

Otisco Lake Gill Netting Survey (Survey #:722015)
James Everard, Region 7 Fisheries

02/01/2023

Otisco Lake is an 1,877 acre eutrophic lake lying wholly within Onondaga County, near the city of Syracuse. It is the most easterly of the eleven Finger Lakes and is eighth in size. There is a DEC hard surface ramp boat launch and an angler access site on the west side of the lake by the causeway that provides boat and shore access. Onondaga County has a park located on the east side, near the north end of the lake, adjacent to Turtle Bay. This site provides access for shore and ice fishing, and for launching of car top boats. Ice fishing and shore access is also found along the east side at the north end but no formal parking area exists. There are two private marinas with launches located on the east side of the lake, one on either side of the causeway, which provide trailered boat access for a fee.

A gillnet survey was conducted in July 2022 to develop an overall picture of the fish community, to monitor the stocking programs for tiger musky, walleye, and brown trout, and to fulfill the sampling required as part of the four-year rotational sampling program for the eastern Finger Lakes. A total of seven DEC Standard Inland (SI) gill nets were set, 4/night on July 19 and 3/night on July 20.

Overall, 599 fish were caught, representing 16 species (Table 1). White perch were the most numerous with 265 caught. Gamefish caught were walleye (n=157), smallmouth bass (n=29), and largemouth bass (n=13). No brown trout or tiger musky were caught. The survey catch rate of 22.4 walleye per net is well above the 5/net that would suggest a high abundance (Forney et al 1994). The 2022 walleye/net was double the previous record for Otisco Lake of 11.6/net, recorded in 2018. Walleye lengths ranged from 9.4 to 23.2 inches with a mean length of 17.1 in. On average, walleye are reaching legal size (≥ 18 in) between age-3 and 4; the NYS average is 18 in at age-5 (Forney et al 1994). Walleye were in very good condition with a mean Relative weight (W_r) of 104. Otoliths, along with scales, were taken from the walleye to aid in age determination. As previously found by Everard (2017), there were differences between otolith and scale ages (Table 2). Walleye ages ranged from 1 to 17, with age-3 being most frequently represented. Interestingly, walleye were caught from the 2014 and 2016 year-classes (ages 6 and 8, respectively) which if aged correctly, were non-stocking years and thus would be wild fish (Figure 1). While the capture of several wild walleye year classes is noteworthy, the presence of a robust alewife population in Otisco Lake has historically limited natural production due to predation on walleye fry. Factors that allowed for improved survival in the years mentioned previously are unknown. Given this finding we will conduct fall YOY walleye assessments in non-stocking years to better determine the frequency and extent of wild produced walleye in Otisco Lake. A survey of this type (#722070) was completed in the fall of 2022, as it was a non-stocking year, but no YOY walleye were found. No other management changes are recommended at this time as the result of this survey.

Otisco Lake Gill Netting Survey (Survey #:722015)
 James Everard, Region 7 Fisheries

02/01/2023

Table 1. Species of fish caught during 2022 Standard Inland gill netting of Otisco Lake. Catch per unit effort (CPUE) is fish/net-night.

Species	Total	CPUE	Frequency
Alewife	22	3.1	4%
Common Carp	4	0.6	1%
Golden Shiner	1	0.1	0%
White Sucker	4	0.6	1%
Yellow Bullhead	5	0.7	1%
Brown Bullhead	8	1.1	1%
Channel Catfish	3	0.4	1%
White Perch	265	37.9	44%
Rock Bass	3	0.4	1%
Pumpkinseed	5	0.7	1%
Bluegill	62	8.9	10%
Smallmouth Bass	29	4.1	5%
Largemouth Bass	13	1.9	2%
Black Crappie	2	0.3	0%
Yellow Perch	16	2.3	3%
Walleye	157	22.4	26%
Total	599	85.6	

Table 2. Difference between scale and otolith aging of walleye caught in Otisco Lake in 2014, 2018, and 2022.

Year	Exact	±1 Year	±2 Year	±3 Year	±4 + Year
2014	39%	31%	12%	4%	14%
2018	25%	33%	25%	9%	9%
2022	28%	36%	23%	7%	5%



Otisco Lake Gill Netting Survey (Survey #:722015)
James Everard, Region 7 Fisheries

02/01/2023

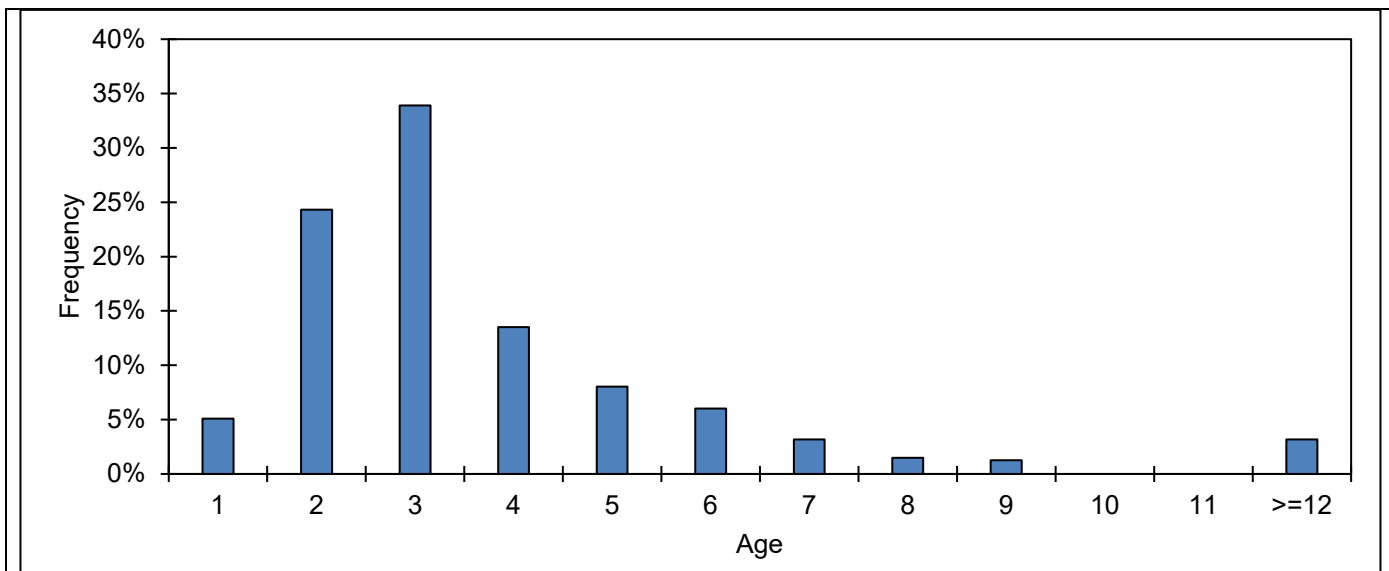


Figure 1. Age frequency distribution for walleye collected in 2022 gill netting survey on Otisco Lake, Onondaga County. Aged using otoliths (n=87) and scales (n=43).

Literature Cited

Everard, James F. 2017. 2014 Otisco Lake Fish Community Report. New York State Department of Environmental Conservation, Cortland, 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.

