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Lakeview Reservoir 2019 Fisheries Management Report

Virginia Department of Game and Inland Fisheries

This 42-acre impoundment of Swift Creek is located in the City of Colonial Heights. The reservoir was originally constructed as a water supply impoundment, but is currently managed by the City of Colonial Heights for recreation and hydropower generation. A small park along the southern shoreline near the dam offers a fishing pier and a boat ramp for angler access. A fair amount of shoreline access is also available along the side of the parking lot. The reservoir can be defined as a riverine style impoundment with a narrow channel that snakes its way through the surrounding hillside. The fishery receives a fair amount of fishing pressure during the peak park visitation seasons of late-spring and summer along with pressure from the surrounding home owners. The reservoir is open to fishing from sunrise to sunset. Boaters can use trolling motors only as gasoline engines use is prohibited. Lakeview Reservoir has seen an increase in the number of anglers fishing from a kayak or a canoe.

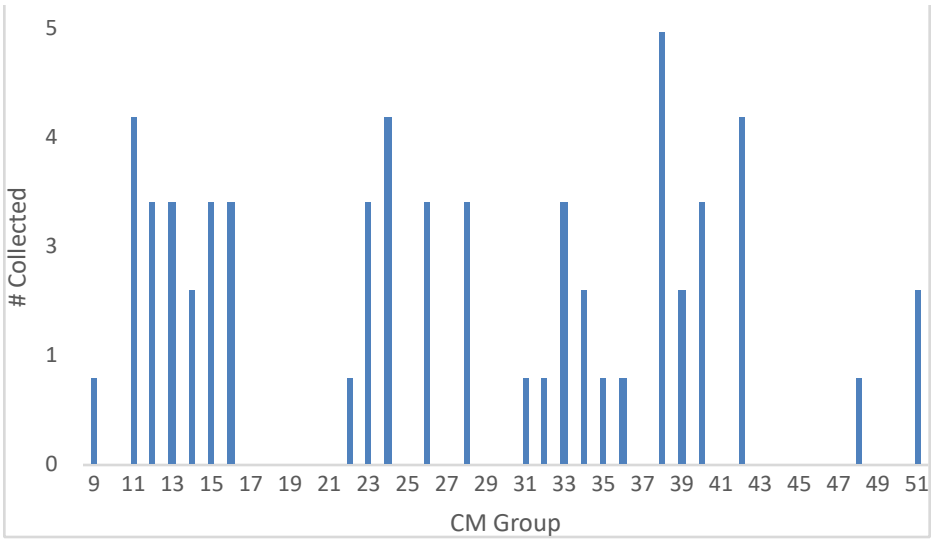
The Virginia Department of Game and Inland Fisheries conducted an electrofishing survey of Lakeview Reservoir on April 27th, 2018. The previous full community, electrofishing survey was conducted on May 26th, 2015. The survey was conducted along two shoreline locations to assess the present fish assemblage. The water temperature during the survey ranged from 18.3°C to 19.3°C. Electrofishing efforts consisted of shocking along the shoreline habitat as close as possible, with the majority of the effort concentrated in the 2 to 4 foot depth range. Each survey run was 1,200 seconds in length (20 minutes).The electrofishing effort of 0.66 hour yielded 14 fish species. This report will concentrate primarily upon the largemouth bass, bluegill, and redear sunfish populations.

Table 1. Catch rate of all fish species collected during the electrofishing survey of Lakeview Reservoir on April 27th, 2018

Species	# collected	CPUE (#/hr)	% of collection
Bluegill	406	609	72.89
Largemouth Bass	59	88.5	10.59
Redear Sunfish	26	39	4.67
Black Crappie	13	19.5	2.33
Gizzard Shad	12	18	2.15
Grass Carp	10	15	1.79
Common Carp	9	13.5	1.61
Warmouth Sunfish	9	13.5	1.61
Yellow Perch	3	4.5	0.54
American Eel	3	4.5	0.54
Bluespotted Sunfish	3	4.5	0.54
Northern Snakehead	1	1.5	0.18
Redbreast Sunfish	1	1.5	0.18
Golden Shiner	1	1.5	0.18
Bluegill x Redear hybrid	1	1.5	0.18
Total fish collected	**557**		

Largemouth Bass

The largemouth bass population within Lakeview Reservoir appears to remain in decent shape. A total of 59 largemouth bass were collected. The CPUE (Catch Per Unit of Effort) for largemouth bass was 88 fish/hr. This catch rate showed a favorable increase when compared to the 2015 survey (CPUE = 79 fish/hr). The average sized bass measured 10.88 inches, which showed a minor increase from the 2015 survey (mean TL = 10.2”). The size distribution ranged from 9 to 51 centimeters (3.5 to 20 inches). Several strong year classes of bass were represented in the length frequency histogram (Figure 1).



LMB N = 59 CPUE = 88.5 fish/hr
CPUE-P = 25.5 fish/hr PSD = 65

Figure 1. Length frequency of largemouth bass collected from electrofishing survey of Lakeview Reservoir on April 27th, 2018

A high number of juvenile bass in the 11 to 16 cm range were collected. These fish most likely represent the strong year class from the 2017 spawn. The survey found a fair number of the mature bass starting to pair up for the spawn. Catch rates during any given electrofishing survey are highly dependent on the activity pattern of the fish as to whether or not they are within close proximity to the shoreline areas that are surveyed. The largest bass measured 20.2 inches and weighed 4.93 pounds. Our sampling efforts are just a representative picture of the fish community collected along the shoreline and various habitat structures on the survey day. The fishery has some potential to produce a limited number of trophy largemouth bass. The excessive amounts of forage fish, gizzard shad and juvenile bluegill, can make bass fishing for the average angler a bit difficult.

With largemouth bass being the most popular game fish in this country, it has been considered that a “preferred” bass is one that is over 15 inches in length. It is through this size classification that population dynamics are analyzed. The PSD (Proportional Stock Density) is the proportion of bass in the population over 8 inches (stock size) that are also at least 12 inches (quality-sized). The sample provided a PSD value of 65, which is a direct reflection of the 26 quality-sized bass. The sample had a total of 40 bass that were stock size or larger. A balanced bass/bluegill fishery has a bass PSD value within the 40–60 range. The 2018 PSD value showed improved balance when compared to the 2015 value (PSD = 76). The RSD-P (Relative Stock Density of Preferred bass) is the proportion of bass in the population over 8 inches that are also

at least 15 inches. The RSD-P value of 42 is a direct reflection of the 17 preferred-sized fish being collected. A slight increase in RSD-P was observed (2015 RSD-P = 39). The catch rate of 25.5 preferred-sized bass/hr showed a favorable increase from 2015 (CPUE-P = 17.5 fish/hr).

Weights were taken on largemouth bass to calculate relative weight values. Relative weight values are an indication of body condition. A value from 95 to 100 represents a fish that is in the healthy range and finding a decent amount of food. The higher the value, the better the condition of the fish in terms of overall body mass. The relative weight values for stock, quality, preferred and memorable bass (≥8", ≥12", ≥15" and ≥20") were 92, 93, 93, and 96 respectively. The relative weight values matched the values for stock, quality, and preferred-sized bass collected in 2015. The relative weight values for the stock, quality and preferred-sized bass may reflect increased competition with the black crappie population for juvenile sunfish and other small baitfish species or the results of post-spawn stress.

Bluegill and Redear Sunfish

The bluegill fishery within Lakeview Reservoir appears to consist primarily of small fish less than 5 inches in length. The electrofishing survey yielded a total of 406 bluegill (CPUE = 609 fish/hr), which showed a decline from 2015 (CPUE = 696 fish/hr). The bluegill size distribution ranged from 2 to 16 centimeters (1 to 6 inches). The average sized bluegill measured 3.44 inches, which was a minor increase from 2015 (mean TL = 3.36"). The largest bluegill measured 6.38 inches. The PSD for bluegill is the proportion of bluegill over 3.15 inches (stock size) that are also at least 5.9 inches (quality size). The bluegill PSD value of 2 showed a less than ideal balance to the population and fell well below the desired range of 20-40. The PSD value showed a disappointing decline from 2015 (PSD = 5). The collection consisted of only 6 quality-sized bluegill from the total of 263 stock-sized fish. The low abundance of bluegill greater than 6 inches in length may reflect the complications any fishery has when the bulk of the fish biomass is tied up in the production of gizzard shad. Stunted growth rates in this high flow through system may also factor into the lack of large bluegill. The level of bluegill harvest by anglers is not known at this time.

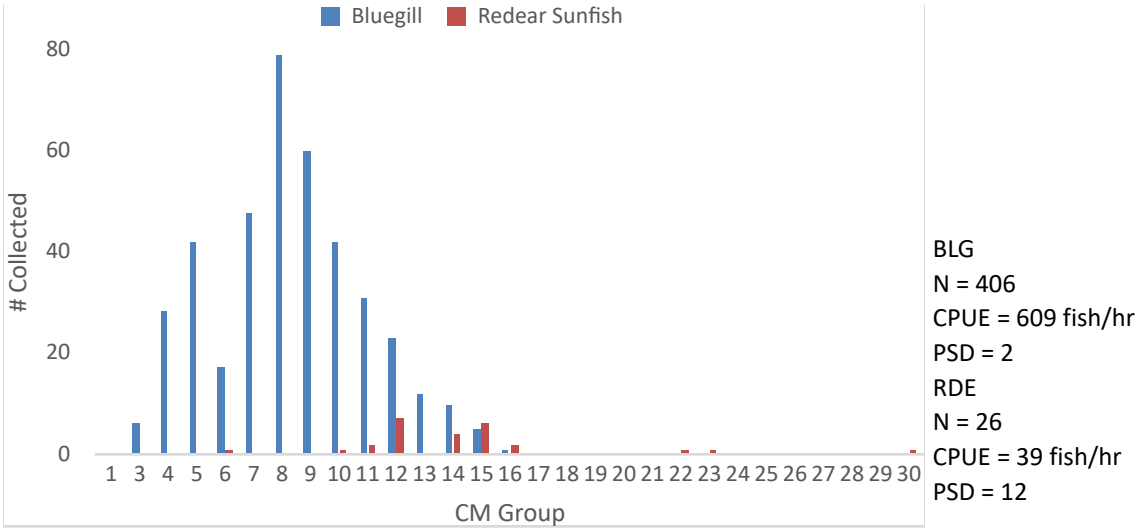


Figure 2. Length frequency distribution of bluegill and redear sunfish collected from the electrofishing survey of Lakeview Reservoir on April 27th, 2018

The redear sunfish population is not nearly as abundant as the bluegill population, but the size structure showed some promise in producing a few larger fish. The survey collected 26 redear sunfish for a CPUE of 39 fish/hr. This catch rate showed a favorable increase from 2015 (CPUE = 12 fish/hr). The size distribution of collected fish ranged from 6-30 cm (2.4 to 12 inches). The average size redear sunfish measured 5.83 inches. The largest redear sunfish measured a very impressive 12.09 inches with a weight of 1.33 inches. This Frisbee shaped redear sunfish would come as a very nice surprise for any angler fishing for sunfish on Lakeview Reservoir. The limited abundance of juvenile redear sunfish less than 10 cm (4") may be a reflection of the increased siltation of the reservoir that have created vast areas of the shallows unsuitable for fish spawning.

Common Carp and Grass Carp

The Lakeview Reservoir fishery has an abundance of common carp and grass carp even though the 2018 survey did not yield high catch rates. The survey was successfully in collecting only 9 common carp for an expanded catch rate of 13.5 fish/hr. This catch rate showed a decline when compared to the 2015 survey (CPUE = 28 fish/hr). Collected carp ranged in size from 21.73 to 26.69 inches. The average size carp measured 23.87 inches, which was a minor increase from 2015 (mean TL = 23.56"). Anglers willing to try something different might want to try fishing for these strong and hard fighting fish. If you hook into a 6 pound carp, you will think you have a 12 pound bass on the end of your line. The majority of the encountered carp came from within or near the shoreline vegetation coverage in the form of water willow. Common carp will rummage through the water willow to find a variety of aquatic insects and macro-

invertebrates. Carp are not a desired fish species for the majority of the angling public, but are a treasured resource over in Europe.

The survey collected a total of 10 grass carp (CPUE = 15 fish/hr), which showed an increase from 2015 (CPUE = 1.4 fish/hr). Collected grass carp ranged in size from 48-85 centimeters. The largest grass carp measured 852 mm (33.54”). The grass carp population within Lakeview Reservoir are most likely all valuable gifts from Chesterfield County as these fish managed to escape from Swift Creek Reservoir as well as Swift Creek Lake at Pocahontas State Park during high flow events. An additional electrofishing survey conducted on May 4th, 2018 revealed the continued presence of grass carp with 23 fish collected (CPUE = 9.7 fish/hr). Collected fish ranged in size from 50-91 cm. The largest grass carp by length was 913 mm (35.94”) with a weight of 20.26 lbs. The largest fish by weight was 20.55 lbs (35.31”). Lakeview Reservoir has very little submerged aquatic vegetation for the grass carp to feed upon. The grass carp are most likely feeding upon the filamentous algae that they find within the water willow along the shoreline. An occasional grass carp may be caught by an angler fishing for a common carp as grass carp can be fooled into eating corn kernels every once in a while.

Additional Species of Interest

The electrofishing survey produced a total of 14 fish species with bluegill consisting of 72.89% of the total catch of 557 fish. On a positive note, this % contribution showed a decline from 2015, which had bluegill as 75.47% of the total catch. The species diversity is greater than most waters sampled in 2018, but represents various species that were found in extremely limited abundance. Refer to Table 1 on the second page of this report for the full list of collected fish species. The survey revealed a limited number of black crappie with 13 collected (CPUE = 19.5 fish/hr). The average size crappie measured 9.12 inches. The largest crappie measured 13.7 inches with a weight of 1.44 lbs. Angler reports at local tackle shops report the catch of several citation-sized crappie over the years. These larger crappie are most likely feeding upon any juvenile gizzard shad that are produced each spring.

The survey collected a limited abundance of gizzard shad with only 12 collected. Collected shad were primarily large brood stock with the average length of 12.5 inches. The gizzard shad population will impact the overall growth potential of the bluegill population due to the competition for limited food resources. Northern Snakehead were first discovered/recorded in Lakeview Reservoir during the April 27th electrofishing survey. One snakehead of 12.52 inches and 0.62 pound was collected. Three additional small snakeheads of roughly the same size were collected and removed from the fishery on May 4th, 2018. Anglers are encouraged to contact the Region 1 office at (804) 829-6580 if they happen to catch any Northern Snakeheads from

Lakeview Reservoir or any other impoundment, river, or stream within the Swift Creek, Appomattox, and James River watersheds.

Electrofishing Summary

Lakeview Reservoir provides fishing opportunities for anglers that live in and around the greater Colonial Heights region. Most of the fishing pressure on the reservoir appears to be from local anglers willing to get in a few hours of fishing when their schedule permits. The reservoir has a decent largemouth bass population with bass from past surveys seen up to 7 pounds. Most surveys have revealed a respectable abundance of 2 to 3 pound fish. The fishery has typically shown an abundance of gizzard shad that will interest many of the larger bass in the system. Schools of smaller shad in the 5 to 8 inch range will be consumed by a wider size range of largemouth bass. Bass anglers should try to pattern their lures to match the forage base of gizzard shad and juvenile bluegill. The bluegill population continues to be rather abundant even though a decline in catch rate was observed. The majority of bluegill are less than 5 inches in length with very few fish ever making it past the 6 inch size mark. The average size bluegill leaves something to be desired. The redear sunfish population appears to be limited in abundance, but their size potential is greater than the bluegill population. The survey yielded a limited abundance of black crappie. The deep water within the main creek channel and in the lower basin are prime areas for schooling crappie to hide from the electrofishing boat. Dedicated crappie anglers may be able to locate some larger crappie that typically hold near downed trees. The yellow perch population appears to have serious limitations with only a few small fish observed during the survey. Lakeview Reservoir and its high flow through dynamics places limitations on the fishery's productivity. The fishery has some potential to interested anglers that are willing to put in enough time on the water to figure out the most productive fishing patterns. Anglers are encouraged to try their luck with the common carp when the bass are not cooperating.

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