

and are ascribed to the "extremely local conditions." Fishing is carried out throughout practically the whole year but the greatest activity takes place from July to October. During this period there are two main size-groups in the herring population, one with a modal size of 10—11 cm. which the author reckons to be 12 months old, and another group with modal sizes ranging most frequently between 18 and 22 cm. Variation in the modal sizes is attributed to a tendency of the herring to shoal according to size within their group.

The most important spawning ground is reputed to be in the neighbourhood of Grand Manan Island, where spawning takes place in July and August, but the author expresses the view that the spawning grounds in this region and within the Bay of Fundy are not sufficiently extensive to maintain the great shoals of sardine herring which appear off the coasts of New Brunswick and Maine.

Herring fry were found during the winter and early spring months off the south coast of Nova Scotia, where according to current investigations they may be drifted into the Bay of Fundy and ultimately reach the sardine area. From a study of physical conditions the author does not accept Huntsman's theory that the sardine herring are drifted along with their food to the grounds where the fishery takes place, but expresses the opinion that there is migration from numerous different sources, and in fact he supplies evidence which suggests that during the period of the fishery there is a more or less constant migration to and from the places where fishing is carried on. Turbidity is observed as the most characteristic feature of the sardine area and is regarded as a possible factor rendering it specially attractive to herring. It is concluded that the building of the proposed power dams would have little influence on the actual herring stock, but would certainly adversely affect the weirs within and near the enclosed areas.

The paper is well illustrated by means of charts, and relevant tables are given as appendices. One wishes that it had been possible to reproduce some of the charts on a bigger scale. A misprint at the top of page 113 gives measurements in mm., where obviously cm. is intended.

The investigations, which covered a comparatively short period extending from September 1931 to October 1932, achieved their main objective, and although many biological questions relative to the sardine herring have not been explored, this work should prove a useful preliminary to more extensive investigations in this region.

H. W.

W. F. Thompson. "Conservation of the Pacific Halibut, an International Experiment." Smithsonian Rep. for 1935, pp. 361—382, 2 Plates. Washington, 1936.

In this paper the leader of the great achievement on the Pacific coast gives an excellent and readable summary of the regulation which the International Commission has been able to effect, and the scientific basis for it. Most of the papers in which the work was first described have been reviewed in this Journal, but the present paper deserves reference, both because it is a compact account of the whole work and because it puts so clearly and simply the principle on which all fishing will have to be based in the future. "It may seem to the fisherman somewhat like magic; that by fishing less he can obtain as much or more from the sea than before." Scientists in Europe unfortunately still see more of the corollary: — By fishing more and more, the fishermen obtain as little or less than before.

M. G.