

administration. Generally speaking, the initiation and the local enforcement of regulations for the taking of acclimatized fish are in the hands of Acclimatization Societies, whose officers are in the best position to understand the conditions and desiderata in their district which should govern rules of fishing and policies of fish conservation. The enforcement of regulations primarily depends upon the number and efficiency of officers available for these duties; and these depend mainly upon the financial strength of the local Society. In no district can it be said that the ranging staff is adequate to cover the ground that is really desirable, and in some districts effective surveillance over fishing is practically lacking. Poaching and pollution, the two principal enemies of fish conservation, are thus far more frequent than they ought to be. It is not a question of stiffening up the law, but a matter of enforcing it. To further this object there are grounds for the appointment of a departmental fishery officer as a ranger for all parts of the Dominion who could operate at the place where and at the time when his presence was most needed. Financial considerations appear to be the only possible obstacle or objection to this step being taken. Revenue to cover the necessary expenditure could be forthcoming by charging license fees for salmon angling and for whitebait fishing. The justification and even the necessity for such licenses will probably become evident in the near future, not from the aspect of revenue production, but as the only means of providing for the restrictions and the supervision that considerations of conservation of the fishing will require.

POLLUTION.

There appears to be special need to recognize and to deal with the menace of pollution in our rivers. The law is as definite as legislation on such a subject can be, but the fact remains that in certain places sewage, sawdust, dairy, and works effluents have been and are deteriorating fishing-waters and fouling what were once resorts for pleasant and healthy recreation. The newness and relatively sparse population of the country should not be allowed to encourage an attitude of indifference or a mercenary viewpoint with regard to these dangers when older countries have recognized the error of such policies in the past and are now paying a heavy price to remedy the damage to fisheries and the blight to riparian amenities that have been wrought by pollution. It is desirable that steps should be taken under the powers conferred by the Fisheries Act to prevent the pollution not only of trout and salmon waters, but of all fresh waters containing indigenous fish or acclimatized fish. There is real danger in the tendency to ignore the exiguous beginnings of water-contamination.

RESEARCH.

It is gratifying to report that, in spite of financial stringency, the work of fresh-water research carried on under the direction of the committee appointed by the Acclimatization Societies' Association is making substantial progress. The Biologist, Mr. A. W. Parrott, is still largely engaged upon the study of the age and rate of growth of the trout from various rivers and lakes, but considerable attention has also been given to the "reading" of the scales of quinnat and Atlantic salmon and other species of fish. Professor Percival, Honorary Director of Research, is continuing his studies of the invertebrate fauna of rivers and lakes, and is collating data, obtained through the voluntary co-operation of members of Acclimatization Societies, several of which have now organized local research committees for the purpose, with regard to such factors as the physical conditions in rivers and lakes and particulars of hatching and stocking operations, all of which are matters that must be studied and understood before the problems of maintaining and developing our fresh-water fisheries can be handled to the best effect. Mr. Hobbs, the Honorary Research Secretary, has been making a special study of the spawning conditions and results in Winding Creek and Slovens Creek, tributaries of the Waimakariri, that are very suitable for observations on brown and rainbow trout and quinnat salmon. The material for reports on the results of these investigations is being worked out and it is hoped that the Department may be in a position to publish such reports as Fisheries Bulletins. Previous reports on fresh-water research published in Fisheries Bulletins Nos. 2, 3, 4, and 5 have attracted considerable interest among fishery experts and biologists in Britain and in other countries.

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A. E. HEFFORD,

Chief Inspector of Fisheries.

MARINE FISHERIES INVESTIGATION STATION.

SIR,—

I have the honour to forward herewith the Report of the Portobello Marine Fisheries Investigation Station for the year ending March, 1933.

Owing to the present unfortunate financial position, the services of both Messrs. Graham, Biologist, and Broadley, Assistant, had to be dispensed with, leaving the Station under the sole charge of Mr. Adams. The time of Mr. Adams has been fully taken up with the detail work of maintaining the Station—a very heavy work for one man single handed. In consequence, very little investigation work could be carried out.

The use of the launch has been restricted so that, except for an odd trip outside the Heads, no collecting of new material by means of launch and trawl has been possible. These trips were made possible by the Honorary Secretary accompanying Mr. Adams while Mrs. Adams looked after the Station, and they were restricted to Cape Saunders and Blueskin Bay, as it was impossible to work at farther distances.