

# Lake Pleasant

## Erie County

### Spring 2017 Trap Net and Night Boat Electrofishing Surveys



*Aerial photo of Lake Pleasant.*

Lake Pleasant is a 61-acre natural lake located six miles northeast of Waterford, in Erie County. The lake is one of only five “two-story” lakes located across the Commonwealth that is stocked with adult trout. Two-story lakes are unique, in that they have the capacity to provide year-round fishing opportunities for trout, especially during the warmer summer months. In the case of Lake Pleasant, this is possible due to the lakes deep bottom (max depth at 45 feet) and large volume cold-water zone (hypolimnion). A thermocline (zone of rapid temperature change) at Lake Pleasant is formed when the lake stratifies (separation of the upper warmer water zone epilimnion, from the colder water zone) as water temperatures warm. This natural stratification provides stocked trout with an oxygen rich cold water zone, that is critical to their survival throughout the summer. The surrounding shoreline and watershed area (83%) is owned and managed by the Western Pennsylvania Conservancy (WPC). [A](#)

[Lake Pleasant Watershed Conservation Plan was prepared by WPC](#). The lake's outlet meanders through several wetland areas before it eventually flows into French Creek some 3.1 miles downstream. The lake is owned and maintained by the Pennsylvania Fish and Boat Commission (PFBC) with recreational boating opportunities restricted to un-powered boats only. The lake's coldwater and warmwater fish populations are managed under [Statewide Regulations for Commonwealth Inland Waters](#) and the lake receives annual stockings of adult trout during the preseason, inseason, and once in the winter, providing ice angling opportunities.

Biologists from the Fisheries Management Area 2 and 9 offices set trap nets in April to assess the lake's panfish and sportfish populations. A night-time boat electrofishing (NTBEF) survey was conducted targeting Largemouth Bass in May. The purpose of these surveys was to update the abundance and size structure status of the lake's panfish and bass populations. The last lake survey occurred back in 1998.

Twelve Pennsylvania-style trap nets were deployed and retrieved during the week of April 25<sup>th</sup>, encompassing 272.25 total hours of effort. A total of 1,741 fish were captured that represented 14 different species. A summary of our catch results is provided in the table below.

**Table 1. Species, abundance and size range of fish collected during trap net sampling at Lake Pleasant during the week of April 25<sup>th</sup>, 2017.**

Species	Number	Size Range (inches)	Comments
Northern Pike	6	25 – 35	100% ≥ 24 inches - MSL
Walleye	3	22 - 25	100% ≥ 15 inches - MSL
Largemouth Bass	4	11 - 20	75% ≥ 12 Inches - MSL
Bluegill	1131	4 – 10	96% ≥ 7 inches
Black Crappie	261	3 – 11	76% ≥ 9 Inches
Pumpkinseed	71	7 – 9	96% ≥ 7 inches
Yellow Perch	61	8 – 12	99% ≥ 9 inches
Brown Bullhead	88	11 – 16	88% ≥ 12 inches
Yellow Bullhead	38	8 - 12	N/A
White Sucker	2	12 – 20	N/A
Golden Shiner	9	4 – 10	N/A
Hatchery Brown Trout	16	Not Measured	
Hatchery Rainbow Trout	50	Not measured	
Hatchery Golden Rainbow	2	Not Measured	
<b>Total</b>	<b>1,741</b>		

Lake Pleasant is well known by anglers who frequent it often as having an outstanding stocked trout fishery. However, what some may not know is the lake also contains a high quality panfish and Largemouth Bass population, for its size. The panfish population increased significantly from our last routine survey. Of the four types of panfish species captured, Bluegill were the most abundant and greatly outnumbered all other panfish by a wide margin. The Bluegill population is providing good numbers (1,131) and size structure with 96% of all fish captured at least 7 inches in length. Many of the fish captured were in the 7 to 10-inch size range. The second most abundant panfish species was Black Crappie at 261 with 76% of these fish greater than 9 inches in length. Other panfish species of interest to anglers included modest numbers of Yellow Perch and Pumpkinseed. Yellow Perch up to 13 inches were also present in our nets and several shore anglers were observed targeting them during our survey. Several quality sized Brown and Yellow Bullhead were also captured in our trap nets.



*A pair of quality sized Bluegill caught in our trap nets.*



*FM Area 9 Fisheries Biologist Mark Haffley with a pair of Black Crappie captured in our trap nets.*



*Two post-spawn (male-top, female-bottom) Yellow Perch captured in our trap nets.*

Since our spring trap net and night boat electrofishing surveys primarily targeted panfish and Largemouth Bass, other species such as Northern Pike and Walleye, were captured in lower abundance. Despite our survey occurring when water temperatures favored panfish movement and capture in trap nets, we also captured six adult Northern Pike. Pike ranged in length from 25 to 35 inches all of which were greater than the minimum legal size of 24 inches. The largest fish measured 35 inches and weighed 13 pounds (pictured below). A few Walleye were also collected. Typically, both Northern Pike and Walleye spawn early in the spring when water temperatures are much cooler, often just shortly after ice out conditions.

Also captured in our trap nets were four Largemouth Bass, the largest measuring 21 inches and weighing 5.7 pounds. Typically, Largemouth Bass are not captured in trap nets but rather are more vulnerable to other sampling gears such as night-time boat electrofishing. Results of the night-time boat electrofishing survey are detailed below.



*FM Area 2 Fisheries Biologist Brian Ensign with the largest Northern Pike caught in our trap nets.*



*FM Area 9 Fisheries Biologist Mark Haffley with a recently stocked Golden Rainbow Trout.*

During the night of May 22, 2017, biologist staff returned to Lake Pleasant to assess the status of the Largemouth Bass population via night-time boat electrofishing. The entire lake's shoreline was electrofished in three total runs that encompassed 1.4 hours of effort. A total of 128 Largemouth Bass were netted and ranged in size from 6 to 21 inches in length (Figure 1). Catch rates for total bass, those greater than 12 inches and 15 inches were all at record levels. The total catch rate of bass was 91 fish/hr. The number of Largemouth Bass  $\geq 12$  inches was 38 fish/hr compared to 8 fish/hr in 1998. The number of Largemouth Bass  $\geq 15$  inches was 11 fish/hr compared to 0.01 fish/hr in 1998. (Figure 2). Furthermore, most (67%) of the Largemouth Bass captured were 11 to 14 inches in length, thus providing quality bass fishing opportunities currently with such opportunities anticipated to remain good for the foreseeable future.

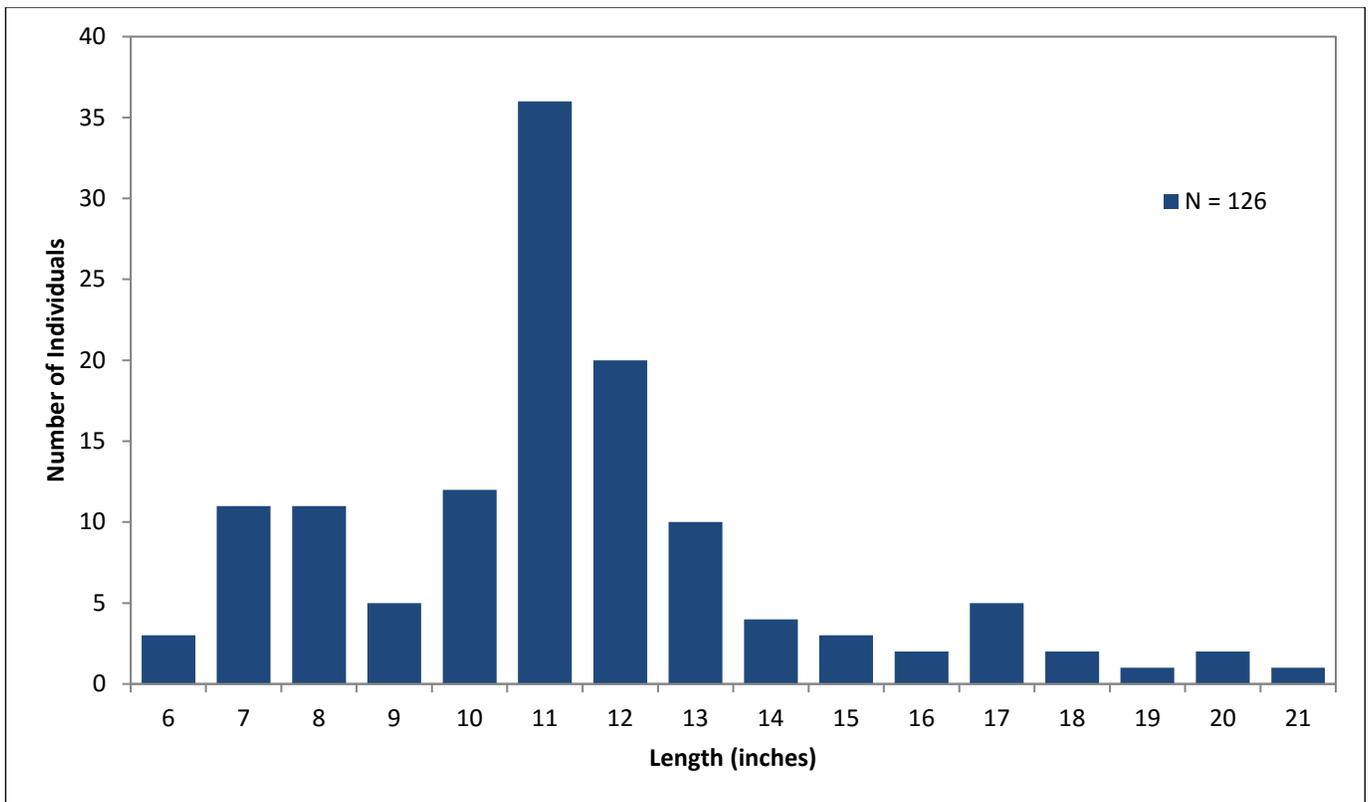


Figure 1. Length frequency distribution for Largemouth Bass captured during night-time boat electrofishing surveys at Lake Pleasant.

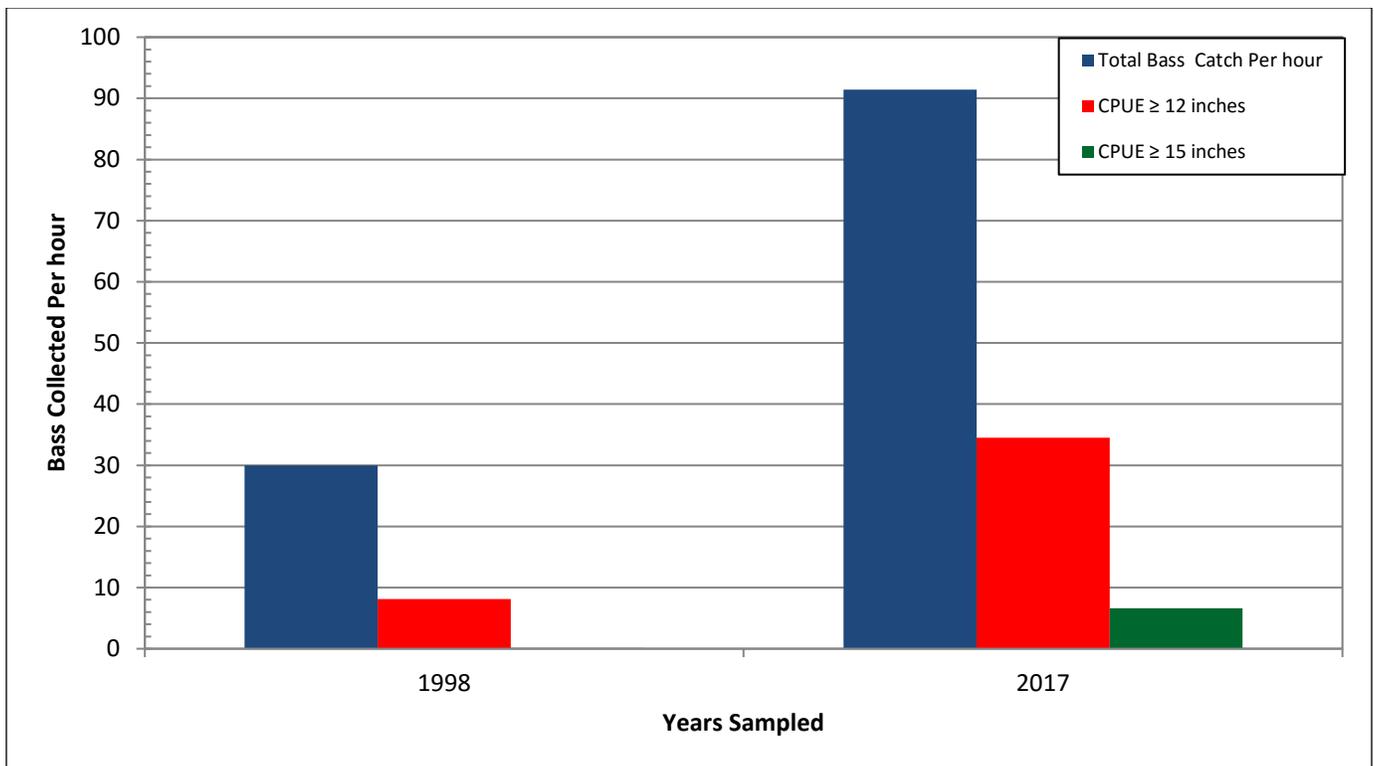


Figure 2. Catch rates for Largemouth Bass captured during night-time boat electrofishing surveys at Lake Pleasant.



*FM Area 9 Fisheries Biologist Mark Haffley with a trophy-sized Largemouth Bass from Lake Pleasant.*

Overall, Lake Pleasant provides good angling opportunities for a variety of coldwater and warmwater species including, Rainbow Trout, Brown Trout, Golden Rainbow Trout, Bluegill, Black Crappie and Largemouth Bass. The Northern Pike population is sustained through natural reproduction and offers anglers opportunities to capture an occasional trophy fish. Although Walleye are not currently stocked by the PFBC, the lake does contain a few larger size individuals that possibly migrated upstream from French Creek, which is stocked. Fair to good fishing opportunities exist for Yellow Perch, Brown Bullhead and Yellow Bullhead.

*Prepared by Brian Ensign, Area 2 Fisheries Biologist*