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THE PROSPECTS FOR IMPROVING TROUT FISHING IN THE GRAYLING POND

ON THE AU SABLE RIVER

by

A. S. Hazzard

During the past year Dr. Leonard Allison, District Fisheries Biologist, made some observations on the pond near the village of Grayling. Induction into the armed forces necessitated interpretation of the data by the writer.

The pond is located in T. 26 N., R. 3 W., Sec. 7, 18. It is formed by a dam on the main Au Sable River just upstream from Highway US-27 at the southeast edge of Grayling and extends for about a mile south and west of the village to just above Highway M-72. About 45 acres are impounded which flood the lower end of Simpson's Creek and somewhat over a mile of the original river channel. Simpson's Creek is said to be a trout stream and three other small unnamed tributaries also provide small amounts of cold water and limited trout spawning areas.

Approximately one-half mile above M-72 the Grayling power dam forms another and somewhat larger impoundment as well as a barrier to fish moving upstream. The water is periodically raised and lowered in the power pond causing two four-inch pulses every day at a gauge installed by the Department at the dam near US-27. This was reported by Mr. Norman Billings, hydrogeologist and was said to occur regardless of the depth of water in the lower pond.

All of the following discussion refers to the lower pond at the village of Grayling unless otherwise mentioned. At present the dam forming this pond lacks gates and a fish ladder. It is therefore a barrier to upstream fish movement and the pond level cannot be controlled. Depths from seven to eight feet are found in many places although much of the pond is not over two feet deep. Deadheads are numerous and cedar stumps and dead swamp timber project above the water over a considerable area of the impoundment. This has created an unsightly condition frequently remarked on unfavorably by visitors to Grayling. The bottom in and near the original channel is sandy and firm. Outside the channel much silt has been deposited. A number of good weed beds are present although generally weeds are not abundant.

The original dam of the early lumbering period was used for holding logs to supply two sawmills and had gates and a reportedly efficient fish ladder. It was flushed each day to pull the logs down to the mill trams. It is claimed that this operation prevented the accumulation of silt and that the pond provided excellent brook trout fishing. However, it should be noted that at this time there was no power dam above to warm the water. The present pond is said to provide very little fishing and only a limited source of minnows for bait. (It is open to the taking of minnows by commercial dealers.)

Dr. Allison secured the following data on temperatures and oxygen on the Grayling Pond and Simpson's Creek. Presumably all samples were taken at the surface.

2/24/43 10 AM Pond covered with ice.
Air 27°F Water at M-72 - 33°F
Water at US-27 - 32°F

3/5/43 2:30 PM Pond covered with ice
Air 20°F Water at M-72 - 33°F 10.3 p.p.m. oxygen
Water at US-27 - 32°F 9.2 p.p.m. oxygen

Simpson's Creek - Water - 34 1/2°F 11.2 p.p.m. oxygen

9/3/43 2:30 PM
Air 75°F Water at M-72 - 69°F 8.0 p.p.m. oxygen
Water at US-27 70°F 9.0 p.p.m. oxygen

Temperatures taken in winter and summer are what might be expected on an impounded stream. Apparently the dam warms the water entering it in summer and cools it in winter. The warming effect in summer is probably most serious in affecting conditions for trout in the river below. Allison stated that several days of rather high air temperatures had preceded the test in September so that he felt the water was close to its maximum for the summer. However, the summer of 1943 was notoriously cool and it seems likely that during a normal season most of the water in the pond would be too warm for trout except in limited areas near the mouths of the smaller tributary streams.

The oxygen supply is apparently adequate, as would be expected in a pond supplied by such a large volume of stream water.

Allison also made some observations on the pond at night with a boat and jacklight. He acknowledges the cooperation of Mr. Earl Madsen in providing the boat and in guiding him over the pond. Mr. Hans Peterson, District Fisheries Supervisor, accompanied them and assisted. Rock bass and suckers were most abundant but a few smallmouth bass, trout and minnows were also seen. Some of the rock bass were collected and the scales examined for growth rate which appeared to be below average. No northern pike were seen in the two-hour cruise although a few were reported to be present in the pond.

Conclusions and Recommendations

Although more complete temperature and fish population data would probably be desirable, the drastic reduction in the research staff makes it unlikely that any further investigations of the Grayling Pond can be made until after the war. As some definite recommendations are desired at once in order to consider the development of the pond as a possible local post-war project, the following conclusions and suggestions are made based upon my interpretation of Allison's data and upon some slight personal acquaintance with the pond and knowledge of other similar impoundments.

(1) I do not believe that the Grayling Pond can be developed for trout fishing because the majority of water entering it is adversely affected by the power pond above which warms the water in summer and cools it in winter. If the pond were thirty feet or more in depth this would not be so important, but it would be impracticable to deepen the Grayling Pond to this extent. If the pond were suitable for trout it would be supplying good fishing at present. Flushing the silt out would not materially affect conditions since the majority of the pond would still be shallow and most of the water supply still warm. Stocking with legal-sized trout early in the season would furnish some "meat fishing" for a few days. After the first of July such stocking would be dangerous because of high temperatures. Also any trout stocked would have to compete with stunted rock bass and with other fish present. The Bellaire Pond where summer-long fishing for brown trout has been developed is much deeper and has a large stream of cold water supplying it constantly.

(2) Unless it is desired to retain the pond for swimming, boating, skating or other recreation, I would recommend that the dam be removed and that the river be allowed to return to natural stream conditions. In time the unsightly drowned timber would be hidden by new tree growth which would shade and cool the water so that eventually it would be restored in part

to trout production and would counteract rather than aggravate, as at present, the warming effect of the power pond above. Restoration might be speeded up by installing deflectors to create pools and by bank planting with suitable trees. This procedure has been found helpful in bringing back streams damaged by beaver activities. In effect, the Grayling Pond might be considered a huge, man-made beaver pond which was productive of brook trout so long as it received a supply of cold water from above but which lost most of its trout-producing capacity when the power dam was built just as the lower beaver ponds in a series become uninhabitable as new impoundments are created above. In addition to warming the water in the river below, the Grayling dam blocks upstream movement of trout and undoubtedly feeds down rock bass, bass and other fish which destroy or compete with trout. In my opinion the pond is a liability to trout fishing in and below Grayling and should be removed unless other values outweigh the importance of trout fishing to the community.

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Report typed by V. Andres