

ROTORUA ACCLIMATIZATION DISTRICT.

Birds.—Ducks were more plentiful at Tokaanu this year as compared with recent years, and they were also plentiful in the Wairoa and Bay of Plenty areas. A close season for game was observed in the Opotiki County. Pheasants do not appear to increase, although numbers have been liberated each year, the number liberated last year being 427. Quail also do not appear to increase, and by reason of the scarcity of the Virginian variety it has been decided not to include that class in the list of birds which may be shot during the 1933 game season. Godwits were again plentiful on the mud-flats of the Ohiwa Harbour, but were scarce elsewhere within the district. Black teal are thriving at Hamurana, but are scarce elsewhere. Several pairs of kakariki have been seen on the lower slopes of the Kaimanawa Range near the fall on the Tongariro River. In general, the native birds are thriving throughout the district, and it is interesting to record that a matata was seen in the Bay of Plenty area, while a toutouwai was twice observed near the upper reaches of the Waitahanui River at a considerable distance from any heavy bush. In the Urewera district numbers of tui, kereru, korimako, popokotea, tititi-pounamu, riroriro, miromiro, kiwi, tiwakawaka (pied), and totokipio are to be seen and heard.

Prosecutions.—For breaches of the Acts and regulations relating to fishing and shooting a total of thirty informations were laid, of which twenty-five convictions were recorded. The fines imposed totalled £127. A quantity of fishing-gear and a number of firearms were confiscated.

Waikaremoana Sanctuary.—Sixty permits were issued to destroy deer, wild pigs, and wild cattle in the sanctuary at Waikaremoana, with satisfactory results.

Thermal Fisheries.

The condition of the fish caught in the lakes, rivers, and streams within the thermal area is considered to show an improvement as compared with the previous year. Very few poor-conditioned fish were seen by the rangers or reported by anglers. The fish handled at the Tongariro Hatchery were well conditioned, and of several hundred netted for inspection from the Waingaihe and Waiohiro Streams at Lake Rotorua one fish only was in a condition which warranted its destruction. A feature of the season was the large numbers of young fish taken which may reasonably be claimed to be a result of the Department's restocking activities. The flooding of the Tongariro River in March was the most extensive for seven years, and although it altered several pools it probably contributed to the excellent fishing-results for the remainder of the season.

Exchange of Ova.—An exchange of 250,000 rainbow-trout ova for a similar number of brown-trout ova was made with the North Canterbury Acclimatization Society. The ova received was in good condition, and satisfactory results were obtained from the hatching of 200,000 at Rotorua and 50,000 at Tongariro. The fry from the former were released in the Taahunaatara Stream and from the latter in the Waipunga and Taharua Streams.

Tongariro Hatchery.—Operations were commenced during April, but it was not until 7th June that the fish commenced to "run" in sufficient numbers to warrant stripping, on which date 135,000 eggs were collected. From 2,024 fish stripped the yield was 5,339,000. Of this number, 1,550,000 eyed ova were sold, 250,000 were exchanged, 2,127,000 were forwarded to the Rotorua Hatchery, 400,000 to the Waikaremoana Hatchery, and the balance of 1,012,000 were hatched into fry. The whole of these fry were released in the various rivers and streams running into Lake Taupo.

Rotorua Hatchery.—A barrier placed across the Waingaihe Stream on Mr. Douslin's property, near Rotorua, served the dual purpose of preventing the fish from gaining access to the shallow upper reaches where they could be illegally caught with ease and as a trap for stripping purposes. Some 230,000 eggs were taken there, and these, together with 2,127,000 from Tongariro and 200,000 from North Canterbury, were successfully hatched. Of the fry hatched, 129,000 were sold and 2,428,000 were liberated in various lakes and streams in the Rotorua and Bay of Plenty areas.

Waikaremoana Hatchery.—Operations were confined to the hatching of 400,000 eggs received from the Tongariro Hatchery. The whole of the fry were liberated in Lake Waikaremoana and rivers in the Wairoa area.

Marked Fingerlings.—The marked fingerlings which were reared from ova received directed from California, and which were released in Lake Okaro during March, 1931, have done well. Specimens up to 1½ lb. in weight were caught during the early part of November.

Food-supplies.—Food for the trout is abundant throughout. The smelts which were established in Lake Rotokakahi multiplied very rapidly, and 18,000 of them were netted. These, together with several lots taken from Lake Rotorua, were released in Lakes Okareka and Tarawera. A small number of kokopu was also released in Lake Okareka.

Scientific Operations.—During January and the early part of February numbers of dead Toi Toi were seen in Lakes Rotorua, Rotoiti, and Rotoehu. The mortality was greatest in the last-named lake. An examination of several specimens disclosed infestation of either *Ichthyophthirius multifiliis* or the nematode worm. Post-mortem examinations of numerous trout were made, which afforded conclusive evidence that the prevalence of the nematode worm has greatly decreased.

Permanent Improvements.—The northern bank of the Waikato River within the Taupo Landing Reserve is being levelled and drained, which, when finished, will allow of the provision of boat-shed sites for lease to the public. The Tongariro Hatchery building has been enlarged, and this, together with a rearrangement of the troughs, has extended the capacity to 600,000 eggs. The huts adjacent to the Tongariro Hatchery have been lined and repaired.

Facilities.—The information bureau in the Taupo Landing Reserve has been maintained and the tracks leading to numerous stretches of fishable water have been kept in repair.

Tagging of Trout.—In order to ascertain the movement of trout in Lakes Rotorua and Rotoiti, some 100 fish were caught and tagged in the Waingaihe and Waiohiro Streams, which flow into Lake Rotorua.