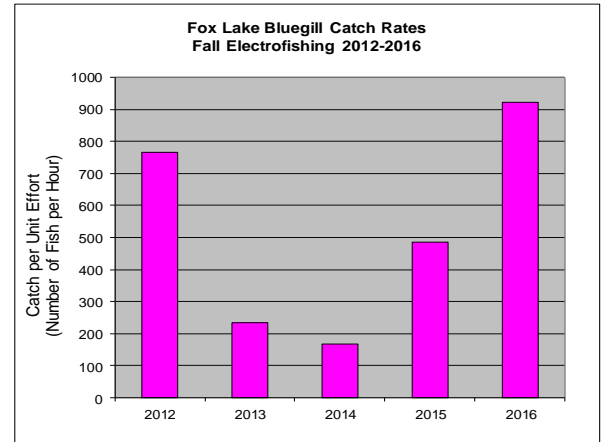
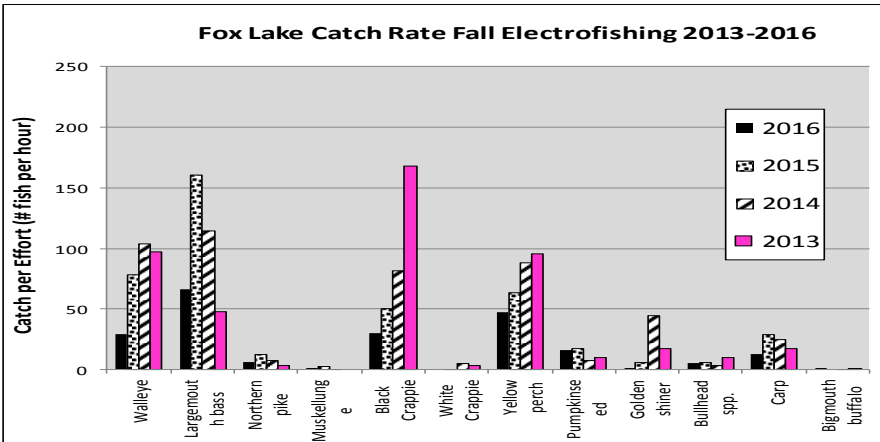


# Fox Lake Fall Electrofishing Summary Report – 2016

## Fall Electrofishing - Defined

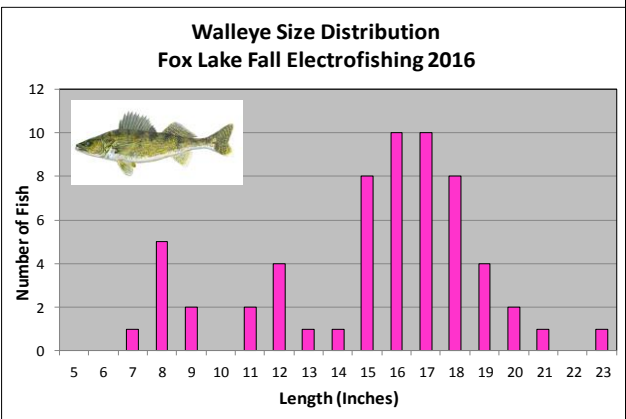
Fall electrofishing was conducted on Fox Lake in Dodge County on October 5, 2016. Fall electrofishing is conducted using a large boom-shocker boat allowing for the collection of young-of-the-year (YOY) and adult bass and walleye that are often under-sampled by other gear types. Fall electrofishing sampling provides an indication of the health of the fishery through estimates of gamefish and panfish relative abundance (catch rate or catch per effort), gamefish population size-structure (length-frequencies) and gamefish recruitment (young-of-year catch per effort). In order to standardize fisheries data, total effort in the form of time spent shocking and/or miles of shoreline shocked is recorded and presented as catch rates or catch-per-unit effort (CPUE). For this survey, the total effort expended was 2.08 hours covering 3.78 miles of shoreline including: 1.) Inlet of Cambria Creek south (25 minutes), 2.) North side of Chief Kuno Trail (20 minutes), 3.) South side of Chief Kuno Trail (20 minutes), 4.) South shore of The Jug to outlet (20 minutes), 5.) Elmwood Island (20 minutes), 6.) Fish 'n Fun tavern to Maple Point (20 minutes). Length measurements were taken from a subset of fish and all fish were returned to the lake. Average water temperature was 64° F. Water clarity was variable and dense submerged aquatic vegetation led to poor visibility at several sampling sites. This report highlights the results of 2016 fall electrofishing with comparisons to previous fall surveys. Compiled by: Laura Stremick-Thompson, DNR Fisheries Biologist, N7725 Hwy 28, Horicon WI 53032, 920-387-7876 [Laura.StremickThompson@wisconsin.gov](mailto:Laura.StremickThompson@wisconsin.gov)

## Gamefish Summary



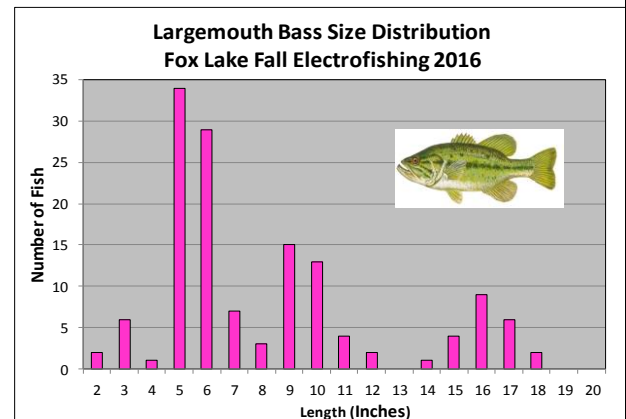
Walleye	2016	2015	2014	2013
<b>Total Catch:</b>	60	157	215	631
<b>Catch Rate (fish per hour):</b>	29	79	103	98
<b>Length Range (inches):</b>	7.8-23.6	7.1-25.3	5.4-25.1	6.5-25.3
<b>Average Length (inches):</b>	15.7	15.2	15.0	14.7

2016 walleye catch rate was 29/hour, compared to 79/hour in 2015, 103/hour in 2014, 98/hour in 2013 and the 10-year average of 90/hour. Catch rate of young-of-the-year (YOY) was 4/hour in 2016, compared to 3/hour in 2015, 3/hour in 2014, and 12/hour in 2013. In 2016, 27% of the walleye sampled were over 18-inches (current minimum length limit), compared to 17% in 2015, 18% in 2014, and 11% in 2013. The Fox Lake Property Owners stocked 4,000 large fingerling (6-inch) walleye in 2016. The DNR did not stock walleye in 2016 as the lake is stocked in alternate (odd) numbered years.



Largemouth bass	2016	2015	2014	2013
<b>Total Catch:</b>	138	323	238	311
<b>Catch Rate (fish per hour):</b>	66	162	114	48
<b>Length Range (inches):</b>	2.6-18.7	2.5-18.3	2.1-17.9	2.6-20.0
<b>Average Length (inches):</b>	8.6	6.6	6.1	12.8

2016 largemouth bass catch rate was 66/hour, compared to 162/hour in 2015, 114/hour in 2014, 48/hour in 2013, and the 10-year average of 82/hour. The large 2015 year class (5-6 inch fish) made up the majority of bass sampled in 2016.



Northern pike	2016	2015	2014	2013
<b>Total Catch:</b>	13	25	15	19
<b>Catch Rate (fish per hour):</b>	6	13	7	3
<b>Length Range (inches):</b>	9.3-28.9	10.4-31.4	12.9-32.9	11.5-36.0
<b>Average Length (inches):</b>	16.2	19.5	19.2	22.9

Electrofishing is not an effective gear for sampling northern pike (best data from fyke nets set during spring spawning). In 2016, the DNR state hatchery system stocked 50,000 (2.0-inch) northern pike into the lake.

<b>Muskellunge</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
<b>Total Catch:</b>	1	5	1	0
<b>Catch Rate (fish per hour):</b>	0.5	2	0.5	0
<b>Length Range (inches):</b>	N/A	11.2-14.1	N/A	N/A
<b>Average Length (inches):</b>	N/A	12.7	N/A	N/A

Electrofishing is not an effective gear to sample muskellunge. They are present but at low density. The muskellunge sampled in fall electrofishing was likely one of the 200 (13-inch) muskellunge stocked by the Fox Lake Property Owners in 2016.

## Panfish Summary

Fox Lake's panfish community is comprised of bluegill, black crappie and yellow perch. Smaller populations of white crappie, pumpkinseed and green sunfish are also present. Bluegill was the most abundant panfish species sampled during 2016 fall electrofishing, followed by yellow perch, black crappie, and pumpkinseed (34 fish, 16/hour).

<b>Bluegill</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
<b>Total Catch:</b>	1919	971	352	415
<b>Catch Rate (fish per hour):</b>	923	485	169	234
<b>Length Range (inches):</b>	2.9-8.5	1.6-8.6	1.3-8.8	1.2-8.3
<b>Average Length (inches):</b>	4.6	4.5	3.6	4.7

2016 bluegill catch rate was 923/hour, compared to 485/hour in 2015, 169/hour in 2014, 234/hour in 2013, and the 10-year average of 379/hour. In 2016, 8% of the bluegill sampled were greater than 6-inches in length, compared to 8% in 2015, 18% in 2014, and 32% in 2013.

<b>Black crappie</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
<b>Total Catch:</b>	63	99	170	298
<b>Catch Rate (fish per hour):</b>	30	50	82	168
<b>Length Range (inches):</b>	4.5-11.4	2.6-11.6	2.6-11.6	1.9-10.9
<b>Average Length (inches):</b>	7.0	8.2	5.7	7.4

2016 black crappie catch rate was 30/hour, compared to 50/hour in 2015, 82/hour in 2014, 168/hour in 2013 and compared to the 10-year average of 111/hour. The majority of black crappie (51%) sampled in 2016 were between 5.0-5.9-inches in length.

<b>Yellow perch</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
<b>Total Catch:</b>	99	127	183	164
<b>Catch Rate (fish per hour):</b>	48	64	88	93
<b>Length Range (inches):</b>	3.0-8.4	3.1-8.4	2.9-10.4	2.2-9.2
<b>Average Length (inches):</b>	6.1	5.4	5.1	3.1

2016 yellow perch catch rate was 48/hour, compared to 64/hour in 2015, 88/hour in 2014, 93/hour in 2013, and the 10-year average of 57/hour. The majority of yellow perch (94%) sampled in 2016 were between 4.0-7.9- inches in length.

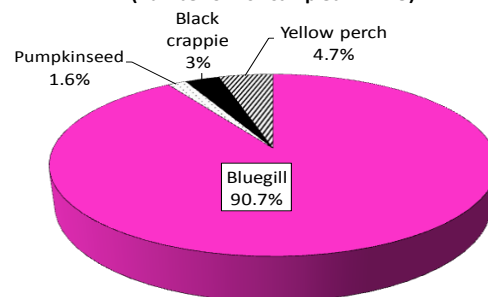
<b>White crappie</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
<b>Total Catch:</b>	0	1	10	5
<b>Catch Rate (fish per hour):</b>	0	0.6	5	3
<b>Length Range (inches):</b>	N/A	N/A	8.3-10.8	7.7-10.0
<b>Average Length (inches):</b>	N/A	N/A	10.1	8.8

White crappie was once the more abundant crappie species in Fox Lake, although they have been nearly absent from fall electrofishing for over a decade. Their decline may indicate positive changes in the lake's water clarity and aquatic vegetation, as white crappie prefer turbid water and inhabit areas of sparse vegetation. Studies conducted on Fox Lake have shown white crappie to be a major predator of large Cladoceran zooplankton, which feed on planktonic algae and help maintain good water clarity.

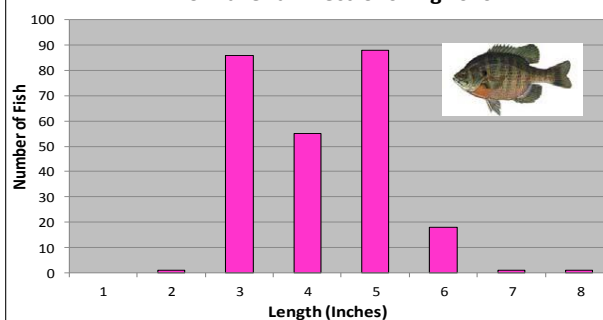
## Other Species

Golden shiner (3 fish, 2/hour), green sunfish (1 fish, 0.5/hour), bigmouth buffalo (1 fish, 0.5/hour) and yellow, black and brown bullhead (11 fish total, 5/hour, average length = 10.4 inches) were sampled during 2016 fall electrofishing. 2016 total carp catch rate was 13/hour, compared to 57/hour in 2015, 25/hour in 2014, and 18/hour in 2013. Young-of-year (YOY) carp catch rate was 1/hour in 2016 compared to 8/hour in 2015.

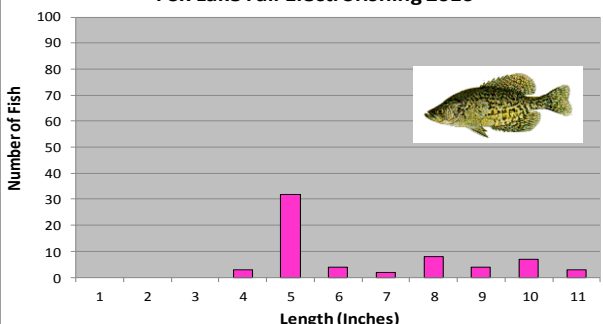
**Panfish Relative Abundance  
Fox Lake Fall Electrofishing 2016  
(number of fish sampled = 2115)**



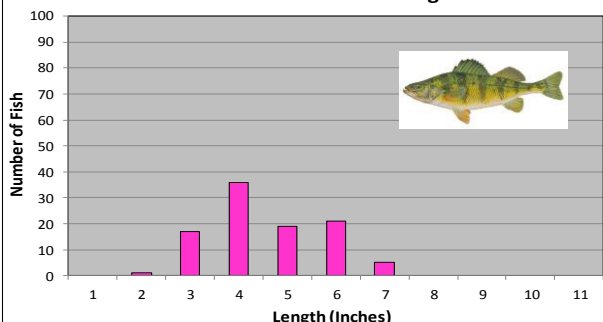
**Bluegill Size Distribution  
Fox Lake Fall Electrofishing 2016**



**Black Crappie Size Distribution  
Fox Lake Fall Electrofishing 2016**



**Yellow Perch Size Distribution  
Fox Lake Fall Electrofishing 2016**



**Relative Abundance of Other Species  
Fox Lake Fall Electrofishing 2016  
(number of fish sampled = 43)**

