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The Norwegian capelin fishery on Grand Banks, Newfoundland, 1973
(The "Nordglobal" expedition)

By

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Based on the results of the Norwegian capelin investigations in Newfoundland waters in 1970, 1971 and 1972, the Institute of Marine Research recommended commercial fishing on capelin on Southeast Shoal, Grand Banks, during June and July 1973.

Fishing started on Southeast Shoal 9 June with the factory ship "Nordglobal" and four trawlers present. Later the number of trawlers increased to 9. Gunnleiv Sangolt from the Institute of Marine Research was on board the trawler "Nordervon" from the beginning of the season till 10 July to collect biological material.

The fishing continued till the end of July, all the time within 25 nautical miles of position $44^{\circ}00' N$ and $49^{\circ}40' W$ (Fig. 1) and only during daytime.

Fishing was only done during daylight hours, from approximately 05.00 a. m. till approximately 9.30 p. m. (Newfoundland time). The dense concentrations that were caught in the trawl dissolved during the night and the fish then occurred in more scattered fashion. Trawling during the night would therefore have given too small catches per trawl hour.

The catches were fairly even during this period, around 150-200 tons per boat per day. Catch per hour for the "Nordervon" through the season is shown in Fig. 2. The total catch for the Norwegian vessels was 41293 tons when fishing stopped at the end of July. All capelin in the catch was mature. The distribution of maturity stages through the season is shown in Table 1. Spawning started 15 June and had mostly finished 10 July. Most of the capelin was 4 years old, but also 3 and 5 years old fish were present (Fig. 4).

A search for other concentrations of capelin was made northward to Hamilton Banks in the beginning of August, but nothing was found.

Table 1. Distribution of females and males in the samples and distribution (in percent) of maturity stages. Stage 3 is mature fish (fully developed gonads), Stage 4 is spawning fish (running gonad products), and Stage 5 is post-spawners (empty gonads).

Week	Stages			Number of females	Stages			Number of males
	3	4	5		3	4	5	
23	100			29	50	50		21
24	79.0	18.6	2.4	210	50	50		120
25	70.2	18.2	11.6	587		100		221
26	61.9	19.9	18.2	674		99.7	0.3	385
27	56.8	33.3	9.9	528		71.4	28.6	419
28	37.9	44.8	17.3	29		49.3	50.7	213

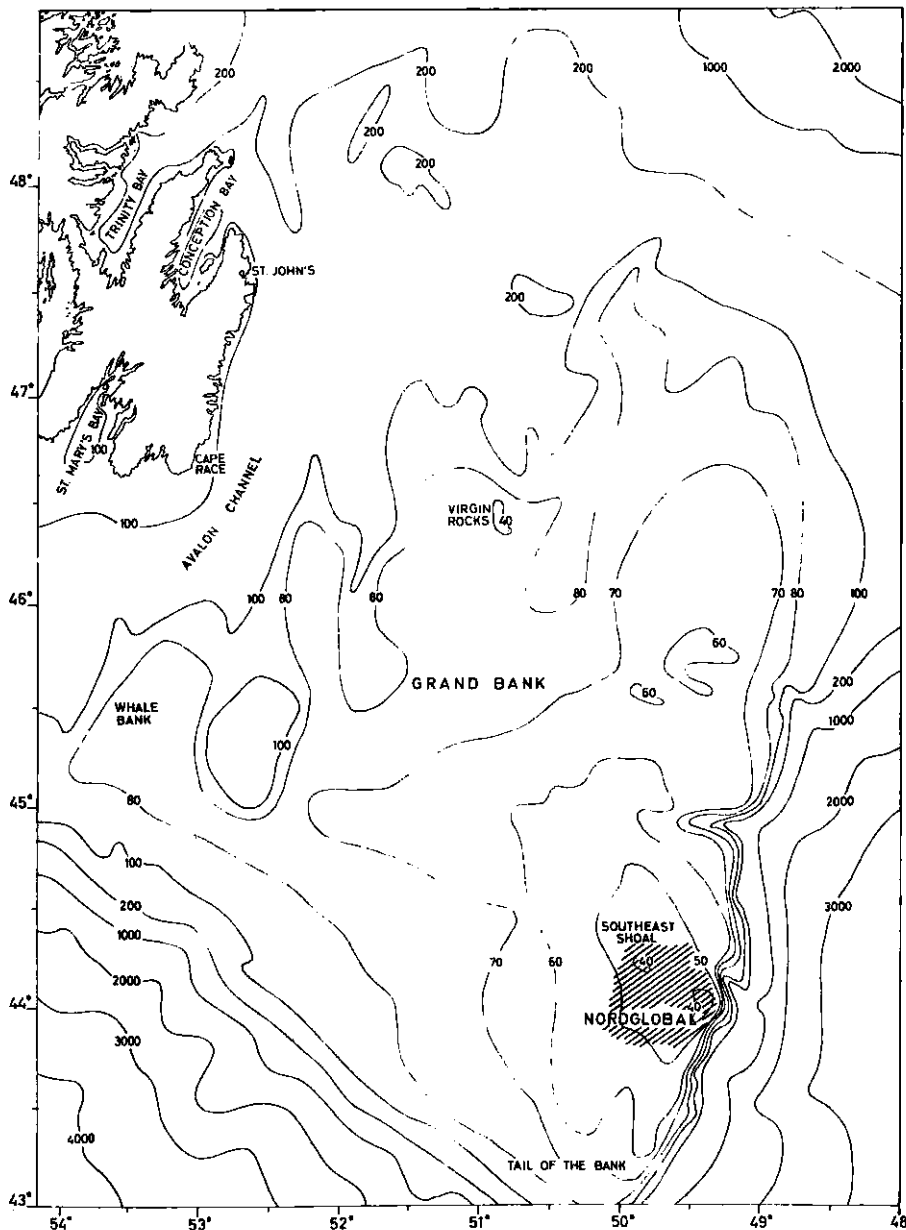


Fig. 1. Depth chart of the Grand Banks area with the "Nordglobal" anchor position marked. The area where the Norwegian catches were taken is shaded.

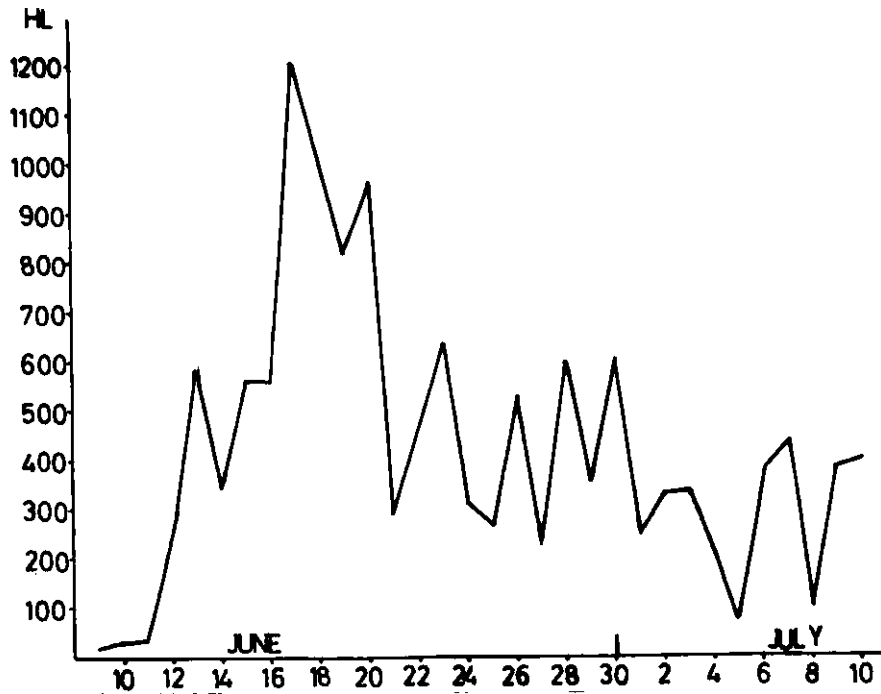


Fig. 2. Catch per trawl hour for the "Nordervon" through the season. Most of the time a 16' pelagic trawl with square opening was used.

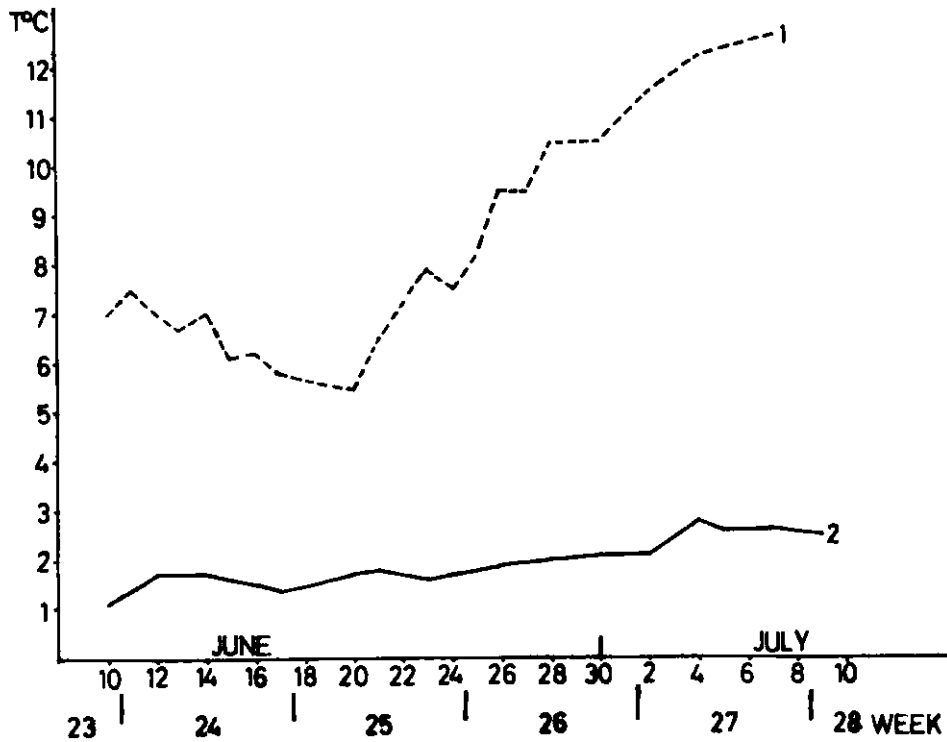


Fig. 3. Variations in surface and bottom temperatures through the season. 1) at the surface; 2) at the bottom.

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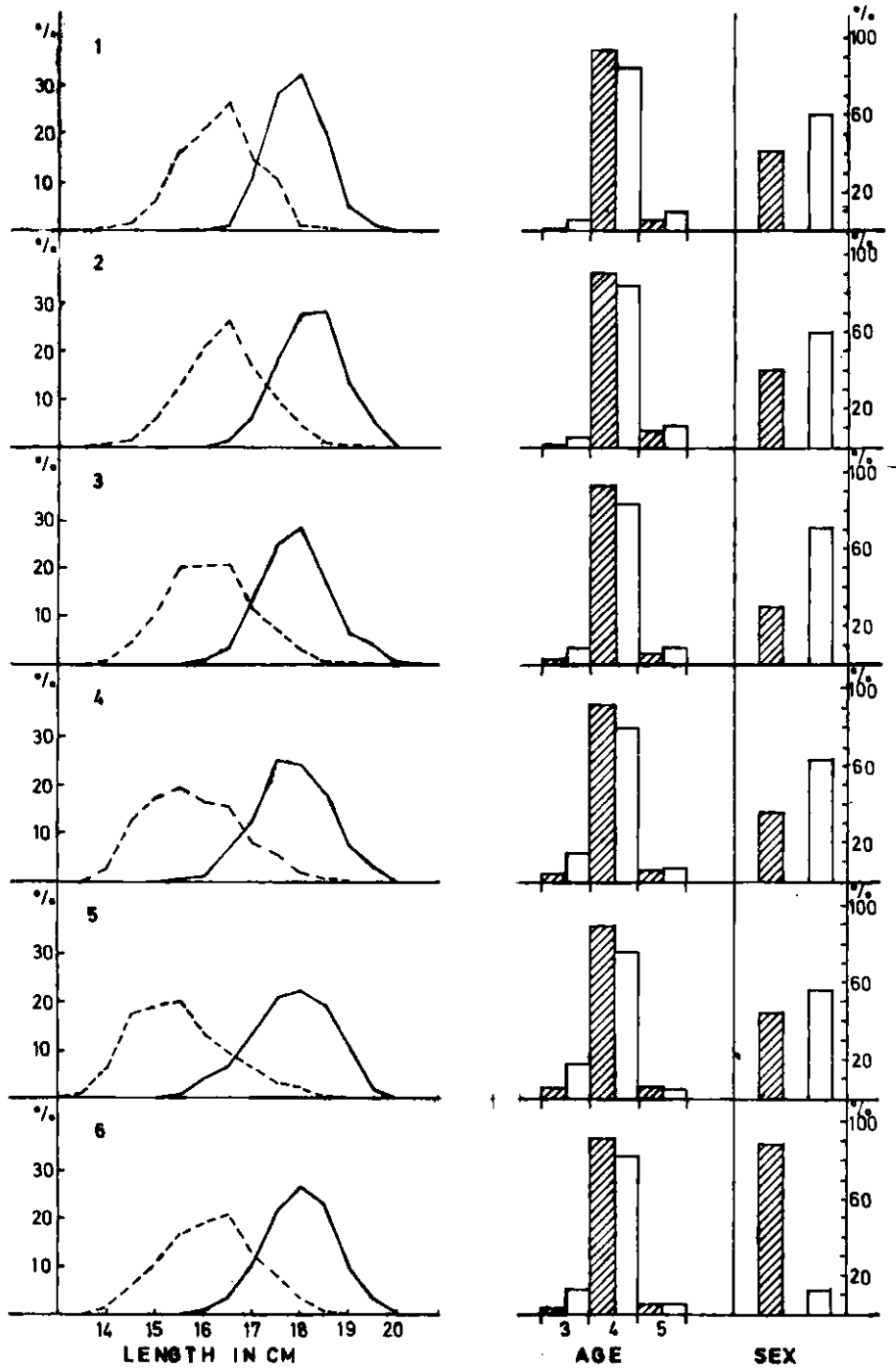


Fig. 4. Variations through the season of the length distribution for females and males, age composition and percentage distribution of females and males. Broken line or white column: females. Whole line and shaded column: males. 1, 2..... 6 represents the weeks 23-28.

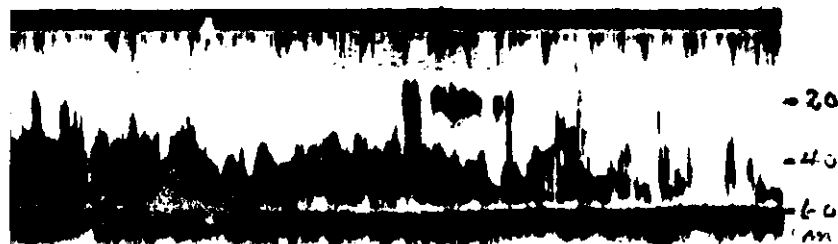


Fig. 5. Echogram from the "Nordervon" 12 June 1973 at 3:30 PM Newfoundland time.