

Northwest Atlantic



Fisheries Organization

Serial No. N553

NAFO SCR Doc. 82/VI/60

SCIENTIFIC COUNCIL MEETING - JUNE 1982

Results of the Experimental Capelin Fishery in the Autumn of 1981

by

S. M. Kovalev

Polar Research Institute of Marine Fisheries and Oceanography (PINRO)
6 Knipovich Street, Murmansk, USSR

In 1981 the experimental capelin fishery was started by the Soviet vessels in mid-September in the South Labrador area. The commercial concentrations of capelin in that period distributed over the area from 53°50' to 54°40'N and from 54°31' to 56°00'W (Fig.1). In September the capelin formed fairly dense concentrations, by means of hydroacoustic devices they were registered as separate dense shoals. In that period the catches from 8 to 15 tons of capelin were taken by the commercial vessels of BMRT-type for two-three hour trawlings. Some catches reached 10-20 tons. In October satisfactory fishing conditions for capelin remained also. As usual, the concentrations of this fish distributed in the South Labrador area. In the second half of October capelin was also observed on the North Newfoundland Bank over the area from 53°00' to 53°40'N between 54°00' and 55°30'W. In October the catch for 24 hours per one commercial vessel of BMRT-type fluctuated from 55 to 70 tons of capelin.

As in previous years the capelin behaviour throughout 24 hours varied. In the day time the fish by dense shoals distributed in water strata at a 70 to 200 m depth. At night the capelin lifted to the surface and kept as a "path" at a 10 to 70 m depth. The catches taken at night per four-five hour trawlings did not exceed 8-10 tons. Weather conditions essentially influenced upon the character of distribution and behaviour of capelin in the period of their experimental fishery. For instance, it was noticed that with an increase of wind force of different directions up to 8-17 m/sec. the fish scattered into

small shoals and the catches from the vessels operated on capelin had been reduced. During that period the catches per 3-3,5 hour trawlings did not exceed 6-10 tons.

While analysing the materials of the experimental capelin fishery one can say that in September the concentrations fished consisted of the specimens 10-19 cm long. The fishes 12-15 cm long constituted the bulk of the catches. The predominant size of the capelin distributed in October in the North Newfoundland Bank and South Labrador areas was 11-14 cm (Table 1). A decrease in size composition of capelin taken in October can be explained by the fish recruitment with the 1979-1980 year classes in the fishing area. Due to the data on the investigations undertaken in May-June 1981 by the PINRO scientists Bakanev V.S. and Ermolchev V.A. these year classes refer to the abundant ones (the 1979 year class - of high abundance, the 1980 year class - of average abundance). The observed tendency to the increase of the Newfoundland stock capelin abundance gives grounds to say about the possible catch increase during the experimental capelin fishery both in May-June 1982 in the area of the northeastern slope of the Grand Bank and in September-October 1982 in the North Newfoundland Bank and South Labrador areas.

The continuation of hydroacoustic surveys on assessment of abundance and biomass of capelin in Division 3LNO and in Divisions 2J, 3K in autumn will permit to follow the rate of abundance and biomass replacement and their possible fishery outlook.

Table 1. Size composition of capelin (in %)

Month	Sex	9,5:10	10,5:11	11,5:12	12,5:13	13,5:14	14,5:15	15,5:16	16,5:17	17,5:18	18,5:spec.	No. of									
		Length, cm																			
September	♂	0,1	0,4	0,8	1,2	2,1	3,2	3,6	4,5	5,4	5,9	5,6	4,7	3,5	1,8	0,5	0,2	0,1	-	1912	
	♀	0,1	0,4	1,4	2,2	3,0	3,9	6,9	8,1	9,3	7,9	5,5	3,3	1,9	1,1	0,6	0,5	0,1	0,1	0,1	2488
October	♂	0,1	0,5	2,2	4,3	4,8	4,5	3,2	3,0	3,0	2,4	2,5	3,1	3,9	3,1	1,5	0,8	0,3	0,1	-	2072
	♀	0,1	1,2	3,5	4,9	6,1	7,0	7,2	6,6	5,5	5,0	4,3	2,3	1,4	0,7	0,4	0,3	0,1	0,1	-	2728

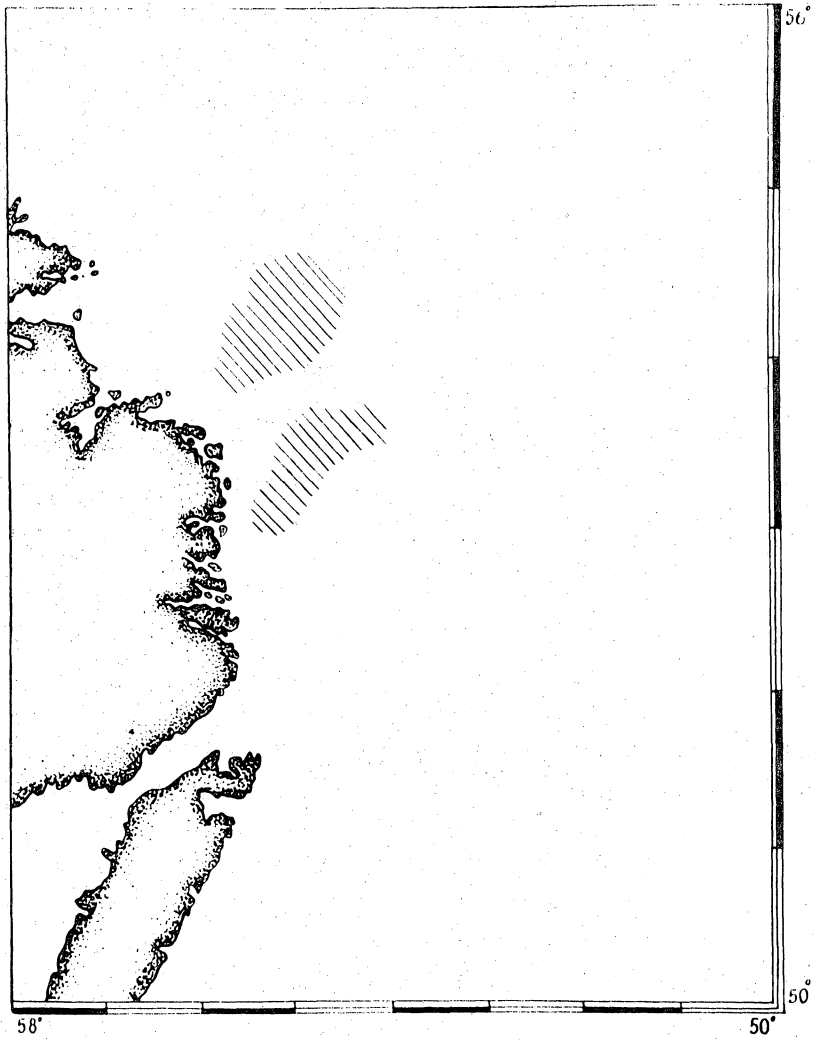


Fig.1 Area of distribution of commercial concentrations of capelin during the experimental fishery.