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SUBAREA 1

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On its first trip to the Iceland-Greenland waters (26 May to 10 July 1955) the work of the research vessel "Anton Dohrn" was restricted to the eastern side of Greenland and just touched the southern end near Cape Farvel. The second trip (5 Sept. - 19 Oct. 1955) included the west coast of Greenland where eight hydrographic profiles and trawl catches from the banks down to about 450 m. were made. Unfortunately at that time very few cod could be caught northward to 69°N and did not reappear in the shallow waters of Northern Store Hellefiske Bank until the ship was about to return homeward.

The routine observations of the market landings have been continued and even increased owing to the larger amount of the German catches off West-Greenland. Indeed the fishery rose about twenty-fold in comparison to the preceding years (20,677 tons in 92 trips against 1,137 tons in 5 trips 1954). Two thirds consisted of redfish and one third of cod. However, the time spent in actual fishing did not increase to the same degree in consequence of the markedly better catches, which amounted to 34.5 tons per fishing day as compared with 20.6 tons in 1954.

The whole season was divided into two essentially different parts. Whereas in the first months the fishery almost exclusively took cod, partly for salting, in the beginning of July it changed over to the capture of redfish. Then in the autumn it came to an end completely with but a slight recovery off southern Greenland towards the close of the year. This shift was apparently caused by the sudden and heavy inset of the "slack" period due to the arrival of very much ice and cold water from the East Greenland current. It has been regarded as a real success for the German Greenland fishery to overcome the difficulties of the disappearance of the cod by fishing redfish, which in the deeper waters did not suffer from the changing water conditions.

At the time of the investigations of the research vessel (20 Sept. - 10 Oct.) there was on the surface a narrow tongue of warm water above 3°C. from outside Fyllas Bank across the more northern banks to about 68°N., and a similar cold one of less than 2°C. extending from South Greenland to Noname Bank. The bottom temperature lay between 1° and 2°C. and exceeded 3°C. only in greater depths and also on the shallower parts of the northern Store Hellefiske Bank - the area, where the cod then reappeared.

The cod has been caught, according to the known population abundance, in very much larger quantities during the first half of the year than ever before, the catch per day amounting in the average of January to June to 25 tons and reaching a monthly maximum of 32 tons in February and June as compared with 21 tons in June 1954. The following table gives a summary of the age-compositions as yet available for the landings and (in brackets) for the whole catches before market selection.

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Year	Coastal area	Age-Groups, %									predominant lengths, cm.
		1942-44	1945	1946	1947	1948	1949	1950	1951-53		
1952	West	17 (11)	<u>49</u> (34)	17 (17)	17 (34)	0 (3)	- (1)	- (0)	- (-)	- (-)	65-75 (45-55, 65-75)
	South	27	<u>66</u>	1	5	0	0	0	0	0	60-75
1953	West	10	<u>31</u>	10	<u>46</u>	3	-	-	-	-	55-75
	South	25	<u>64</u>	1	8	1	1	-	-	-	60-90
1954	West	10	<u>30</u>	2	<u>48</u>	2	8	0	-	-	60-80
1955	West	9 (5)	8 (11)	3 (2)	<u>53</u> (27)	12 (4)	9 (6)	6 (23)	- (23)	- (23)	60-75 (40-75)
	South	9 (2)	29 (16)	1 (1)	17 (13)	1 (1)	18 (20)	24 (40)	1 (8)	1 (8)	50-65, 75-85 (45-65)
	East	20 (6)	<u>59</u> (66)	1 (1)	6 (6)	3 (1)	9 (15)	2 (3)	0 (2)	0 (2)	80-100 (75-95)
	Iceland	10	<u>55</u>	1	4	4	<u>14</u>	10	2	2	70-90

From the table it appears that the good 1947 year-class reached its as yet highest percentage of a little more than 50% in the landings in 1955. Furthermore, the 1950 year-class, though still undersized, appeared in the catches in supernormal quantities. Similar to the findings of preceding years, in the southern parts of Greenland the 1945 year-class was much more pronounced than the more northerly distributed 1947 year-class, and that may also be true for the 1950 year-class. There has also been opportunity to procure comparable data from Eastern Greenland as a connecting link to the Icelandic stock of cod. Off Angmagsalik and on the Iceland-Greenland-ridge rather large numbers of the 1945 year-class have been met, many of them still wholly immature, but to a certain extent, comparatively late in season, ripening for the first time. In the general age composition there seems to be a nearer relation to the Icelandic cod stock than to the genuine Greenlandic one. In fact, of the two year-classes 1947 and 1950, which are rich in Western Greenland but less so in Iceland, the first was but slightly pronounced in East Greenland and the second was replaced by the 1949 year-class, which is known to be rich in Iceland also. In southern Greenland both the rich Greenland 1950 year-class and the rich Icelandic one of 1949 were to be found almost in equal strengths.

For the redfish it may be pointed out, that the investigations at sea as well as on the market have now proved clearly, that in the whole distribution area as far westerly as West Greenland the deep sea form (*Sebastes mentella*) is always associated with the normal form (*Sebastes marinus*), but inhabiting greater depths; perhaps in the western areas there are more intermediate forms than farther to the East. The market measurements (without separating these forms) showed that the redfish in the catches were of rather large sizes. The average length composition was in 0/00:

cm. groups	25	30	35	40	45	50	55	60	65	70	average length cm.	average weight gr.
	29	34	39	44	49	54	59	64	69	74		
West Greenland	2	1	145	445	369	30	1	5	2	0	44.0	1,208
East Greenland	2	10	75	254	389	212	53	2	2	1	47.0	1,469
West Iceland	-	2	174	488	257	75	4	-	-	-	43.7	1,135

During the months July to September an average of 37 tons redfish were caught per fishing day with a maximum of 63 tons in August, a higher peak than ever found in any other place including the newly exploited "Dohrnbank" on the Iceland-Greenland-ridge, where the highest monthly average, in October, amounted to 38 tons only. There seems to be a wide seasonal and spatial range for the catching possibilities of redfish off Western Greenland.