

Jamesville Reservoir Walleye Survival (Survey #:721029)
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Jamesville Reservoir is in Onondaga County near the Village of Jamesville. The reservoir was formed by the impounding of a section of Butternut Creek. Like many of the area reservoirs, it was originally constructed to supply water to the Erie Canal. Jamesville Beach County Park borders most of the southwest corner of the reservoir. Jamesville Reservoir is a warmwater lake with both largemouth and smallmouth bass, pumpkinseed and bluegill, black crappie, yellow perch, brown bullhead, and an abundant white perch population. The lake is also stocked with both walleye and tiger muskellunge. Walleye may also spawn in Butternut Creek, but it is unknown whether there is any successful natural reproduction contributing to the reservoir’s walleye population. Significant habitat features in the reservoir include a broad mudflat at the mouth of Butternut Creek, a fringe of dense vegetation in some nearshore areas, and a deeper bowl (maximum depth 35 ft) near the dam. Boat access can be gained at a private marina, or at a cartop launch near the dam. Management concerns in Jamesville Reservoir include non-native plant species (habitat impacts), and survival and recruitment of stocked walleye and stocked tiger muskellunge.

This survey was conducted on September 30, 2021, to evaluate the survival of stocked walleye. Approximately 6600 pond fingerling walleye are stocked every other year in the spring to maintain a population for anglers. We electroshock the entire shoreline each fall in those years, to evaluate the summer survival of the stocked fish. Four 30-minute gamefish transects were completed in the shoreline circuit. We also use that opportunity to attempt to capture any tiger muskellunge we may encounter.

| Year | Number walleye stocked | Total number walleye caught | Number young of year walleye caught | Catch/hour electrofishing | Number tiger muskellunge caught |
|------|------------------------|-----------------------------|-------------------------------------|---------------------------|---------------------------------|
| 1995 | 1100 | 95 | 16 | 50.5 | NA |
| 2003 | 6600 | 23 | 6 | 12.1 | 0 |
| 2010 | 0 | 12 | 0 | 5.6 | 1 |
| 2011 | 6600 | 13 | 3 | 4.7 | 0 |
| 2013 | 6600 | 25 | 9 | 13.7 | 5 |
| 2015 | 6600 | 67 | 61 | 40.6 | 1 |
| 2017 | 6600 | 27 | 11 | 13.5 | 2 |
| 2018 | 5000 | | | | |
| 2019 | 10000 | 100 | 27 | 55.6 | 1 |
| 2021 | 6600 | 47 | 2 | 23.5 | 0 |

The entire perimeter of the lake was sampled, and 47 walleye were collected. The catch rate of walleye was 23.5 fish per hour, a moderate catch rate for this waterbody. Walleyes ranged in size from 157 mm to 651 mm (6.2 to 25.6 inches). Only two of the captured walleye were age 0, presumably from the spring 2021 stocking as very little natural reproduction is suspected to occur. Sern’s (1982) young-of-year population estimate for 2021 based on our catches was no walleye. While the 2021 stocking appears not to have been successful, there were eight age 1 fish in the catch, suggesting successful natural reproduction in 2020.

The biennial stocking continues to result in survival and recruitment of walleye to the Jamesville Reservoir fishery and should be continued in the future. Additionally, fall sampling should be conducted in years when walleye are not stocked to more fully assess the extent natural reproduction is contributing to the walleye population of Jamesville Reservoir.

Literature Cited

Serns, S. L. 1982. Relationship of walleye fingerling density and electrofishing catch per effort in northern Wisconsin lakes. *N. American Journal Fisheries Management* 2:38-44.

