

found affected. One of the shags died, and on post-mortem examination was found to be harbouring a large number of worm parasites, which, however, had nearly all died, and were undergoing degenerative changes. The position regarding this shag is shown in the accompanying copy of a memorandum sent to the Conservator of Fisheries, Rotorua.

"It is a matter for regret, therefore, to have to report that no further tangible advance in our knowledge of the trouble affecting the fish has been made. My opinion, however, regarding it remains unaltered.

"C. J. REAKES, D.V.Sc., M.R.C.V.S., Director, Live-stock and Meat Division.

"23rd December, 1914.

"The specimen from the large black shag arrived yesterday, and was examined by myself and Mr. Kerrigan, who happened, fortunately, to be in Wellington. The following is the result of the examination: Stomach itself is free from parasites, but pyloric end of duodenum shows great chronic thickening of wall, with masses of what are evidently degenerated parasites embedded in it. Only one parasite found, which was evidently living at time shag died. This was also in pyloric wall.

"I note that you intend to replace the birds as soon as possible with other of the same species. The sooner this is done the better. You will remember that we have been wanting another shag for some time. There is one point in connection with the feeding of these shags which requires very careful supervision—namely, that the worm-infested trout used for feeding them should be given to the shag as soon as possible after the fish have been caught. Though the worms are found alive for some time after the fish dies, yet their vitality is doubtless progressively reduced as time goes on. Moreover, it must be borne in mind that it is only when the worm has reached the proper stage of development in the trout that it is capable of taking up its abode in the shag, and there completing its cycle of existence.

"C. J. REAKES, D.V.Sc., M.R.C.V.S., Director, Live-stock and Meat Division.

"F. Moorhouse, Esq., Conservator of Fish and Game, Rotorua."

#### (5.) *Destruction of Shags.*

During the past year 2,064 shags have been accounted for to the Conservator of Fish and Game, and during the coming season further efforts will be made to rid the district of these birds.

#### (6.) *Trout-hatchery.*

The value of the Government hatchery is becoming more apparent as times goes on. Not only are the fisheries within the Rotorua district stocked from it, but it is proving of the greatest value to the acclimatization societies, who at little cost can obtain supplies of first-class rainbow ova, fry, or yearling fish.

The following statement shows the work done for the year :—

Number of rainbow-trout ova sold and distributed	...	...	1,135,000
Trout-fry liberated	...	...	775,000
Yearling trout sold	...	...	200
<b>Total</b>	...	...	<b>1,910,200</b>

The trout-fry was liberated not only in rivers and streams throughout the district, but also in the rivers in the Tongariro National Park, in the Waimarino district.

The demand for rainbow ova from the hatchery is not restricted in New Zealand, large orders from New South Wales being filled during the season.

Gifts of ova have been made to some of the smaller acclimatization societies.

*Approximate Cost of Paper.*—Preparation, not given; printing (750 copies), £2 15s.

By Authority: JOHN MACKAY, Government Printer, Wellington.—1915.

Price 3d.]