

# **Leaser Lake**

## **Lehigh County**

### **2020 Fishery Restoration Update**

[Leaser Lake](#) is a 117-acre impoundment located in Lynn Township, Lehigh County, approximately 20 miles west-northwest of Allentown that is owned and managed by the Pennsylvania Fish and Boat Commission. The dam impounds two unnamed tributaries to Ontelaunee Creek. In 2008-2009, the lake was dewatered to make dam and spillway repairs and modifications per Pennsylvania Department of Environmental Protection Dam Safety standards. Following completion of the repairs and modifications in 2013, the impoundment was refilled and returned to normal pool levels. However, it was determined soon after that additional repairs to the dam were needed, which required a partial drawdown of 20 feet. Leaser Lake was refilled in 2015, and Area 6 fisheries management staff have conducted fish population surveys in the years since to monitor the status of developing fish populations following re-stocking.



*Aerial Image of Leaser Lake, Lehigh County*

Leaser Lake continues to be managed with a [Miscellaneous Special Regulation](#) that prohibits the harvest of warmwater and coolwater species, but allows catch and immediate release fishing opportunities. This regulation is intended to remove harvest pressure from sport fish the PFBC has stocked and allow for most warmwater fish to become fully self-sustaining. During this development phase, however, the harvest of stocked trout is permitted following Commonwealth Inland Regulations. To re-cap our management program, beginning in 2013, the PFBC began stocking Bluegill, Brown Bullhead, Chain Pickerel, Channel Catfish, Largemouth Bass, Muskellunge, tiger muskellunge, Walleye, White Crappie, and Yellow Perch. Of these species, Channel Catfish, Muskellunge, tiger muskellunge, and Walleye continue to be maintenance stocked in accordance with PFBC management plans for these species. Additionally, various forage species have been introduced into Leaser Lake to bolster the forage base. Decisions to discontinue stockings of a selected warmwater species were based on data collected during recent surveys (see [2016](#) and [2018](#) Biologist Reports) that suggested those populations were sufficiently mature or had reached self-sustaining status.

Surveys targeting panfish and sportfish populations at Leaser Lake were planned for spring and early summer 2020. However, due to the unforeseen restrictions COVID-19 placed on sampling, surveys were postponed until September 23<sup>rd</sup> and November 9<sup>th</sup>, 2020. During these surveys, nighttime boat electrofishing was used to sample most of the lake's shoreline to collect Largemouth Bass, Muskellunge, and tiger muskellunge. Additionally, Bluegill, Black Crappie, Chain Pickerel, Green Sunfish, Pumpkinseed, White Crappie, and Yellow Perch were collected during the initial five minutes of each transect (on the November 9<sup>th</sup> survey) to characterize these populations. All species collected were measured, weighed, and released. Results from these surveys can be found below. A trap net survey was conducted on September 28<sup>th</sup> and 29<sup>th</sup>, 2020, however this survey was terminated early because dense vegetation limited the effectiveness of the trap nets.

## **Largemouth Bass**

Largemouth Bass are typically sampled during spring as water temperatures are rising. Our September 23<sup>rd</sup> survey was conducted as water temperatures were falling, but within a range like those encountered in the spring. The total catch rate of Largemouth Bass in September 2020 was 118 fish/hour, far exceeding catch rates from previous surveys. The catch rate of fish > 12" was 8.8 fish/hr, which was slightly higher than the 2018 survey (8.3 fish/hr), but lower than the 2016 catch rate of 19.6

fish/hr (Figure 1). Additionally, the catch rate of fish > 15" was 4.8 fish/hr and was lower than both previous surveys.

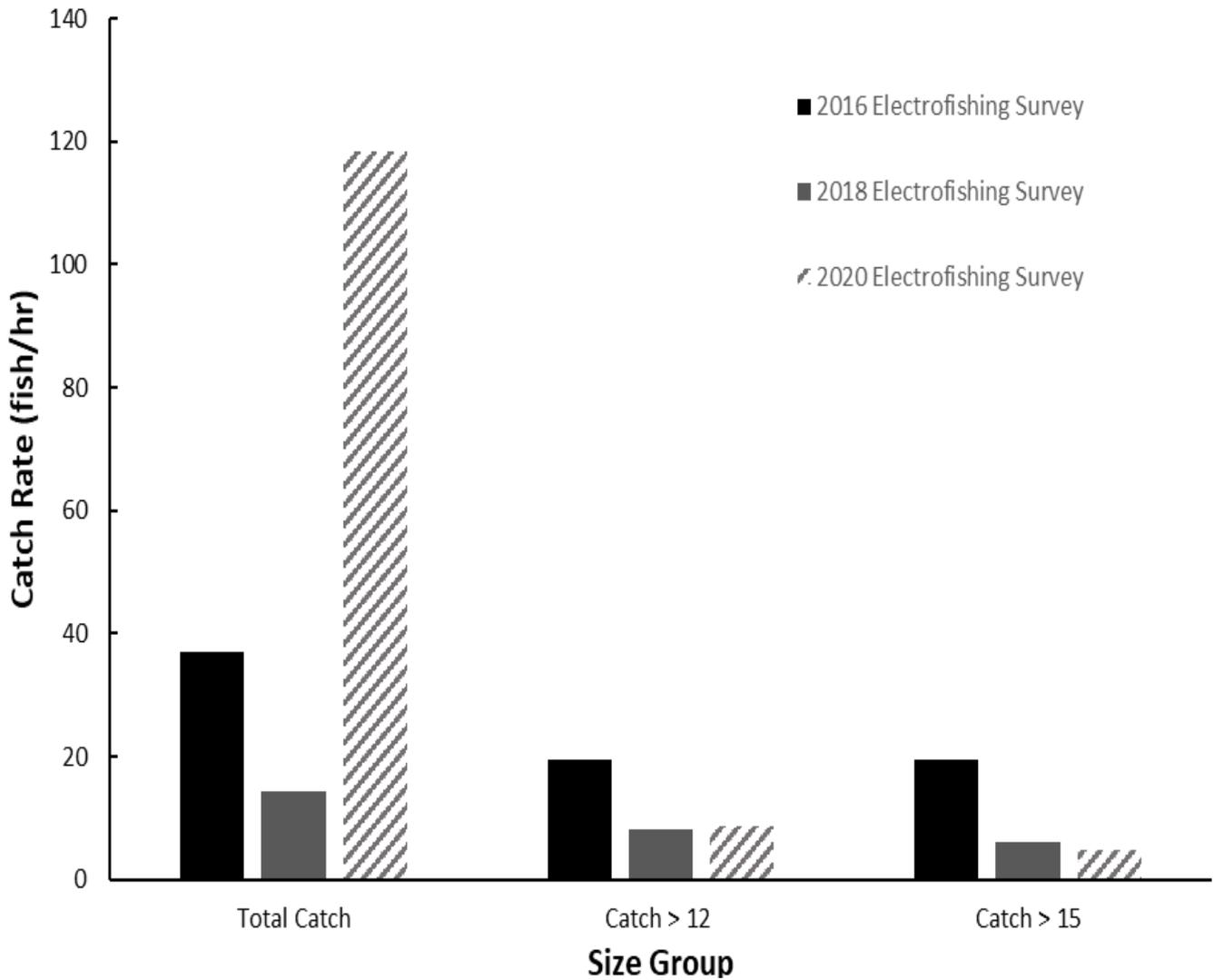


Figure 1. Catch rates of Largemouth Bass collected from Leaser Lake during 2016, 2018, and 2020 surveys.

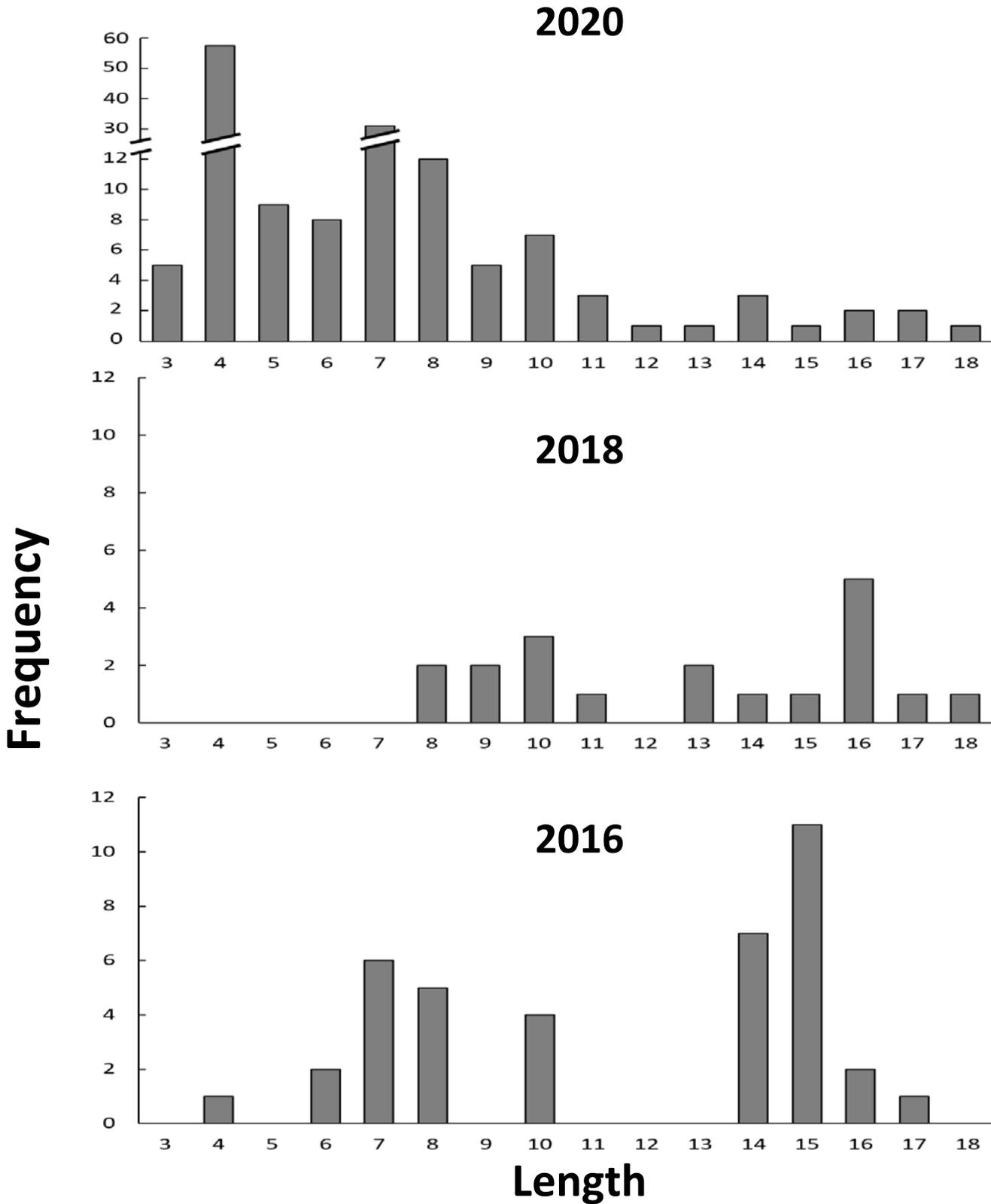
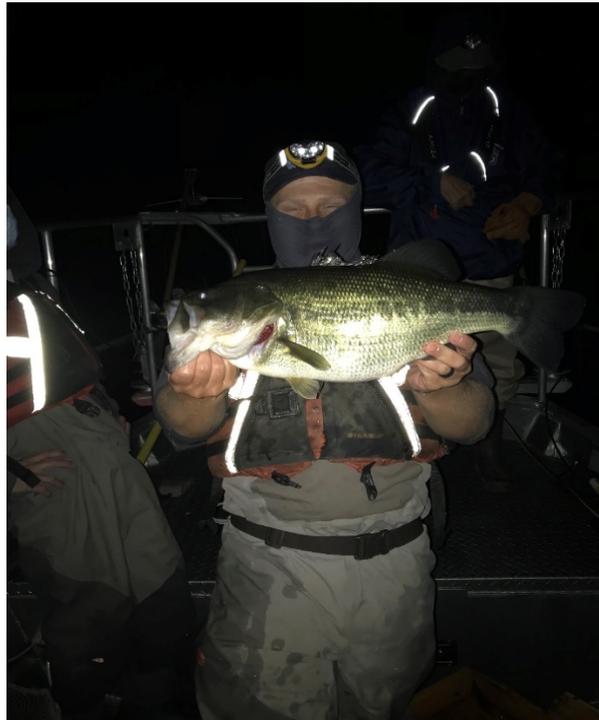


Figure 2. Length frequency distributions of Largemouth Bass collected during three electrofishing surveys at Leaser Lake. The vertical axis scale on the 2020 graph was modified for visual purposes.

*Pennsylvania Fish & Boat Commission Biologist Report*

The length frequency distribution of Largemouth Bass (Figure 2) illustrates why catch rates in 2020 were higher than the previous two surveys. Large numbers of small fish produced during the last several years were collected during the 2020 survey, which resulted in an increased total catch rate. The observation of several large year classes of Largemouth Bass is promising, particularly since limited reproduction was observed in previous surveys. If these several year classes recruit to adulthood, fishing opportunities should substantially improve in the coming years. Additionally, while the catch rate of larger fish was low, we did encounter several quality fish that should provide anglers with trophy angling opportunities. Due to the dense vegetation growing in most shallow areas of the lake, anglers may find greater success and less frustration by employing weedless lures such as hollow-body frogs, swim jigs, Texas-rigs, and soft stick baits, primarily in natural colors that mimic Bluegill and Yellow Perch.



A healthy 20", 5.75 lb. Largemouth Bass captured during night electrofishing efforts at Leaser Lake.

## **Tiger Muskellunge/Muskellunge**

Muskellunge and tiger muskellunge are typically sampled with trap nets in the early spring (soon after ice out). However, boat electrofishing is sometimes used to sample steep sided reservoirs like Leaser Lake. Tiger muskellunge were collected during both night electrofishing surveys conducted in 2020. During the September survey, 5 tiger muskellunge ranging from 36 to 42 inches were collected (equates to a CPUE = 4.0 fish/hr). Additionally, 4 tiger muskellunge were observed but could not be netted. During the November survey, 3 tiger muskellunge were captured ranging from 38 to 39 inches (CPUE = 2.0 fish/hr). Four additional tiger muskellunge were observed but could not be netted. Although these catch rates appear to be low compared to other species, they represent a robust tiger muskellunge population. Furthermore, unlike those observed in previous surveys, the tiger muskellunge we encountered were in great condition. No pure Muskellunge were encountered during either survey.

Anglers may encounter the “fish of 10,000 casts” sooner at Leaser Lake due to their abundance and size of the lake. Many anglers we speak with praise the status of the Leaser Lake tiger muskellunge fishery. Anglers targeting tiger muskellunge at Leaser Lake typically use large bucktails, gliders, or popper-style baits that are chartreuse or orange in color, to mimic the Bluegill and Yellow Perch found in the lake. We encountered all the tiger muskellunge in our surveys on the edge of the vegetation, which is expected of an ambush predator. We suggest these areas be targeted by anglers for greatest success.

Anglers pursuing tiger muskellunge should be prepared with the appropriate landing nets and pliers to release these large fish quickly and effectively. Tiger muskellunge can easily become stressed, resulting in mortality if handled with inappropriate techniques, particularly during the warmest times of the year. Release of these fish without lifting them out of the water for hook removal or photo sessions is optimal. However, if handled out of the water, muskellunge should not be held by the opercles (gill covers) or eye sockets and they should not be held vertically (could damage internal organs). The use of proper catch and release techniques allows fish survival to be high and the same fish to be caught by multiple anglers.



*PFBC Commissioner Richard Kauffman holding a 39", 20 lb. tiger muskellunge*

## **Future Plans**

Area 6 Fisheries Management staff plan to revisit Leaser Lake during Spring 2021 to conduct an electrofishing survey for Largemouth Bass and a trap net survey to evaluate the panfish, Channel Catfish, and Walleye populations. A trap net survey was attempted in late September to gather information on panfish populations, but the dense vegetation affected sampling efficiency. Trap netting is typically conducted in spring when vegetation is not as dense, and fish are making pre-spawn movements. Despite not being targeted evaluations, panfish were collected in all three surveys. Panfish catch and size data are included in Table 1. Results from the 2020 and upcoming 2021 surveys will be used to evaluate the status of Leaser Lake fish populations with results guiding the timing of removal of the miscellaneous special regulation.

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Table 1. Number and size range of fish captured during the three surveys conducted at Leaser Lake in 2020.

	9/23/20	9/28/20-9/29/20	11/9/20	
	Nighttime Electrofishing	Trap Nets	Nighttime Electrofishing	
Species	Number Caught	Number Caught	Number Caught	Size Range (inches)
Black Crappie	1	3	4	7 – 12
Bluegill	29	49	128	2 – 7
Brown Bullhead	2	21	-	11 – 15
Chain Pickerel	6	2	8	7 – 25
Golden Shiner	-	-	1	9 – 10
Green Sunfish	1	-	12	2 – 8
Hybrid Sunfish	-	-	1	5 – 6
Largemouth Bass	148	1	79	3 – 20
Pumpkinseed	1	4	2	4 – 8
Tiger Muskellunge	5	1	3	36 – 42
Walleye	-	1	-	25 – 26
White Crappie	6	14	-	5 – 11
Yellow Perch	6	20	28	4 – 11

In the meantime, anglers fishing Leaser Lake are reminded that the warmwater and coolwater fish populations continue to be managed with a miscellaneous special regulation that requires all fish to be immediately released if caught. However, stocked trout can be harvested following statewide regulations. There are three boat launches at Leaser Lake that are available to anglers fishing from a boat, canoe, or kayak. Boaters are limited to use of electric motors at Leaser Lake. Additionally, an ADA adaptive kayak launch is located at the southwestern boat launch, near the dam. For those limited to shore fishing, there are ample fishing areas near the three boat ramps. Staff from the Division of Habitat Management have strategically placed [habitats near shore to improve fishing opportunities](#) for shoreline and boat anglers.



Fisheries Biologist Tyler Grabowski  
with a 25.75", 6 lb. Walleye

**Tyler Grabowski, Area 6 Fisheries Biologist**  
**Mike Porta, Area 6 Fisheries Manager**