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Summary of Research Work carried out in Subarea 1 in 1962

by Paul M. Hansen

The present summary is based on the research reports from the following member countries: Denmark, Germany, Iceland, Norway, Portugal, Spain, U.K. and U.S.S.R.

1. Hydrography.

Hydrographic work was carried out in March, April, May and August. While 1961 was unusually warm with high temperatures in the spring months, the temperatures measured in 1962 were considerably lower in the upper waterlayers. In April heavy drift ice was found on Nanortalik Bank and in Julienhaab Bay (1F), and also on the latitude of Holsteinsborg (1B) heavy ice masses occurred. The warm Atlantic water was found in greater depths than in 1961, but its temperature was comparatively high. On the western slope of Banana Bank the highest temperatures (about 4° - 5°C) were found between 600 and 800 m. In the southern part of Davis Strait similar conditions were found. Later in the summer the hydrographic conditions were as in normal years.

2. Cod eggs and larvae.

Cod eggs and larvae were found in very small numbers in Godthåb Fjord and also in Davis Strait their occurrence seemed to be rather poor. Unfortunately only very limited research work on cod larvae could be carried out in the summer months in Davis Strait.

3. Spawning cod.

While the heaviest spawning in 1960 was found on the western slope of Banana Bank the main spawning area in 1961 and 1962 seemed to be on the slope of the banks south of Fylla Bank. The spawning took place about three weeks later than in 1961, namely from about the middle to the end of April west of Banana Bank (1C), Dana Bank (1D) and off Storoén (1F). Further to the south in Nanortalik Bank (1F) only immature cod were found. The cod spawned in 350-600 m. In 1C the percentages of mature cod of age-groups V and VI were 20% and 73-80% respectively. Cod older than VI-group were all mature.

4. Occurrence of cod of age-groups I, II, and III.

Large shoals of small cod were not observed in the coastal region close to the shore from seine and trawl catches it seems, however, that the 1960 year class must be considered as a promising year class, while 1959 is possibly very poor. Cod belonging to the 1960 year class will be of importance to the commercial fishery for the first time in 1965.

5. Commercial cod stock.

The former rich year classes 1947, 1950 and 1953 had nearly disappeared from the West Greenland cod stock, while the two year classes 1956 and 1957 predominated in the catches. The former in division 1E and 1F, the latter in 1A, 1B, 1C and 1D. This applied to the offshore banks

as well as to the coastal waters. In samples from 1A - 1D the 1957 year class amounted to 60-90% while the 1956 year class predominated in samples from 1E and 1F with about the same percentages. The boundary between the areas where these two rich year classes predominated seemed to be in the southern part of 1D. It was mentioned in the 1961 report from this group that the difference in distribution between these two year classes must be explained in that the 1956 year class originates from East Greenland spawning grounds, while the 1957 year class comes from spawning grounds on the slopes of the West Greenland offshore banks. In the same report it was mentioned that the distribution and richness of the year classes 1956 and 1957 was predicted in research reports for from 1959 and 1958. The assumption that the 1956 class originates from East Greenland and not from Iceland spawning grounds is made probable by the fact that 1956 was found predominating in samples from Southeast Greenland and that it, according to information given by Mr. Jonsson, was a poor year class in Iceland waters. Furthermore it has been shown that spawning of cod takes place off East Greenland, which also has been shown recently by the large number of cod eggs found by "Ernest Holt" in Denmark Strait in April and May, 1963.

It seems probable that the season 1963 will show the same pattern as regards age composition and distribution of year classes as in 1962. That means that if nothing unforeseen happens we can expect a good fishery, mainly in middle sized cod (65-80 cm).

6. Tagging experiments with cod.

Three nations have carried out tagging experiments in Subarea 1 in 1962. More than 6000 cod have been released. 1087 cod were released in East Greenland waters. - Returns of tags in 1962 from experiments in previous years have confirmed that feeding migrations from southern to northern banks in Davis Strait are made by cod in spring and summer and that some cod migrate from West Greenland to East Greenland, Dohrn Bank and Iceland probably on spawning migrations. 43 recaptures have been reported from Iceland 4 and 7 from East Greenland and Dohrn Bank respectively. Small cod (Mainly II-yr.) have been tagged in the coastal region.

7. Growth.

Studies upon growth rate of cod in Subarea 1 have confirmed previous experience that cod in the northern part of the Subarea have a faster growth than cod in the southern part. Length and girth measurements have been taken. Analyses of stomach content have been made in order to study feeding habits of cod.

8. Redfish.

Occurrence of redfish in different waterlayers have been studied in Denmark Strait and in the Cape Farewell region. Small redfish (6-16 mm.) have been caught in trawl with covered codend on the eastern slope of Banana Bank. The fishing with shrimp trawl for small redfish in Godthåb Fjord has been continued. A number of 561 big redfish caught in pound nets in Godthåb Fjord have been tagged. Studies on growth and feeding of redfish have been carried out in Davis Strait.

9. Other fish.

Tagging experiments with Spotted Seawolf and Greenland Halibut have been carried out mainly in coastal waters.

10. Remarks on fishery.

The total cod landings from the Subarea I indicate a probable increase to about 400,000 tons in 1963 (243,000 tons in 1960). There has been a marked drop in the Portuguese and Spanish fishing effort and an increase in the German effort. The tendency in 1962 is an increase in landings for all countries which have so far reported. The biological data available up to 1961 revealed no marked changes in length and age compositions from those used in earlier assessments, and therefore no change in assessments have been made (see rep. Ass. Subcomm. 1963).

The landings of redfish from Subarea I in 1962 increased, and are now about three times the 1957/58 level. No major changes in the size compositions are evident from the data available.