

## Tuscarora Lake Centrarchid/General Biological Survey (Survey #:721007, 721034)

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2/24/2021

Tuscarora Lake, also called Erieville Reservoir, is a 307-acre waterbody located in the Town of Nelson, Madison County. There is limited open water access to the lake provided by a few “unofficial” shore fishing locations. Anglers also launch kayaks, canoes, and small car-top boats at those sites; no formal trailered launch exists. Tuscarora Lake is a popular ice fishing location as it’s typically one of the first waters in the area to have safe ice. Though no formal angler survey has been done on the lake, this early ice fishing pressure can be quite intensive at times. It is especially noticeable on years when it has fishable ice and few other area waters do, especially Oneida Lake. Tuscarora Lake has been stocked almost annually since 2005 by the Tuscarora Lake Association (TLA) with fall fingerling walleyes. The lake’s fish community is managed with “Statewide” fishing regulations.

Two surveys were conducted in 2021 to provide information on the current status of the sportfish community as the last state survey was conducted in 1935 by the New York State Conservation Department, predecessor to the New York State Department of Environmental Conservation (NYSDEC). Objectives of this survey were to evaluate age, growth, condition, and relative abundance of the reservoir's sportfish community, and to determine if walleye stocked by the TLA were recruiting to the fishery.

A night boat electrofishing survey (survey #721007) was conducted on May 24 and 25 following protocols outlined in the NYSDEC Centrarchid Sampling Manual (Brooking et al. 2018). Ten sites covering almost the entire shoreline was fished for a total of 3.35 hours of “on-time”, consisting of five half-hour game-fish only and five 10-minute all-fish runs. Survey #721034 consisted of four NYSDEC standard inland gill nets set over night on October 4.

Overall, 458 fish were caught, representing 15 species (Table 1). Smallmouth bass were the most numerous with 85 caught (19% of catch). The next most numerous species was largemouth bass (n=81, 18% of catch), followed by yellow perch (n= 67, 15% of catch). Other gamefish caught were walleye (n=7, 2% of catch), black crappie (n=11, 2% of catch), and chain pickerel (n=23, 5% of catch). The walleye electrofishing and gill net catch per unit effort (CPUE) of 1/hr and 1/net-night, respectively, would suggest Tuscarora Lake has a low abundance of walleye (Forney et al. 1994). Only three-year classes of walleye were collected with fish from 2015, 2018 and 2019 represented. The 2015 and 2019 could potentially be from the TLA stocking but 2019 was a non-stocking year. Though very few walleye were collected it does appear that the walleye stocking is contributing to the fishery.

A total of 85 smallmouth bass were caught, all by electrofishing. The electrofishing CPUE by run ranged from 0 to 54/h for all size smallmouths with an average of 25.4/h. Lengths ranged from 6.8 to 16.3 in., with 13-inch smallmouth bass being most frequent. The resulting PSD was 80 and the RSD<sub>14</sub> (smallmouth bass ≥14 in.) was 30. The smallmouth bass average Wr was 86. Smallmouth had average growth rates by New York State (NYS) standards. Smallmouth bass ages ranged from 2 to 9, with age-5 being the most frequent age class collected. Tuscarora Lake should, and does, provide anglers with good opportunities to catch numbers of smallmouth bass in quality (≥11 in.) and preferred (≥14 in.) sizes but with a limited chance at memorable (≥17 in.) sized smallmouth bass.



Recommended management actions based on these surveys would be to continue with statewide regulations for all species and recommend the TLA continue to stock walleyes if desired.

### Literature Cited

Brooking, T.E., J.J. Loukmas, J.R. Jackson, and A. J. VanDeValk. 2017. Black bass and sunfish sampling manual for lakes and ponds. New York State Department of Environmental Conservation, Albany, NY.

Forney, J.L., L.G. Rudstam, D.M. Green, and D.L. Stang. 1994. Percid sampling manual. New York State Department of Environmental Conservation, Albany, NY.

*Table 1. Species caught by electrofishing (EF), and gill net (GN) during May and October 2021 on Tuscarora Lake, Madison County.*

<b>Species</b>	<b>EF</b>	<b>GN</b>	<b>Total</b>	<b>Freq</b>
Chain Pickerel	17	6	23	5%
Golden Shiner	3	4	7	2%
Emerald Shiner	2		2	0%
Rudd		1	1	0%
White Sucker		3	3	1%
Yellow Bullhead	1	3	4	1%
Brown Bullhead	16		16	3%
Rock Bass	28		28	6%
Pumpkinseed	55	6	61	13%
Bluegill	60	2	62	14%
Smallmouth Bass	85		85	19%
Largemouth Bass	75	6	81	18%
Black Crappie	1	10	11	2%
Yellow Perch	23	44	67	15%
Walleye	3	4	7	2%
<b>Total</b>	<b>369</b>	<b>89</b>	<b>458</b>	