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## REPORT ON THE FIN-CLIPPING OF HATCHERY BROOK TROUT FINGERLINGS

During the month of October, 1936, arrangements were made through Mr. A. B. Cook, Supervisor of Fisheries Operations, to secure 10,000 brook trout fingerlings from the Grayling Hatchery for marking experiments. On the 9th, 10th, 11th and 12th of October, these fish were fin-clipped with the aid of Mr. Russell Robertson of Grayling. This lot of fish <sup>was</sup> ~~were~~ planted on October 13, 1936 in the North Branch of the Au Sable, half being placed at Anderson's Bridge and the other half planted in the region of the Twin Bridges.

The summary of the brook trout which were fin-clipped at the Grayling Hatchery is as follows:

190	- held as a control at hatchery
32	- died after clipping (0.3% mortality)
9,778	- planted in North Branch
<u>10,000</u>	- total fish marked

The dorsal and adipose fins of each fish were closely clipped with LaCrosse manicure shears. The feasibility of this method of marking pink salmon fingerlings has been previously demonstrated by Davidson (1934). The amount of regeneration of the fins by trout, as determined from aquarium experiments at the University Museums, Ann Arbor, has been found to be negligible (Shetter, 1936). It is therefore felt that trout marked in this manner will be easily recognized when recaptured in the North Branch or any of its connecting waters.

In order to learn the average size of the brook trout which were marked before planting, a random sample of 140 brook trout were taken from the same pond in which the fish for marking were obtained. The average size (total length) of this random sample was 3.48 inches, including fish ranging from 2.375 inches to 5.375 inches total length. As the fish marked were taken at random, it may be assumed the average size of the brook trout marked is about 3.5 inches. These marked brook trout all

came from the hatch of March, 1936, at the Grayling Hatchery, and were in very healthy condition.

This experiment, with proper follow-up studies, will yield information on the following:

1. Percentage of survival of hatchery-reared fingerlings under natural conditions.
2. Percentage of hatchery-reared fingerlings in fishermen's catches (This calls for an intensive creel census on the North Branch).
3. Estimation of total ~~of~~ population of the North Branch.
4. Growth and migration of trout in the North Branch of the Au Sable, thus supplementing results from tagging studies.

The Institute is indebted to Mr. Hans Petersen, Superintendent, and the staff of the Grayling Hatchery for their co-operation in the initial work on this experiment.

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Davidson, Frederick A., 1934. The Homing Instinct and Age At Maturity of Pink Salmon (*Oncorhynchus Gorbusha*). Bull. of the Bureau of Fisheries, Vol. XLVIII, Bull. 15, pp. 28-29.

Shetter, David S., 1936. Regeneration of Clipped Fins By Trout. Institute for Fisheries Research Report No. 339, 3 pp.

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