

Lake Jean

Sullivan and Luzerne Counties

Post-drawdown Fishery Evaluation

Lake Jean is a 245 acre impoundment located within [Ricketts Glen State Park](#). The Pennsylvania Department of Conservation and Natural Resources (DCNR) drained Lake Jean in 2015 to repair the dam. DCNR completed repairs and re-filled the lake in 2016. To restore fish populations, the Pennsylvania Fish and Boat Commission (PFBC) began re-stocking and placed the lake under temporary catch and release regulations for all species. Re-stocking included fingerling Black Crappie, Bluegill, Brown Bullhead, Chain Pickerel, Largemouth Bass, Golden Shiner, and Yellow Perch.

Area 4 biologists surveyed Lake Jean in spring 2018 to determine if fish populations had recovered sufficiently to remove catch and release restrictions. The survey included night electrofishing for Largemouth Bass and trap netting for all other species. In general, the fishery was in very good condition. Night electrofishing catch rates of Largemouth Bass in 2018 (32.7/hour) were about the same as they were in 2007 (36.3/hour). Trap net catch rates for most other species in 2018 were much higher than they were in 2007 (Figure 1). The only exception was Black Crappie.

We expected higher catch rates in 2018. One reason for this expectation is what is termed “new lake phenomenon”. As the name implies, this “new lake phenomenon” occurs when a lake is first filled. Filling floods terrestrial vegetation that had grown in the lake bed. When flooded vegetation decays it releases nutrients into the water column that aquatic life use for growth. New lake phenomenon occurred at Lake Jean but it wasn’t the only source of extra nutrients. The DCNR provided more nutrients when they added pulverized limestone to counteract acid deposition which served to mitigate naturally low buffering geology within the watershed. Increases in water buffering capacity and water alkalinity are associated with increases in availability of nutrients in lakes which increases plankton abundance. Young fish the PFBC stocks consume plankton. Annual liming is necessary to maintain the fishery at Lake Jean.

Another aspect of new lake phenomenon is that flooded vegetation provides cover for young fish. New lake phenomenon, in combination with stocking, low predator densities, and catch and release regulations, produced high catch rates during the Lake Jean fishery survey.

The fingerling fish that PFBC stocked in Lake Jean haven’t yet grown to desirable sizes. Nevertheless, we found a fair number of larger fish during our survey. These fish had survived the drawdown in a remnant, 20 acre pool at the eastern end of the lake. Figure 2 shows a couple of these fish. You can see more by watching the June 10 episode of [Pennsylvania Outdoor Life](#).

Monitoring will continue at Lake Jean. We expect progressive development of fish populations and anticipate improvements in the size structure and abundance results obtained from this survey. If our expectations are realized, with review and approval of the PFBC, in the future (2020 or later), we plan to recommend returning Lake Jean to [Commonwealth Inland Waters Regulations](#). In the meantime, we welcome anglers to enjoy abundant catch and release fishing opportunities at Lake Jean.

Figure 1. Catch per hour values for selected fish species captured with trap nets at Lake Jean in 2018 (post-drawdown) and 2007 (pre-drawdown).

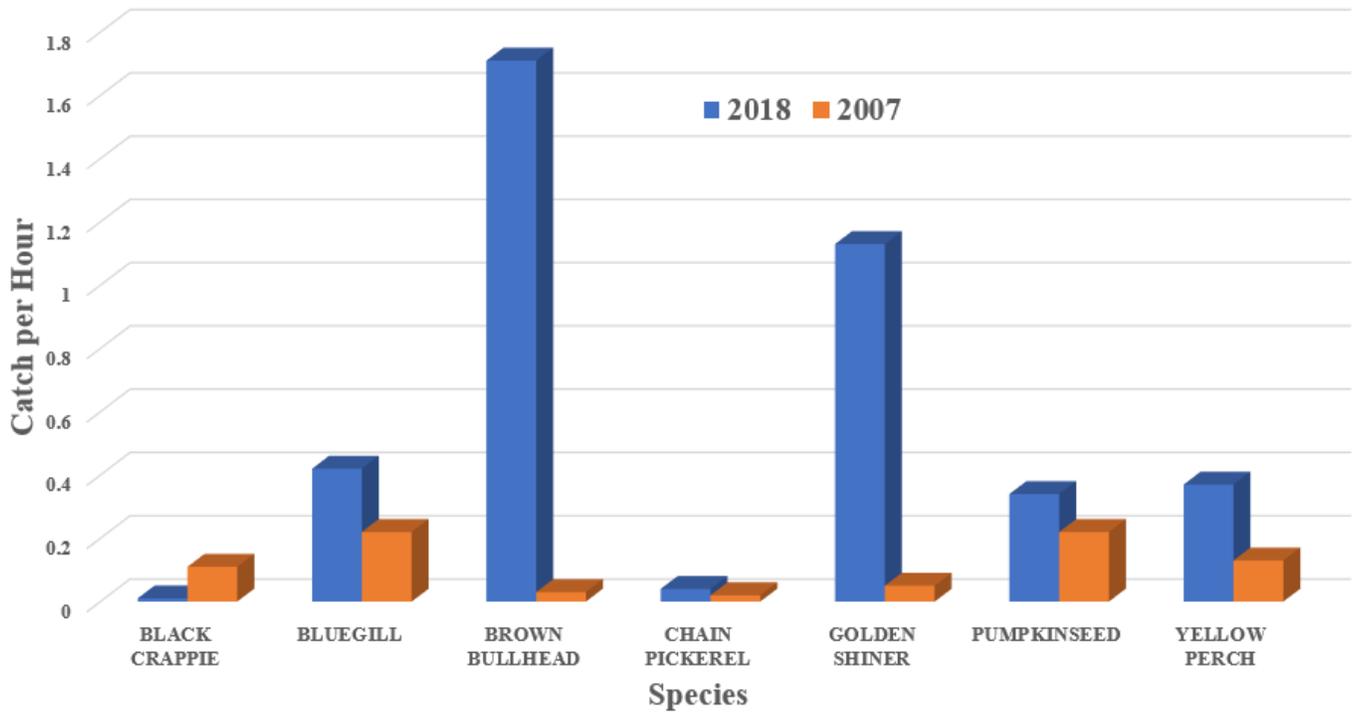


Figure 2. Keystone College intern Joe Pacholec some nice panfish captured at Lake Jean in 2018.



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