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Subarea 1

A. Status of the Fisheries

I. Cod

1. The fisheries. There has been an increase in the landings from 21,980 tons round, fresh fish in 1964 to 25,210 tons in 1965, which is partly due to two new rich year-classes, 1960 and 1961, but also to increased effort.

As in previous years, the main part of the Greenlanders' fishery has been carried out in inshore waters. There has been an especially good pound net fishery in May-July in Holsteinsborg, Sukkertoppen and Godthåb districts (Div. 1B-1D). In Holsteinsborg, where all fish were filleted, the total lengths of fish from that gear ranged from 40-60 cm, but in Sukkertoppen and Godthåb big quantities of very small fish, which are not included in the above given figure, were landed as industrial fish. In order to save these undersized fish, Greenland Fisheries Investigations has proposed a minimum size of 40 cm for cod landed in Greenland. Besides a rather important fishery was carried out in the open sea from 4 new cutters (80-150 BRT in size).

2. Forecast for the cod fisheries. In the northern districts (Div. 1B-1C) the only important year-classes in 1966 are expected to be the rich 1960 and 1961 year-classes as in 1965, and because of their growth the fishery is expected to be somewhat better in 1966 than it was in 1965. In the southern districts (Div. 1D-1F) the year-classes 1960 and 1961 are still important, and, in addition, the 1958 year-class seems to be important in coastal waters. Also in the southern districts the fishery is expected to increase, and presumably there will be a greater variation in size there than in the northern districts.

II. Salmon

While the cod fishery has increased, there has been a big decline in the salmon fishery from 1,539 tons round, fresh fish in 1964 to 824 tons in 1965. Most likely this decline was due to lower prices in 1965 than in 1964, so that many fishermen became more interested in the cod fishery, which was also stimulated by a richer cod stock in 1965. The most important salmon fishery was carried out in the northern districts (Div. 1B-1D), while it almost failed in the southernmost districts. The Greenlanders' salmon fishery is only carried out in inshore waters, and the only gear used is gill net.

III. Other commercial fish species

The fisheries for wolffish and Greenland halibut increased in 1965. In 1965 3,257 tons round, fresh wolffish were landed (2,063 in 1964), and 3,042 tons round, fresh Greenland halibut were landed (1,928 in 1964).

IV. Deep sea prawn

The prawn fishery increased from 3,770 tons landed in 1964 to 5,051 tons in 1965 due to an improved labour situation on the plants at Disko Bay. This is the biggest Greenland prawn fishery hitherto.

B. Special Research Studies

I. Environmental Studies

Annual observations have been made from M/C Adolf Jensen and M/C Tornaq near Godthåb, but, as a planned cruise to Greenland waters by R/V Dana had to be given up because of major repairs to the vessel, the hydrographic observations and plankton collections in Davis Strait are only sparse.

1. Hydrography. A few temperature observations were made from M/C Adolf Jensen in June and July over Fylla Bank, Lille Hellefiske Bank and Store Hellefiske Bank.

The material was treated by Mr Frede Hermann, who stated that temperatures over the shallow part of Fylla Bank (depth 40-50 m) were a little above normal (2°C at bottom). In July the bottom temperature on the same locality was almost the same as in June, which may indicate a current with colder water masses from the south. West of Fylla Bank the temperatures were unusually high in the deeper water layers (5.4°C in 400 m depth) in July, while they were about normal in the upper water layers (1.7°C in 50 m depth). Over Lille Hellefiske Bank the temperatures in July were high in the upper water layers and about normal in the deeper water layers.

2. Other environmental studies. Some plankton collections and measurements of the primary production by means of Carbon 14 were made on fixed stations near Godthåb.

II. Biological studies of fish by species

1. Cod

a. Larvae. Nothing can be said this year about the occurrence of larvae from stramin net samples, but as the water temperatures were relatively high over the shallow part of Fylla Bank in June, there is a possibility that the year-class 1965 will be rather good, as high temperatures on that locality in June are normally followed by rich cod year-classes. If the coming years confirm that year-class 1965 is a relatively rich one, it will dominate the fishery in 1970 and in the following years.

b. Occurrence of small cod (age-groups I, II and III). Only scarce quantities of small cod were observed along the coast in the summer 1965, so that the year-classes 1962, 1963 and 1964 seem to be relatively poor. An exception was the Godthåb Fjord, where considerable quantities of small cod were observed.

c. Age and size of cod in commercial stock. Length measurements and otolith collections were made on the banks from Adolf Jensen and from the Faroese trawler Skalaberg. From inshore waters material was collected by Adolf Jensen and Tornaq, and moreover considerable material was obtained from the Greenlanders' catches. The distribution of the otolith samples was as follows:

Div.	Offshore banks		Inshore waters	
	No. samples	No. specimens	No. samples	No. specimens
1A	-	-	3	684
1B	4	1,448	3	561
1C	1	452	-	-
1D	4	704	4	751
1E	2	597	1	92
1F	-	-	3	494
Total	11	3,201	14	2,582

The age and length compositions (in 3 cm groups) are shown in Figs. 1-3, Figs. 1 and 2 showing the bank stocks and Fig. 3 the stocks in inshore waters.

On the northern banks (Div. 1B-1C and partly 1D) the year-class 1960 was by far the most numerous followed in frequency by year-class 1961, while the previously dominating year-class 1957 has lost its importance. On the southern banks (Div. 1E and partly 1D), the year-classes 1960 and 1961 were also numerous, but moreover older year-classes were important, especially the 1957 year-class.

In the inshore waters the year-class 1960 was dominating in the northern districts (Div. 1A-1D), but also year-class 1961 was numerous, and in accordance with experience from previous years some very old year-classes were still frequent in Disko Bay (Div. 1A). In the southern inshore waters (Div. 1E-1F) the year-class 1961 was numerous like on the southern banks, but also in the inshore waters older year-classes, especially the 1958 year-class, were frequent. The year-class 1956, which was dominating in the southern inshore waters in 1964, was of less importance here in 1965.

The best explanation for the above facts must be that the year-class 1960 (like year-class 1957) is mainly of West Greenland origin, while year-class 1961, which was especially frequent in the southern areas, presumably has its origin partly from the Southeast Greenland spawning places (like year-class 1956), from where the fry has then been transported by the Irminger Current. Also year-class 1958, which was dominant in the southern inshore waters, is regarded as being of Southeast Greenland origin.

d. Tagging experiments. In 1965 a total of 2,393 cod were tagged. Taggings by divisions are given below (numbers in brackets are cod less than 50 cm when tagged).

Div.	Offshore banks	Inshore waters
1B	358	- (174)
1C	86	- -
1D	250	180 (831)
1E	-	169 (64)
1F	-	198 (83)
Total	694	547 (1,152)

2. Salmon. In August electro-fishing experiments were carried out in rivers in Julianehaab district (Div. 1F), where Norwegian salmon eggs had been planted in 1958 and 1959. In the river Ilua near Narssaq 7 specimens were taken, and as they were determined to be 3 years old parrs and smolts, they must be regarded as belonging to second generation from eggs planted in 1958.

A specially important investigation was carried out in Godthåb district from the middle of September to the middle of October in collaboration with Scottish biologists; 223 salmon were tagged, and considerable biological material (measurements, scales, stomach content, parasites etc.) was collected from samples.

3. Other fish species. Previous years' tagging experiments on redfish from pound nets in the Godthåb Fjord were continued; 342 specimens were tagged. Moreover observations were made on other different fish species (wolffish, halibut, Greenland halibut etc.).

4. Crustaceans. In addition to continuous prawn trawling experiments (Pandalus borealis) some experiments with a special crab trawl were started in order to find out if a commercial fishery on deep sea crabs (Chionoecetes opilio) is possible.

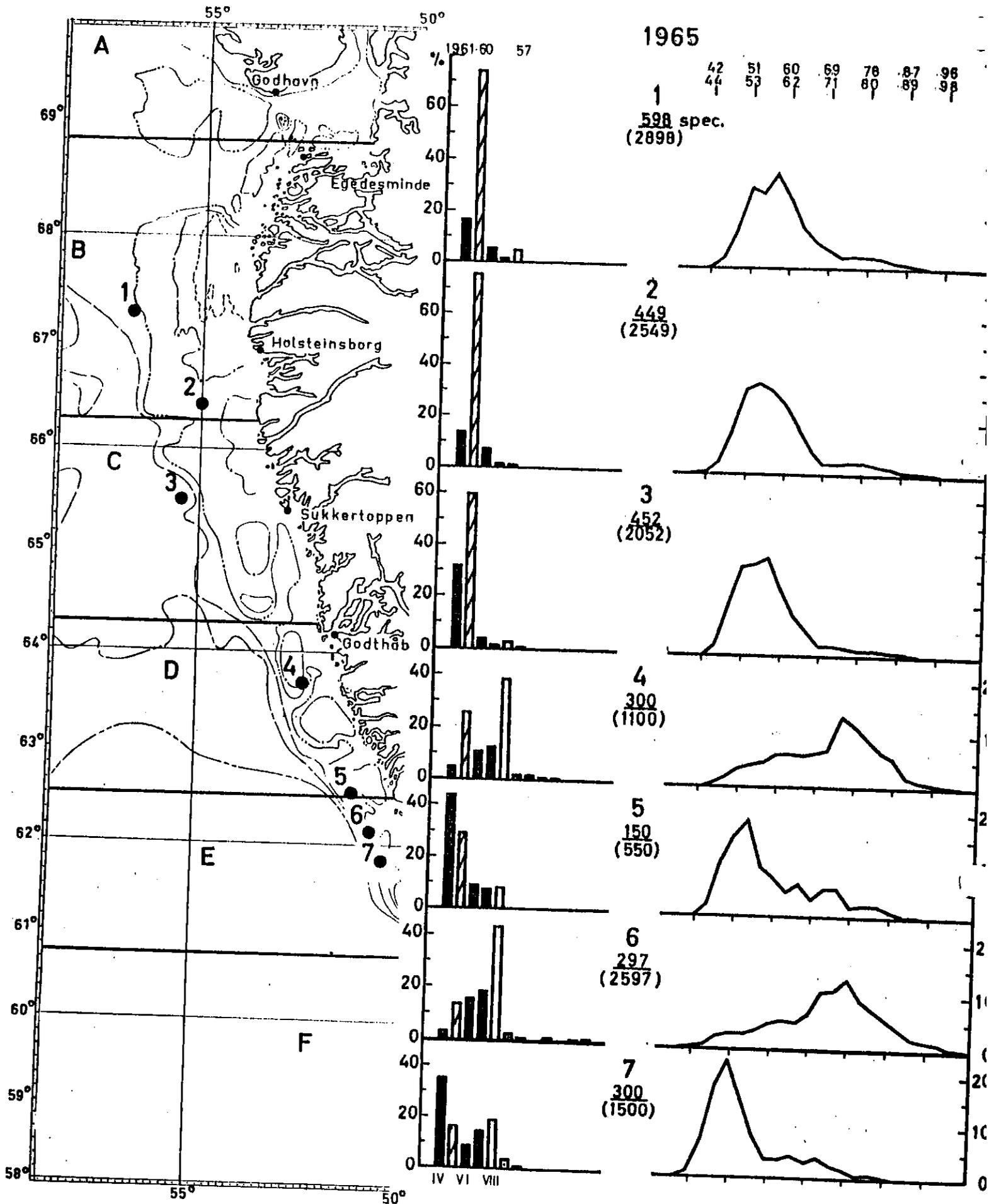


Fig. 1. Age and length compositions of cod taken on the banks by the Faroese trawler Skalaberg from the beginning of May to the beginning of July. The upper numbers of specimens indicate otolith samples and the lower numbers (in brackets) indicate length measurements.

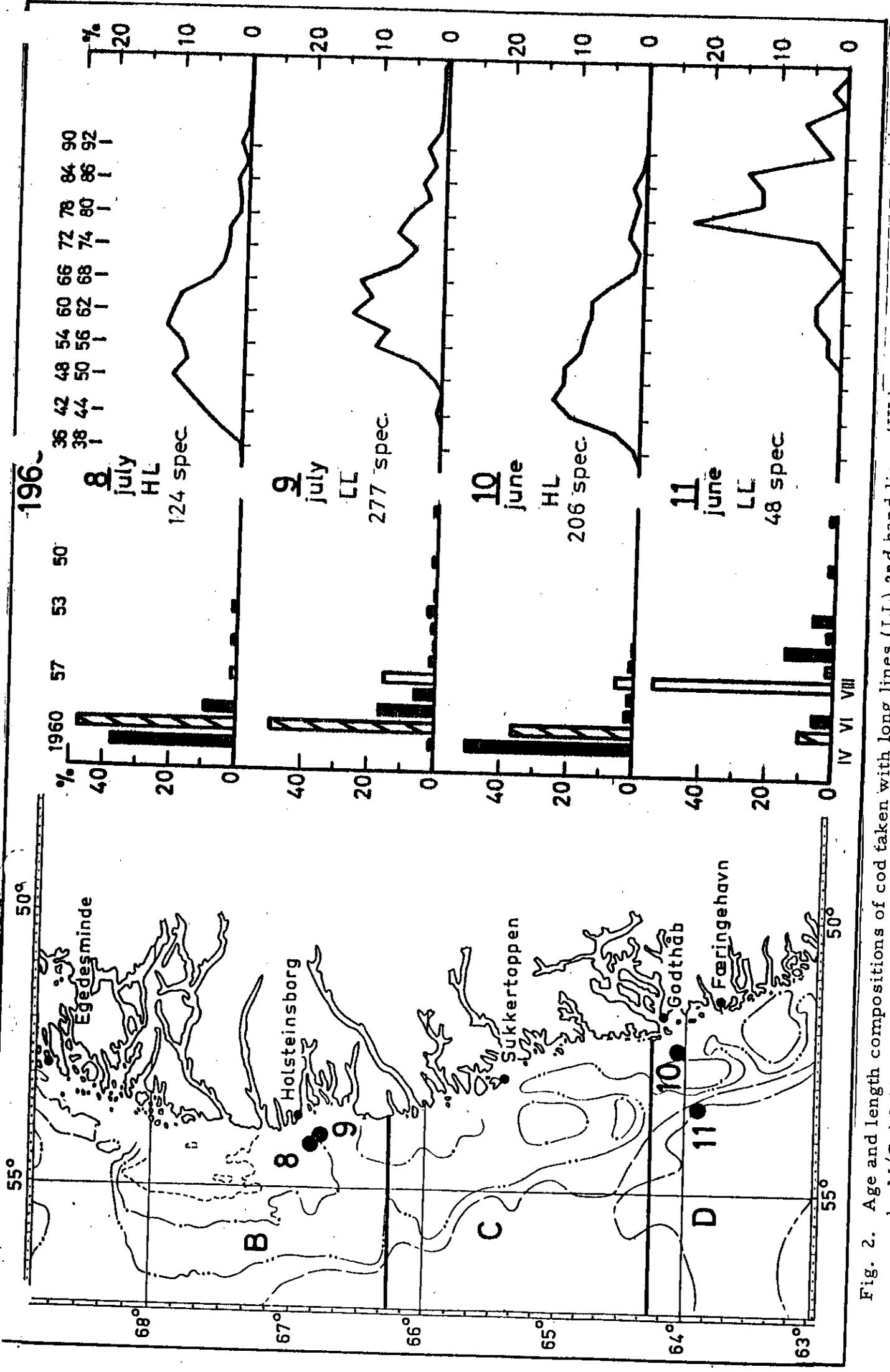


Fig. 2. Age and length compositions of cod taken with long lines (LL) and hand lines (HL) on the banks in June-July by M/C Adolf Jensen. Numbers of investigated specimens indicated.

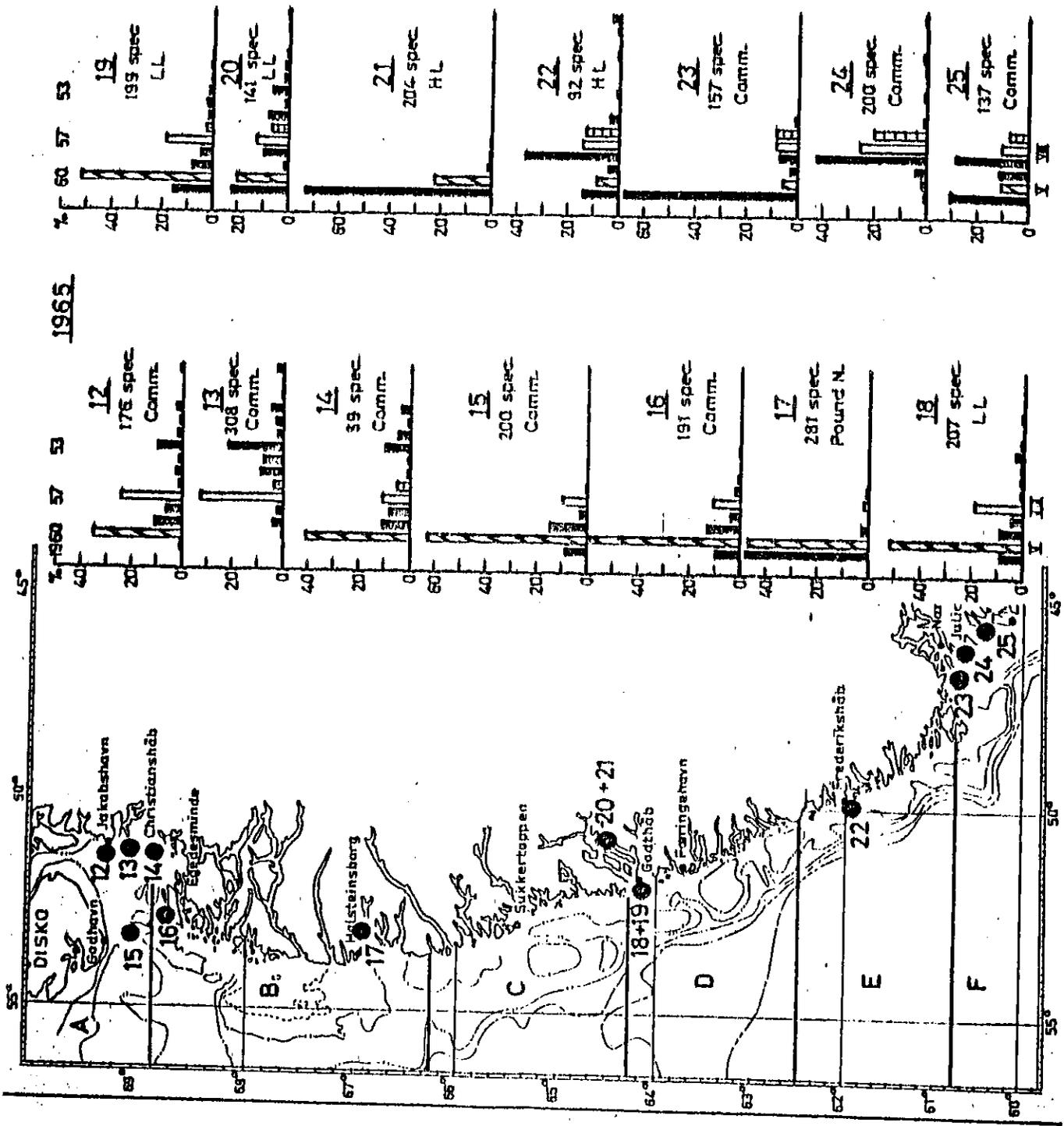


Fig. 3. Age and length compositions of cod from inshore waters. Material obtained from the Greenlanders' catches (Comm. and Pound N.) and from the research cutters (long lines (LL) and hand lines (HL)). Numbers of investigated specimens indicated. The samples were collected from January-October.