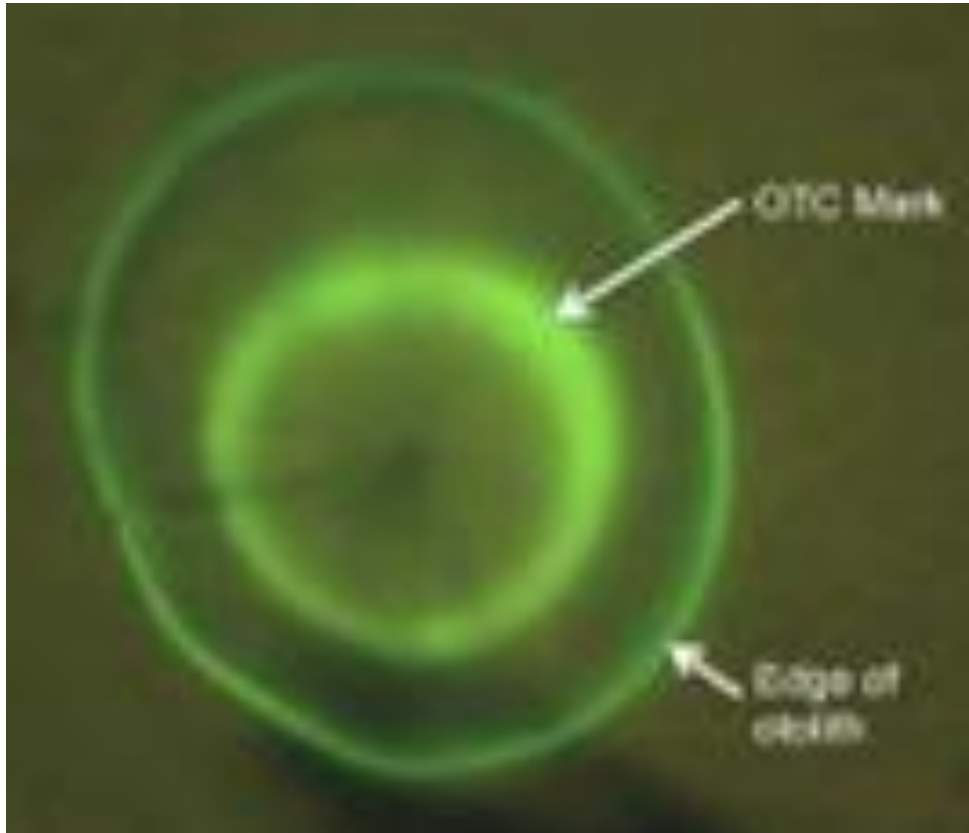




Wisconsin Department Of Natural Resources Sevenmile Stocking Assessment

Sevenmile Lake, Eagle River Watershed
WBIC 1606800
Onieda County
2026



This report was compiled by:

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Introduction and Objectives

Sevenmile Lake is a 518-acre drainage lake with 6.1 miles of shoreline and a maximum depth of 43 feet within the Eagle River watershed. Small fingerling (1-3 inches) walleye have been stocked by the state on even years since 2004. Small fingerling were marked with Oxtetracycline (OTC) between 2004 -2020 and genetically marked between 2022 and 2026 (Appendix 1). Unmarked large fingerling (4-8 inches) walleye have also been privately stocked into Sevenmile occasionally throughout time (Appendix 1). The survival of stocked walleye varies annually with the length they are stocked at and the environmental, limnological and biological characteristics of the lake impacting survival. Given limited resources exist for management, considerations must given to that the most cost-efficient stocking approach to supplementing a fishery. The goal of this report is to identify the size of walleye that has been contributing to the adult walleye population within Sevenmile Lake.

Methods

Sevenmile Lake was surveyed during the spring of 2021 following the treaty assessment protocol ([Cichosz 2025](#)). Dorsal spines were collected from five walleye within every 0.5-inch length bin of each sex and ages were assigned to those individuals. An age-length key was developed from that subsample ([Isermann and Knight 2005](#)) and applied ages to each individual in the population estimate, allowing them to be categorized into stocking year and size. Age-3 through age-8 walleye were included in the assessment ensuring individuals were fully vulnerable to capture and avoid age truncation with the lower abundances of older fish. Survival for each size class was estimated by dividing the population estimate for each age class by the total number of fish stocked for that year and multiplying it by 100. Cost per each stocked size class was estimated by multiplying the number stocked by the cost per stocked large fingerling for a private purchase (\$3.00), public large fingerling (\$1.83; G. Muench, personal communication 2025) and public small fingerling (\$0.42; G. Muench, personal communication 2025) divided by the age-specific population estimate. Contribution to the adult population by stocking size was determined by the population estimate for each age class by the of acres of Sevenmile mile (518) by year and stocking size.

Results

Both size classes of stocked walleye were found to contribute to the walleye fishery in Sevenmile Lake. Survival, cost per recruit, and contribution to the adult population was variable among years and size of individual stocked (Table 1). Small fingerlings had a lower median cost per recruit (Figure 1), survival rate (Figure 2) and made up a larger proportion of the adult walleye population compared to large fingerlings (Figure 3).

Summary

Results indicate that lake-specific environmental, limnological and biological variables change yearly and likely exert a greater influence on stocking success than the size of the fish themselves within Sevenmile Lake. Small fingerling and large fingerling each contributed to the adult walleye fishery within Sevenmile. Utilizing small fingerlings allows for a 709% increase in the number of fish stocked, which appears to outweigh the 6.2% survival advantage of large fingerlings as small fingerlings made up a larger proportion of the 2021 adult walleye population. However, this strategy introduces greater variability in yearly contribution that could destabilize adult density. Conversely, stocking larger individuals might stabilize adult density but result in a lower overall population. Thus, stocking different size classes may increase the odds that the unique environmental requirements of stocked walleye are met within a specific year helping to maintain the stability of the walleye fishery within Sevenmile Lake. Financially, stocking cost estimates are conservative as they exclude infrastructure, maintenance and staff wages. If those costs were included, the calculated cost per recruit would likely increase substantially. Furthermore, aging biases associated with using spines could influence size class assignments impacting survival, cost and contribution calculations. Genetic age assignments should be considered during future populations estimates to assess stocking contributions and guide future stocking decisions. Finally, the assumption of zero natural reproduction remains uncertain. Distinguishing between state-stocked, privately stocked and naturally reproduced fish is currently hindered as the genetics of privately stocked individuals are not collected which should be considered in the future.

Table 1. Walleye stocking summary in Sevenmile Lake. Stocking years include ages 3 to 8 from the 2022 survey in which they should have been vulnerable to capture gears but not too old that abundance likely naturally declined due to old age.

SIZE	STOCKING YEARS INCLUDED	STOCKING YEARS EXCLUDED	AVERAGE NUMBER STOCKED	MEDIAN COST PER RECRUIT (MIN-MAX)	MEDIAN SURVIVAL (MIN-MAX)	MEDIAN NUMBER PER ACE (MIN-MAX)
Large fingerling (private cost)	2	3	2,248	\$37.00 (\$31.57–42.34)	8.3% (7.1-9.5)	0.4 (0.2 -0.6)
Large fingerling (state cost)	2	3	2,248	\$22.5 (\$19.26–25.83)	8.3% (7.1-9.5)	0.4 (0.2 -0.6)
Small fingerling	4	3	18,192	16.80 (\$13.04–399.2)	2.5% (0.1-3.2)	0.9 (0.04 – 1.1)

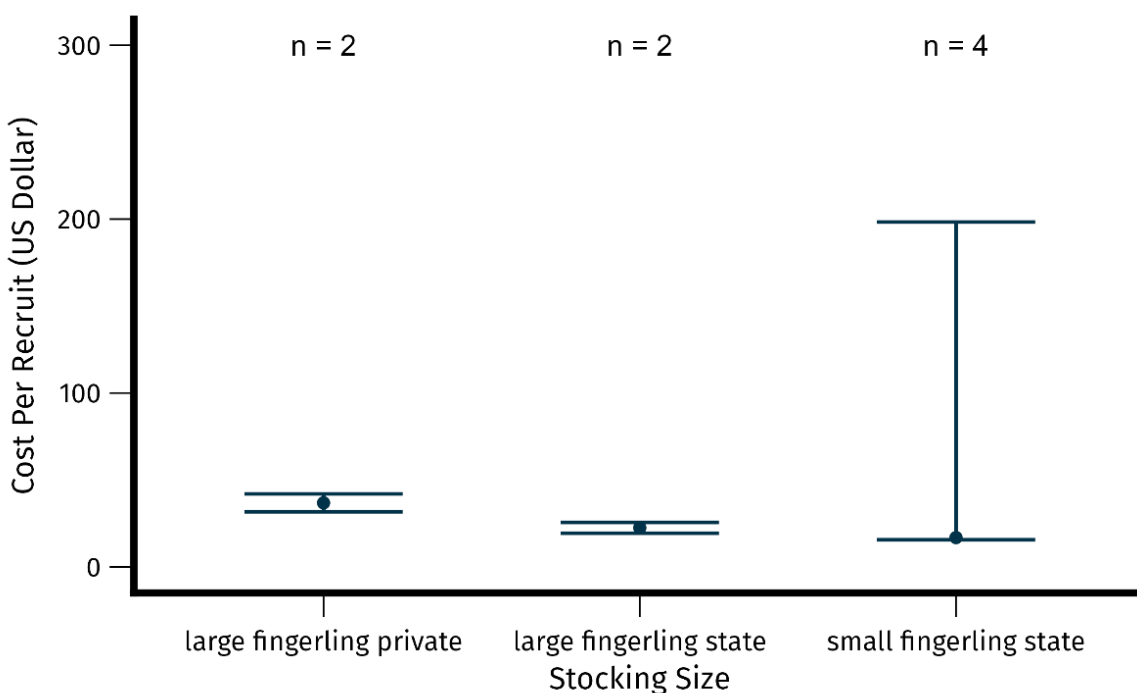


Figure 1. Median cost per walleye recruit to the adult walleye fishery among the various sizes of stocked individuals in Sevenmile Lake. Error bars are plus or minus one standard error. N equals the number of samples used to calculate the median. Only age-3 through age-8 were included.

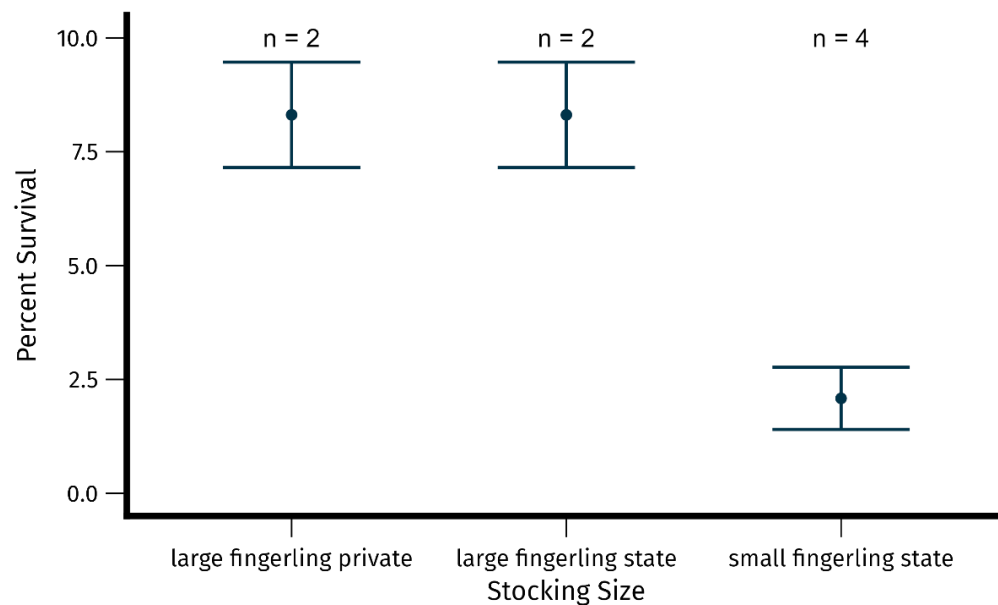


Figure 2. Mean survival of stocked walleye to the walleye fishery among the various sizes of stocked individuals in Sevenmile Lake. Error bars are plus or minus one standard error. N equals the number of samples used to calculate the median. Only age-3 through age-8 were included.

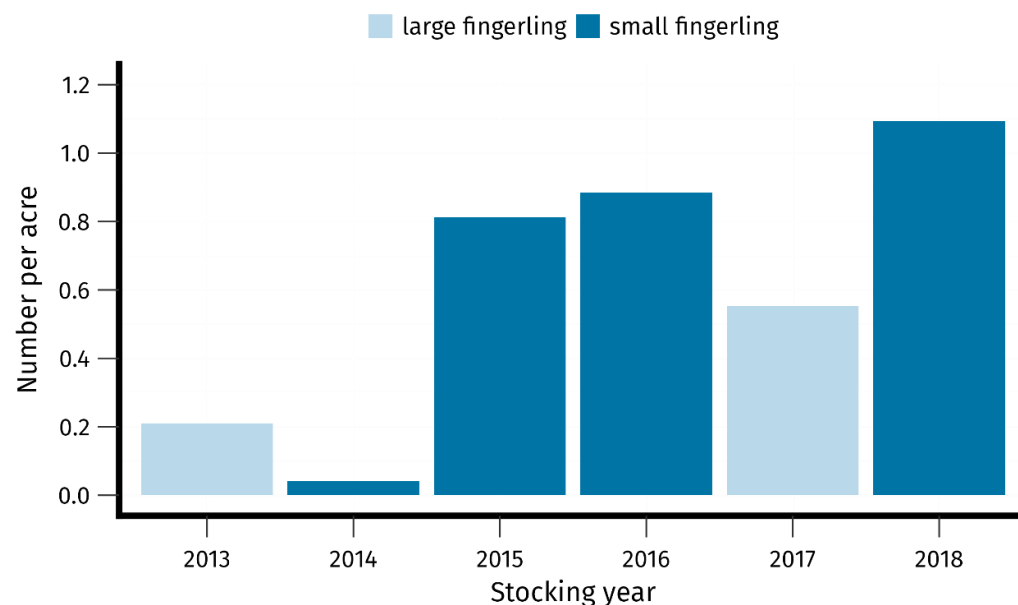


Figure 3. Estimate number of walleye per acre by stocking year that was found during the 2021 survey. Stocking size was assigned using dorsal spine ages and an age length key to assign year stocked and size class at stocking to each adult walleye. Only age-3 through age-8 were included.

Appendix

Table 1. Stocking history in Sevenmile Lake and assessment of contribution to the fall survey results.

YEAR	STOCK LENGTH (INCHES)	NUMBER STOCKED	OTOLITHS READ	NUMBER MARKED	NUMBER UNMARKED
2000	5.0	1000			
2001	5.0	1000			
2003	4.1	1380			
2004	1.2	25150	68	68	0
2005	7.0	1000			
2006	1.4	17595	56	51	5
2008	1.8	17605	56	54	2
2010	1.4	17597	49	49	0
2010	7.0	1998			
2012	1.7	17595	32	28	4
2013	6.0	1496			
2014	1.6	19958	22	19	3
2015	1.9	17605	34	34	0
2016	2.0	17605	35	35	0
2017	7.0	3000			
2018	2.1	17602	35	30	3
2019	5.1	1988			
2020	2.0	17405	35	33	2
2021	7.0	1997			
2022	2.2	17605			
2024	1.8	19947			