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Status of fisheries and research carried out in Subarea 2 in 1974

by

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Reports on research in Subarea 2 in 1974 are contained in Summary Documents 13 (Spain), 15 (Canada), 24 (UK), 25 (France), 27 (Norway), 28 (Poland) 29 (GDR), 30 (USSR), 31 (Denmark), 36 (FRG), Iceland reported no catches in the ICNAF Area in 1974. Results of specific research studies are contained in Research Documents 2, 3, 5, 6, 7, 24, 25, 26, 29, 55, 76, 77, 78, 79, 84, 90, 96, 101, 116,.

1. Status of Fisheries

Nominal catches of the major species fished in Subarea 2 during the past 5 years are listed in Table 1. An increase of 64% occurred in the total catch of all species in Subarea 2 in 1974. Major changes relative to 1973 were reported in cod catches (+ 117%], redfish catches (-45%) and capelin catches (+ 42%). Catches of Greenland halibut and roundnose grenadier increased slightly over 1973. About 90% of the total catch of all species was taken from Div. 2J, the only species for which substantial catches were taken from 2G and 2H being roundnose grenadiers (2G) and Greenland halibut (2G H). The increased catches in Subarea 2 were in part at least, because of improved ice conditions early in the year over 1973 (Report of Environmental Subcommittee, Section 6), resulting in increased fishing activity and especially cod catches in Subarea 2 and decreased activity in Div. 3K and 3L. As a result the catches from Subarea 2 and Div. 3KL together increased by only 13%. The remainder of the increase in Subarea 2 was accounted for mainly by capelin.

Substantial increases in cod catches in 1974 were reported by FRG, GDR, Poland, and Portugal while the other major country fishing Subarea 2 (USSR) reported about the same cod catch as in 1973. The Canadian inshore catch declined from 4,744 tons

in 1973 to 1,806 tons in 1974. FRG reported that the catch per day in Div. 2H was the highest since 1969 although the catches were small because of severe ice conditions.

2. Work Carried Out

a) Canada. Monitoring of the age and size composition of catches from the coastal fishery was continued. Two research vessel cruises were made to the area, one in April and one in June. Catches were small. A total of 10 large salmon, 16 grilse and 10 Artic char were tagged in northern Labrador. All recaptures to date have been from Canada. An acoustic survey of capelin was conducted on Hamilton Bank during October with no significant quantities being recorded. Hydrographic observations were made in August and bathymetric surveys for navigational charting and resource charting were carried out.

b) Denmark. One sample from the commercial fishery in Div. 2J was analysed.

c) Fed. Rep. Germany. A groundfish survey cruise to Div. 2J was conducted during November - December in which 43 randomly selected trawling stations were fished. Hydrographic observations were carried out and weights and numbers of all finfish species recorded. Samples for length frequencies and age compositions were collected from priority species, especially cod and redfish.

Sampling of commercial catches was carried out on board of a factory trawler in Div. 2J in February 1974.

d) German Democratic Republic. Biological sampling for length and age was carried out from cod, roundnose grenadier, Greenland halibut and redfish fisheries.

e) Norway. Research on harp and hood seals was continued.

f) Poland. Commercial catches of cod, redfish, Greenland halibut, and American plaice were sampled for lengths and ages.

g) USSR. Hydrographic observations were made at various times throughout the year. Samples of cod and redfish for length and age were obtained from the commercial fishery. Cod and Greenland halibut were tagged in the Labrador area. A survey of cod eggs was conducted in the area.

h) UK. The continuous plankton recorder survey sampled 1316 miles in the area in 1974. Work has continued on the examination of material on cod isozymes collected from the ICNAF area in earlier years.

3. Research Results Reported

Most countries with significant catches in Subarea 2 in 1974 conducted sampling studies of their commercial catches. These and other data were used in the assessment of the various stocks in the Subarea and the recommendation of regulatory action to the Commission. The results of these assessments are summarized in the report of the Assessments Subcommittee and in the report of Scientific Advisers to Panel 2. Other new information on fish stocks and the environment in Subarea 2 is summarized below.

a) Hydrography. During early winter temperatures were very close to normal in 1974 and even slightly higher than the long-term average but in the spring and summer they dropped considerably to about the level of the cold 1972 condition. In mid August surface temperatures (0 - 10m) were similar to the average of recent years but considerably lower than those of 1973. Also, the volume of water below 0°C associated with the Labrador current was generally less and temperatures lower than the average but similar to those in recent years. In the summer of 1974 there was less solar heating in surface waters than in 1973. In November, temperatures were lower than average in the coastal branch in every water layer and also lower than the 1973 temperatures. They were also lower than the long-term average but higher than 1973 in the main branch of the Labrador current. Temperatures reverted to normal conditions in December.

Data on the salinity of the waters in Subarea 2 indicated that a small negative salinity anomaly exists in the spring in the Labrador Current and that the greatest salinity in the Davis Strait area is in the central part of the strait decreasing toward the coasts of Canada and Greenland.

Data on water circulation indicated that the strength of the Labrador Current decreased between 1973 and 1974. Res. Docs. 75/96 and 75/116 contain proposals for standard hydrographic sections.

b) Plankton. The continuous plankton recorder survey indicated that phytoplankton abundance was slightly above average in Subarea 2 in 1974. The highest numbers of copepods were found in August much later than in previous years. Euphausiids were

also above average in Subarea 2 while numbers of young fish were very low in 1974. Average number of cod eggs in surveys by USSR were highest in 1970, 1972 and 1974 and lowest in 1971 and 1973.

c) Cod. The fisheries of some countries were not as severely restricted by ice conditions during the first part of 1974 and cod catches increased to 126 thousand tons from 58 thousand tons in 1973. There was at the same time a decrease in cod catches in Div. 3K and 3L indicating that some shift in fishing effort into Subarea 2 may have taken place so that the total cod catch from Subarea 2 + 3KL was only slightly higher than in 1973. USSR and FRG sampling indicated that cod of the 1965–68 year-classes were dominant in the catches. Mean lengths and mean ages of cod have gradually increased between 1971 and 1974 because of recruitment of poor year-class. Polish commercial sampling confirmed that the 1967 and 1968 year class were main contributors to the catch while year classes later than 1968 were considered as poor. GDR sampling indicated that the 1965–67 year-classes were dominant in the commercial catches. The 1968 year-class was dominant in the Canadian trap fishery while the gillnet fishery was composed of fish ages 8–14.

Although catch rates varied in the commercial fishery, results of groundfish surveys conducted by FRG in Div. 2J indicated a severe reduction in abundance of cod since 1972. At the same time numbers caught per hour in the USSR commercial fishery has declined. FRG Research Report states that a continued decline of catch per day in the FRG fishery in Div. 2J+3KL cod stock, a sharp decline in total catch despite increased effort and a continuous reduction of the proportion of cod in total catches since 1972 all indicate a recent serious reduction in stock size. USSR young fish surveys indicate that 1969-72 year-classes are all poorer than the earlier 1965–68 year-classes.

In summary, the good year-classes which contributed to high catches in the late 1960's are being replaced by poor 1969–72 year-classes and abundance is therefore lower. Thus, catches will continue to be low as these year-classes become dominant in the fishery.

d) Redfish. Polish sampling of commercial catches of redfish indicated that in January in Div. 2J, 23-43cm fish were caught with mean length of 26.6cm and in March, 26-48cm fish were caught with a mean length of 34.9cm. USSR sampling indicated that fish of mean length of 35.0cm for males and 38.0cm for females were taken in the commercial fishery with ages 8-12 being dominant. A second peak occurred at ages 15-18 years and 37 to 45cm. Lengths in GDR samples ranged from 26-40cm.

e) Flatfish. A new assessment of Greenland halibut was presented and length weight data for witch was summarized. Polish length measurements of Greenland halibut showed that 30-90cm fish occurred in the catches from January to April with peak lengths of 50-55cm. No essential changes from previous years were observed. USSR reported tagging 625 Greenland halibut in the Labrador area. GDR samples indicated Greenland halibut 58-94cm taken in the catch. Polish samples of witch showed the catches were composed of fish of 35 to 71cm in length and 7-20 years of age with no significant changes being noted from previous years. American plaice catches were comprised of fish of 3 to 17 years of age and 25 to 60cm in length.

f) Roundnose Grenadier. The available data on distribution, size, food and migration are summarized in Res. Doc. 75/26. GDR samples showed that the bulk of the fish in the catches were between 52 and 67cm in length and 9 to 14 years of age.

g) Capelin. The relevant research data on capelin are summarized in STACRES REPORT of the 1975 Special Commission Meeting (Summ. Doc. 75/5) and in the 1975 Assessment Subcommittee Report (Summ. Doc 75/18). Only one new document has become available since then (Res. Doc. 75/84) dealing with the distribution of capelin according to seasons and areas in south Labrador and Grand Bank. In August - September concentrations of feeding capelin were distributed over a wide area in Div. 2J and 3K. Also the size and age compositions of the 1974 USSR catch are presented. Most were between 10 and 19cm long and 3 and 4 years of age.

h) Sampling. An analysis of sampling efficiency indicated dificiencies in sampling for particular country - gear - quarter categories for most stocks. The following stocks need special attention. Redfish, Subarea 2 + Div. 3K; Greenland halibut, Subarea 2 + Div. 3KL: Roundnose Grenadier, Subarea 2 + 3.

TABLE 1. NOMINAL CATCHES FROM SUBAREA 2, 1970-74 ('000 TONS)

	1970	1971	1972	1973	1974
All Species	255	246	220	159	260
Cod	224	163	163	58	126
Redfish	11	7	10	11	6
American plaice	2	2	5	2	1
Witch flounder	5	2	1	1	4
Greenland halibut	6	10	13	14	16
Roundnose grenadier	1	57	3	7	10
Capelin	-	-	18	60	85
Others	6	5	7	6	12

TABLE 2. NOMINAL CATCHES OF COD IN SUBAREA 2, 1970-74 BY COUNTRY ('000 TONS)

	1970	1971	1972	1973	1974
Canada	2	3	2	5	2
Denmark	-	-	-	+	1
France	16	6	5	1	1
FRG	50	20	10	7	29
GDR	4	9	11	2	19*
Norway	3	6	1	1	1
Poland	36	17	19	3	24
Portugal	42	34	20	13	21
Romania	3	1	1	+	-
Spain	11	6	2	1	4
USSR	50	62	90	25	24
UK	3	-	3	1	+
USA	1	-	-	-	-
TOTAL	22	163	163	58	126

\+ Catch less than 500 tons

* GDR catches are taken from their Research Report (Summ. Doc. 75/29).