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EXAMINATION OF BROOK TROUT FOR PRESENCE OF GILL LICE AT OTTAWA TROUT FARMS AND RECOMMENDATIONS FOR ELIMINATING THIS PARASITE

by

A. S. Hazzard

For a number of years it has been known that the brook trout sold for stocking from the Ottawa Trout Farms near Alanson have been infested with gill lice (Salmincola edwardsii). The management claims to have made efforts to control this parasite and recently expressed the belief that the brook trout sold during the last two years have been free from gill lice. Evidence that this was not the case in 1944 has come to us from three sources.

Late last summer the Flint Hunting and Fishing Club, located on a branch of the headwaters of Hunt Creek in Oscoda County, purchased legal-sized trout from this firm and stocked them prior to receiving a permit from the Conservation Department. Subsequent inspection of trout from their pond has shown gill lice to be present. (Prior to this planting they were not found in the Hunt Creek system.) The establishment of gill lice in this stream is to be much regretted as fish here have been clean in the past and since it may affect work at the state's Hunt Creek Fisheries Experiment Station located further downstream.

Mr. P. Wuerfel, who has a small trout pond on a tributary of the Huron River near Dexter, purchased adult brook trout from the Ottawa Trout Farms last summer. He recently reported that brook trout in his pond are infected with gill lice.

Mr. Webb Sadler, manager of the Rockwell Trout Club near Castalia, Ohio purchased adult brook trout last fall from this Michigan Source and reports they were parasitized with gill lice.

Although these three instances might be sufficient to establish the fact that brook trout sold by the Ottawa Trout Farms were infected with gill lice as late as last fall, it was suggested by Mr. Westerman that the current stock be checked and also that it be determined whether or not gill lice could be eliminated at the Ottawa Trout Farms and the best method for doing this.

On May 27, 1945, Dr. Gerald P. Cooper and the writer inspected the Ottawa Trout Farms. The pond and small hatchery are operated for commercial trout production, selling fish for stocking and for food. Brook, brown and rainbow trout are propagated. The largest pond in the system is kept stocked for the use of fishermen who pay for the fishing privilege based on the weight of the trout removed.

The water supply is largely if not entirely from shallow, flowing wells. Ditches under highway U.S. 31 apparantly carry drainage water and possibly a small amount of spring water. It will be noted (from the attached sketch) that there are two pond systems separate until their outlets join to form the stream which leaves the property and presumably flows into the Crooked River via Whites Creek.

Apparantly the northern pond system is used for rearing brook trout; the southern pond system, supplied from the fishing pond, is used for holding brown and rainbow yearlings. The small ponds

draining into the fishing ponds are apparently for starting brown and rainbow fry.

The manager, Mr. A. D. Taylor, was just leaving to attend a funeral so was not able to show us around and explain operations but told us to look over the plant ourselves. He also stated that the owner was anxious to rid the place of gill lice and would do anything within reason recommended by us to accomplish this purpose.

Using an artificial fly we caught, examined, and returned to the water uninjured 10 brook trout from 5 to 7 inches in length in each of the two yearling trout ponds on the northern pond system. In the upper pond, 4 out of 10 fish had one or more lice. In the lower pond, 5 out of 10 were infected with gill lice. The gills of several others showed white patches at the tips which may have been immature copepods.

Since approximately 50 per cent of the fish examined had gill lice, it is evident that it is not safe to recommend the Ottawa Trout Farm as a source of brook trout for planting private waters.

I believe that gill lice could be eliminated at the Ottawa Trout Farms but that it would involve some expense and some readjustment of present practices there. The simplest and surest procedure would be as follows:

1) Drain the north pond system completely and dispose of all of these fish. A large percentage of these are likely to carry gill lice and the infected cannot be separated from the clean. Sterilize the entire north pond drainage including all wells and spring seepage areas using sufficient hypochlorite to make a solution of 200 p.p.m. chlorine and neutralizing with sodium thiosulphate at the lower end of the stream to prevent killing fish below. Block all connections with the south pond system and be certain that a fish tight screen is maintained

in the lower end of the north pond system. Keep all fish out of this system until the next spring or if necessary the system may be used within a few days to hold browns or rainbows removed from the south pond system if the fish are carefully sorted to be certain that no brook trout are included.

2) As soon as possible after sterilizing the north pond system drain and dispose of all fish in the south pond system either by sale for food or stocking (except brook trout which should be sold only for food) or by transferring the browns and rainbows to the north pond system and selling all of the brook trout for food. Sterilize this pond system thoroughly using the same method as for the north pond system, neutralizing the hypochlorite at the lower end to avoid killing fish downstream. The south pond system may be safely restocked within a few days using browns and rainbows transferred to the north pond system after sterilization, but no brook trout from this pond or from any other source except those to be hatched in 1946 should be planted.

3) Maintain fish tight screens constantly at the lower end of each pond system to prevent upstream migration of brook trout from the stream below. Many wild brook trout in this stream probably carry gill lice and could re-establish this parasite should they be able to enter the pond systems. Probably a new bulkhead screen below the junction of the streams from the two systems would be a wise precaution.

Sterilization is best done during warm weather but could be accomplished in late spring or early fall if a high concentration of chlorine is used.

Since some technical assistance is required to plan and supervise such a sterilization program, it would be advisable for the Ottawa

Trout Farms to employ a competant fisheries biologist who is experienced in the technizue of hatchery sterilization. Mr. John O'Donnell, Chief Biologist for the Wisconsin Conservation Department, has had considerable experience in this work and his services might be secured.

The proposed program means that much of this year's production of brook trout fingerlings and some of the yearlings may have to be sacrificed. Also it means that brook trout will not be present in the fishing pond during 1946. Although the cost of eliminating gill lice at the Ottawa Trout Farms might be considerable it should be done promptly to prevent the further spread of this objectionable parasite. This would also be to the ultimate advantage of the company as its present reputation for infected stock loses new sales and the good will of customers who purchase such fish. Until gill lice are eliminated the Conservation Department will continue to discourage the sale of brook trout from the Ottawa Trout Farms.

INSTITUTE FOR FISHERIES RESEARCH

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Report typed by: M. Klaphaak

Rough Sketch of Pond System at

Ottawa Trout Ponds near Alanson, Michigan