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Status of Fisheries and Research Carried Out in Subarea 3 in 1969

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I. Pertinent Documents

The following research documents contain information relating to Subarea 3.

70/10, 70/13 (Pt.III), 70/16, 70/17, 70/19 (+ addendum),70/20,70/21,70/22,70/25
70/27, 70/31, 70/36, 70/37, 70/46, 70/47, 70/48, 70/49, 70/51, 70/54,
70/61, 70/66, 70/67, 70/68, 70/77, 70/85, 70/88, 70/89 and 70/94.
Documents related solely to salmon are not included.

The latest information regarding the state of the fish stocks and the most recent mesh size assessments are given in the Report of the Assessments Subcommittee.

II. Status of the Fisheries

Table 1 gives the total nominal catches from Subarea 3 of all species, and of cod, haddock, redfish and herring considered separately, for the year 1969 and the four preceding years. It should be noted, however, that the 1969 catch data do not include catches by Denmark, France, Romania and non-member countries.

Table 1. Nominal catches from Subarea 3 (thousand metric tons round fresh)

	1965	1966	1967	1968	1969
All species	740	748	1,103	1,144	932*
Cod	498	499	721	733	522*
Haddock	9	10	11	7	4*
Redfish	112	79	89	53	86*
Herring	8	23	79	145	145*

* incomplete, see note above

Table 2 gives the nominal catches of selected other species from Subarea 3 for the years 1968 and 1969.

Table 2. Nominal catches of other species taken from Subarea 3 in 1968 and 1969 (metric tons round fresh).

Species	1968	1969
Halibut	1,388[a)]	575*
Greenland halibut	24,003	17,721*
American plaice	55,997	70,701*
Witch	5,414	4,382*
Yellowtail flounder	5,001	10,452*
Flounder (not specified)	66,177	37,041*
Roundnose grenadier	24,159	11,682*
Skates	317	2,672*

*incomplete, see note above.
a) includes some greenland halibut caught by non-member countries.

Table 3 gives the nominal catches in Subarea 3 by species and country for the years 1968 and 1969 insofar as the latter are available. If it is assumed that the catches of Denmark, France and non-member countries in 1969 were similar to those of 1968 then the total catch of all species in Subarea 3 may have decreased by about 100,000 tons. Catches by Canada and Norway increased by 23,000 and 22,000 tons respectively, but those of Poland, Portugal, Spain, USSR and United Kingdom decreased. The principal reductions were USSR 83,000 tons, Spain 33,000 tons and United Kingdom 22,000 tons.

Cod

Although the information is not yet complete, it seems clear that cod catches fell in 1969 by not less than 100,000 tons. The catches of Portugal and Spain declined by about 15%; those of USSR and UK fell more sharply due to diversion of effort to grounds outside the Convention area. The Norwegian catch more than doubled while that of Canada was the same as in 1968. Figures for Denmark and France are not yet available.

The heaviest catches were made in the northern part of the Subarea, particularly in Divisions 3K and 3L. The Canadian inshore landings from Div. 3L were higher than for several preceding years (Res. Doc. 70/10); long line and gill net catches were dominated by the 1961 and 1962 year classes. Increased trap catches were provided by the 1964 year class. In Canadian research vessel catches in May and June on the eastern part of the Grand Bank cod of the 1966 year class dominated the catches (Res. Doc. 70/10).

Polish catches in June in Div. 3K were dominated by the year classes of 1962, 1963 and 1964 which together made up 64.2% of the total.

Portuguese trawlers and dory vessels fished mainly in Division 3L, the year classes of 1963, 1964 and 1965 being most important in the trawl catches (Res. Doc. 70/17). In the Spanish catches the predominant year classes were 1962, 1963 and 1964 (Res. Doc. 70/19).

Soviet catches came mainly from Divisions 3K, 3N and 3O. Age-composition of trawl catches showed the year classes 1961, 1962, 1963 and 1964 to be important in March, April and May (Res. Doc. 70/20).

Recorded discard rates of cod in Subarea 3 rarely exceeded 5% (Res. Doc. 70/25).

Haddock

Haddock landings again declined, although Canadian landings, mainly from Division 3P, almost doubled. Canadian biologists report that survival from the 1967 and 1968 year classes on the Grand Bank is extremely low (Res. Doc. 70/10) but Soviet biologists found in 1968 young haddock of local origin on the southern slopes of the Grand Bank and suggest that this may be the first sign of a recovery of the South Newfoundland haddock stock. On the St. Pierre Bank haddock of the 1966 year class made up almost the whole research vessel catch in March. The 1967 and 1968 year classes seem to be almost total failures (Res. Doc. 70/10).

Redfish

Redfish catches increased substantially over 1968 figures. The most productive areas were Divisions 3N, O and Ps. Landings also increased from Division 3K.

Herring

All the herring was taken by Canada, mainly from Divisions 3Pn and 3Ps. The catch was the same as in 1968.

Flounders

The total catch of flounders of all kinds fell by about 15%, but Canadian landings of American plaice rose sharply due to increased effort; catch per effort declined. Most of these were taken from Divisions 3L and 3N. The trend of this fishery since 1956 was reviewed by Canada in Res. Doc. 70/27. It appears that the effort at present exerted may be a little more than that required to give the maximum sustainable yield. USSR still returned substantial quantities of "Flounders not specified" presumably many of these were

Table 3. Nominal catches from Subarea 3 in 1968 and 1969 by species and country
(Thousand metric tons round fresh)

Species	Year	Total	Canada	Denmark	France	Germany	Iceland	Norway	Poland	Portugal	Spain	USSR	UK	USA	Non members
Cod	1968	733*	145	17	62	-	Ø	12	18	119	201	132	24	-	2
	1969	522	145	na	na	Ø	Ø	33	14	99	171	57	3	Ø	na
Haddock	1968	7*	1	Ø	Ø	-	-	-	-	-	4	1	Ø	-	-
	1969	4	3	na	na	-	-	-	-	-	2	-	Ø	-	na
Redfish	1968	53*	8	-	1	-	Ø	Ø	6	-	-	32	Ø	Ø	6
	1969	86	9	na	na	-	Ø	Ø	7	-	-	70	-	Ø	na
Greenland halibut	1968	24*	13	-	-	-	-	-	4	-	-	7	-	-	-
	1969	18	12	na	na	-	Ø	Ø	3	-	-	3	-	-	na
American plaice	1968	56*	55	-	1	-	-	-	-	-	-	-	Ø	-	-
	1969	71	71	na	na	-	-	-	-	-	-	Ø	-	-	na
Flounders	1968	66*	Ø	-	-	-	-	-	4	-	-	62	Ø	-	Ø
(not specified)	1969	37	Ø	na	na	-	-	-	1	-	-	36	-	-	na
Groundfish	1968	13*	Ø	Ø	-	-	-	-	-	-	-	12	Ø	-	Ø
(not specified)	1969	7	Ø	na	na	-	-	-	-	-	-	7	Ø	-	na
Herring	1968	145*	145	-	-	-	-	-	-	-	-	-	-	-	-
	1969	145	145	na	na	-	-	-	-	-	-	-	-	-	na
Total all species:	1968	1,144*	386	17	65	-	Ø	12	31	119	206	272	25	Ø	9
	1969	933	409	na	na	Ø	Ø	34	25	99	173	189	3	Ø	na

* Does not include catches by non-member countries
Ø Less than 1,000 tons
na Not available

American plaice.

Other Species

Landings of Greenland Halibut declined by about 25%; most of these were taken in Divisions 3K and 3L. A reduction in Canadian landings was attributed to overfishing by gill nets (Res. Doc. 70/10). Landings of capelin by Canada were 2,028 tons (1968 - 2,578 tons). Canada also landed 978 tons of swordfish against only 245 tons in 1968. Squid were again extremely scarce with only 22 tons recorded from Subarea 3. Landings of roundnose grenadier by USSR declined from 24,000 tons in 1968 to 12,000 tons in 1969. USSR began to exploit skates taking 2,562 tons mainly from Divisions 3K and 3N. Canadian landings of Atlantic salmon fell from 1,047 tons in 1968 to 907 tons in 1969. USSR reported catches of only 7,118 tons of "groundfish not specified" from Subarea 3 compared with 12,470 tons in 1968.

III. Research Work

Research studies made in Subarea 3 were reported by Canada, France, Germany, Poland, Portugal, Spain, USSR and United Kingdom.

Hydrography

Hydrographical studies were made by Canada, Germany and the USSR. It is difficult to make a general statement regarding conditions in Subarea 3 in 1969 but the following is extracted from the Report of the Environmental Sub-Committee.

"In Subarea 3 temperature conditions in July - August were variable: in some areas, depths and months they were higher and in others lower than the average. On the southern Grand Bank temperatures near the bottom were lower than in 1968".

Plankton

Few plankton studies were reported. The Continuous Plankton Recorder survey was maintained by the United Kingdom and a total of 15,664 miles was sampled in Subarea 3. The spring outburst of phytoplankton was extremely abundant on the Grand Bank with a maximum in April (Res. Doc. 70/21). Calanus was abundant in Subarea 3 particularly in March. Young stages of redfish were abundant in the shelf and slope waters and to the east of the Grand Bank (Division 3M) in April and June. Res.Doc.70/85 from the United Kingdom provides a summary of more than 10 years work on the distribution and abundance of redfish larvae in the Atlantic.

Young Fish Studies

The USSR presented a valuable summary of ten years work on the distribution and abundance of young cod in Subarea 3 based on trawl surveys (Res. Doc. 70/51). The 1969 survey showed that on the north Newfoundland Bank 3 and 4 year olds of the 1966 and 1965 year classes were prevalent in catches of young cod. The 1966 year class is considered to be stronger than average and also the 1967 year class. On the southern Grand Bank (Divs. 3N and 3O) the 1966 year class was a little stronger than previous year classes, except that of 1964, but the 1967 year class was poor. The 1968 year-class, however, will probably be of great importance to the fishery. It is also numerous on the St. Pierre Bank.

Special Biological Studies

Special biological studies of the grenadier Macrurus berglax were reported by Poland (Res. Doc. 70/10). Similar studies of Macrurus rupestris were made by the USSR (Res.Doc. 70/20). France provided biological data on redfish from 3Pn and 3Ps (Res.doc. 70/54) while the USSR studied depth distribution of beaked redfish on the Flemish Cap (Res.Doc. 70/47). A special study was made of the isolated cod stock on Flemish Cap (Res.Doc. 70/46) leading to the the conclusion that some limitation of fishing was desirable. Variability in the number of vertebrae in haddock from Subarea 3 was described in Res.Doc. 70/48 from the USSR.

Tagging

The USSR tagged cod, american plaice, and yellowtail flounder in Subarea 3 (Res. Doc. 70/20). Canada tagged Greenland halibut in White Bay in October 1969 (Res.Doc. 70/10).

Selectivity

The only selectivity study reported described comparisons of normal and thick-twined codends by Germany on the Grand Bank and St. Pierre Bank. It was concluded that for cod there was no difference between the selectivity of the extra strong polyamide codend and that made of 'normal' twine. Some results were also obtained on selectivity for redfish (Res.Doc. 70/37).