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EXAMINATION OF BROOK TROUT AT ODEN FISH HATCHERY

FOR PARASITIC COPEPODS (SALMINCOLA EDWARDSII)

by

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Oden Fish Hatchery was completely disinfected in 1943 with a 200 p.p.m. chlorine solution and it was thought that all gill lice were eradicated by the treatment. See Report No. 910. A recent report by Dr. D. S. Shetter of observation of gill lice on a shipment of brook trout from Oden Fish Hatchery prompted the present investigation. Mr. Ralph Marks, Regional Fisheries Supervisor suggested an immediate examination. Accordingly, brook trout in all ponds at Oden Hatchery were examined for gill lice (Salmincola edwardsii) on May 16, 1946. All ponds containing brook trout were supplied by water from both A and B supply ponds. Several ponds in this series contained brook trout removed within a week from the pond-series supplied with water from B supply pond only. These ponds are so indicated in the following table:

Fifty specimens from each pond were examined. The percentage of infection is noted for each lot of fish examined.

Pond #15 - Yearlings (A) - 8%  
Pond #16 - Yearlings (A) - 25%  
Pond #17 - Yearlings (B) - 4%  
Pond #18 - Yearlings (A) - 8%  
Pond #19 - Yearlings (B) - 4%  
Pond #20 - Yearlings (A) - 2%  
Pond #21 - Yearlings (A) - 0%  
Pond #22 - Yearlings (A) - 0%  
Pond #23 - Yearlings (A) - 0%  
Pond #24 - 2 year old (A) - 90%

The yearling fish carried no more than two specimens per fish of the parasites but as many as five or six were found on the two-year old fish.

**Discussion:**

The percentage of infection in the fish transferred from the B pond system cannot be considered as valid because of the method used in the operation of transferring the fish. Ponds #17 and #19 are beside the roadway whereas ponds #18 and #20, which parallel #17 and #19 respectively, are further from the roadway. Consequently fish from #17 and #19, which had been reared in the A system were transferred into the adjoining ponds #18 and #20 so that fish from the B system could be put into ponds #17 and #19 without the necessity of carrying them across these ponds to reach ponds #18 and #20. When the A system fish were transferred into the adjoining ponds, no particular effort was made to remove all the fish because the fish from the B system were of the same age and size. Thus, the two

parasitized fish noted in ponds #17 and #19 could have been A system fish. It is important to consider this point in analyzing the possible origin of the present infection.

The A system is supplied by water that is carried for some distance by the waste ditch. This water supply enters the A system at the head of ponds #15 and #16 and flows through the remaining ponds of the series. It will be noted that the heaviest infection among the yearling fish is in the head ponds of the series. This strongly suggests the possibility of the infection having originated in the water supply from the waste ditch. According to Mr. Thompson, Supervisor of the Hatchery, Mr. Sheldon and other hatchery men, large trout infected with gill lice have been removed from the waste ditch. Although a grill thought to be an efficient barrier to fish was installed in the waste ditch at a point where it leaves the pond system, it is possible that fish may have passed it during exceptionally high water. According to Mr. Thompson, the stream into which the waste ditch empties contains trout infected with gill lice. It would be advisable to remove the fish from this short stream but since the land through which it flows is not state-owned, this could not easily be accomplished. If this land were state-owned, effluents from fish treatments and possible fish mortalities from such would cause less public censure and eliminate the danger of restraining injunctions initiated by owners of the land in question.

Recommendations:

1. New barrier at foot of waste ditch to prevent entrance of wild fish from stream below. Mr. Sheldon diagrammed a self-cleaning,

wooden grill, slanting downstream with a suitable overhang to prevent fish from leaping over the barrier. Immediate construction of the structure is planned. It will be constructed at least twenty (20) feet upstream from the present barrier. An additional installation barrier of the same type of construction to replace the old barrier is planned at some future date.

2. Infected yearling brook trout will be transferred to ponds downstream from those as yet showing no infection.
3. Removal of wild trout from waste ditch. The electric shocker will be used in an attempt to eradicate all fish in the waste ditch. This should be done as soon as possible after the completion of the new barrier.

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