

# 2021 Spring Electrofishing (SEII) Summary Report

## Irogami Lake (WBIC 103900)

Waushara County



### Introduction And Objectives

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

Site Location	Survey Date	Water Temperature (°F)	Target Species	Total Miles Shocked	Number of Stations	Gear	Number of Netters
Irogami Lake	5/13/2021	62	All	2.6	5	Boom shocker	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

- Irogami 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 2.6 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, and length frequency distributions.

### SIZE STRUCTURE METRICS

Species	Total 2011	Total 2019	Total 2021	Average Length (inches) 2021	Length Range (inches) 2021	Stock and Quality Size (inches) 2021	Stock Number 2021	Quality Number 2021	PSD 2011	PSD 2019	PSD 2021	Percentile Rank 2021	Size Rating 2021
Bluegill	24	21	116	5.7	1.1 - 10.3	3.0 and 6.0	95	56	15	86	59	69th	Medium
Common carp	0	0	2	0	-	-	-	-	-	-	-	-	-
Rock bass	0	6	46	7.6	3.2 - 10.4	4.0 and 7.0	45	33	-	-	73	67th	Medium
Yellow perch	8	7	6	9.5	7.1 - 12.5	5.0 and 8.0	6	4	-	-	-	-	-
Largemouth bass	640	430	590	9.7	4.7 - 15.1	8.0 and 12.0	439	108	75	55	25	42nd	Low- Medium

### RELATIVE ABUNDANCE METRICS

Species	CPUE >Stock Size (number per mile 2011 & 2019)	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	24	16	37	32nd	Low	≥8.0 inches	9	92nd	High
Common carp	0	2	0.8	-	Non-native	-	-	-	-
Rock bass	65	5.4	17	80th	High	≥ 7.0 inches	13	90th	High
Yellow perch	6.2	2	-	-	-	≥8.0 inches	2	-	-
Largemouth bass	180	154	169	99th	High	≥14.0 inches	7.7	79th	Moderately-high

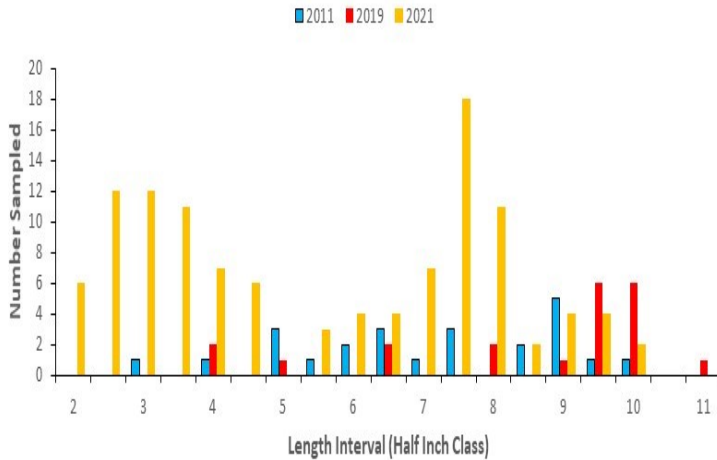


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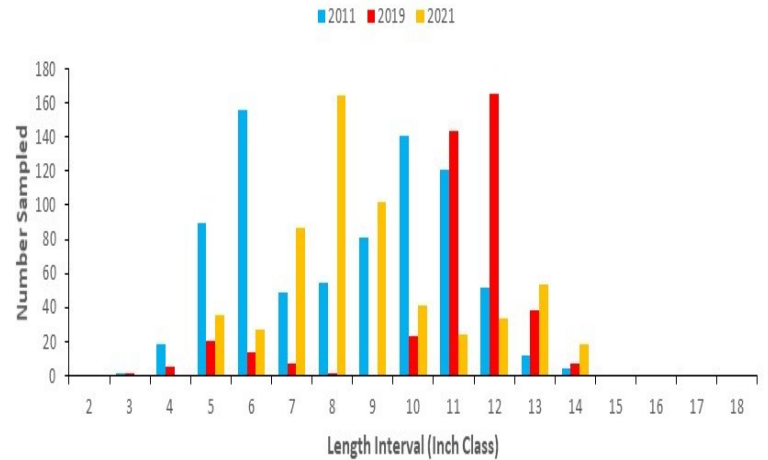
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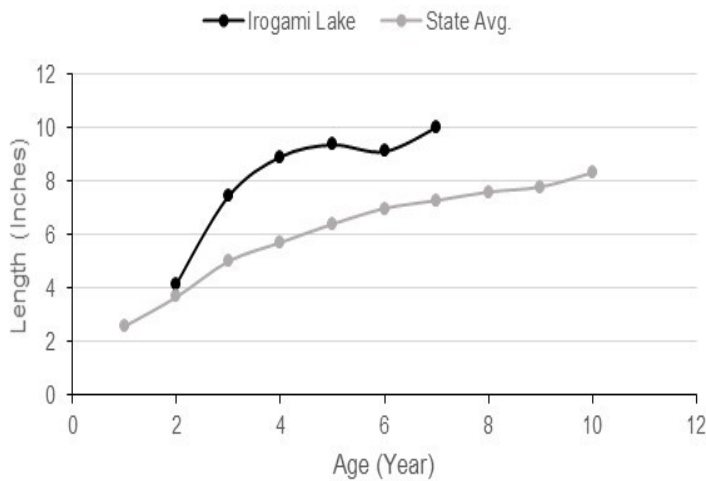
Bluegill Length Distribution - Electrofishing



Largemouth Bass Length Distribution - Electrofishing



Bluegill Mean Length at Age



AVERAGE LMB AGE AT 12 INCHES

Sex	Count	Average Age	Age Range	Lake Class Rating Avg. Age = 5	Regional Rating Avg. Age = 4.5
All	10	9.3	5 - 12	Below Average	Below Average

AVERAGE LMB AGE AT 14 INCHES

Sex	Count	Average Age	Age Range	Lake Class Rating Avg. Age = 7	Regional Rating Avg. Age = 6
All	10	10.7	8 - 14	Below Average	Below Average

### Summary

- A total of 785 fish from 6 different species were captured in the electrofishing survey. The most frequently encountered and common species were largemouth bass (590), bluegill (116) and rock bass (46).
- Other species sampled in lower abundance include yellow perch (6), yellow bullhead (25), and common carp (2).
- The only fish captured in this survey that is non-native was the common carp.
- Largemouth bass were the dominant gamefish species captured, with their abundance relatively unchanged from the 2011 and 2019 surveys. At 227/mile total, Irogami ranks in the 99th percentile compared statewide and 100th percentile when compared to same lake class. Size structure is fairly low PSD = 25 and continues to decline from previous surveys. The number of fish  $\geq 14.0$  inches captured per mile of electrofishing is at a moderately-high level (79th percentile) but was still a low percentage of the population (RSD14=5%). Growth rates are well below average with fish not reaching 14.0 inches until 10.7 years.

- Largemouth bass overabundance continues to be a problem on Irogami. The removal of the bass size limit on Irogami Lake through an exemption request is in progress.
- Bluegill were the dominant panfish species captured in our survey with numbers that have increased some since 2019 sampling. Densities of bluegill have increased and size structure may have decreased from a PSD of 86 in 2019 to a PSD of 59 in 2021. However, the 2011 and 2019 PSDs were based off of small sample sizes. However, a PSD closer to 60 would indicate a more balanced size structure with more age classes present.
- Densities of bluegill have increased, but size structure based off a small sample of fish had decreased from a PSD of 86 in 2019 to a PSD of 59 in 2021. Bluegill growth rates from 2021 were well above average (100th percentile) across the board with fish reaching six years in age in 2.2 years.
- There were 2 common carp captured in the electrofishing survey. There has been a low density carp presence in Irogami for many years.
- Bluegill abundance of 3.0 inch and larger fish has increased some in the last couple years from 16 to 37 per mile  $\geq 3.0$  inches, but has a ways to go to get to desired levels of 150 - 250 per mile. The extreme-