WISCONSIN DEPARTMENT OF NATURAL RESOURCES

2021 Electrofishing Summary Report
Stratton Lake, Waupaca County
259600

Introduction And Objectives

In 2021, the Wisconsin Department of Natural Resources (DNR) conducted a one night electrofishing survey of Stratton Lake in order to provide insight and direction for the future fisheries management of this water body. The primary sampling objectives of this survey were to characterize species composition, relative abundance, and size structure of bass and panfish species. The following report is a brief summary of that survey including the general status of the fish populations and future management options for Stratton Lake.

DNR Contact
Elliot Hoffman - Fisheries Technician Advanced
647 Lakeland Road
Shawano, WI 54166
Phone: 920-420-9581
Email: Elliot.hoffman@wisconsin.gov

Lake Information
Acres: 63
Max. Depth: 42 feet
Shoreline Miles: 1.83 miles
Public Access: 1 boat landing
Lake Class: Simple - Warm - Clear

Regulations
Statewide default regulations; except 25 panfish may be kept , but only 10 of any one species

SURVEY INFORMATION

Site Location	Survey Dates	Water Temperature (°F)	Target Species	Total Miles Shocked	Number of Stations	Gear	Number of Netters
Shadow Lake	05/20/2021	68	All	1.83	4	Boomshocker	2

Metric Descriptions

- **Catch per unit effort (CPUE) is an index used to measure fish population relative abundance**, which simply refers to the number of fish captured per unit of distance or time. For netting surveys, we typically quantify CPUE by the number and size of fish per net night. For electrofishing, we quantify CPUE as the number caught per mile of water electrofished. CPUE indexes are compared to statewide data by percentiles and within lake trends. For example, if a CPUE is in the 90th percentile, it is higher than 90% of the other CPUEs in the state.
- **Proportional Stock Density (PSD) is an index used to describe the size structure of fish populations.** It is calculated by dividing the number of quality size fish by the number of stock size fish for a given species. PSD values between 40 - 60 generally describe a balanced fish population.
- **Length frequency distribution (LFD) is a graphical representation of the number or percentage of fish captured by half-inch or one-inch size intervals.** Smaller fish (or younger age classes) may not always be represented in the length frequency due to different habitat usage or sampling gear limitations.
- **Mean age at length is an index used to assess fish growth.** Calcified structures (e.g., otoliths, spines or scales) are collected from a specified length bin of interest (e.g., 7.0-7.5 inches for bluegill). Mean age is compared to statewide data by percentile, with growth characterized by the following benchmarks: slow (<33rd percentile), moderate (33rd to 66th percentile) and fast (>66th percentile).

Survey Method

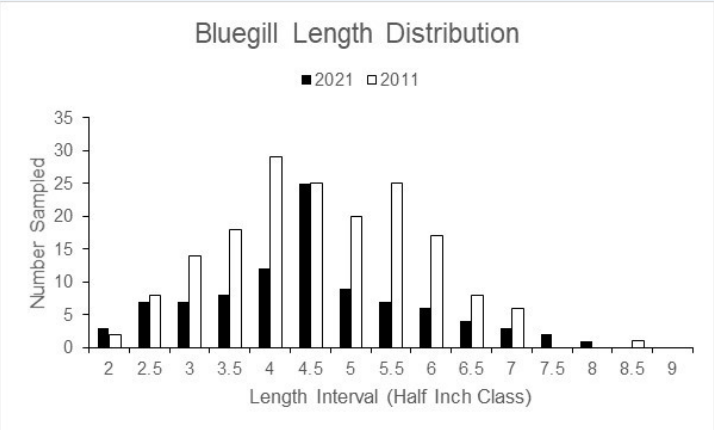
- Stratton Lake was sampled according to Spring Electrofishing II protocols as outlined in DNR Fisheries Monitoring Protocols. The primary objective for these sampling periods is to count and measure bass and panfish. Other gamefish and panfish may be sampled but are considered by-catch as part of this survey.
- Boom shockers were used to electrofish 1.83 miles of shoreline. Gamefish were collected and measured throughout. Panfish were collected and counted along 1.83 miles as well.

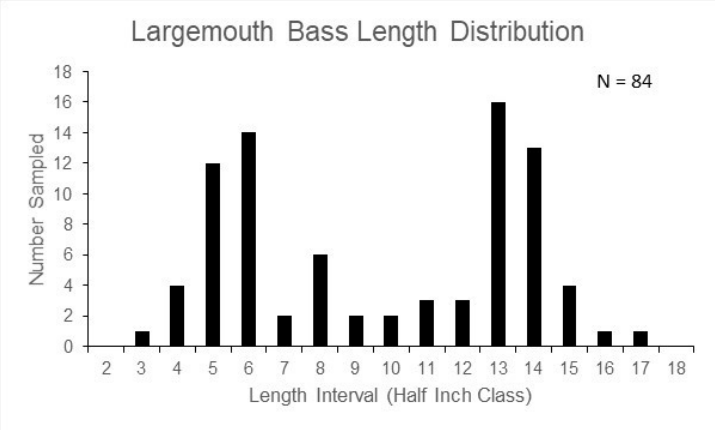
RELATIVE ABUNDANCE - CATCH PER UNIT EFFORT (CPUE)

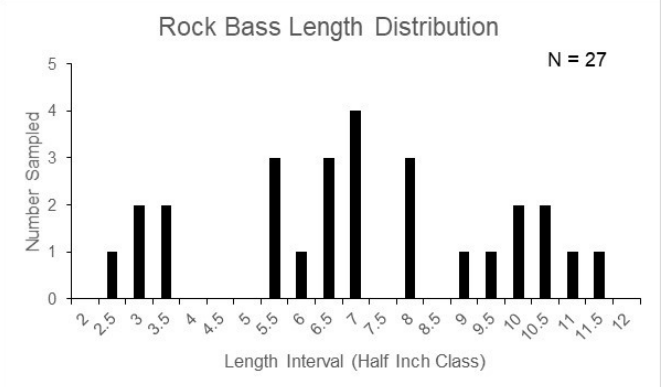
Species	Total Number Captured	CPUE Total (number per mile)	Statewide Percentile	Overall Abundance Rating	Length Index	Length Index CPUE	Length Index Statewide Percentile	Length Index Abundance Rating
bluegill	94	51.4	36th	Moderate	≥ 7.0 inches	3.8	40th	Moderate
pumpkinseed	9	4.9	38th	Moderate	≥ 7.0 inches	1.1	64th	Moderate
largemouth bass	84	45.9	84th	Moderate - High	≥ 14.0 inches	10.4	86th	Moderate - High
yellow perch	8	4.4	31st	Low	≥ 8.0 inches	0	-	Low

SIZE STRUCTURE METRICS									
Species	**Total**	**Average Length (inches)**	**Length Range (inches)**	**Stock and Quality Size (inches)**	**Stock Number**	**Quality Number**	**PSD**	**Percentile Rank**	**Size Rating**
bluegill	94	4.7	2.2 - 8.5	3.0 and 6.0	84	16	19	28th	Low
pumpkinseed	9	5.1	2.6 - 7.3	3.0 and 6.0	8	3	38	54th	Moderate
largemouth bass	84	10.2	4.0 - 17.3	8.0 and 12.0	51	38	75	74th	Moderate - High
yellow perch	8	4.7	4.1 - 5.6	5.0 and 8.0	2	0	0	-	Low

GROWTH METRICS						
Species	**Total**	**Length Bin**	**Mean Age**	**Age Range**	**Percentile Rank**	**Growth Rating**
2016 - bluegill	8	5.5 - 6.4	4.8	4 - 6	42nd	Moderate
2016 - bluegill	4	6.5 - 7.4	5.5	4 - 6	46th	Moderate
2021 - bluegill	6	5.5 - 6.4	3	3	97th	Very Fast
2021 - bluegill	6	6.5 - 7.4	3.3	3 - 4	94th	Very Fast







Summary

- A total of 230 fish from 11 different species were captured in the electrofishing survey. The most frequently encountered and common species were bluegill (94), largemouth bass (84), pumpkinseed (9), rock bass (27) and yellow perch (8).Other species sampled in lower abundance include black crappie (1), blacknose shiner (1), common carp (1), smallmouth bass (1) and white sucker (3).

- Common carp were the only non-native species captured in this survey.

- Largemouth bass were the dominant gamefish species captured in our survey and exhibited a balanced size structure. Largemouth bass were found in moderate to high densities, with a PSD of 75. A moderate to high density of harvestable size fish with 10.4 ≥ 14 inches captured per mile of electrofishing. Moderate numbers of smaller largemouth bass were captured and should grow to sizes desired by anglers in the near future.

- Bluegill were the dominant panfish species captured in our survey. Bluegill density was low and size structure has not improved since the last survey, with a PSD of 19 and 3.8 bluegill ≥ 7.0 inches captured per mile of electrofishing. Bluegills growth rates in Stratton Lake have improved, which can likely be attributed to lower numbers of bluegills overall. The regulation change currently appears to be having little impact to the panfish fishery in Stratton Lake.

Management Options

This survey was primarily intended to assess largemouth bass and panfish populations. Other species are captured but different survey techniques are typically used to better assess their population metrics. Therefore, management recommendations are focused on largemouth bass and panfish.

Largemouth Bass

- Largemouth bass provides a good fishing opportunity in Stratton Lake, with moderate to high density and a balanced size structure. Abundant forage is available for Largemouth Bass including various bullhead and sucker species as well as panfish. Lack of many largemouth bass >16.0-inches is concerning, and could point to a needed management action. Further evaluation of growth rates of largemouth bass in Stratton Lake during the next survey is important for the fishery.

Panfish

- Bluegill size structure has not changed since the regulation change. Bluegills were captured in low densities yielding a poor size structure. But, with the improved growth rates bluegills should grow to harvestable sizes within two to three years.

- It is recommended to maintain predator densities at current levels to prevent bluegill from becoming overabundant and stunting. The lower bag limit appears to be having a minimal impact on the bluegill fishery, but has improved growth rates.

Other Management Objectives

- Growth of Bluegills is fast in Stratton lake, but will be reevaluated in 5 years to see if the new regulation has the fishery trending in the right direction.

- Continue to work with the Lake association and other groups to add fish sticks and large woody habitat to Stratton Lake. Stratton lake has minimal vegetation, but marl substrate a and lack of woody habitat may be inhibiting the potential of the Stratton Lake fishery.