

June 22, 1914.

REPORT NO. 916

INSPECTION OF THE DENIL FISH LADDER ON  
THE BELLE RIVER, ST. CLAIR COUNTY

by

W. F. Carbine

On May 8 and 9 I had an opportunity to look over the Radike Dam on the Belle River in St. Clair County. At this time the water was high and muddy. Approximately 15 inches of water was passing over the dam. Because of the high water it was impossible for me to get out on the dam; consequently I did not get to see the Denil-type fish ladder.

Suckers, redborse, carp, bullheads and an occasional northern pike were being taken by anglers and dip netters below the dam. Many of the suckers and redborse were still "green."

On June 7 to 9 Mr. Floyd Funselow and I were able to visit the Radike Dam. Conservation Officer James Lee accompanied us and assisted in all operations. At this time the water was still fairly high and very muddy. Between 3 and 6 inches of water were passing over the dam.

We were able to get out on the dam and without too much difficulty pried off one of the planks on the top of the dam to enable us to view the fish ladder. Because of the muddy water and the fact that the fish ladder was running full, we were unable to see anything but churning water and foam. It would be impossible to see a fish in the ladder.

After looking over the dam we decided that it would be possible to set a fyke net at the head of the fish ladder. This was accomplished by fastening a long rope to the draw line on the tail of the fyke net and fastening the rope to the bridge. In this way we were able to keep the fyke net tight at all times. The other end of the fyke net was tied to the face of the dam. In this manner any fish that moved up the fish ladder would move directly into the fyke net.

On the morning of June 9 we removed the fyke net. No fish were taken in our net. This does not mean that fish do not use the ladder. Perhaps fish were not moving at this time.

Several anglers were contacted fishing below the dam. These men were catching black crappies. They claimed that northern pike, bullheads and an occasional walleye are taken at this time of year. Suckers, redbreast and carp are also present. Seining efforts on our part yielded one northern pike about three inches in length and two sticklebacks.

According to the Conservation Officers Lee and Kranski, the Belle River is muddy the entire summer, spring and fall. It clears up to some extent during the winter. Also, the river is subject to great and sudden fluctuations of water level. Every rainfall brings high water and mud. Apparently most of the drainage ditches entering the river have been cleaned out within the past two years. A year ago in May and June there were times when over 8 feet of water were going over the dam.

From my experience at the Radike Dam in May of this year and again in June, it would be impossible to build a trap that could be handled at either the top or the bottom of the fish ladder. Apparently the only method of testing whether or not fish were using the dam would be to set fyke nets below and above the dam and fin-clip all fish taken. By using different fins it would be possible to tell whether fish had moved upstream

or not. This method could be given a try next spring when the suckers and redhorse are moving upstream, but it is rather doubtful whether or not any results can be obtained because of the following reasons: (1) muddy water; (2) extreme fluctuation of water level; (3) during periods of high water it would be impossible to get out on the dam; (4) difficulty that might develop in setting fyke nets if water is high; and (5) because so few fish actually run up this muddy stream in the spring.

It is believed that the installation in the Belle River is not good for a test of the use of the modified Demil-type fish ladder. In order to give this fish ladder a thorough test it is suggested that another location be used. Perhaps the Department would have to stand the cost of this structure, but the expense involved would probably be justified if this structure proved effective. At the time of installation of this test structure traps should be built to fit the ladder. It is suggested that perhaps the Muskegon River Dam (Dead Stream Dam) might be an excellent spot for such a test structure because of the known movement of fish in the spring.

INSTITUTE FOR FISHERIES RESEARCH

W. F. Carbine  
Assistant Aquatic Biologist

Report approved by: A. S. Hassard

Report typed by: V. M. Andres

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