

Goodyear Lake (SR-P360) 2022 Panfish Survey

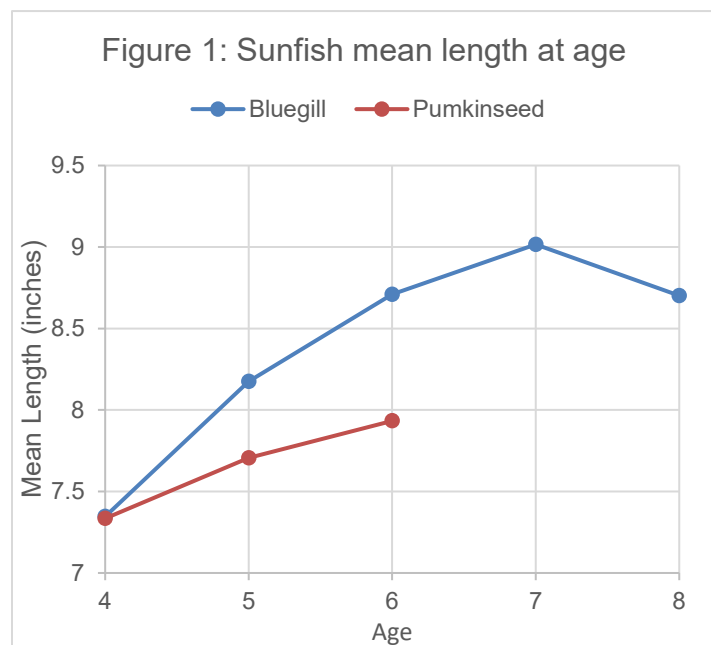
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Goodyear Lake is a 235-acre (excluding the shallow “Stump Lot” north of the main lake) impoundment on the Susquehanna River located in the Town of Milford in Otsego County, New York. With a watershed of over 900 km², sourced in part by both Canadarago Lake and Otsego Lake, Goodyear Lake receives extensive nutrient inputs and is considered eutrophic. The lake has an average depth of 14 ft a maximum depth of 33 ft (McBride 2008) with aquatic vegetation present throughout the littoral zone. Goodyear Lake supports a diverse warmwater fish assemblage with anglers frequently targeting its black bass, walleye, and abundant large panfish. This popular fishing destination can be accessed via a cartop boat launch on the south end off Silliman Cove Rd or by traveling down the Susquehanna River after using the trailered boat launch at the Crumhorn Fishing Access Site a few miles north of the lake in the Susquehanna State Forest off Otsego County Route 35.

The purpose of this survey was to collect a second year of baseline data on sunfish (bluegill, pumpkinseed and redbreast sunfish) before anticipated population structure changes from regulation changes associated with the statewide Big Panfish Initiative (BPI) implemented on April 1, 2022. As a selected water for the BPI, Goodyear Lake sunfish harvest restrictions include an 8-inch minimum size and a daily limit of 15. Target sunfish population size structures for BPI waters are that: for all sunfish that are at least 3 inches long, 70% will be at least 6 inches long (70 PSD), 30% will be at least 8 inches long (30 RSD₈), and 5% will be at least 10 inches long (5 RSD₁₀, NYSDEC 2021). The BPI also has a target relative weight (W_r , a measure of fish condition) of 100 and target growth rate such that sunfish reach 7-inches in length by age 5. The effort consisted of 9 trap net nights (3 nets set for 3 nights) at 3 sites during the third week of May 2022. Scales were taken from 100 sunfish with otoliths extracted from 30 of those individuals for comparisons.

A total of 319 fish were collected with sunfish comprising 61% of the catch. Bluegill were the most abundant species captured (47%) followed by pumpkinseed (13.5%) and white sucker (10%, Table 1). Bluegill had a mean length of about 8 inches with 105 out of the 150 captured \geq preferred size (100 PSD, 70 RSD₈, Table 2). None of the captured bluegill reached 10-inches in length (0 RSD₁₀), but 16 individuals were greater than 9 inches with the largest measuring 9.7 inches long. No sunfish aged younger than 4 were collected but they exhibited rapid growth, with bluegill reaching at least 8-inches in length by age 5 (Figure 1). Bluegill and pumpkinseed were in good condition with a mean W_r of 105 for both species. Pumpkinseed population structure had 98 PSD and a 16 RSD₈ (Table 2) consisting of smaller individuals than bluegill with their mean length at 7.4 inches and only 7 individuals \geq 8 inches. Inferences about redbreast sunfish cannot be made with only 3 collected. A handful of black crappie ($n = 19$) and walleye ($n=12$) were collected with mean lengths of 10.7 and 16.1 inches respectively.



Baseline data collection from Goodyear Lake looks promising regarding the goals of the BPI. This survey was conducted two weeks earlier than the previous year which greatly improved bluegill catch rates, providing more meaningful data on their population structure. With desired bluegill growth rates and relative weights already achieved and the population apparently saturated with preferred size bluegill, the restrictive harvest regulations will likely maintain the quality of the sunfish fishery and could improve bluegill size structure. The lower abundance and smaller population size structure of pumpkinseed compared to the 2021 BPI sampling effort may be associated with the change in sampling time. With only 7 of the collected pumpkinseed ≥ 8 inches long (legal size) with the largest measuring just 8.2 inches, it is unlikely that pumpkinseed will reach 10 inches in length (\geq memorable size) in Goodyear Lake. Similarly, based on past sampling efforts, collected redbreast sunfish rarely reach the new legal size for the waterbody and are not typically targeted by anglers. Given that length-at-age metrics are important for the study plan and otoliths provide clearer age readings, a subset of otoliths to help corroborate scale ages should continue to be collected. Timing of the future BPI surveys based on the temperature trends of the sampling year can greatly influence catch rates and should be taken into consideration.

Table 1. Numbers collected and catch rates for all fish species trap netted in Goodyear Lake, May 2022.

Species	Number collected	Catch rate (fish/net)
Bluegill	150	16.7
Pumpkinseed	43	4.8
White sucker	32	3.6
Rock bass	29	3.2
Black crappie	19	2.1
Yellow perch	14	1.6
Walleye	12	1.3
Brown bullhead	7	0.8
Golden shiner	4	0.4
Redbreast sunfish	3	0.3
Smallmouth bass	2	0.2
Common carp	2	0.2
Shorthead redhorse	1	0.1
Eastern creek chubsucker	1	0.1

Table 2. Proportional size distributions and total numbers collected for length categories of sunfish collected from 9 overnight trap net sets in Goodyear Lake, May 2022.

Name	PSD	RSD ₆	RSD ₁₀	Number collected	≥ 3 inches (stock size)	≥ 6 inches (quality size)	≥ 8 inches (preferred size)	≥ 10 inches (memorable size)
Bluegill	100	70	0	150	150	150	105	0
Pumpkinseed	98	16	0	43	43	42	7	0

Literature Cited:

McBride, N. D. 2008. Goodyear Lake fisheries management 2004 fisheries survey. New York State Department of Environmental Conservation, Region 4 Fisheries Office, Stamford.

NYSDEC. 2021. Big Panfish Initiative study plan. New York State Department of Environmental Conservation, Bureau of Fisheries, Albany, New York.