

Leaser Lake

Lehigh County

2018 Fishery Restoration Update

[Leaser Lake](#) is a 117-acre Pennsylvania Fish and Boat Commission (PFBC) impoundment located in Lynn Township, Lehigh County, approximately 20 miles west-northwest of Allentown. The dam impounds two unnamed tributaries to Ontelaunee Creek. The PFBC completely dewatered the lake in 2008-2009 to make dam and spillway repairs and modifications per Pennsylvania Department of Environmental Protection Dam Safety standards. Following completion of the repairs and modifications, as well as installation/construction of numerous in-basin habitat enhancement devices ([Leaser Lake Habitat Plan](#)), the impoundment was nearly completely refilled by spring of 2013. Subsequently it was determined that additional repairs were needed to the dam, repairs required partial draining by 20 vertical feet in late summer 2014, with full refilling completed in 2015.



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Aerial photo of Leaser Lake, Lehigh County.

The Commission resumed annual adult trout stocking during spring, 2013 to provide immediate angling opportunities for stocked trout. Upon near-refilling of the lake, the Commission opened the lake to fishing under a miscellaneous special regulation that allowed for the harvest of trout under Commonwealth inland seasons, sizes, and creel limits, but allowed only catch-and-release fishing for all other fish species.

Initial stockings of fingerling warmwater and coolwater species began in 2013 and, depending upon the species, were concluded or continued through 2018. Stockings included fingerling Bluegill, Brown Bullhead, Chain Pickerel, Channel Catfish, Largemouth Bass, Muskellunge, Tiger Muskellunge, Walleye, White Crappie and Yellow Perch, as well as forage species (see our [Stocking page](#) for details). This report updates the 2016 post-stockling fish population survey findings with information from the 2018 fish population “check-up.” The 2016 fish population survey results were previously detailed in the 2017 Biologists Reports for Area 6.

Following initial stocking of warmwater and coolwater fish cursory fish population surveys or “check-ups” were conducted with various sampling gear types, including seines and backpack electrofishers, to examine near-shore areas for forage abundance and evidence of reproductive success. These were followed by more intense boat electrofishing and trap netting surveys to further examine the early growth, survival, and abundance of various species. These sometimes very limited surveys, particularly the earliest ones, occurred over the 2013-2016 time period and served to guide stocking programs.

A daylight boat electrofishing survey was conducted on May 22, 2018 and a night-time boat electrofishing survey was conducted on June 19, 2018 to further evaluate the stocking success and fisheries development of Leaser Lake. These electrofishing

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surveys primarily targeted Largemouth Bass and Yellow Perch. Boat electrofishing was conducted along portions of the eastern and western shorelines. All bass captured were measured and released. The relative abundance of bass was indexed using catch per hour of electrofishing effort for total catch, bass ≥ 12 inches, and bass ≥ 15 inches. The electrofishing surveys were complemented with a trap-net surveys in April and June, with those in April focused on Yellow Perch and Walleye and those in June focused on all panfish species, including Channel Catfish. Largemouth Bass generally avoid trap nets. Trap netting occurred in the northern half of the lake where sampling sites were shallow enough for trap nets to be effective.

Largemouth Bass electrofishing catch rates exhibited only minor differences in catch rate between dates and were averaged across the two sampling dates. This average ranged from poor to good at Leaser Lake in 2018 depending upon the size group being considered. The total electrofishing catch rate was poor and averaged 17 Largemouth Bass per hour. Bass were 3 to 18 inches in length. The catch rates of bass ≥ 12 inches fell well short of the southeastern Pennsylvania average while bass ≥ 15 inches were captured at a rate that was slightly more than twice the southeastern Pennsylvania average. The catch rates for both length classes were the same, indicating a missing year class.

The Leaser Lake total catch rate of bass was well below the statewide total catch objective for bass populations as well but exceeded that for bass ≥ 12 inches and ≥ 15 inches, which may be the reason why anglers are enjoying the bass fishery. The short-fall in total catch was due to limited reproduction of bass. Largemouth Bass reproduction was first observed in 2016 during a shallow shoreline backpack electrofishing survey and the daylight portion of the 2018 boat electrofishing survey indicated that bass had reproduced in 2017 as well, but fingerling abundance was low. As a result of the on-going poor reproductive success, a supplemental fingerling Largemouth Bass stocking has been requested for 2019.

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Yellow Perch electrofishing and trap netting revealed a population primarily comprised of fish from a single year class that ranged from 5-6 inches in length. Yellow perch reproduced again in 2018, however, and the very limited number of adults that produced these year classes were up to 13 inches in length. Yellow Perch are a preferred forage fish for Muskellunge and Walleye and are sought by panfish anglers.

Walleye stocked in Leaser as fingerlings were not seen or captured during any of the 2018 sampling. Walleye stocking success will be further evaluated within the next three to four years, but survival of the first stocking, which would have now contributed individuals large enough to be captured by sampling gear, was apparently poor.

Tiger Muskellunge continued to be the greatest Leaser Lake success story. Tiger Muskellunge are abundant and angler catches are common, with lengths of fish reported having already reached 51 inches since 2013. Five Tiger Muskellunge captured during the survey ranged from 27-41 inches, suggesting survival from more than one stocking. No Pure Muskellunge were seen or captured, but they were only recently stocked in 2015 and 2017.

Chain Pickerel up to 24 inches were caught during the surveys with fish in the 19-24 inch size range appearing to be common among the pickerel captured. The population appeared to be at least moderate in size. Not only had Chain Pickerel been stocked, but some had survived in the stream or the small, historical ponds or quarry that remained filled with water during the drawdowns. They continue to reproduce successfully.

Brown Bullheads were abundant and the dominant catfish species captured. Stocking of Brown Bullhead fingerlings was successful, as 258 fish between 10 and 15 inches were captured during the 2018 surveys. Brown Bullheads appear to be spawning successfully in Leaser Lake as they did in the past.

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One approximately seven-inch Channel Catfish was seen, and a 19-inch Channel Catfish was captured. Channel Catfish may appear in greater numbers if 109 adult Channel Catfish transferred to Leaser from Blue Marsh Lake in fall, 2016 successfully utilize the 60 spawning boxes placed in Leaser Lake by Blue Mountain High School students. Future surveys will target Channel Catfish to determine population levels, assess natural reproduction and assess the adequacy of recruitment of naturally produced young.

White Crappie were favored for stocking over Black Crappie in Leaser Lake due to poor Black Crappie survival in the past and the relatively poor crappie fishing that existed. Seventy-seven White Crappie between 3 and 13 inches were captured during the trap net survey as well as thirteen Black Crappie from an unknown source(s) that ranged from 4-12 inches. Both species are reproducing.

Bluegills were abundant but small and exceptionally good reproduction was documented. Of 732 Bluegill captured during the survey, only six were seven inches long or longer. Bluegill growth may be stunted, and their abundance may be contributing to limited Largemouth Bass reproductive success.

Forage fish seen or captured in Leaser Lake included a few Golden Shiners and Banded Killifish. The once abundant Creek Chubsuckers that occur naturally in the lake's drainage basin were no longer present in detectable numbers and appeared to have nearly been extirpated, just as in the past. No Spotfin Shiners, which like Golden Shiners were stocked in the lake to provide a reproducing forage fish population, were observed or captured. It is possible that adult trout stocking of 1600 to 2500 Rainbow Trout per spring has had a negative impact on the establishment of some forage fish species or has reduced the abundance of invertebrates (large zooplankters, aquatic insects) that young warmwater/coolwater predatory fish require, particularly since few trout are being

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caught by anglers and those that don't become forage fish themselves may remain in the lake for months before succumbing to warm water temperatures.



A quality size Largemouth Bass caught from Leaser Lake in 2016.

If you plan to fish Leaser Lake, please be advised that only electric powered motors are permitted. All species except trout are currently being managed under immediate catch and release regulations. Anglers pursuing bass should target the southern shoreline, dam breast and the abundant wood cover along most of the shoreline. The extended drawdown allowed terrestrial woody vegetation to become established along the exposed shores. While advantageous to the establishment of a quality fishery, this

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makes fishing a bit more of a challenge especially from shore. Open areas are present, however, and shoreline fishing occurs.

As suggested above, Tiger Muskellunge fishing is exceptionally good. Those pursuing Tiger Muskellunge or Muskellunge should be prepared with the appropriate landing nets and pliers to quickly and effectively release the fish, as they are easily stressed and killed due to poor handling techniques, the negative impacts of which are amplified when water temperatures, air temperatures, and boat decks are warm. In-water release of these fish without lifting them out of the water for hook removal or photo sessions is optimal and is aided by the possession of a commercially available cradle designed for this purpose. Due to the damage that handling, even in experienced hands, and limited oxygen causes to these relatively and surprisingly sensitive fish, which tend to thrash uncontrollably when lifted from the water, out-of-water photo sessions are ill-advised and mechanical grips can be damaging to mouth and jaw structures. Likewise, muskellunge should not be held by the opercles (gill covers) or eye sockets and they should not be held vertically if removed from the water, as that may damage internal organs. The objective is to allow multiple anglers to enjoy the capture of these exciting fish through the practice of proper catch and release techniques.

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