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OBSERVATIONS ON THE MOVEMENTS OF YELLOW PIKEPERCH

(Stizostedion v. vitreum), NORTHERN PIKE

(Esox lucius), AND OTHER SPECIES IN

SOUTH AND BIG MANISTIQUE LAKES,

LUCE AND MACKINAC COUNTIES

by

Dexter B. Reynolds, Jr.

Introduction

South and Big Manistique lakes in conjunction with North Manistique Lake, constitute one of the more important chains of lakes in the Upper Peninsula. They were mapped in 1935 by the ECW and biological surveys were made on North and Big Manistique lakes in 1936, and on South Manistique Lake in 1937.

Yellow pikeperch, yellow perch, cisco and suckers are abundant in all three lakes. Smallmouth, largemouth bass and northern pike are fairly abundant. Between 1936 - 1940, a total of 2,180,000 walleye fry was planted in South Manistique; 2,710,000 in Big Manistique, and 980,000 in North Manistique.

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South Manistique Lake drains into Big Manistique by way of Portage Creek. In former years, a dam was present at the outlet, but there is none at present. Despite the large sizes of these lakes (North, 1,722 acres, Big, 10,130 acres, and South, 4,001 acres) the drainage area involved is small. During the spring break-up, however, there is considerable run-off. Portage Creek becomes much larger and deeper. However, the volume steadily decreases in the late spring and summer months until it is reduced to a mere trickle. The fall rains add considerable volume, but during the winter months the stream volume levels off. A stream gauge is maintained in the creek just above the county bridge leading to Newberry.

Portage Creek is greatly different where it drains South Manistique from what it is where it enters Big Manistique Lake. The portion of stream adjacent to South Manistique is relatively shallow and stony, but below the county bridge enters a series of fairly deep pools. Minnow dealers have long regarded this stream as a veritable treasure trove.

Interested local people have observed that there is a considerable mass movement of fish, specifically yellow pikeperch and northern pike, from South to Big Manistique Lake via this creek in early spring. It is their contention that no fish return and that fishing is poorer in South Manistique as a result of this migration.

In an attempt to evaluate these contentions a counting weir was installed in Portage Creek just above the bridge in the spring of 1947. On April 4, the site was chosen on the advice of several local people. Actual construction was begun on April 10, and the trap was in operation by April 17.

Details of Construction

Observations of fish movements through other weirs led the writer to believe that the most important structural feature was the upper half of the wings. This point will be brought out later.

Cedar posts, 10 feet in length, were driven into the stream bed to a depth of about 5 feet. To these posts, 2X4's were spiked in two parallel rows. Wooden stakes were nailed to the faces of the 2X4's, spaced at 1-1/2-inch intervals. The stakes where clay was present were driven into the stream bed, but elsewhere were simply snugged to the bottom. The upstream wing was approximately 45 feet long and the downstream wing, 35 feet. The trap was placed in the quieter waters near shore. Both upstream and downstream traps were approximately 8 feet square. Planks were spiked to the top of the trap to afford footing and to provide working space.

Observations During Operation

It was thought at the time of the completion of the upstream wing that the weir would catch most of the migration. However, local observers reported that the run had been on for at least two weeks before the one wing and trap were completed. Ice still covered South Manistique Lake although it was black and well packed. There was a small area of open water near the outlet of the lake.

There was no fish movement downstream until the late evening and early morning. The fish invariably began to appear around 11:00 - 11:30 p.m. and increased in numbers until around 2:00 - 3:00 a.m. It was interesting to watch them drifting quietly downstream about 6 - 8 inches below the surface. In drifting, they encountered the slats, turned and followed the wing into the trap. There was no haste in the downstream movement.

The fish ranged in length from 17 - 26.5 inches. Weights ran from 1-1/2 to 7 pounds (estimated). No scale samples were taken. The right pectoral fin was removed from most fish. A total of 1,051 fish were so marked. Four northern pike, one rock bass and ten redhorse were the only species handled other than pikeperch.

During most of the time when the run was on air temperatures were never above 15 degrees.

When the run had slackened off to the point where only occasional fish appeared, a few slats were removed and the fish allowed to pass through. The movement was carefully noted through the course of four full nights and it was observed that a sudden decrease occurred around 3:00 - 3:30 a.m. The original plan was to retain the few fish from this time until morning, but the author was advised not to allow them to collect. There were numerous reports of tampering.

With the aid of Mr. Sherman Ludlow of Curtis, the operation of the weir was carried on until May 7, when certain portions of the weir were damaged by vandals. The damage was repaired on May 8 - 9. Operations continued until May 26 when large portions of the structure were again damaged. The few remaining portions were removed on May 28 - 29 and the project terminated.

During the first week of operation, a total of 696 fish were handled. During the second week, the number dropped sharply to 261 and to 154 during the following week. From then until the project was abandoned only 107 fish were handled. These figures show that the bulk of the migration may have occurred before the weir was in operation. The highest number handled per day was 210, followed by 178. These totals represent the first two days when the trap was in complete operation - April 17 - 18.

Mr. Ludlow reported that in the week prior to May 26, a total of eight marked fish had been caught in the upstream trap. Of the resort owners contacted, only one gave a report of marked fish being handled at his dock. He reported eight fish caught in Big Manistique Lake. No other reports were received.

During the last two weeks of May, many pikeperch were caught from the cement bridge that spans the outlet from South Manistique Lake in the town of Curtis. It was not unusual to see as many as 20 fishermen at this spot and limit catches were very common. According to Mr. Peters, conservation officer, this type of fishing also occurs after the fall rains. It is my opinion that these fish were upstream migrants. It was noted that no fish were moving into the creek, although a total of over 50 fish were removed within two hours from the hole below the bridge.

Fishing was very good in Big Manistique during the early part of the season and poor in South Manistique. The bulk of the fish caught in South Manistique during the summer was pan fish - yellow perch, bluegills and rock bass. Tourists utilizing this chain of lakes were far fewer in number in 1947 than in previous years.

Conclusion

It is the belief of the biologist that if this project had been allowed to carry through into the autumn months of 1947, the question of whether pikeperch and northern pike migrate back into South Manistique Lake could have been answered. The few returns in the latter part of May and the observations made at the bridge in Curtis tend to support this belief. As it was, the operation of 1947 proved only that the fish migrate from South Manistique Lake into Big Manistique Lake during the spring.

In order to complete the study it is recommended that a similar structure be placed at the cement bridge in Curtis. Full-time operation by two men would be required and there should be some provision for shelter during night operations. If any future work is undertaken, a general meeting of local sportsmen should be held, and they should agree to furnish protection to the structure. It was unfortunate that in 1947 the smelt fishermen were just beginning to return in the mornings when the slats were removed on the original structure, and their subsequent tamperings fired local resentment to great heights.

Much could be learned of fish migrations and spawning in this chain of lakes if an experiment such as the one described above were set up and properly conducted.

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