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German Research Report for 1997

by

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Subarea 1

A. Status of the Fishery

In 1997, fishing was conducted with low effort in Division 1D. The fishery was exclusively directed towards Greenland halibut since fishing activities of the far distance fleets were transferred mainly to the oceanic redfish stock in the Reykjanes-Ridge area. By end of the year, reported catches amounted to 448 tons of Greenland halibut and 4 tons of roundnose grenadiers as by-catch. Table 1 lists a breakdown of the effort, catches, and unstandardized Greenland halibut CPUE by month.

B. Special Studies

1. Environment

During the German groundfish survey off Greenland (23.10.-03.11.97), fishery oceanographic measurements were performed at 45 fishing stations by means of CTD/rosette. Additionally, temperature and salinity at stations of 2 NAFO standard oceanographic sections off West Greenland (Cape Desolation and Fyllas Bank) were measured in order to describe climatic trends. For the annual meeting of the NAFO Scientific Council a climatic review for the Greenland area was prepared which comprised information on air temperature anomalies and ice distribution (Stein, 1998). Existing time series of cod recruitment, air temperatures of Nuuk/West Greenland, subsurface temperature on Fylla Bank, and the winter (December to February) NAO Index, were analysed highlighting the dominating influence of the North Atlantic Oscillation (NAO) on climatic changes and on biotic processes in the North Atlantic Ocean (Stein et al., 1998). For the period 1982-97, the trend in near bottom temperature regime was analysed based on measurements at fishing stations conducted during the surveys (Rätz, 1998).

2. Biological Studies

Since 1982, annual groundfish surveys were conducted. During the fourth quarter, stratified random surveys covered shelf areas and the continental slope off West Greenland (Divisions 1B-1F) outside the 3-mile limit to the 400 m isobath. In October-November 1997, 45 valid hauls were carried out and the standard survey area was completely covered. The total survey catch amounted to 1 866 kg. 38 588 specimens were classified to 49 taxonomic units. Assessments of the stock status for ecologically and economically important groundfish species were documented (Rätz, 1998). The status and trends of the demersal fish stocks off East Greenland were presented and compared with those off West Greenland.

One sample of Greenland halibut length measurements was provided by direct observations on board off a commercial vessel. The sample was taken during the fourth quarter and raised to the catch weight of 47 202 kg. The range in total length varied between 44 and 66 cm. The bulk of fish had a body length of 48-60 cm, the mean amounting to 54.8 cm (Tab. 2, Fig. 1). For 1996 and 1997, catch rates (Tab.1) and size composition of the catches do not indicate significant changes in the stock abundance or structure.

Subareas 2 and 3

A. Status of the Fishery

In 1997, German fishing vessels did not visit Sub-areas 2 and 3.

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:

- Rätz, H.-J. 1998. Abundance, biomass and size composition of dominant demersal fish stocks and trend in near bottom temperature off West and East Greenland, 1982-97. Announced for NAFO Scientific Council Meeting June 1998.
- Stein, M. 1998. Climatic Conditions Around Greenland - 1997. Announced for NAFO Scientific Council Meeting June 1998.
- Stein, M., J. Lloret and H.-J. Rätz 1998. North Atlantic Oscillation (NAO) Index - Environmental Variability Effects on Marine Fisheries ? Announced for NAFO Scientific Council Meeting June 1998.

Table 1. German effort (hours fished), catches (tons) and unstandardized CPUE (kg/h) and accompanied standard deviations for Greenland halibut by division and month, 1996-97.

Year	Month	Effort 1D	Catch 1D	CPUE 1D	St.Dev.
1996	September	74	19	265	97
1996	October	490	136	270	104
1996	November	562	259	457	147
1996	December	90	37	415	150
1996	Σ	1217	452	365	158
1997	November	758	334	456	262
1997	December	262	112	423	138
1997	Σ	1020	446	448	237

Table 2. Percentage length frequencies derived from commercial catches taken in NAFO Division 1D during the 4th quarters in 1996 and 1997.

Length (cm)	4 th quarter 1996	4 th quarter 1997			
40.5	0	0	67.5	1	0
41.5	1	0	68.5	1	0
42.5	0	0	69.5	1	0
43.5	1	0	70.5	1	0
44.5	1	1	71.5	0	0
45.5	2	2	72.5	1	0
46.5	3	2	73.5	0	0
47.5	4	2	74.5	0	0
48.5	5	4	75.5	1	0
49.5	11	5	76.5	0	0
50.5	11	7	77.5	0	0
51.5	11	8	78.5	0	0
52.5	7	8	79.5	0	0
53.5	7	8	80.5	0	0
54.5	7	7	81.5	0	0
55.5	6	8	82.5	0	0
56.5	4	6	83.5	0	0
57.5	2	5	84.5	0	0
58.5	4	5	85.5	1	0
59.5	0	4	86.5	0	0
60.5	1	5	87.5	1	0
61.5	1	2	88.5	0	0
62.5	1	2	89.5	0	0
63.5	0	2	90.5	0	0
64.5	2	2			
65.5	1	2	Σ	101	98
66.5	0	1	n	149	31084
			weight (kg)	220	47202

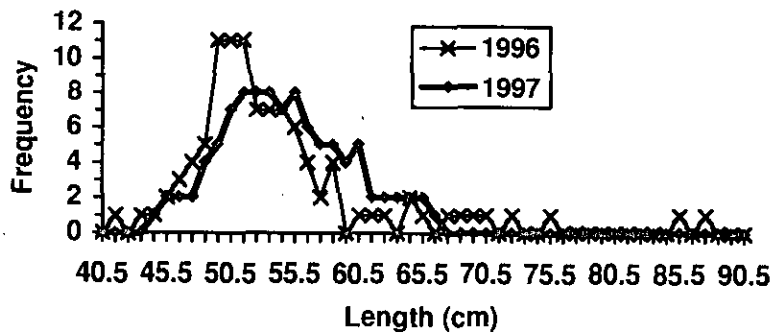


Fig. 1. Length frequencies of Greenland halibut derived from commercial catches taken in NAFO Division 1D in the 4th quarters in 1996 and 1997 (Tab. 2).