks. Significant negative correlations were found between annual changes in aggregate fish abundance, fish biomass (production) and fishing effort.

Sub-areas 2 and 3

A. Status of the Fishery

The German fleet operating within the NAFO Convention Area consists of vessels classified as factory trawlers (Anon. 1985). In 1992, the German nominal catch taken within the NAFO Convention Area amounted to 5,332 t or 72% of the quota. The catch figure is reduced by 60% as compared with 1991. Table 3 lists nominal catches by species, area and month. All figures refer to the reunified Germany.

From January to July 1992, factory trawlers based at Cuxhaven or Rostock fished on cod and redfish in Divisions 2J3KLMN. Fishing activities were carried out only during the first 2 quarters because of limited quotas or low catch rates. Effort was mainly directed at redfish and cod accounting for 92% and 5% of the total catch, respectively. The highest catches were taken in March and April accounting for 64% of the total catch. 4,911 t or 92% of the nominal catch were taken in Divisions 3LMN.

B. Special Studies

1. Environment

No research in relation to environment was carried out by Germany in NAFO Sub-areas 2 and 3.

2. Biological studies

No biological samplings or studies were performed by Germany in NAFO Sub-areas 2 and 3.

References:

- Anon. 1985. Definition and classification of fishery vessel types. Fao Fish.Tech.Paper 267:1-63
- Rätz, H.-J. 1993 a. Abundance and Present Length Structure of Demersal Fish Stocks off West Greenland (Divisions 1B-1F, 0-400m). Announced for NAFO Scientific Council Meeting 1993.
- Rätz, H.-J. 1993 b. Redfish Sub-area 1 (0-400m): Present Stock Abundance Indices and Length Composition. Announced for NAFO Scientific Council Meeting 1993.
- Stein, M. 1993. Climatic conditions around Greenland-1992. Announced for NAFO Scientific Council Meeting 1993.

Table 1: German groundfish survey off West Greenland (Division 1B-1F), December 1992. Numbers of valid hauls and samples of length measurements by division and species.

Division	1B, 1C	1D	1E	1F	Total
Hauls	12	11	12	12	47
Cod	8	7	8	8	31
Golden Redfish (>15cm)	7	7	7	7	28
Beaked Redfish (>15cm)	3	1	4	0	8
Sebastes spp. (<=15cm)	9	7	8	7	31
American Plaice	12	10	11	12	45
Atl. Wolffish	10	10	10	11	41
Spot. Wolffish	4	6	4	4	18
Starry Skate	11	10	12	8	41

Table 2: German groundfish survey off West Greenland (Division 1B-1F), December 1992. Numbers of length measurements by division and species.

Division	1B, 1C	1D	1E	1F	Total
Cod	66	26	26	48	166
Golden Redfish (>15cm)	12	30	119	129	290
Beaked Redfish (>15cm)	3	2	23	0	28
Sebastes spp. (<=15cm)	2,233	3,134	4,465	1,891	11,723
American Plaice	627	561	471	151	1,810
Atl. Wolffish	103	226	476	359	1,164
Spot. Wolffish	5	15	8	5	33
Starry Skate	156	395	154	23	728

Table 3: German nominal catches (tons) by species, Division and month in 1992.

Spec. COD	RED	RED	RNG	PLA	WIT	GHL	SKA	CAT	HAL	Total
Area 2J3KL	3M	3LN	23	3LNO	2J3KL	2J3KL	23	23	23	
Month										
1	219	28	19	5	6	0	14	26	0	317
2	66	205	53	29	7	5	40	2	1	409
3	0	1,907	32	0	0	0	0	0	0	1,939
4	0	482	996	0	0	0	0	0	0	1,478
5	0	303	461	0	0	0	0	0	0	764
6	0	425	0	0	0	0	0	0	0	425
7	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0
Total	285	3,350	1,561	34	13	5	54	28	1	5,332

Legend
 COD = cod
 RED = redfish
 RNG = roundnose grenadier
 PLA = American plaice
 WIT = witch flounder
 GHL = Greenland halibut
 SKA = skates
 CAT = wolffish
 HAL = halibut

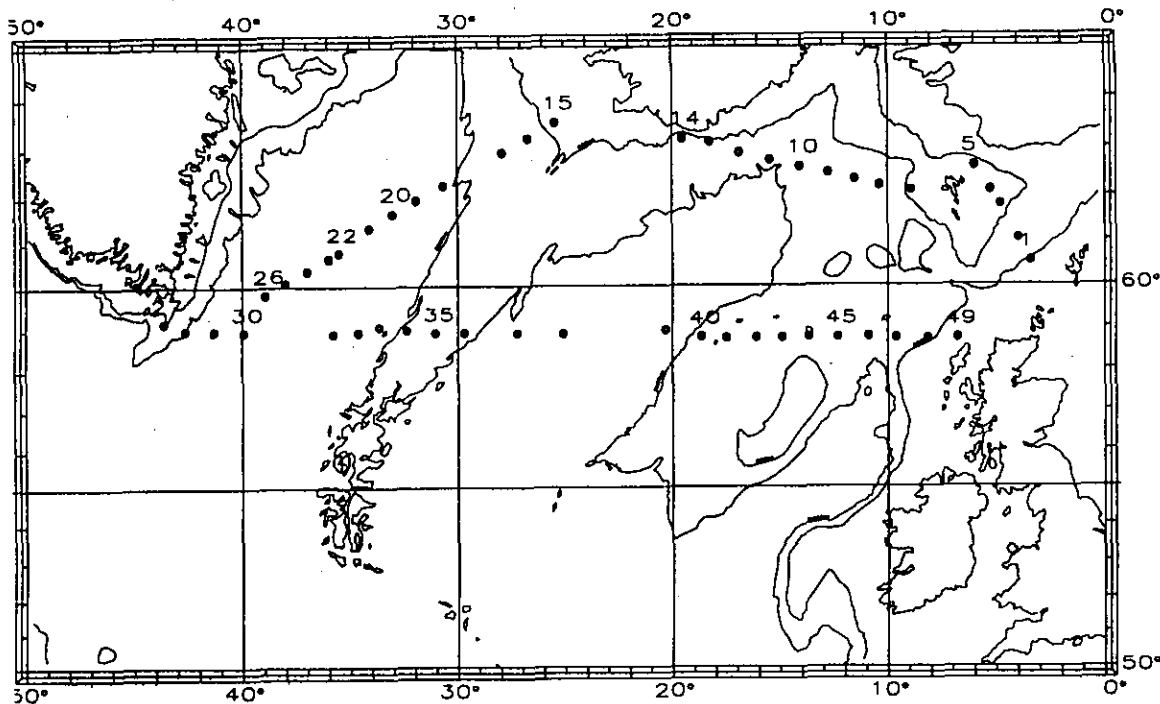


Fig. 1 Positions of XBT-stations performed during 23.11.-27.12.1992.