

Serial No. 1084Document No. 17ANNUAL MEETING - JUNE 1963

Canadian Research Report, 1962

D. Division 4T

by A. Marcotte

Part of the Canadian research in Division 4T was carried out by the Quebec Marine Biological Station at Grand River, P. Q.

Hydrography. Four hydrographic sections were made in Chaleur Bay (4T) during the period extending from the first week of June to the end of August. A comparative analysis of data collected shows that the warming up of the bottom water temperature took place earlier in 1962 than in 1961. Whereas in 1961 bottom temperature remained cold for the whole season, in 1962 rather high temperatures were noted during the corresponding period.

Plankton. For four consecutive years, quantitative fluctuations in zooplankton and its composition have been studied in Chaleur Bay. Compared to 1960 and 1961, the zooplankton production for 1962 was relatively high. The mean production during the June to September period for 1962 was 0.51 ml/m^3 compared to 0.45 ml/m^3 in 1960 and 0.25 ml/m^3 in 1961. In 1962 peaks of production were observed in July (0.83 ml/m^3) and September (0.51 ml/m^3). As in 1961, Copepoda, Cladocera, larval Euphausiacea and Coelenterata were the dominant forms. Contrary to 1960, Appendicularia were very abundant.

Food of cod. A limited number of observations on the food of cod as related to their vertical migrations were made in 1962. These observations were similar to those made in 1961 (cf. ICNAF 1961 Redbook). They were confined to four 24-hour stations during the months of May, June and July. Twenty-one otter-trawl hauls and seven sets with paired gill nets caught 789 cod. Of these, 434 were opened for stomach contents analysis. The trawl and gill-net catches were all smaller than those for the same months of 1961, and there was a larger proportion of small fish (69% shorter than 50 cm). A few more fish were caught in the daytime (33 per tow) than at night (22 per tow). As in 1961, with both otter trawl and gill nets, catches in the lower net were larger than those in the upper net during both day and night sets. A greater proportion of the total catch was again caught in the upper trawl and upper gill net in the daytime than at night (17% versus 13% with otter trawl and 22% versus 21% with gill nets), but the day-and-night difference was much smaller than in 1961.

In the stomachs the euphausiid, Thysanoessa, and capelin were most abundant as in 1960. Herring were more abundant in stomachs than in 1960.

Survey. The annual groundfish survey with fine-mesh otter trawl in the Chaleur Bay area, initiated in 1957, was continued in 1962. Three series of observations were made from June 27 to October 12, covering 11 stations located at the entrance of Chaleur Bay. The main results of 1962 are compared with those of recent years as follows:

Year	Mean length of cod (cm)	Percentage of cod measuring less than 38 cm	Average number of fish per one-hour tow
1959	40.6	54	181
1960	41.2	48	185
1961	42.4	40	124
1962	44.7	23	152

---oooOooo---