



WISCONSIN DEPARTMENT OF NATURAL RESOURCES

2023 Comprehensive Summary Report

Fish Lake, Waushara County

Waterbody Code 985000

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Introduction And Objectives

In 2023, the Wisconsin Department of Natural Resources (DNR) conducted a comprehensive fish survey of Fish Lake in order to provide insight and direction for the future fisheries management of this system. Comprehensive fish surveys include both spring fyke netting and spring electrofishing. Primary sampling objectives of these surveys are to characterize species composition, relative abundance, and size structure. The following report is a brief summary of the activities conducted, general status of fish populations and future management options for Fish Lake.

DNR Contact

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Lake Information

Acres: 164
Max. Depth: ~ 42 Feet
Shoreline Miles: ~ 4.0
Public Access: 2 Boat Landings
Lake Class: Complex Warm Dark

Regulations

Statewide Regulations on all species.

SURVEY INFORMATION

Site Location	Survey Dates	Water Temperature (°F)	Target Species	Gear	Number of Nets	Effort
Fish Lake	4/10/2023 - 4/21/2023	42 - 50	Northern pike Walleye	Fyke Net	7	70 net nights
Fish Lake	04/24/2023	48	Walleye	Boomshocker	N/A	4.0 miles
Fish Lake	5/22/2023	66	Bass/Panfish	Boomshocker	N/A	4.0 miles

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

- Fish Lake was sampled according to spring netting I (SNI), spring electrofishing I (SEI) and spring electrofishing II (SEII) protocols as outlined in DNR Fisheries Monitoring Protocols. The primary objective of the spring fyke netting I survey is to count and measure adult walleye, northern pike, and mark adult walleyes to estimate walleye abundance. The primary objective of spring electrofishing I survey is to recap gamefish fish marked in SNI survey to determine a population estimate. The primary objective of the spring electrofishing II survey is to count and measure adult largemouth bass, smallmouth bass, and panfish. The primary objective of the fall electrofishing is to assess the juvenile walleye population and hatchery contributions. Other species of fish may be sampled during each survey, but are considered by-catch as part of that survey.
- Boom shocker was used to electrofish 4.0 miles of shoreline during each SEI and SEII survey. Gamefish were collected and measured throughout, and panfish were collected, counted and measured along 1.0 miles of shoreline during the SEII survey.
- Fyke nets were deployed in areas of the lake that contained spawning habitat or were likely travel/spawning areas for northern pike and walleye. All newly captured individuals were marked with a fin clip. Aging structures (spines/otoliths) were taken from a sample of northern pike, walleye, bluegill, black crappie and yellow perch for age and growth analyses.
- Northern pike and walleye of legal size were given a floy tag. A sample of bluegills 7 inches and larger along with black crappies 8 inches and larger were also given a floy tag.

RELATIVE ABUNDANCE — CATCH PER UNIT EFFORT (CPUE)

Species	Protocol	Total Number Captured	CPUE	Units	Statewide Percentile	Lake Class Percentile
Northern pike	Spring Netting I	184	2.6	fish/net night	65th	63rd
Walleye	Spring Netting I	170	2.4	fish/net night	43rd	54th
Black crappie	Spring Netting I	213	3.0	fish/net night	47th	32nd
Yellow perch	Spring Netting I	17	0.24	fish/net night	15th	10th
Largemouth bass	Spring Electrofishing II	498	125	fish/mile	98th	94th
Bluegill	Spring Electrofishing II	186	186	fish/mile	77th	73rd
Pumpkinseed	Spring Electrofishing II	21	21	fish/mile	77th	79th
Black crappie	Spring Electrofishing II	13	13	fish/mile	70th	-
Yellow erch	Spring Electrofishing II	19	19	fish/mile	69th	-



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Northern Pike

- Northern pike (*Esox lucius*) are a common predatory fish species found across many Wisconsin waterbodies. Northern pike spawn in areas of emergent vegetation at approximately 34-40°F water temperatures. Fyke netting is the preferred sampling gear for northern pike. All results presented for northern pike are from spring fyke netting surveys.

SIZE STRUCTURE METRICS

Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD	Percentile Rank	Size Rating
163	21.4	9.2 – 36.1	14.0 and 21.0	159	93	59%	70th	Moderate-High

RELATIVE ABUNDANCE (CPUE = NUMBER PER NET NIGHT)

Total Sampled 2023	2005	2013	2023	Historical Average	2023 Lake Class Rank	2023 Statewide Percentile Rank	2023 Abundance Rating
163	8.7	3.6	2.6	5.0	63rd	65th	Moderate

SIZE STRUCTURE (PSD) TRENDS

PSD by Year			Historical Average	2023 Statewide Percentile Rank	2023 Size Structure Rating
2005	2013	2023			
59	43	58	53.3	63rd	Moderate

SIZE STRUCTURE (RSD 26) TRENDS

RSD26 by Year			Historical Average
2005	2013	2023	
18	17	8	14.3

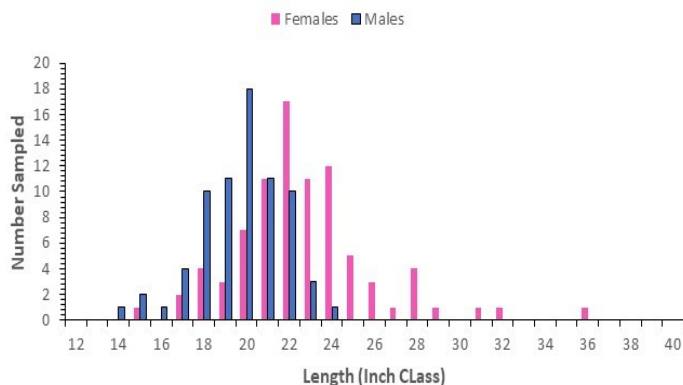
POPULATION ESTIMATE TRENDS

Number of Adults Per Acre by Year			Historical Average
2005	2013	2023	
4.5	3.9	3.6	4

AVERAGE NORTHERN PIKE AGE AT 18 INCHES

Sex	Count	Average Age	Age Range	Statewide Rank	Statewide Rating
Male	8	3.6	3 - 4	42nd	Slow-
Female	4	3.5	3 - 4	25th	Slow
All	12	3.55	3 - 4	42nd	Slow-

Northern Pike Length Distribution



Species Summary

- Fish Lake supports a moderate density northern pike population with 2023 catch rates at 2.6 fish per net night and a population estimate of 3.6 adult fish per acre. Numbers have decreased from previous surveys. A catch rate of 2.6 per net night ranks in the 65th percentile when compared to northern pike catch rates statewide and in the 63rd percentile when compared to the same lake class. The population estimate is down approximately 25% since the survey in 2005, but relatively unchanged from survey in 2013.
- Size structure of northern pike in the 2023 survey was moderately high with a PSD of 59 which ranks in the 70th percentile when compared to lakes statewide. Size structure has improved some since survey in 2013, but relatively unchanged from survey in 2005. Numbers of legal sized fish has decreased 53%+ from the previous two surveys.
- Northern pike growth rates are below average when compared to lakes statewide.
- We tagged 28 northern pike 26 inches and larger and received only 1 tag return.



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Walleye

- Walleye (*Sander vitreus*) are a predatory fish species found throughout many Wisconsin waterbodies. Typically, walleye spawn in areas of rock or gravel substrate at approximately 40-50°F water temperatures. Fyke netting and electrofishing are both suitable gears for capturing walleye. Netting was used to mark the fish in this survey while electrofishing was used as recap method for our population estimate.

SIZE STRUCTURE METRICS

Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD	Percentile Rank	Size Rating
170	20.1	14.1 –26.7	10.0 and 15.0	103	101	98%	90th	High

RELATIVE ABUNDANCE (CPUE = NUMBER PER NET NIGHT)

Total Sampled 2023	2005	2013	2023	Historical Average	2023 Lake Class Rank	2023 Statewide Percentile Rank	2023 Abundance Rating
170	N/A	2.2	2.4	2.3	54th	43rd	Moderate

SIZE STRUCTURE (PSD) TRENDS

PSD by Year			Historical Average	2023 Statewide Percentile Rank	2023 Size Structure
2005	2013	2023			
N/A	78	98	88	90th	High

POPULATION ESTIMATE TRENDS

Number of Adults Per Acre by Year			Historical Average
2005	2013	2023	
Too Few	1.2	1.6	1.4

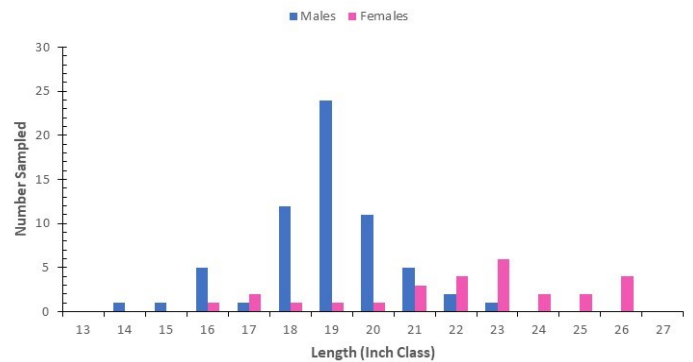
RECENT WALLEYE STOCKING

Number of Large Fingerling Stocked						
2005	2008	2010	2011	2012	2014	2015
1,000	1,500	1,500	1,500	1,500	1,000	1,000
2016	2017	2019	2020	2021	2022	2023
1,500 Yearling	1,500 Yearling	1,500	1,199	1,200	1,430	1,200

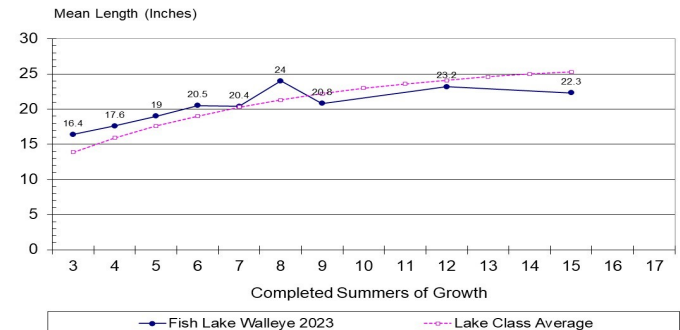
Species Summary

- Fish Lake supports a low to moderate density walleye population stemming from private stocking. When compared to statewide average, catch per net night ranks in the 43rd percentile and in the 54th percentile when compared to lakes in the same lake class. The population estimate of 1.6 adults per acre is slightly better than the previous survey with 1.5 + adults per acre, and considered a fishable population and successful stocked fishery.
- Size structure of walleye in the 2023 survey was high with a PSD of 98 which ranks in the 90th percentile when compared to lakes statewide. The current walleye size structure is better than the PSD = 78 found in 2013.
- Growth rates are better than average in the first 7 years and then below average from that point on when compared to lakes in the same lake class.
- Most recent walleye stocking started in 2005 and has become more consistent in 2010. A large percentage of the adults walleyes caught were from the yearling stocking in 2016.
- There were 115 adult walleyes given a floy tag during survey. Only 2 tags were reported. Exploitation based off of these returns is 6.2 percent which is considered relatively low.

Walleye Length Distribution



Walleye Growth Rates
Fish Lake, Waushara Co.





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Largemouth Bass

- Largemouth bass (*Micropterus salmoides*) are a common predatory fish species found in many Wisconsin waterbodies. Largemouth bass typically spawn in shallow nearshore areas consisting of sand/mud or gravel substrate at approximately 60-70°F water temperatures. Electrofishing is the preferred sampling gear for largemouth bass. All results presented for largemouth bass are from spring electrofishing surveys.

SIZE STRUCTURE METRICS

Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD	Percentile Rank	Size Rating
498	11.4	4.0 –19.5	8.0 and 12.0	438	190	43	26th	Low

RELATIVE ABUNDANCE (CPUE = NUMBER PER MILE)

CPUE Total	Lake Class Percentile Rank	Statewide Percentile Rank	Overall Abundance Rating	Length Index	Length Index CPUE	Length Index Percentile Rank	Length Index Abundance Rating
125	94th	98th	High	14 Inches	31	99th	High

SIZE STRUCTURE (PSD) TRENDS

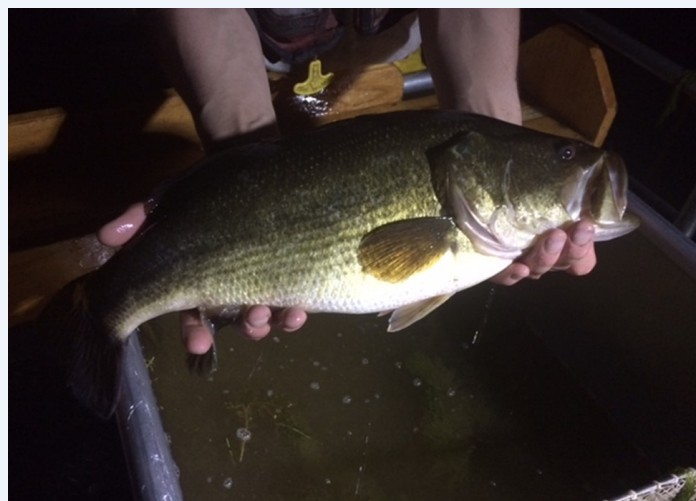
PSD by Year			SE2 Historical Average
2004 (Fall)	2013	2023	
46	43	43	43

RELATIVE ABUNDANCE TRENDS (CPUE = NUMBER PER MILE)

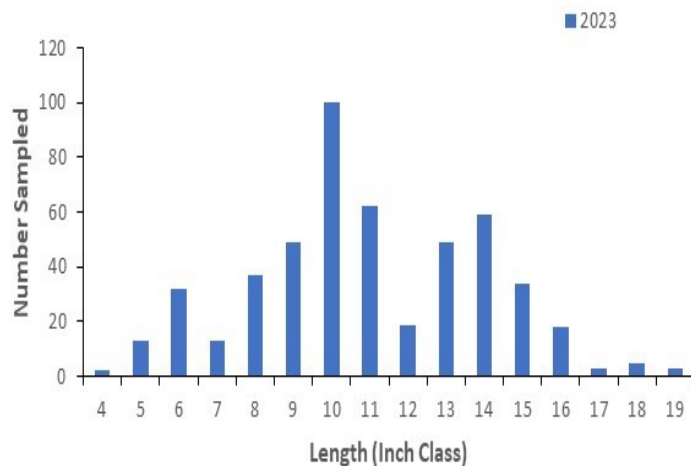
CPUE by Year			SE2 Historical Average
2004 (Fall)	2013	2023	
28	74	125	99.5

GROWTH METRICS

Sample (n)	Length Bin (inches)	Sex	Mean Age	Mean Length of Sample	Growth Rating
10	12 Inch	All	4.6	12.4	Average



Largemouth Bass Length Distribution - Electrofishing



Species Summary

- Fish Lake supports a highly abundance largemouth bass population with a catch rate of around 125 per mile. A catch rate of 125 per mile ranks in the 98th percentile compared to lakes statewide, but in the 94th percentile when compared to lakes in the same class. Relative abundance comparison to the last survey indicates that CPUE was up and CPUE of largemouth bass greater than 14 inches was high and at the 99th percentile when compared to lakes statewide.
- Size structure of largemouth bass in Fish Lake was low overall with a PSD value of 43 which ranks in the 26th percentile when compared to statewide values. When compared to the most recent survey on Fish Lake, largemouth bass PSD values have remained unchanged.
- Growth rates were average compared to regional and lake class for fish in the 12 inch quality size category. With the population increasing growth rates may have a tendency to decrease.



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Black Crappie

- Black crappie (*Pomoxis nigromaculatus*) are a common panfish species distributed widely across many Wisconsin waterbodies. Black crappie typically spawn in nearshore areas consisting of detritus, sand/mud or gravel substrate at approximately 58-68°F water temperatures. Electrofishing and fyke netting can be effective sampling gear for black crappie and therefore, results from both gears are presented for black crappie

SIZE STRUCTURE METRICS

Gear	Number Measured	Average Length	Length Range	Stock and Quality Size	Stock	Quality	PSD	Percentile Rank	Size Rating
Fyke Netting	198	10.1	4.5 – 11.9	5.0 and 8.0	192	179	93	87th	High
Electrofishing	13	10.0	8.2 – 11.5	5.0 and 8.0	13	13	100	Too Few Fish	-

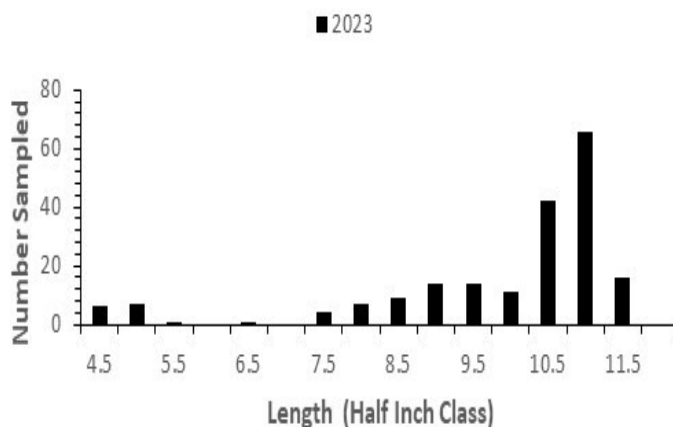
FYKE NETTING CPUE TRENDS (NUMBER PER NET NIGHT)

2023 Number Sampled	2005	2013	2023	Historical Average	2023 Lake Class Percentile Rank	2023 Statewide Percentile Rank	2023 Abundance Rating
198	11.5	12.8	3.0	9.1	32nd	47th	Moderate

SIZE STRUCTURE (PSD) TRENDS FYKE NETTING

PSD by Year			Historical Average
2005	2013	2023	
58	48	93	66.3

Black Crappie Length Distribution - Fyke Netting



GROWTH METRICS

Sample (n)	Length Bin (inches)	Sex	Mean Age	Age Range	Growth Rating
11	8 Inch	All	4.3	4 – 5	Average

ELECTROFISHING CPUE (NUMBER PER MILE)

CPUE Total	Percentile Rank	Overall Abundance Rating
13	70th	Moderate – High

Species Summary

- Fish Lake currently supports a moderate density black crappie population with catch rates of 3.0 fish per net night from the fyke netting survey and 13 fish per mile of electrofishing from the boom shocking survey. Catch rates of 3.0 per net night and 13 per mile rank in the 47th and 70th percentiles respectively compared to lakes statewide.
- Size structure of black crappie in Fish Lake increased significantly since the survey in 2013 going from PSD = 48 to PSD = 93. Most individuals captured ranged from 10.0 - 11.5 inches in length. The fyke netting survey resulted in the PSD 93, which is in the 87th percentile when compared statewide. The electrofishing survey resulted in too few fish sampled to calculate a secondary PSD rating.
- Growth metrics calculated from age estimates indicate that black crappie in Fish Lake have average growth.
- We floy tagged 217 black crappie 8 inches and larger during our survey on Fish Lake. After analyzing tag returns we determined anglers harvested 15% of these tagged fish in a years time.



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Bluegill

- Bluegill (*Lepomis macrochirus*) are a very common panfish species distributed widely across many Wisconsin waterbodies. Bluegill typically spawn in nearshore areas consisting of sand/mud or gravel substrate at approximately 67-80°F water temperatures. Electrofishing and fyke netting can be effective sampling gear for bluegill and therefore, results from both gears are presented for bluegill

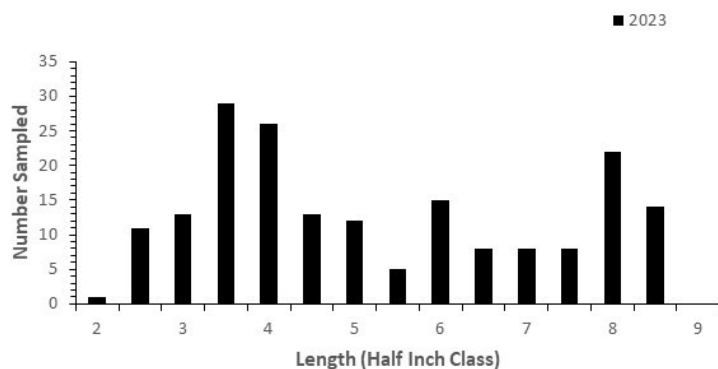
SIZE STRUCTURE METRICS

Gear	Number Measured	Average Length	Length Range	Stock and Quality Size	Stock	Quality	PSD	Percentile Rank	Size Rating
Electrofishing	185	5.5	2.2 –9.2	3.0 and 6.0	174	76	44	64th	Moderate
Fyke Netting	67	6.6	3.6 –9.0	3.0 and 6.0	67	41	61	55th	Moderate

AVERAGE BLUEGILL AGE AT 6 INCHES

Sex	Count	Average Age	Age Range	Lake Class Rating	Regional Rating
Male	1	5	5	Average	Average
Female	9	5	4 –6	Average	Average
All	10	5	4 –6	Average	Average

Bluegill Length Distribution - Electrofishing



Species Summary

- Fish Lake supports a moderately high density bluegill population with catch rates of 185 fish per mile of electrofishing from the boom shocking survey. Catch rates rank in the 70+ percentile compared to statewide and lake class ratings. Catch rates of bluegill greater than 8 inches in the electrofishing survey was 36 per mile which ranks in the 99th percentile and is high when compared to lakes statewide.
- Size structure of bluegill in Fish Lake was characterized as moderate based on data from the electrofishing survey. Length data from the electrofishing survey resulted in a PSD value of 44 which is in the 64th percentile when compared to bluegill electrofishing data statewide. This is still considered within a normal PSD range for panfish.
- Population trends from previous electrofishing surveys on Fish Lake indicate that size structure has increased substantially, but relative abundance has decreased some from the last survey done in 2013.
- Growth metrics calculated from age estimates indicate that bluegill in Fish Lake have average growth when compared to growth rates from bluegill populations across the state and same lake class.
- We floy tagged 592 bluegill 7 inches and larger during our survey on Fish Lake. After analyzing tag returns we determined anglers caught 26% and harvested 20.5% of these tagged fish in a years time.

ELECTROFISHING CPUE (NUMBER PER MILE)

CPUE Total	Statewide Percentile Rank	Lake Class Percentile Rank	Overall Abundance Rating	Length Index	Length Index CPUE	Length Index Percentile Rank	Length Index Abundance Rating
185	77th	73rd	Moderate-High	≥ 8.0 inches	36	99th	High

ELECTROFISHING TRENDS CPUE (NUMBER PER MILE)

CPUE by Year			Historical SEII Average
2004 (Fall)	2013	2023	
714	242	185	213.5

ELECTROFISHING SIZE STRUCTURE (PSD) TRENDS

PSD by Year			Historical SEII Average
2004 (Fall)	2013	2023	
22	6	44	25



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Yellow Perch

- Yellow perch (*Perca flavescens*) are a common panfish species found throughout many Wisconsin waterbodies. Typically yellow perch spawn in areas of emergent or submergent vegetation or submerged brush at approximately 45-50°F water temperatures. Electrofishing and fyke netting can be effective sampling gear for yellow perch and therefore, results from both gears are presented for yellow perch.

SIZE STRUCTURE METRICS									
Gear	Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock	Quality	PSD	Percentile Rank	Size Rating
Fyke Nets	17	7.1	5.8 - 12.7	5.0 and 8.0	17	3	18	55th	Moderate
Electrofishing	19	5.1	3.3 - 8.3	5.0 and 8.0	7	2	29	88th	High

FYKE NETTING CPUE (NUMBER PER NET NIGHT)			
CPUE Total	Lake Class Percentile Rank	Statewide Percentile Rank	Overall Abundance Rating
0.24	10th	15th	Low

FYKE NETTING TRENDS CPUE (NUMBER PER NET Night)			
CPUE by Year			Historical Average
2005	2013	2023	
9.0	0.4	0.2	3.2

ELECTROFISHING CPUE (NUMBER PER MILE)						
CPUE Total	Percentile Rank	Overall Abundance Rating	Length Index	Length Index CPUE	Length Index Percentile Rank	Length Index Abundance Rating
19	69th	Moderate	≥ 8.0 inches	3	89th	High

Species Summary

- Fish Lake supports a low-moderate density yellow perch population with catch rates of 19 fish per mile of electrofishing and 0.2 per net night. Catch rates rank in the 15th and 10th percentile compared to statewide and lake class ratings. Catch rates of 19 per mile in the electrofishing survey are better, ranking in the 69th percentile.
- Size structure of yellow perch in Fish Lake was characterized as high in our electrofishing survey and moderate in our fyke netting survey. Length data from the electrofishing survey resulted in a PSD value of 29% and was 18% in our fyke netting survey which is in the 55th percentile when compared to yellow perch netting data statewide.
- Population trends from previous surveys on Fish Lake indicate that the population is decreasing. The relative abundance is down significantly since the 2005 survey but only slightly down from 2013.
- Annual stocking of yellow perch averaging 5 inches has taken place on Fish Lake starting in 2020.

Pumpkinseed

Pumpkinseed (*Lepomis gibbosus*) are a common panfish species distributed widely across many Wisconsin waterbodies. Pumpkinseed typically spawn in nearshore areas consisting of sand or gravel substrate at approximately 60-70°F water temperatures. Electrofishing and fyke netting can be effective sampling gear for pumpkinseed and therefore, results from both gears are presented for pumpkinseed.

SIZE STRUCTURE METRICS									
Gear	Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock	Quality	PSD	Percentile Rank	Size Rating
Fyke Nets	23	6.6	4.1 - 8.6	3.0 and 6.0	23	17	74	85th	High
Electrofishing	21	6.2	4.1 - 8.1	3.0 and 6.0	21	14	67	82nd	High

ELECTROFISHING CPUE (NUMBER PER MILE)						
CPUE Total	Percentile Rank	Overall Abundance Rating	Length Index	Length Index CPUE	Length Index Percentile Rank	Length Index Abundance Rating
21	77th	High	≥ 6.0 inches	2	47th	Moderate

Species Summary

- Fish Lake supports a moderate density pumpkinseed population with catch rates of 21 fish per mile. Catch rates rank in the 77th and 79th percentile compared to statewide and lake class ratings. Population trends from previous surveys on Fish Lake indicate that the population is steady with 25 per mile sampled in 2013 survey.
- Size structure of pumpkinseed in Fish Lake was characterized as high in our electrofishing survey and in our fyke netting survey. Length data from the electrofishing survey resulted in a PSD value of 67% and was 74% in our fyke netting survey. These both rank in the 80+ percentile when compared to pumpkinseed statewide. This is a drastic improvement from the PSD = 8% found in the electrofishing survey in 2013.



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Full Summary

Northern Pike

Fish Lake supports a moderate density northern pike population with moderately high size structure.

The average length of an adult fish is 21.6 inches with males averaging 20.0 inches and female averaging 23.2 inches. Growth rates for northern pike in Fish Lake are slow compared to statewide percentiles. Size structure is moderate and holding steady compared to past surveys, though the percentage of legal fish has decreased more than 50% compared to the last 2 surveys. The 26 inch size limit currently in place is providing a fishery, but doesn't allow for any harvest of male northern pike since they seldom if ever reach the harvestable size of 26 inches. A new regulation to remove the size limit could be considered if supported by the public and would be no size limit and a 5 fish bag limit.

Walleye

Fish Lake supports a low to moderate density walleye population with high size structure due to stocking efforts started in 2005. The population estimate is 1.6 adults per acre up from 1.2 adults per acre in the 2013 survey. This is a good population number for Fish Lake and on the upper end of what we see in our area stocked lakes. Our largest fish was 26.7 inches and the average size of adult fish was 20.9 inches. Males averaged 19.2 inches and females averaged 22.5 inches. Size structure was high with a PSD = 98% ranking in the 90th percentile compared to lakes statewide. Growth rates are above average in the first 7 years with fish reaching legal size of 15 inches after their 3rd year. The oldest fish we sampled was a 22.3 inch male that was 15 years old and likely from the stocking in 2008. Many stocking years were represented with the yearling stocking from 2016 making up a large percentage of the population. We tagged 115 walleyes while doing the survey and only 2 tags were returned. Exploitation based off the return is low at 6.2 percent, but ice conditions over the year were very poor and provided very little ice fishing opportunity especially in the east basin.

Largemouth Bass

The Fish Lake largemouth bass population has increased 69% from the survey in 2013, going from 74 fish per mile of shoreline in 2013 to 125 fish per mile in 2023. Size structure has remained unchanged with a PSD = 43% and the percentage of legal fish RSD=14 increased from 23% to 28%. Largemouth bass numbers on the rise and growth rate presently is average, there is potential for growth rates to decrease resulting a lower size structure, but no evidence currently exists. The increase in abundance and subsequent predation may have already been responsible for the decrease in abundance of both bluegill and black crappie. If the population continues to increase it will be important to monitor bass growth rates and the sample growth to include the 14 inch length bin during the next survey. This further information along with stakeholders will inform the decision-making regarding regulation changes.

Black Crappie

The black crappie population in Fish Lake is boom and bust similar to most black crappie populations around the state. The 2023 survey results indicate that black crappie population levels were down compared to surveys in 2005 and 2013. Populations had a moderately low ranking (32nd percentile) when compared to lakes in the same class but a moderate (47th percentile) ranking when compared statewide. Size structure PSD=93 is high compared to lakes statewide ranking in the 87th percentile. This is good but also shows the population is made up of mostly larger fish with few smaller fish currently coming up. Exploitation based off tag returns appeared to be relatively low at 15%, but this was following a winter that provided very little ice fishing opportunity due to unsafe ice conditions.

Bluegill

The bluegill population abundance is down from the previous survey but size structure is up significantly. The catch rate of 185 per mile ranks in the 77th percentile statewide and in the 73rd percentile in lake class. Bluegill ranged from 150 - 225 fish per mile, but down 31% from the 242 we saw in 2013. Size structure is moderate and improved from a PSD=6 to PSD= 44. A PSD in the 40-60 range is preferred. We sampled 36 bluegills per mile that were 8 inches and larger. This ranks in the 99th percentile compared statewide. Growth rates of bluegill on Fish Lake are average with fish in the 6 inch grouping being 5 years old on average. Exploitation based off the 592 fish we tagged was 26% caught and 20.5% harvested. These numbers likely would have been higher, but unsafe ice conditions reduced effort during the winter of 2023-24. The decreasing abundance will be evaluated in the next survey and may be a result of the increased number of largemouth bass.

Yellow Perch

The yellow perch population appears to be at a low-moderate density with catch rates of 19 fish per mile of shoreline and 0.2 fish per net night. The relative abundance has decreased over the years. Size structure was considered moderate in the fyke net survey and high in our electrofishing survey compared to other lakes statewide. Almost annual stocking of yellow perch has occurred since 2008 though at relatively low numbers, averaging 1,775 fish stocked at 4.9 inches. The low abundance may be related to either poor survival of stocked fish or angler harvest.

Pumpkinseed

The pumpkinseed population is currently at a moderate density with catch rates of 21 fish per mile of shoreline which is relatively unchanged from the 24 per mile we found in 2013. The Size structure was considered high in both the fyke net and electrofishing survey compared to statewide averages. Fish over 8 inches were sampled in both surveys.

Summary of Tagging

During our survey of Fish Lake in 2023 we put tags in black crappie, bluegill, northern pike and walleye in an attempt to evaluate exploitation/harvest, movement and growth of these popular fish species. Tag returns were not as high as expected but this may be due to reasons other than just compliance. I know most of these species are targeted heavily during the ice fishing season and the winter following our tagging was abnormally warm. Many lakes in our area including Fish Lake had relatively unsafe ice conditions and an absence of anglers was observed by law enforcement, office staff and locals. This likely was a factor in the number of fish caught and tags returned.



WISCONSIN DEPARTMENT OF NATURAL RESOURCES

2023 Comprehensive Summary Report

Fish Lake, Waushara County

Waterbody Code 985000

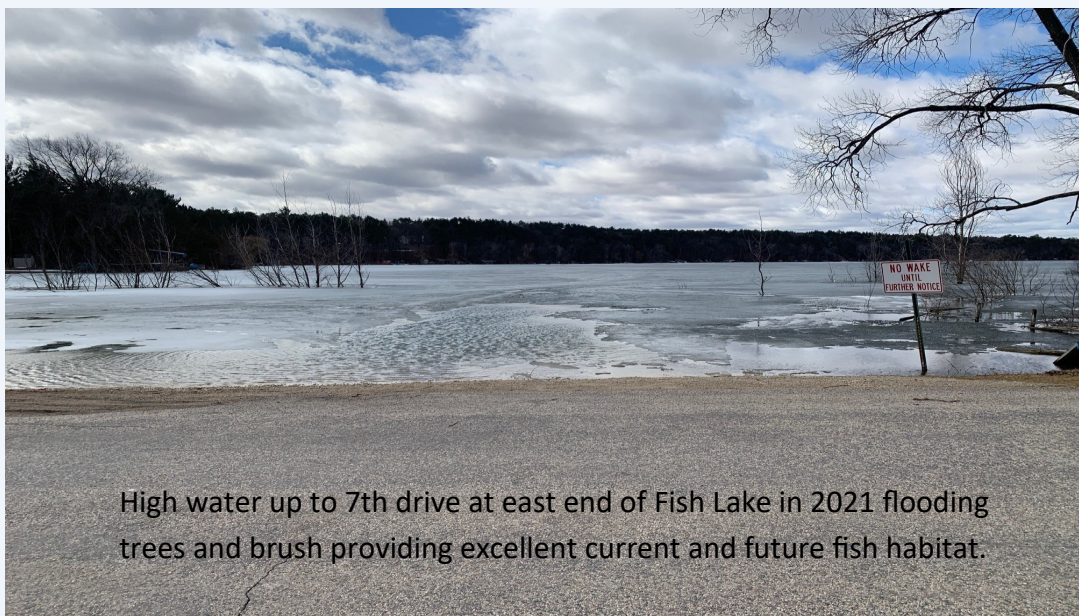
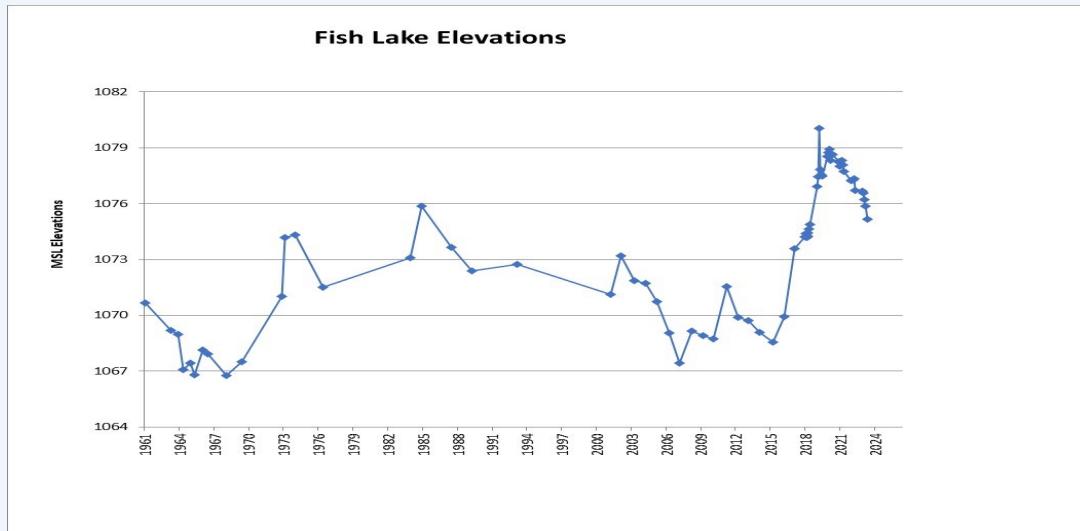
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Other Species Sampled In Survey

Bluntnose minnows(1), brown bullheads(43), fathead minnows(4), golden shiners(4), green sunfish(1), green sunfish x pumpkinseed hybrid(2), rock bass(37), white sucker (25), yellow bullhead (793).

Habitat

Habitat is many times a limiting factor on local lakes, water levels fluctuate in the central sands portion of the state, perhaps more so than other areas. Water levels have been up on all of the lakes in our area recently and as the chart below shows Fish Lake is no exception. With the higher water levels over the years, Fish Lake has had some suitable habitat flooded such as areas of woody vegetation and trees. As the water recedes, much of this habitat will be on dry land. Trees that have died are good habitat if left to naturally fall or are used in permittable fish sticks projects. Anyone wanting to improve habitat is referred to the following link for some ideas and information [Fish sticks: Improving lake habitat | Fishing Wisconsin | Wisconsin DNR](#).



High water up to 7th drive at east end of Fish Lake in 2021 flooding trees and brush providing excellent current and future fish habitat.