

Fox Lake Fall Electrofishing Summary Report – 2017

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Fall Electrofishing - Defined

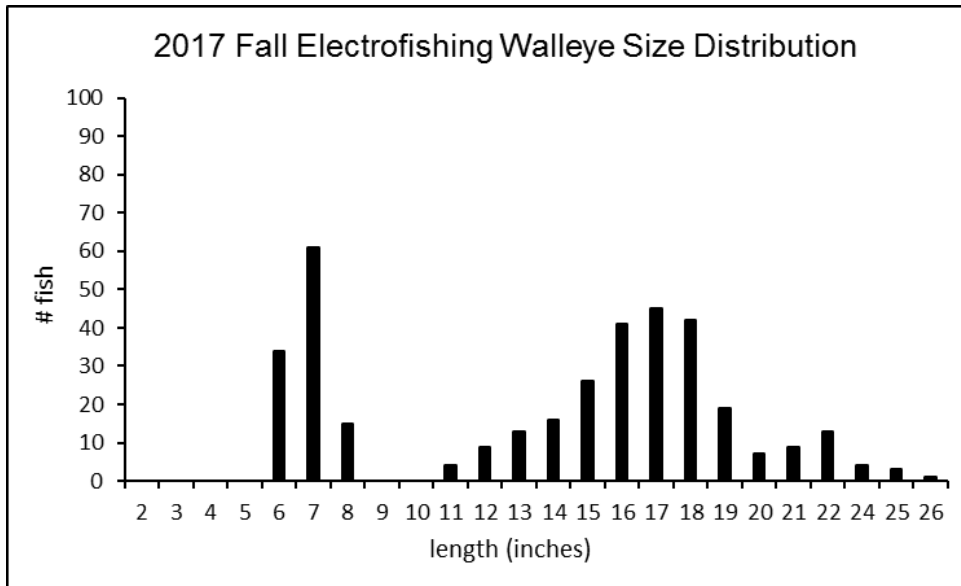
Fall electrofishing was conducted on Fox Lake, Dodge County on October 16-18, 2017. The primary objective of fall electrofishing is to provide an indication of walleye recruitment (young-of-year (YOY) catch rate). To accomplish this the shoreline of the lake was divided into 2-mile sample segments. The secondary objective of these surveys was to count and measure all species in the first half mile of each 2-mile segment. Fall electrofishing surveys provide 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 walleye recruitment (YOY catch per effort). Total effort in the form of miles of shoreline shocked is recorded and presented as catch rates or catch-per-unit effort (CPUE) to standardize the data. For this survey, the total effort was 11.85 miles of shoreline (see map). Fall electrofishing surveys are conducted at night using a large boom-shocker boat, ideally when water temperatures are between 50 to 60° F. During the 2017 survey water temperature ranged from 56-60° F. Water clarity was variable and dense submerged aquatic vegetation led to poor visibility at several sampling sites. All fish were identified to species and counted, length measurements were taken from a subset of fish and all fish were returned to the lake. This report highlights the results of 2017 fall electrofishing with comparisons to previous fall surveys.



Gamefish Summary

| Walleye | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------------|------------|------------|------------|------------|------------|
| Total Catch | 631 | 239 | 157 | 60 | 367 |
| Catch Rate (fish per mile) | 54.4 | 62.9 | 41.4 | 15.9 | 30.9 |
| YOY Catch | 75 | 30 | 3 | 7 | 110 |
| Catch Rate (YOY per mile) | 6.5 | 7.9 | 0.8 | 1.9 | 9.3 |
| Length Range (inches) | 6.5 - 25.0 | 5.0 - 25.0 | 7.0 - 25.0 | 7.5 - 23.5 | 6.0 - 26.5 |
| Ave. Length (inches) | 14.8 | 15.1 | 15.3 | 15.8 | 14.5 |

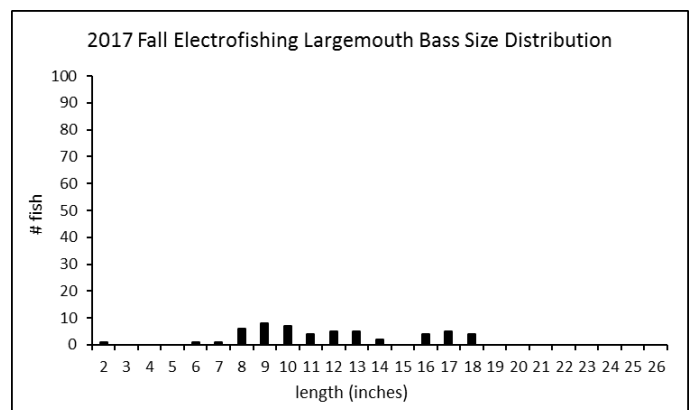
Walleye total catch and YOY catch rates were relatively high compared with recent years. The 9.3 YOY/mile indicates 2017 should produce a good year class moving forward.



The percent of legal fish observed was low (7% 18" and above) but we don't typically see as many adult fish in fall surveys as we do in spring surveys. The large number of YOY skewed that percent lower as well. The DNR stocked 115,777 small fingerling walleye and Fox Lake Property Owners stocked 500 large fingerling walleye in 2017, both of which likely contributed to the high number of YOY observed.

| Largemouth Bass | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------------|----------|------------|------------|------------|------------|
| Total Catch | 311 | 206 | 323 | 138 | 53 |
| Catch Rate (fish per mile) | 26.8 | 54.2 | 85.2 | 36.5 | 17.7 |
| Length Range (inches) | 2.5 - 20 | 2.5 - 11.5 | 2.5 - 18.0 | 2.5 - 18.5 | 2.0 - 18.5 |
| Ave. Length (inches) | 12.9 | 5.6 | 6.7 | 8.7 | 12.2 |

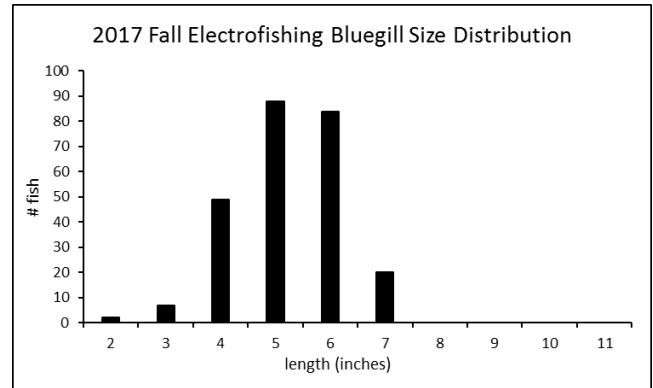
Fall electrofishing isn't a standard protocol for largemouth bass but in 2017 they were collected in the half mile catch-all samples. The 2017 catch rate was lower than previous years. Cooler water temperatures and a later survey date probably contributed to this difference. The observed size distribution indicated multiple year classes suggesting consistent recruitment.



Panfish Summary

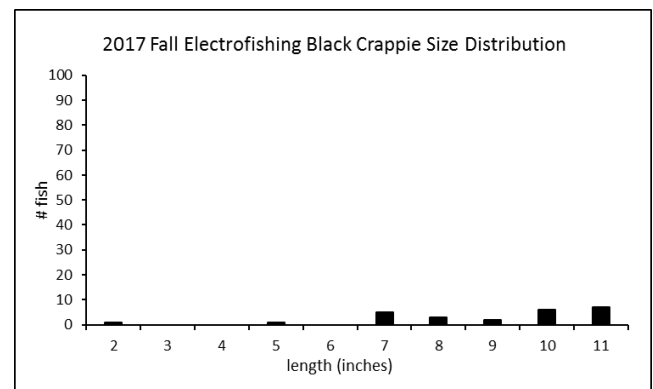
| Bluegill | 2013 | 2014 | 2015 | 2016 | 2017 |
|----------------------------|-----------|-----------|-----------|-----------|-----------|
| Total Catch | 415 | 460 | 971 | 1919 | 929 |
| Catch Rate (fish per mile) | 138.3 | 121.1 | 256.2 | 507.7 | 309.7 |
| Length Range (inches) | 1.0 - 8.0 | 1.0 - 8.5 | 1.5 - 8.5 | 2.5 - 8.5 | 2.5 - 7.5 |
| Ave. Length (inches) | 4.7 | 3.5 | 4.6 | 4.7 | 5.7 |

Bluegill abundance remains high. Catch rate was down from 2016, but similar to 2015 and higher than 2013 and 2014. Average size remains under what is considered quality size for bluegill (6-inches), though 41% of the fish measured in 2017 were 6-inches or above. This is the highest percentage in the last 5 years.



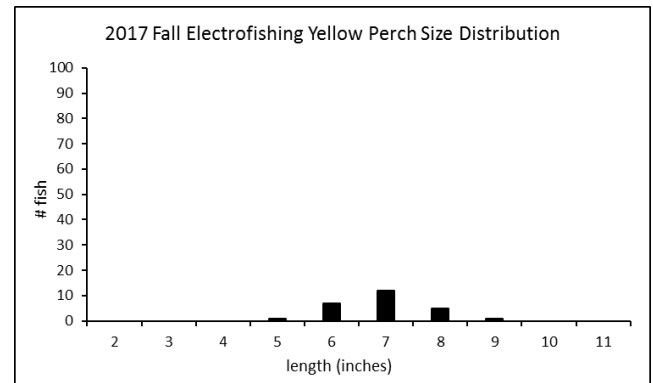
| Black Crappie | 2013 | 2014 | 2015 | 2016 | 2017 |
|----------------------------|------------|------------|------------|------------|------------|
| Total Catch | 298 | 206 | 99 | 63 | 25 |
| Catch Rate (fish per mile) | 99.3 | 54.2 | 26.1 | 16.7 | 8.3 |
| Length Range (inches) | 1.5 - 10.5 | 2.5 - 11.5 | 2.5 - 11.5 | 4.5 - 11.0 | 2.5 - 11.5 |
| Ave. Length (inches) | 7.4 | 5.6 | 8.2 | 7.0 | 9.3 |

Indications are that black crappie abundance has decreased over the last 5 years. In 2017, total catch and catch rate were the lowest of the last 5 years. Fall electrofishing isn't a standard protocol for black crappie so the scheduled 2019 comprehensive survey may yield a different population picture.



| Yellow Perch | 2013 | 2014 | 2015 | 2016 | 2017 |
|----------------------------|-----------|------------|------------|-----------|-----------|
| Total Catch | 164 | 206 | 99 | 99 | 26 |
| Catch Rate (fish per mile) | 54.7 | 54.2 | 26.1 | 26.2 | 8.7 |
| Length Range (inches) | 2.0 - 9.0 | 2.5 - 11.5 | 2.5 - 11.5 | 3.0 - 8.0 | 5.5 - 9.0 |
| Ave. Length (inches) | 3.1 | 5.6 | 8.2 | 6.0 | 7.4 |

Indications are that Yellow Perch abundance has decreased over the last 5 years. In 2017, total catch and catch rate were the lowest of the last 5 years. Fall electrofishing isn't a standard protocol for yellow perch so the scheduled 2019 comprehensive survey may yield a different population picture.



Other Species Observed

During the half mile catch-all samples we observed other species in low abundance that do not warrant analysis but will be reported here for consideration. These species include: brown bullhead (6), common carp (20), golden Shiner (4), muskellunge (2), morthern pike (16), pumpkinseed (18), white sucker (4) and yellow bullhead (4).