

CANADIAN FISHERIES EXPEDITION, 1914-1915

BIOLOGY OF ATLANTIC WATERS OF CANADA

GROWTH OF THE YOUNG HERRING (SO-CALLED SARDINES) OF THE BAY OF FUNDY

A PRELIMINARY REPORT

BY

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In the spring of 1915 Dr. Hjort proposed in connection with the extended investigations in 1914-15 that I study the young of the herring (*Clupea harengus*) or "sardines" of the Bay of Fundy to determine if possible how large they were during the first winter, and the amount of growth during the year. The numerous Canadian weirs that are fished throughout the greater part of the year to supply the sardine factories chiefly in Maine were practically certain to furnish an abundance of material.

Owing to the work that was being prosecuted in the gulf of St. Lawrence it was not possible for me to examine the material in the fresh state except at the beginning and end of the season. It was necessary to rely upon salted material.

The material has been collected in large part by the engineer of the Biological Station at St. Andrews, Mr. A. E. Calder. When circumstances permitted, he collected samples weekly. The material has proved to be far from complete enough to settle the points in question. This is particularly the case with regard to the smaller fish, popularly known as "brit," which are for the most part too small to be satisfactorily taken by the nets used in seining the weirs. Not only will they pass through the nets in seining, but when present in quantity they will not be taken out, being too small for canning. Although there are many gaps in the material, the results are not without interest.

It appeared desirable to use the scale method of determining the age and the yearly amount of growth; but the material presented such great difficulties owing to the indistinctness of the winter rings that this was abandoned and the method of measurement, instituted by Petersen, alone was used.

The samples were measured on one of the usual boards, divided into centimetres, with the divisions at the half centimetres so that in each case the measurement was to the nearest centimetre. This gave centimetre groups for statistical treatment. To facilitate accurate determination of the length, the measuring board was marked on