

Opossum Lake

Cumberland County

Warm and Cool Water Fishery Update & 2021 Regulation Changes

[Opossum Lake](#), a 47-acre impoundment owned by the Commonwealth and managed by the Commission, is in Lower Frankford Township, Cumberland County, approximately six miles west-northwest of the Borough of Carlisle (Figure 1).

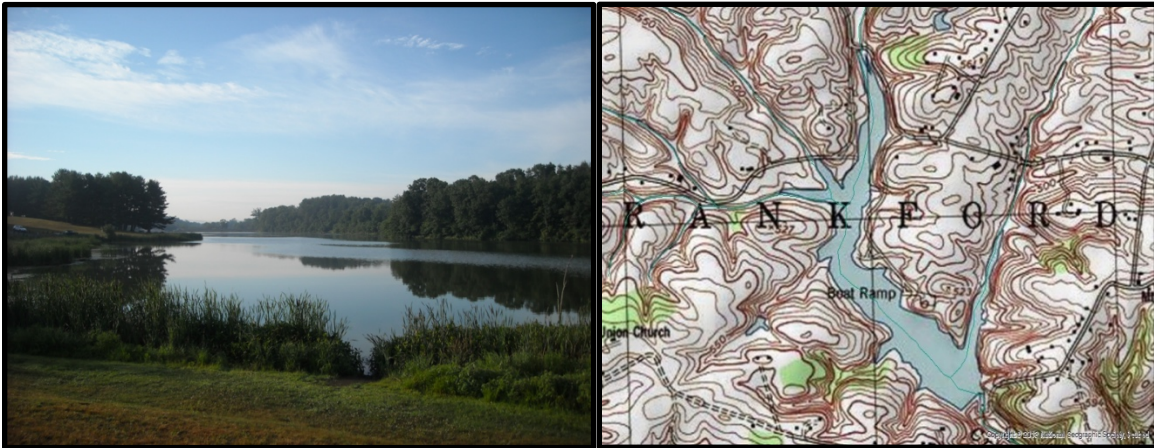


Figure 1. Opossum Lake, Cumberland County.

The dam impounds Opossum Creek at river-mile 0.5. This lake was completely dewatered in October 2008 to make dam and spillway repairs per [dam safety standards](#) administered by the Pennsylvania Department of Environmental Protection (DEP). Following these repairs numerous [habitat enhancement devices](#) were added and the impoundment was refilled, and the Commission resumed annual adult trout stocking during spring 2013 to provide immediate angling opportunities. Additionally, the Commission began to re-establish a high-quality warmwater and coolwater fish populations by stocking select fish species during summer 2013 (Table 1).

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Table 1. Warmwater and coolwater fish species stocked in Opossum Lake by the PFBC from 2013 through 2020.

Species	Life Stage	Year stocked
Largemouth Bass	fingerling	2013, 2014, 2015
Fathead Minnow	adult	2013, 2014
White Crappie	fingerling	2014, 2015
Bluegill	fingerling	2014, 2015
Brown Bullhead	fingerling	2014
Muskellunge	fingerling	2015, 2016
Muskellunge	yearling	2019
Golden Shiner	fingerling	2017, 2020

Immediately upon refilling the Commission opened the lake to fishing under a temporary miscellaneous special regulation that allowed for the harvest of trout under Commonwealth inland seasons, sizes, and creel limits but allowed catch and release fishing only for all other fish species. The Commission took this approach so a balanced fish community could develop under protective catch and release regulations while offering recreational angling opportunity.

This report is a supplement to the [2018 biologist report](#) and provides an update of trap net and night electrofishing surveys from 2015 through 2020 that were conducted to monitor progress of the developing sport fishery to self-sustaining status and to identify when it would support limited harvest of warmwater and coolwater species as an additional angling benefit. Therefore, and based on development of most sportfish populations the Commission removed the temporary miscellaneous regulations from Opossum Lake at its January 2021 meeting and moved it to new management under [Big Bass](#) and [Panfish Enhancement Programs](#). The regulation changes become effective following Publication in the Pennsylvania Bulletin, scheduled for April 3, 2021. Evidence to support the community's readiness for these regulatory changes is provided in this report.



Quality Largemouth Bass from Opossum Lake

Largemouth Bass

Largemouth Bass fingerling stockings were successful in developing a high-quality fishery. Survival and recruitment of stocked fingerlings was excellent, contributing to a total night electrofishing catch rate of 179 bass/hour in 2015 where two thirds of the catch consisted of two-year-old fish between 7 and 8 inches. From 2018 through 2020 total catches stabilized as the population's density adjusted to the habitat's carry capacity, ranging from 79 bass/hour in 2018 where 63% of the catch was between 10 to 11 inches, 80 bass/hour in 2019 where 51% of the catch was between 11 to 13 inches, 80 bass/hour in 2019 where 51% of the catch was between 11 to 13 inches, and 78 bass/hour in 2020 where 41% of the catch was between 12 to 14 inches (Figures 2 and 3).

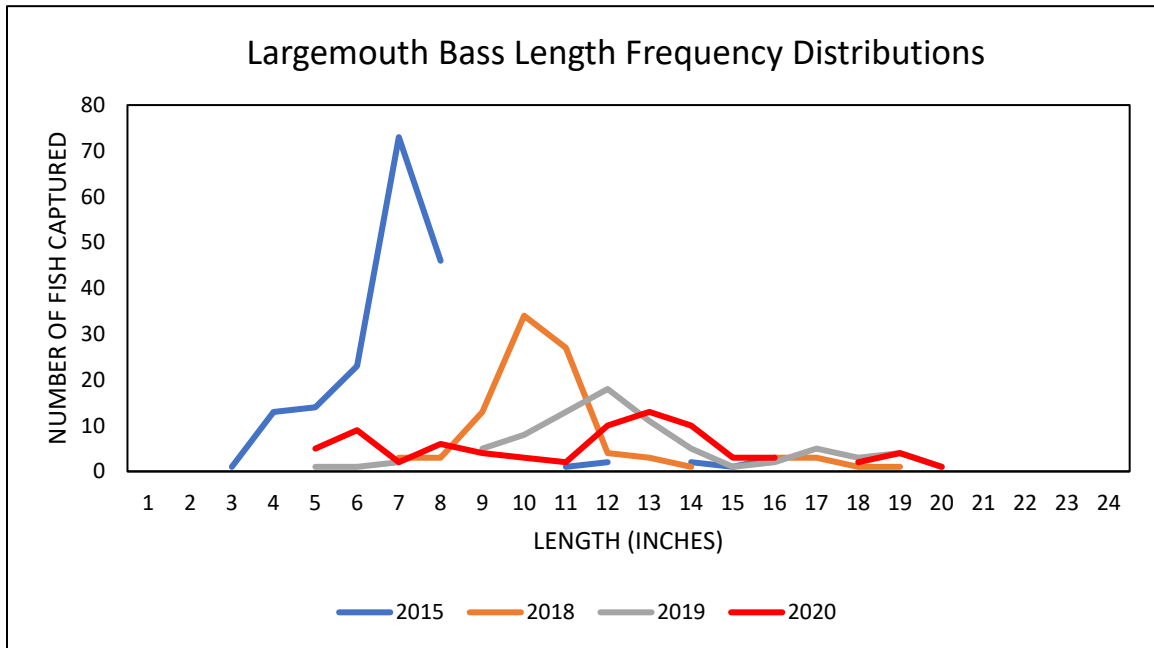


Figure 2. Length frequency distributions for Largemouth Bass collected at Opossum Lake, Cumberland County, from 2015 through 2020.

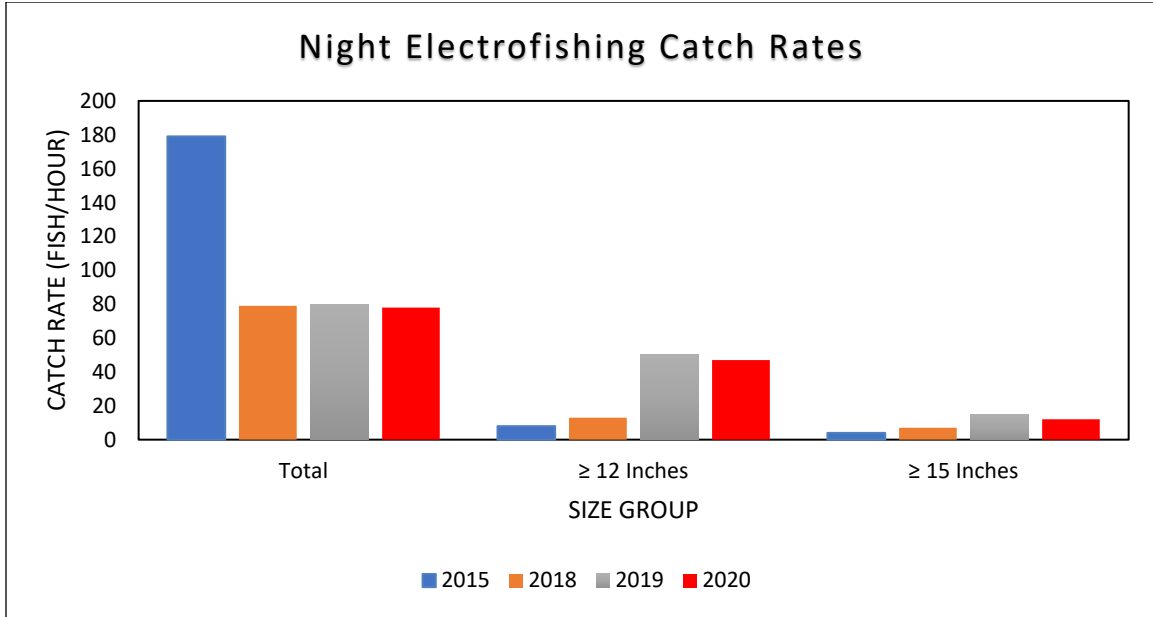


Figure 3. Night electrofishing catch rates for Largemouth Bass at Opossum Lake, Cumberland County, from 2015 through 2020

Catch rates for Largemouth Bass ≥ 12 and ≥ 15 inches increased steadily under protective catch and release management as individuals recruited to quality and preferred sizes, respectively (Figure 3). Interpretation of individual fish scales to assess age and growth revealed that it took an average of six years for Largemouth Bass to reach 15 inches, which is the minimum legal length for Big Bass regulated waters. Shifts in the population's size structure to fewer but larger fish showed favorable progression in recruitment of stocked year classes to reproductive maturity under regulations that permitted angling but no harvest of any size Largemouth Bass. The occurrence of juvenile Largemouth Bass measuring five to eight inches in 2019 and 2020 demonstrated that natural reproduction of young and good survival had occurred, since PFBC fingerling stocking did not occur after 2015.

Opossum Lake's Largemouth Bass population has improved to levels where Fishery Managers believe the sport fishery can be maintained through natural reproduction while offering some opportunities for anglers to harvest fish. As such, the Commission removed the temporary miscellaneous special regulations at its January 2021 meeting so Opossum Lake can be added to the Big Bass Program. Big bass regulations allow anglers to harvest 4 black bass per day at a minimum length of 15 inches during the two open seasons before and after the spring closure that's in place to prevent harvest during the spawning and nest guarding period. In addition, stocked trout waters such as Opossum Lake that are in the Big Bass Program are closed to all fishing from March 1 until the opening day of the trout season. As a result of protective management, the temporary miscellaneous special regulations were successful in rebuilding a high-quality fishery. Anglers are likely to experience additional benefits through high catch rates from some stockpiling of fish less than the 15-inch big bass minimum while pursuing larger individuals protected under catch-and-release management. Also, when anglers harvest Largemouth Bass, adhering to size and creel limit regulations, they help maintain growth rates and overall population health. For anglers interested in harvesting fish please be reminded of the [PFBC](#) and [DEP](#)

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public health advisories in place to provide people with information on how to limit their exposure to contaminants in recreationally caught sportfish.

Panfish

Trap net surveys conducted in 2019 and 2020 to re-assess developing populations produced varied results consistent with previous findings regarding panfish composition and abundance, and population size structure (Table 2). Readers can reference earlier survey results in the [2018 Opossum Lake Biologist Report](#) that highlighted an overabundance of Brown Bullhead from the highly successful 2014 stocking that resulted in their dominating the catch. This affected community development and balance through excessive competition and predation on other sportfish species early during rebuilding of populations. This delayed progress of crappie and sunfish which were expected to expand and flourish sooner. Results from the 2018 survey subsequently backed a decision to extend use of the temporarily miscellaneous special regulations to allow more time for crappie and sunfish populations to expand as density dependent factors regulated or reduced the density of Brown Bullhead over time.

Table 2. Number and size range for fish captured during the May 2019 and 2020 trap net surveys at Opossum Lake. Note: **Bold = PFBC stocked after reclamation.** Non-bold species credited to expansion of remnant populations inhabiting Opossum Creek.

Species	Number Caught	Size Range (Inches)	Comments
Black Crappie	314	3 – 13	19% \geq 9 inches
Bluegill	411	2 – 8	2% \geq 7 inches
Brown Bullhead	318	6 – 11	91% \geq 7, \leq 8 inches
Green Sunfish	1	6	
Golden Shiner	4	2 – 8	Forage
Largemouth Bass	1	4	
Muskellunge	1	21	
Pumpkinseed	50	3 – 6	
Rainbow Trout	4	10 – 12	
White Crappie	785	2 – 14	16% \geq 9 inches
White Sucker	4	>12	
Yellow Bullhead	65	3 – 12	
Yellow Perch	3	6 – 10	

Crappie (Black Crappie and White Crappie)

Fingerling stocking of White Crappie and possible expansion of Black Crappie from Opossum Creek and tributaries or possible mixing with stocked White Crappie created the most attractive panfish size structure during restoration. Combined, a total of 1,099 crappie ranging from two to 14 inches were collected during the 2019 and 2020 trap net surveys

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(Table 2 and Figure 3). The quality of the population was highlighted by 19% of Black Crappie and 16% of White Crappie catches being greater than or equal to the quality length of nine inches, which is the minimum legal size for crappie in Panfish Enhancement regulated waters (Figures 3 and 4). An abundance of crappie less than nine inches indicates strong year classes are available to support recruitment of individuals to legal and larger sizes in the coming years based on current growth rates. Interpretation of individual fish scales to assess age and growth revealed that it took an average of five years for crappie to reach nine inches. This combined with the habitat's capacity to produce larger White Crappie, like the one pictured, provides an encouraging outlook for the populations continued improvement. As such, the Commission removed the temporary miscellaneous special regulations at its January 2021 meeting so Opossum Lake could be moved into the Panfish Enhancement Program for crappie only. Angling regulations for crappie under this special regulation program permit the harvest of 20 crappie per day at a minimum length of 9 inches while the total creel per angler is not to exceed 50 panfish species. These harvest rules will become effective following publication in the Pennsylvania Bulletin, scheduled for April 3, 2021.



Quality White Crappie from Opossum Lake

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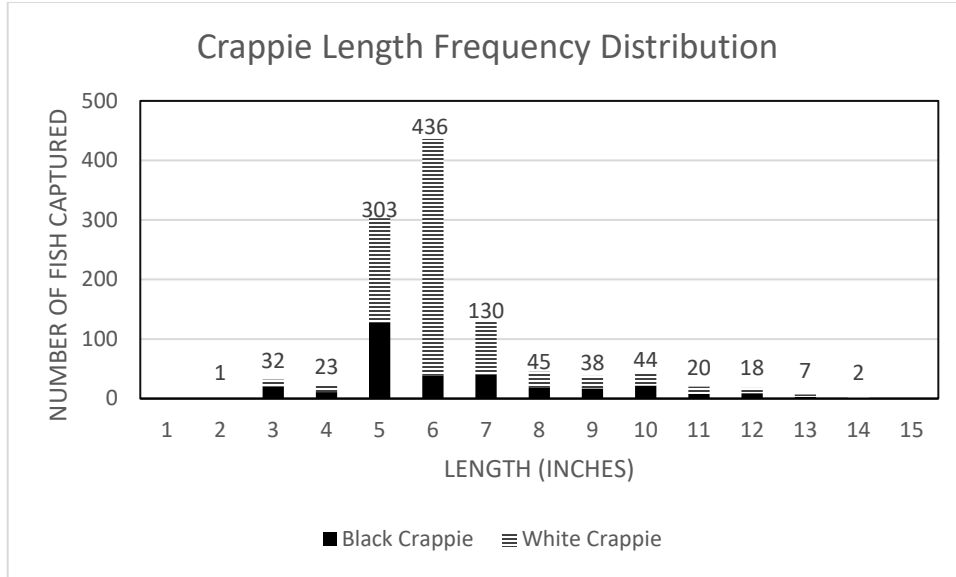


Figure 3. Length frequency distributions for the combined 2019 and 2020 catch of Black and White Crappie from Opossum Lake, Cumberland County.

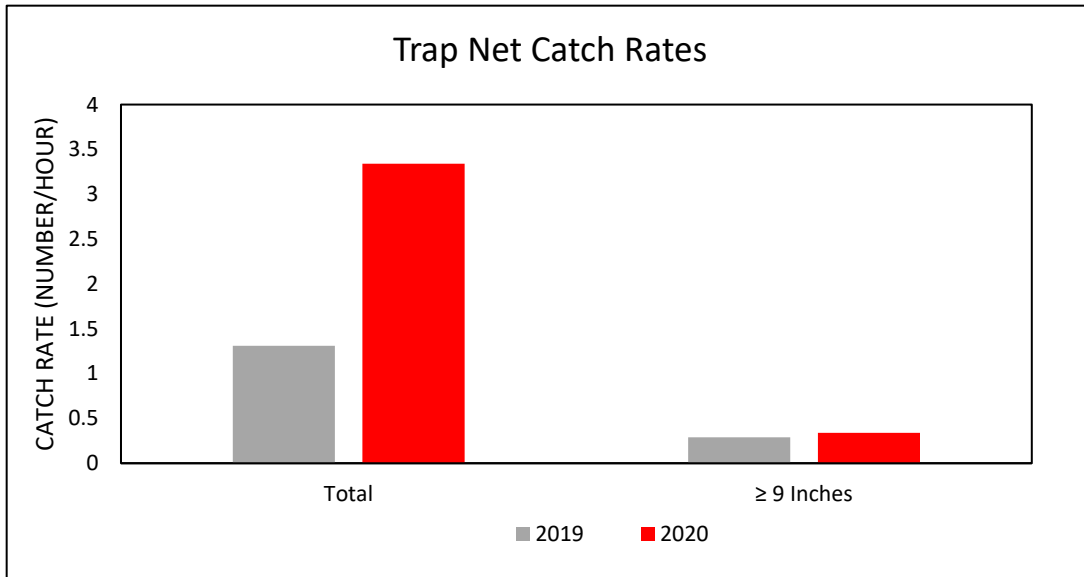


Figure 4. Trap net catch rates for Black and White Crappie catches combined for Opossum Lake, Cumberland County, from 2019 and 2020.

Sunfish (Bluegill, Pumpkinseed and Green Sunfish)

Fingerling stocking of Bluegill along with some expansion of Pumpkinseed and Green Sunfish from Opossum Creek and tributaries were slow to develop good size structure and good abundance. Combined, a total of 462 sunfish ranging from two to eight inches in length were collected during the 2019 and 2020 trap net surveys (Table 2). Bluegill dominated the sunfish catch by representing 89% of species composition, indicating the success of plants. Bluegill size structure was less than desired based on 98% of the catch being less than seven inches (Figures 5 and 6). An abundance of Bluegill between four and six less inches showed stockpiling of fish that exhibited slower than statewide average growth for all ages collected. Slow growth was credited to intra-and-interspecific competition that likely limited prey availability through excessive competition from an overly abundant Brown Bullhead population. As such, the Commission removed the temporary miscellaneous special regulations at its January 2021 meeting so Opossum Lake could be moved to management under Commonwealth Inland Waters Regulations, which encourages sunfish harvest as a mechanism to potentially improve size structure through angler harvest and density reduction. These regulations permit anglers to harvest any size sunfish with a maximum daily creel not to exceed 50 panfish species per angler, and become effective following publication in the Pennsylvania Bulletin, scheduled for April 3, 2021.

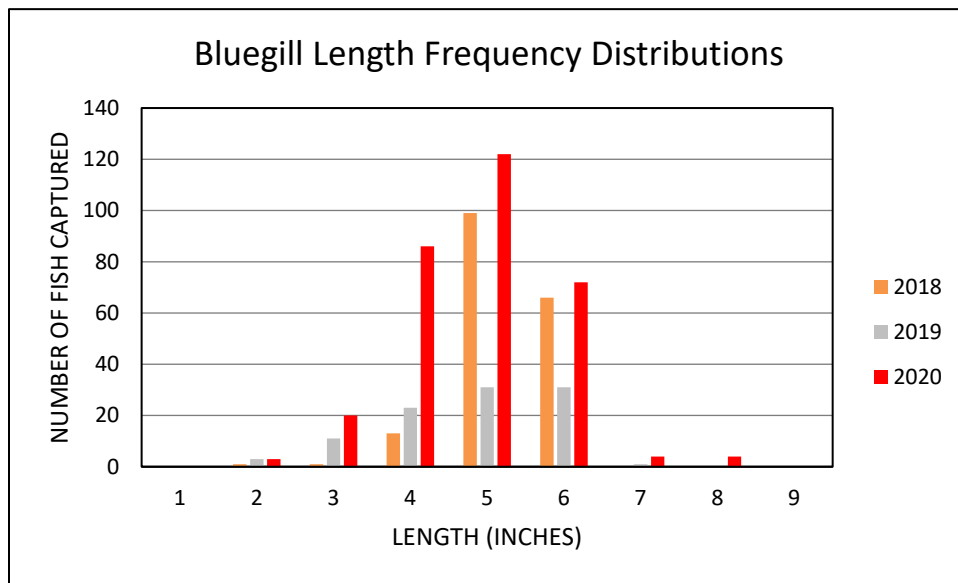


Figure 5. Length frequency distributions for Bluegill from 2018 through 2020 at Opossum Lake, Cumberland County.

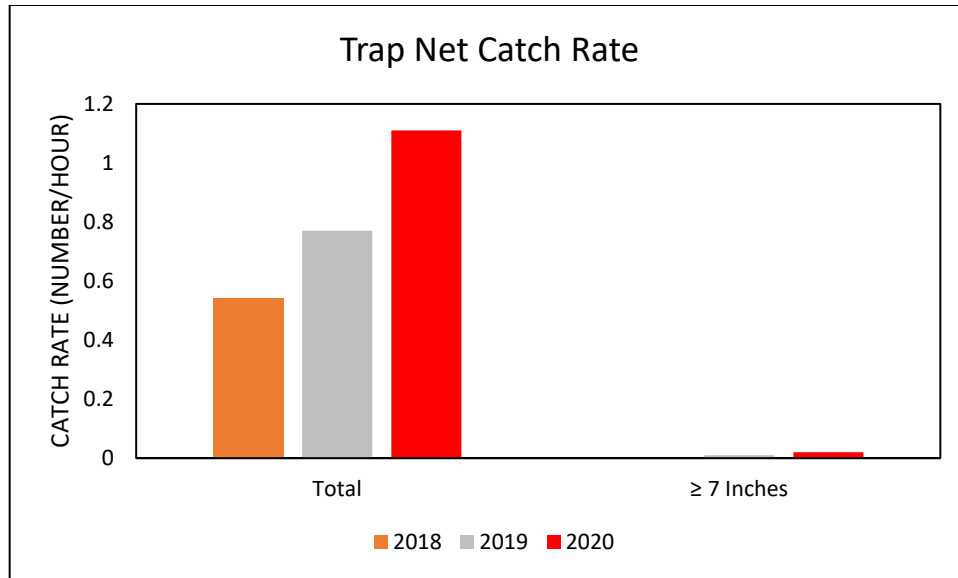


Figure 6. Catch rates for Bluegill at Opossum Lake, Cumberland County, from 2018 through 2020 trap net surveys.

Muskellunge

Fingerling Muskellunge stocked in 2015 and 2016 along with yearlings planted in 2019 were represented in the 2019 and 2020 trap net catch by one fish measuring twenty-one inches in length (Tables 1 and 2). This developing fishery is projected to improve as future plants of yearlings (12-to-14-inches) exhibit better survival than fingerlings (7-to 9-inches), with yearling stocking to continue on an alternate year schedule, the next occurring in 2021. Development of Opossum Lake’s Muskellunge population will be pursued through continued stocking followed by abundance assessment to determine this stocking program is meeting management objectives in creating a directed fishery and “trophy” angling opportunity.

Removal of the temporary miscellaneous special regulation management for this species will shift angling regulations under Commonwealth Inland Waters Regulations that permit harvest of one Muskellunge greater than or equal to forty inches. This rule change will become effective following publication in the Pennsylvania Bulletin, scheduled for April 3, 2021. Therefore, anglers are reminded of proper catching and handling techniques for these large gamefish to ensure that sub-legal fish are released such that they have the greatest chance to survive. This advice also applies to anglers practicing directed catch and release as they target legal and larger fish in the seasons ahead. Not playing a fish to exhaustion, minimizing the length of time it spends out of the water during handling and unhooking, and having the proper tools (landing net and needle nose pliers) to rapidly unhook while avoiding the gills and dry surfaces all help to lower stress and delayed mortality associated with catch and release fishing.

Other Sportfish

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The low catch of White Sucker, Yellow Bullhead, and Yellow Perch from expansion of populations from Opossum Creek and tributaries suggests these species will likely persist at low densities to compliment to the overall sport fishery. Management of these less abundant panfish species is planned under Commonwealth Inland Waters Regulations. Harvest of these species will be guided by Commonwealth Inland regulations effective upon publication in the Pennsylvania Bulletin, scheduled for April 3, 2021.

If you plan to fish Opossum Lake, please be advised that only electric powered motors are permitted. The lake offers three boat access points, one improved for watercraft with trailers, and two for non-powered watercraft. The lake also offers an angler access trail, a mooring area, and an ADA accessible fishing pier in a rural park-like setting.

Southcentral Area 7 Fisheries Management Region

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