

# 2021 Spring Electrofishing (SEII) Summary Report



## Kusel Lake (WBIC 189600)

Waushara County

### INTRODUCTION AND OBJECTIVES

In 2021, the Wisconsin Department of Natural Resources conducted a one night electrofishing survey of Kusel 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 Kusel Lake.

### DNR Contact

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### Lake Information

Combined Acres: 289  
Max. Depth: 6  
Shoreline Miles: 3.0

### Regulations

A total of 15 panfish but no more than 5 of any one species during May and June. Twenty-five panfish in total the rest of the year.

### Survey Method

- Kusel 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.
- Electrofishing was conducted over 2.3 miles of shoreline. 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,

### SURVEY INFORMATION

Site Location	Survey Date	Water Temperature (°F)	Target Species	Total Miles Shocked	Number of Stations	Gear	Number of Netters
Kusel Lake	5/26/2021	70.0	All	2.3	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).

### SIZE STRUCTURE METRICS

Species	Total 2016	Total 2021	Average Length (inches) 2021	Length Range (inches) 2021	Stock and Quality Size (inches) 2021	Stock Number 2021	Quality Number 2021	PSD 2016	PSD 2021	Percentile Rank 2021	Size Rating 2021
Bluegill	587	552	5.6	1.3 - 9.2	3.0 and 6.0	370	183	23	50	70th	Moderate - high
Black crappie	9	9	8.2	5.2 - 11.7	5.0 and 8.0 inches	9	7	-	78	Too Few Fish	-
Pumpkinseed	4	15	6.6	3.4 - 8.2	4.0 and 6.0 inches	15	12	-	80	Too Few Fish	-
Yellow perch	4	51	4.7	2.7 - 7.3	5.0 and 8.0	20	0	-	0	23rd	Low
Largemouth bass	98	161	9.7	3.1 - 20.0	8.0 and 12.0	96	46	50	48	32nd	Low
Northern pike	13	12	20.7	17.0 - 23.7	14.0 and 21.0 inches	12	6	-	50	Too Few Fish	-
Walleye	0	2	17.6	17.4 - 17.8	10.0 and 15.0 inches	2	2	-	-	Too Few Fish	-

### ABUNDANCE METRICS

Species	CPUE ≥ Stock Size (number per mile) 2016	CPUE ≥ Stock Size (number per mile) 2021	Percentile Rank 2021	Overall Abundance Rating 2021	Length Index 2021	Length Index CPUE 2021	Length Index Percentile Rank 2021	Length Index Abundance Rating 2021
Bluegill	537	370	97th	High	≥ 6.0 inches	183	98th	High
Black crappie	9	9	60th	Moderate	≥ 8.0 inches	7	75th	Moderate - High
Pumpkinseed	3	15	29th	Low	≥ 6.0 inches	12	85th	High
Yellow perch	1	20	70th	Moderate—High	≥ 8.0 inches	0	-	Low
Largemouth bass	31	42	82nd	High	≥ 14.0 inches	12	90th	High

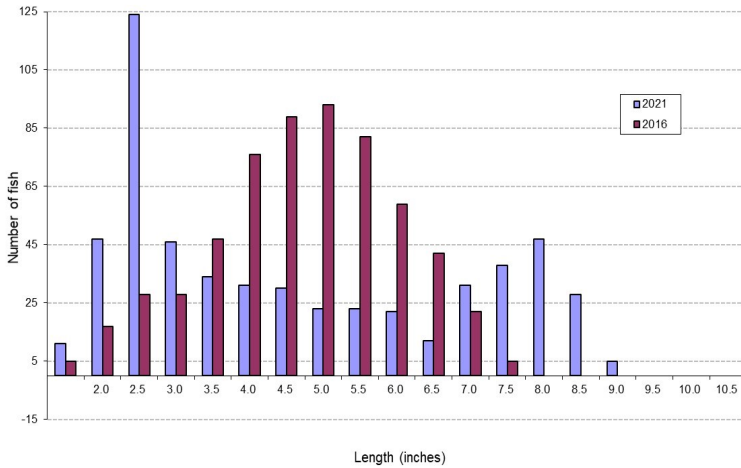
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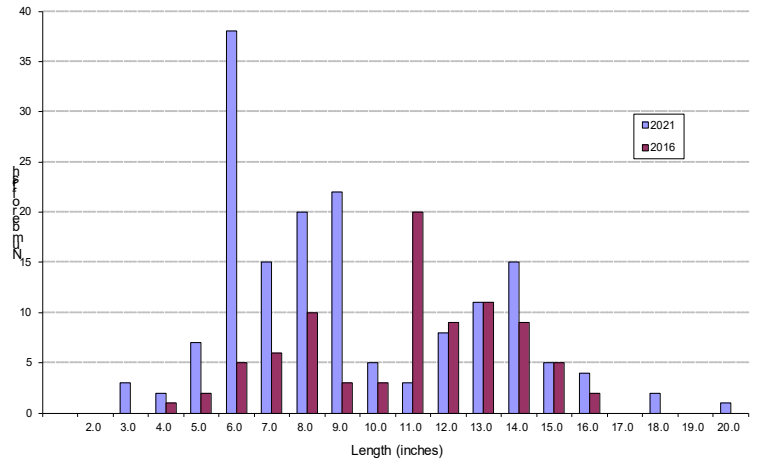
Waushara County



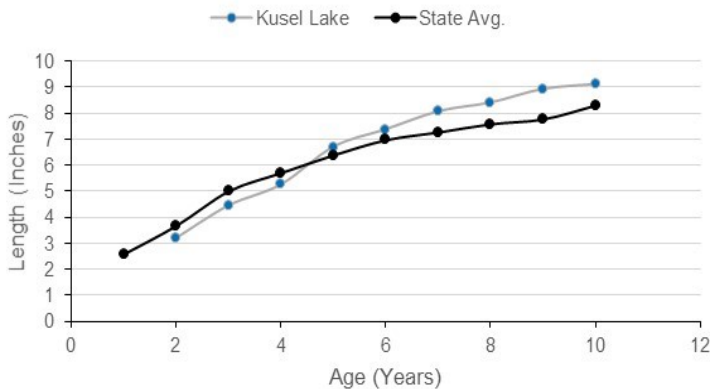
Kusel Lake Bluegill



Kusel Lake Largemouth Bass



Bluegill Mean Length at Age



### Summary

- A total of 837 fish from 10 different species were captured in the electrofishing survey. The most frequently encountered and common species were bluegill (552), largemouth bass (161) and yellow perch (51).
- Other species sampled in lower abundance include yellow bullhead (26), pumpkinseed (15), northern pike (12), black crappie (9), brown bullhead (6), warmouth (3) and walleye (2).
- All fish captured in this survey are native species.
- Largemouth bass were the dominant gamefish species captured with their abundance up ~25% from the 2016 survey. Largemouth bass were found at healthy densities for waters in this part of state. The size structure is fair, with a PSD of 48 (50 in 2016) and an electrofishing catch of 6.5 fish per mile for fish  $\geq 14.0$  inches, considered fair at the 74th percentile. The percentage of fish larger than 8 inches that were also larger than the legal size of 14.0 inches was 28% compared to 22% in the 2016 survey.
- There were 12 northern pike captured in the electrofishing survey. That would put it in the 85th percentile, but 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 after the experimental panfish regulation went into effect in 2016.
- Only two walleyes were sampled, both in the 17.0 inch range. Just like northern pike, this survey is not intended to assess the walleye population.
- Bluegill were the dominant panfish species captured in our survey with numbers down 31% from 2016, when fish slowed in growth at about 5.0 inches. Numbers have returned to a more desirable range and the experimental regulation, 15/5 in May and June, appears to have protected some of the larger fish and had a positive effect on Kusel Lake. Size structure has improved 100% from a PSD of 23 in 2016 to a PSD of 50 in 2021. Bluegill growth rates are slightly below average for fish less than 6.0 inches and above average for fish larger. When evaluated on a statewide level the 15/5 regulation proved to be the most effective. Stakeholders, however, have been strongly opposed to such a restrictive regulation so we will be proposing a comprise of a ten fish panfish bag limit moving into the future.