

Upper/Lower Owl Creek Reservoir

Schuylkill County

2018 Largemouth Bass Survey

Upper Owl Creek Reservoir and Lower Owl Creek Reservoir are 67-acre and 26-acre impoundments, respectively, created by two adjacent dams on Owl Creek, a tributary to the Little Schuylkill River, located south of Tamaqua Borough, Schuylkill County. Formerly part of Tamaqua Borough's (www.tamaqua.net) drinking water supply, Upper Owl Creek Reservoir was opened to fishing in 2002 after the Borough decided to allow low-impact recreation. At that time, the lower reservoir had been drained and was dry with the reservoir bottom characterized by a thicket of shrubs among numerous natural boulders.



Aerial photo of Owl Creek Reservoirs, Schuylkill County. Lower Reservoir in foreground. Photo Courtesy of Andrew Leibenguth.

To provide perspective regarding reservoir maintenance, Upper Owl Creek Reservoir Dam underwent structural rehabilitation that included a complete drawdown in 2011 and, subsequently, Lower Owl Creek Reservoir Dam was repaired and upgraded in the 2012-2013 period such that both met current dam safety regulations. Restocking of the upper and lower reservoirs started in 2012 and 2014, respectively, by the Pennsylvania Fish and Boat Commission. The upper reservoir received three stockings of Largemouth Bass fingerlings from 2012-2015. Other stockings included Bluegill fingerlings, Spottfin Shiners, and Golden Shiners. The lower reservoir received Largemouth Bass fingerlings in 2014, 2015, and 2016, Bluegill fingerlings in 2015, and stockings of Golden and Spottfin Shiners. The 2018 survey's purposes were to monitor and characterize the status of developing fish populations, mainly [Largemouth Bass](#), several years after the drawdowns and subsequent restocking. The populations were not expected to be mature by 2018; the surveys were "check-ups" on their progress.

On June 26 and July 3, 2018, biologists from the Pennsylvania Fish and Boat Commission's (PFBC) southeast Area 6 Fisheries Management office conducted day boat electrofishing surveys of Lower and Upper Owl Creek Reservoirs, respectively. The entire shorelines of both impoundments were surveyed in 172 minutes of electrofishing, except for the northwest corner of the lower reservoir. Dense woody vegetation, overhanging shrubs, and some aquatic plants provided excellent cover for concentrating Largemouth Bass in the lower reservoir, making capture relatively easy, while the upper reservoir's fish habitat was sparse on one side with a boulder field on the other. Fish species collected included: Largemouth Bass, Chain Pickerel, Brown Bullhead, Pumpkinseed, Bluegill and an apparently angler-introduced Black Crappie. A total of 59 Largemouth Bass ranging in lengths from 5 to 17 inches were collected. Chain Pickerel up to 14 inches and Brown Bullhead up to 12 inches were captured. Most All Pumpkinseed captured were between 5 and 6 inches. Bluegill were between three to five inches long, but some exceeded seven inches. Numerous yearling Bluegill and Pumpkinseed were

seen during the survey but were too small to capture and quantify. Chain Pickerel were difficult to capture during the electrofishing survey and catch was not reflective of population characteristics based upon what was learned from angler provided catch logs. Specifically, angler catch logs provided to the Fisheries Manager by anglers showed that the low electrofishing catch was not reflective of the abundance or size of chain Pickerel in the lower reservoir, as log books showed that Chain Pickerel were captured fairly frequently and Chain Pickerel over 21 inches long were being captured at times. None of the Golden Shiners or Spottfin Shiners introduced to provide reproducing forage fish populations were collected from either impoundment, and the relatively “thin” condition of Chain Pickerel in both was reflective of limited forage, as in past.

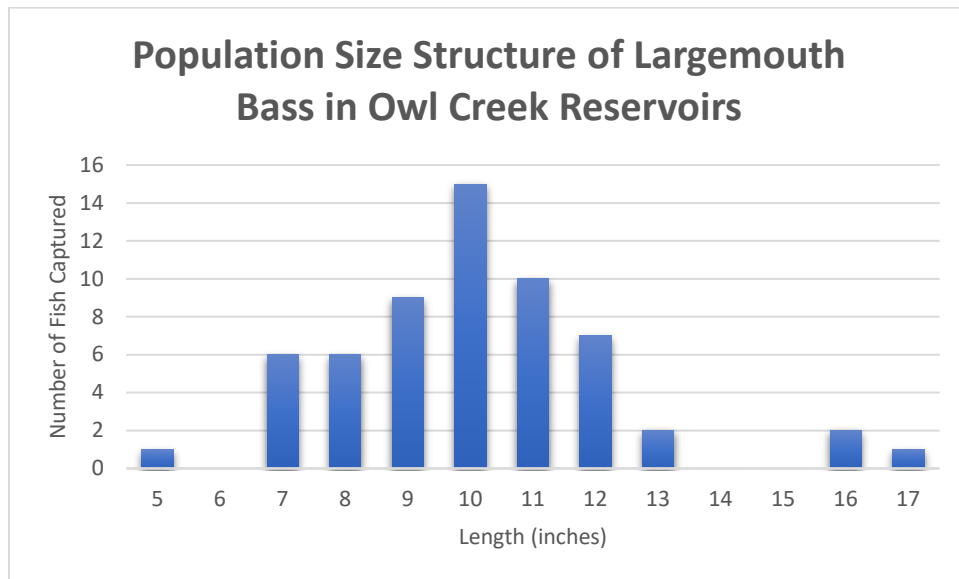


Figure 1. Length frequency distribution of Largemouth Bass collected in Upper Owl Creek Reservoir and Lower Owl Creek Reservoir on June 26, 2018 and July 3, 2018.

Overall, abundance of Largemouth Bass was low, as indicated by the combined catch rate of 21.0 fish/hour (upper reservoir = 21.3 fish/hour, lower reservoir 20.6 fish/hour). The

electrofishing catch rate in the lower reservoir for bass ≥ 12 inches were 8.0 fish/hour, slightly exceeding the statewide objective for an acceptable bass population. The catch rate of bass ≥ 15 inches was 2.0 fish/hour, falling slightly short of the statewide objective of 3.0 bass per hour. No bass over 12 inches were captured in the upper reservoir, as this population was almost solely dependent on stocking. In contrast, the lower reservoir was reported to have maintained a small population of Largemouth Bass adults in a pool near the dam during the dam's repair. Additionally, it undoubtedly "received" some bass that escaped the upper reservoir via its discharge following a second unanticipated but substantial drawdown of the upper reservoir, precipitated by a dam permitting/testing need, that occurred in 2012 or 2013 after the 2012 bass stocking.

Largemouth Bass currently exhibit some, albeit limited reproductive success as indicated by the observation of some small bass that evaded our capture. Most bass captured were nine to 12 inches long. However, many of these bass should spawn next spring and continue to improve the abundance and size structure of the population. Our monitoring detected the upper reservoir's bass population trailing the development of that in the lower reservoir, possibly due to the second partial drawdown after re-stocking had begun, thus an additional conservative Largemouth Bass fingerling stocking is proposed for 2019. This need would not have been identified had we not executed this monitoring survey.

Both reservoirs are managed as Catch and Release fisheries, primarily due to their infertility, which is reflected in slow fish growth rates. If harvest were permitted, replacement of harvested fish would also be slow, thus overharvest and sparse angler catch rates would occur. Given the recent dam reclamations and infertile nature of each reservoir, fish population age and size structures are not a concern at present and should improve with time. Additional stocking of Spottfin Shiners and/or Golden Shiners may be considered to enhance the forage base, but the apparent failure of multiple past Golden

Shiner stockings suggests that conditions are unfavorable for this species' reproductive requirements. Sunfish presently provide forage needs, albeit limited, as detected in our monitoring.

Surrounded by 1,000 acres of Borough owned woodlands and adjoining state game lands the area can accommodate a variety of activities, including hiking, birding, fishing and non-power boating, although electric motors are permitted. Both reservoirs have single boat ramps capable of accepting small trailers. The upper reservoir has a rocky bottom on the east side and a barren bottom on the west side. The lower reservoir's bottom is a mixture of inundated shrubs, small trees, and boulders. The upper reservoir has an average depth of 13 feet with maximum depth reaching 34 feet. Similar depth statistics are not yet available for the lower reservoir. Both reservoirs are clear lakes.

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