2018 Spring Electrofishing (SEII) Summary Report

Huron Lake (WBIC 994900)

Waushara County

Introduction and Survey Objectives

In 2018, the Department of Natural Resources conducted a one night electrofishing survey of Huron Lake in order to provide insight and direction for the future fisheries management of this water body. Primary sampling objectives of this survey were to characterize species composition, relative abundance, and size structure. The following report is a brief summary of the survey including the general status of the fish populations and future management options for Huron Lake.

Acres: 40 Shoreline Miles: 1.2 Maximum Depth (feet): 46
Lake Type: Drainage Public Access: 1 Public Boat Launch
Regulations: All species Statewide Default Regulations

Wisconsin DNR Contact Info.

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Survey Information

Site location	Survey Date	Water Temperature (°F)	Target Species	Total Miles Shocked	Number of Stations	Gear	Number of Netters
Huron Lake	5/17/2018	66	All	1.2	1	1 Boomshocker	2

Survey Method

- Huron 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 may be sampled but are considered by-catch as part of this survey.
- The entire shoreline was sampled. All fish captured were identified to species and gamefish and panfish were measured for length.
- Structures were taken from a sample of bluegills and largemouth bass for ageing purposes.
- Fish metrics used to describe fish populations include proportional stock density, catch per unit effort, length frequency distributions, age and growth.

Fish Metric Descriptions
PSD, CPUE, and LFD

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.

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
Black Crappie	7	10.3	9.0 - 11.5	5.0 and 8.0	7	7	100%	100th	High
Bluegill	164	5.8	2.5 - 9.4	3.0 and 6.0	161	63	39%	65th	Moderate
Largemouth Bass	296	11.5	5.5 - 17.6	8.0 and 12.0	280	151	54%	51st	Moderate
Northern Pike	7	15.4	12.0 - 17.7	14.0 and 21.0	4	0	-	-	Low
Pumpkinseed	5	6.7	5.7 - 7.3	3.0 and 6.0	5	4	80%	95th	High
Walleye	1	9.3	-	10.0 and 15.0	0	0	-	-	Low

Abundance Metrics

Species	CPUE # hr ≥ stock size	CPUE Total (No. per mile)	Percentile Rank	Overall Abundance Rating	Length Index	Length Index CPUE per mile	Length Index Percentile Rank	Length Index Abundance Rating
Black Crappie	12	5.8	47th	Moderate	≥ 8.0 inches	5.8	70th	Moderately High
Bluegill	276	136.7	66th	Moderate	≥ 7.0 inches	22.5	80th	Moderately High
Largemouth Bass	480	246.7	99th	High	≥ 14.0 inches	5	67th	Moderate
Northern Pike	7	5.8	89th	High	≥ 26.0 inches	0	-	-
Pumpkinseed	8.6	4.2	39th	Low - Moderate	≥ 7.0 inches	1.7	72nd	Moderate - High
Walleye	1.7	0.8	-	-	≥ 18.0 inches	0	-	-
Green Sunfish	3.4	1.7	-	-	≥ 8.0 inches	0	-	-

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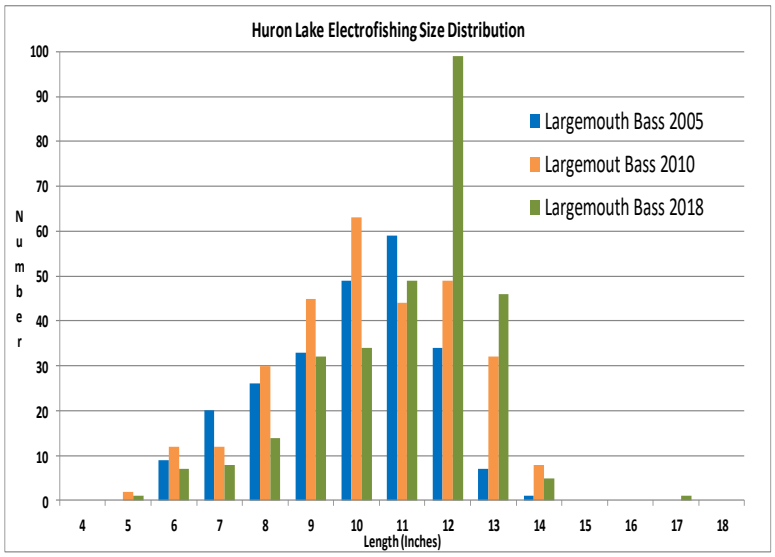
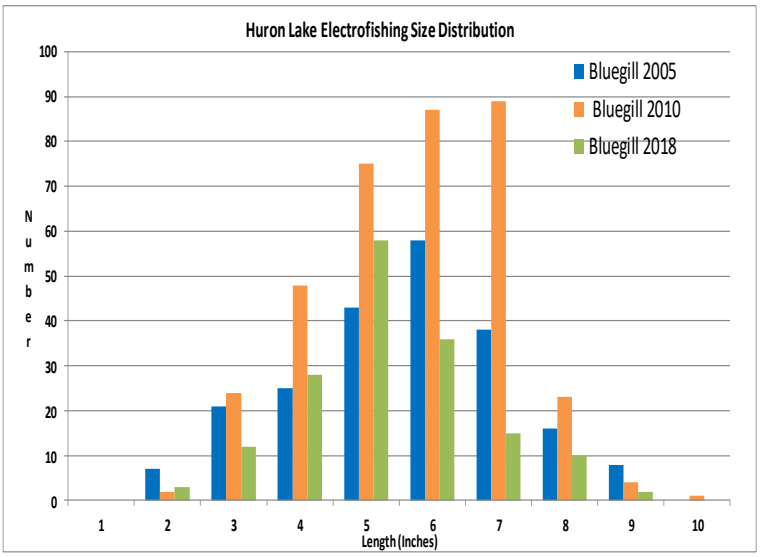
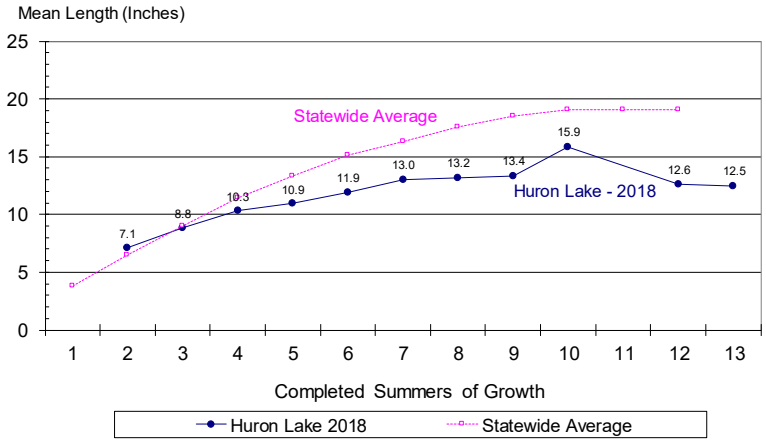
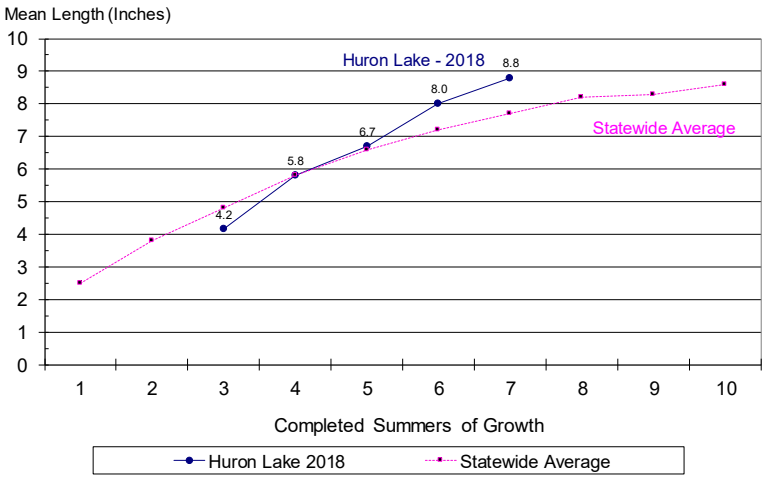




Largemouth Bass Growth Rates
Huron Lake, Waushara Co.



Bluegill Growth Rates - Huron Lake, Waushara Co.



Abundance (CPUE) Trends

Species	Historical Median (2005-Present) #/hr ≥ stock	CPUE					
		# Mile	#/hr ≥ stock	# Mile	#/hr ≥ stock	# Mile	#/hr ≥ stock
		2005	2005	2010	2010	2018	2018
Black Crappie	13	12	24	2	4	6	12
Bluegill	438	196	418	339	619	137	276
Largemouth Bass	459	216	418	350	478	247	480
Northern Pike	3	1	2	1	2	7	6
Pumpkinseed	4	0	0	0	0	9	4

PSD Size Structure Trends

Species	Stock and Quality Size (Inches)	Median	2005	2010	2018
Bluegill	3.0 and 6.0	52%	57%	61%	39%
Largemouth Bass	8.0 and 12.0	35%	20%	30%	54%

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Stocking History					
Species	Year	Source	Age	Mean Length	Number Stocked
Yellow Perch	2018	Private Hatchery	Yearling	6.0	1,000
Fathead Minnow	2018	Private Hatchery	Adult	2.0	-
Black Crappie	2017	Private Hatchery	Adult	6.5	500
Golden Shiner	2017	Private Hatchery	Adult	3.0	3,750
Yellow Perch	2017	Private Hatchery	Yearling	6.5	1,550
Walleye	2017	Private Hatchery	Yearling	8.0	300
Yellow Perch	2016	Private Hatchery	Yearling	6.0	800
Black Crappie	2016	Private Hatchery	Yearling	5.0	600
Yellow Perch	2014	Private Hatchery	Yearling	7.0	1,497
Black Crappie	2013	Private Hatchery	Yearling	6.0	340
Yellow Perch	2013	Private Hatchery	Yearling	6.0	530
Yellow Perch	2000	Field Transfer	Adult	5.3	3,000
Walleye	1990	DNR	Fingerling	5.0	1,000
Walleye	1987	DNR	Fingerling	5.0	6,000
Walleye	1986	DNR	Fingerling	4.0	250
Walleye	1982	DNR	Fingerling	5.0	290
Walleye	1975	Federal Hatchery	Adult	-	100
Walleye	1972	Federal Hatchery	Yearling	11.0	500

Summary

Bluegill

- Bluegill abundance has decreased ~ 60% since our last survey in 2010 and fell from the 92nd percentile to the 66th percentile.
- Size structure has also decreased from the 86th percentile to the 65th.

Black Crappie

- There were 7 black crappies sampled in this survey to put Huron in the 47th percentile. Size rating was high with all fish larger than 8 iinches. Some of these fish were likely from the 2016 & 2017 stocking.

Yellow Perch

- No yellow perch were sampled. This survey does not provide a good representation of a lake's yellow perch fishery. During the time this survey takes place, many yellow perch are a little deeper than our equipment adequately samples.

Largemouth Bass

- Largemouth bass numbers have been very high since the survey in 2005 falling in the 99th-100th percentile in 2005, 2010 and 2018.
- Growth rates continue to be well below the state average with fish not reaching the legal size limit of 14 inches until after 9+ years of age.
- Size structure is moderate with a PSD12=54% where the modal peak occurs. The RSD13 drops all the way to 19% and RSD14=2%. There appears to be some bottle necking at 12 inches with some of these fish ageing 12-13 years using otoliths.

Northern Pike

- With 7 northern pike being sampled in this survey, Huron Lake is in the 89th percentile for abundance. Like yellow perch, northern pike are another species which this survey does not give an adequate representation. This higher rating for abundance might be showing a population that could be of some concern down the road.

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 bass and panfish.

Largemouth Bass

An overabundant largemouth bass population of 480 per hour ≥ 8 inches is 3-4 times higher than we would typically like to see in our area lakes. 50-150 per hour ≥ 8 inches is our target for our next survey in 2026. A proposal to remove the 14" size limit will be introduced in 2019.

Bluegill

Maintain to slightly increase the bluegill population to 300-400 per hour ≥ 3 inches. Catch rate currently is 276 per hour ≥ 3 inches. Size structure was moderate with a PSD=39%, but we would like to see that increased to 40-60%.

Water levels have been of major concern on Huron Lake. Water elevations on Huron Lake rose 7.04 feet in September 2017 from a low in 2007 of 1081.27. September of 2018 showed an additional 1.32 feet in elevation from 2017. This rise in water levels has flooded some great shoreline vegetation that was established in the low water years. This newly flooded habitat should be left intact as it is very beneficial to all fish populations in Huron Lake, especially yellow perch.

DNR Fisheries Technician Kyle Kossel holds a nice black crappie caught during our survey on Huron Lake. This fish appears to be showing the dark color that males get during spawning.