

INSTITUTE FOR FISHERIES RESEARCH
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MORTALITY OF SPAWNING BROWN TROUT IN
PERRY CREEK, OSCODA COUNTY, MICHIGAN

On November 6, 1935, while J. W. Leonard and D. S. Shetter were in Oscoda County examining beaver-trout activities, an instance of spawning brown trout mortality was called to their attention by Conservation Officer LaVerne Dockham. Mr. Dockham informed the Institute workers that a day or two previous to their visit he had examined Perry Creek and found numerous indications of predator activities against brown trout spawning in this stream. Mr. Dockham suggested that the Institute men accompany him to the stream to view these depredations, which was done.

The portion of Perry Creek examined by them on November 6 is located in Sections 4 and 9 of T. 26 N., R. 3 East, Oscoda County. The stream where examined flows through bushy and wooded country. It is essentially a gravel bottomed stream with alternate pools and shallow riffles. The average depth of the riffles was about 5 inches, while the depth of the pools was between 8 and 24 inches. The stream ranged from 6 to 10 feet in width, with overhanging banks which were seldom more than 3 feet above the water.

There was some beaver activity on this stream, as was evidenced by a dam which apparently blocked trout migration and may have been a primary reason for the rather high concentration of spawning trout below the dam. In order to ascertain whether trout were able to pass this dam, the party of three men walked the stream for about half a mile above the dam and were unable to detect any evidence of trout spawning.

The mile of stream immediately below the beaver dam was examined and at least two dozen spawning trout were noted. These fish ranged in size from 14 to 25 inches in total length. Virtually all of the suitable riffles in this mile of stream contained redds, the majority of which were occupied, indicating that the breeding activities of the fish were at their height or slightly beyond. A careful examination of both banks produced evidence of the destruction of at least 6 large fish. Some were represented by only a few fragments, such as jaws and parts of heads, but in each instance a large enough portion of the fish remained to prove that the victims were brown trout. Scattered fish eggs along the bank showed that a number of the fish captured were females. In all instances the feeding tables upon which the trout remains were found were located on the banks immediately adjacent to the stream. In some cases these tables were at the entrance of a burrow communicating with the stream.

Due to recent rains and to the physical character of the situation, the tracks and other signs of the animals which fed upon the trout were virtually absent.

Some of the trout fragments were preserved and are now in the predator food collection of the Institute.

On November 8 Leonard and Shetter, accompanied by A. S. Hazzard and M. B. Trautman, revisited the same section of Perry Creek. On this date the remains of 10 large brown trout estimated to be between 15 and 25 inches in length were found. The remains consisted chiefly of lower jaw bones, heads, or remnants of the skin. The scattered patches of eggs where female fish had been dragged upon the bank and devoured were also noted.

A careful investigation of both banks of Perry Creek for one mile below the beaver dam resulted in the finding of surprisingly little evidence as to the specific identity of the predator or predators responsible for this destruction. Tracks of all animals, including deer (with which this territory is well populated), were almost entirely wanting. In only two instances were animal discharges ob-

observed. Both of these contained fish bones. Due to the condition of the discharges, positive identification of the animal or animals responsible for them was impossible. On this latter date (November 8) breeding activities of the trout had apparently ceased, as only 3 trout from 14 to 18 inches in length were observed. The redds, while still easily discerned, showed no evidence of having been worked within the past 24 hours.

It is obvious that a high mortality of spawning trout had taken place in this situation, and it is quite conceivable that a large percentage of this was brought about directly by predators. The identity of the animals is not known. It is logical to accuse the otter, as the feeding tables noted were quite similar to those known to be used by that animal, and the bank burrows were also highly suggestive.

Conversely, the obvious otter signs and scats which normally indicate the presence of otter were almost non-existent. Recent rains may have accounted for this condition in part. It is therefore necessary ^{to state} that animals other than otter may have been involved in the trout predations and must receive consideration. Due to the accessibility of the situation and lack of wariness of the spawning trout, almost any predator would have found the fish an easy prey. There is no doubt that such animals as the racoon, mink, coyote, fox, bob-cat, bear, and great horned owl could have captured these spawning fish, dragged them up on the bank and established the feeding tables noted by us. Manifestly, the activity of predators directed against unprotected spawning trout is in need of thorough investigation.

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