

The distribution of redfish larvae in Norwegian coastal and offshore waters during
the years 1948-58.

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Since 1948, the distribution of larvae of redfish and other commercial fishes has been studied in Norwegian coastal and offshore waters, mainly from the Lofoten area to Northcape (fig. 1). Clarke Bumpus plankton samplers have been towed at a speed of 2-3 knots at different depths between the 75 m level and the surface, and the number of fish larvae calculated below 1 m² of sea surface (Wiborg 1950-57). Mean figures have been worked out for different areas for each year from 1948 to 1957 (table 1).

Table 1. Mean number of redfish larvae below 1 m² of sea surface at the end of May 1948-57.

Year	Vestfjord	Vesterålen	Andenes edge
1948	20	39	37
1949	23	18	-
1950	9	19	18
1951	6	0	3
1952	10	11	-
1953	8	19	29
1954	13	19	21
1955	11	15	6
1956	14	14	-
1957	20	24	24

In the Vestfjord the mean number of redfish larvae varied from 6 to 23 during the period mentioned, with minima in 1950-51 and 1953, maxima in 1948-49 and 1957. On the Vesterålen banks minima were observed in 1951-52, maxima in 1948 and 1957, off Andenes minima in 1951 and 1955, and maxima in 1948 and 1953. The variations in number may partly be ascribed to variations in the time of spawning. The cruises were usually worked during the latter half of May, from Andenes across the Vesterålen banks, ending in the Vestfjord.

The larvae usually measured 6-10 mm, and probably belong to local stocks of redfish, perhaps with the exception of those found off Andenes, which, according to Soviet-Russian observations, may derive from a stock of redfish living in the Barents Sea, the females migrating to the Andenes area to spawn.

At station "M" in the Norwegian Sea 66 degr. N., 02 degr. E., horizontal surface hauls with a one metre net have been taken weekly since 1950. Redfish larvae regularly occur from the end of May to the end of June, with a maximum number of 261 individuals in a half hour's haul. - The station "M" is situated off the slope of the continental shelf, approximately on the 2000 m contour.

At the beginning of June 1958 a total of 282 redfish larvae were caught in vertical hauls with a one metre net in two sections northwestwards from Andenes and Malangen respectively, along the 1000 m contour. The length distribution of these larvae was as follows:

7	8	9	10	11	12	13	mm	Mean length
9	49	98	87	31	7	1		9.4 mm

In the middle of the month 191 larvae were caught with a high speed net along the 20° E meridian from Bear Island to North Norway. The length distribution of these larvae was as follows:

7	8	9	10	11	12	13	14	15	mm	Mean length
1	1	8	25	51	55	33	12	5		11.7 mm

8 redfish larvae, taken simultaneously in vertical one metre net hauls had the following length distribution:

9	10	11	12	mm	Mean length
3	2	3	1		10.2 mm

The distribution of redfish larvae in the Norwegian Sea during the summer months has been found to be in good accordance with that given by Baranenkova et al. (1956).

Three larvae caught with the high speed net west of Bear Island on June 13, 1958 measured 12, 24 and 27 mm respectively.

On July 30, 1957, a number of cod and haddock of the 0-group were caught in a purse seine 120 n. miles northwest of Andenes (fig. 1, A). The fish had eaten mainly postlarval herring and redfish, and 65 small redfish which were undigested, and in a relatively good condition, were measured:

7	8	9	10	11	12	13	14	15	16	17	18	19	mm	Mean length
1	2	4	10	11	17	8	4	3	2	1	1	1		11.9 mm

On August 4, 1955, 32 small redfish were caught with a high speed net at the entrance of the Syltefjord on the Varanger peninsula, a few miles west of Vardø, at a depth of appr. 30 m. These redfish measured as follows:

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	mm	Mean length
1	0	0	1	3	3	3	5	5	2	2	2	1	3	0	1		19.8 mm

Tåning (1949) took a large number of redfish fry in the North Atlantic. In June-July these larvae measured 7-22 mm, average size 12-14 mm. This is in good accordance with the figures given above.

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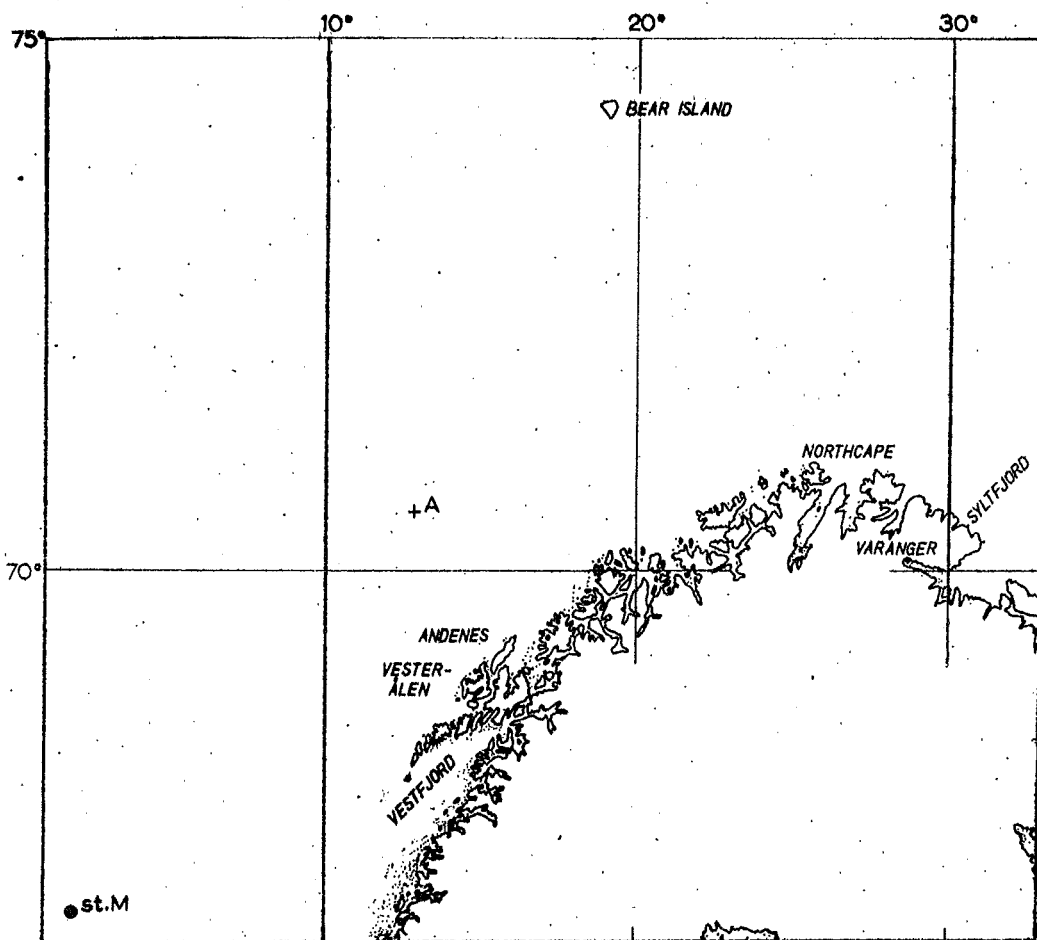


Fig. 1. Localities where redfish larvae have been taken, referred to in the text.