2021 Spring Electrofishing (SEII) Summary Report

Porters Lake (WBIC 246900)

Waushara County

INTRODUCTION AND OBJECTIVES

In 2021, the Wisconsin Department of Natural Resources (DNR) conducted a one night electrofishing survey of Porters Lake in order to provide insight and direction for the future fisheries management of this water body. Primary sampling objective of this survey is to evaluate the experimental panfish regulation that was put in place April 1, 2016. The following report is a brief summary of that survey including the general status of the fish populations and future management options for Porters Lake.

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Lake Information
Acres: 76
Max. Depth: 16
Shoreline Miles: 1.8

Regulations
A total of 15 panfish but no more than 5 of any one species

SURVEY INFORMATION

Site Location	Survey Date	Water Temperature (°F)	Target Species	Total Miles Shocked	Number of Stations	Gear	Number of Netters
Porters Lake	5/12/2021	63.0	All	1.3	1	Boomshocker	2

Fish Metric Descriptions
PSD, CPUE, LFD, and Mean Age at Length

Proportional Stock Density (PSD) is an index used to describe 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.

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 electrofishing surveys, we typically quantify CPUE by the number and size of fish per mile of shoreline. CPUE indexes are compared to statewide data by percentiles. For example, if a CPUE is in the 90th percentile, it is higher than 90% of the other CPUEs in the state.

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) are collected from a specified length bin of interest (e.g., 5.5 - 6.4 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

- Porters Lake was sampled according to spring electrofishing (SEII) protocols as outlined in the statewide lake assessment plan. The primary objective for this sampling period was to count and measure adult bass and panfish. Other gamefish and panfish may be sampled but are considered by-catch as part of this survey.
- 1.3 miles were sampled. All fish captured were identified to species and gamefish and panfish were measured for length.
- Fish metrics used to describe fish populations include proportional stock density, catch per unit effort, and length frequency distributions.

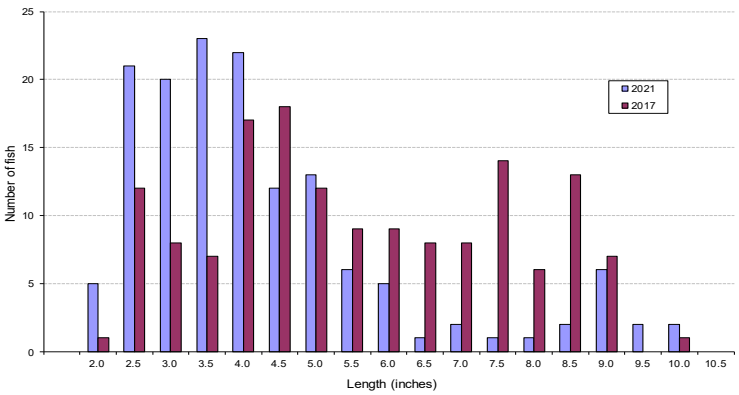
SIZE STRUCTURE METRICS

	2017	2021	2021					2017	2021	2021	2021
Species	Total 2017	Total 2021	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD 2017	PSD 2021	Percentile Rank	Size Rating
Bluegill	152	144	5.3	2.1 - 10.4	3.0 and 6.0	118	22	47	19	28th	Low
Black crappie	0	5	9.4	2.9 - 13.5	5.0 and 8.0 inches	4	4	-	100	Too Few Fish	-
Rock bass	5	13	7.5	3.1 - 9.7	4.0 and 7.0 inches	12	9	-	75	Too Few Fish	-
Yellow perch	6	34	4.5	2.8 - 6.3	5.0 and 8.0	12	6	-	50	Too Few Fish	-
Largemouth bass	66	94	11.0	5.7 - 15.9	8.0 and 12.0	61	38	76	62	55th	Moderate

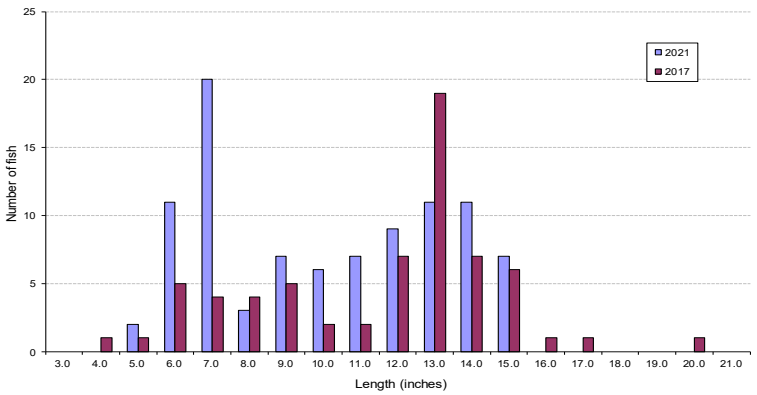
ABUNDANCE METRICS

	2017	2021						
Species	CPUE ≥Stock Size (number per mile 2017	CPUE ≥Stock Size (number per mile)	Percentile Rank	Overall Abundance Rating	Length Index	Length Index CPUE	Length Index Percentile Rank	Length Index Abundance Rating
Bluegill	98	91	56th	Moderate	≥ 6.0 inches	17	44th	Moderate
Black crappie	0	3.1	37th	Low -Moderate	≥ 8.0 inches	3	55th	Moderate
Rock bass	3.6	9	62nd	Moderate	≥ 7.0 inches	7.7	79th	Moderate - High
Yellow perch	4.3 (total)	9 (total)	49th	Moderate	≥ 8.0 inches	0	-	-
Largemouth bass	39	47	88th	High	≥ 14.0 inches	13.9	93rd	High

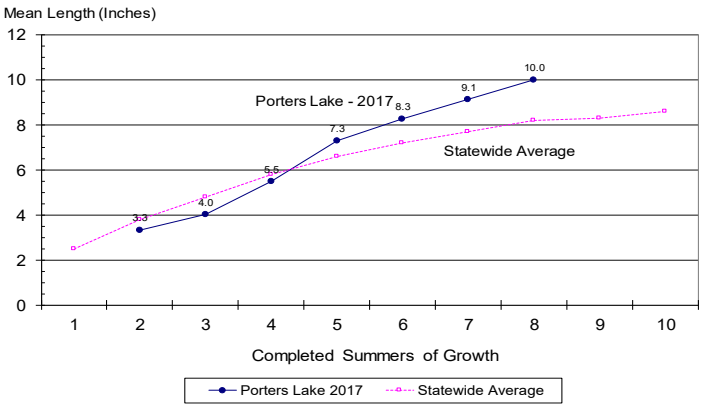
Porters Lake Bluegill



Porters Lake Largemouth Bass



Bluegill Growth Rates - Porters Lake, Waushara Co.



Summary

- A total of 307 fish from 9 different species were captured in the electrofishing survey. The most frequently encountered and common species were bluegill (144), largemouth bass (94) and yellow perch (34).
- Other species sampled in lower abundance include rock bass (13), yellow bullhead (8), bluntnose minnows (7), black crappie (5), northern pike (1) and hornyhead chub (1).
- All fish captured in this survey are native species.
- Largemouth bass were the dominant gamefish species captured with their abundance relatively unchanged from the 2017 survey. Largemouth bass were found at healthy densities. Size structure has changed from PSD of 76 to a PSD of 62 and the number of fish ≥ 14 inches captured per mile of electrofishing is at a good level (93rd percentile). Although numbers of stock size (>8”) fish increased since 2017, the number of preferred (15”) and memorable (20”) fish did not.
- Only one northern pike was captured in the electrofishing survey, but 6 others of similar size were observed. This type of survey is not a good method of assessing the northern pike population. That is done using fyke nets at ice out. The main focus of this survey was to assess the largemouth bass and panfish fishery.
- Bluegill were the dominant panfish species captured in our survey with numbers relatively unchanged since 2017. Bluegill growth rates from 2017 were below average for fish less than 6 inches and above average for fish larger and this was one reason for the experimental regulations. However, the experimental panfish regulation appears to have had little positive impact on the fishery in Porters Lake. In 2021 densities of bluegill were unchanged, but size structure had decreased from a PSD of 47 in 2017 to a PSD of 19 in 2021. This translated to fewer large desirable bluegill in the fishery.