



Virginia Department of Game and Inland Fisheries 2017 Three Lakes Park Lake #1 Management Report

Three Lakes Park, located on Wilkinson Road, one mile east of Rt. 301, is owned and operated by Henrico County. As the name states, the park contains three lakes, two of which are open to fishing. The two fishing lakes are approximately 7 acres (Lake #1) and 5 acres (Lake #3) in size, and are actually old borrow pits dug during the construction of I-64. The middle lake (Lake #2) has a nature center with a large aquarium embedded in the shoreline, and it is closed to fishing. No boats are allowed, but various areas of the largest fishing lake (Lake #1) can be accessed along the shoreline, at the picnic pavilion, or from the fishing pier. Lake #1 is immediately on the left after entering the parking lot; just walk past the gate and follow the hard path to the lake on the left. Lake #1 is incorporated into the Department’s Community Lakes Improvement Program (CLIP) and receives annual stockings of harvestable-sized channel catfish. Fish attractors have been placed at two locations in Lake #1 to enhance angling opportunities. Lake #3 is not accessible to our sampling gear, and therefore, we have no information regarding the status of the fish community.

On May 11st, 2016, the fish community of Lake #1 was sampled by boat electrofishing. A total of 14 species were collected. Bluegill, redear sunfish and gizzard shad accounted for the majority (83%) of the fish collected. The most prevalent predator species collected was largemouth bass, which exhibited an improved catch rate when compared to the previous survey conducted on October 21st, 2014. The fishery showed some signs of improvement, but still revealed a stock-piled bluegill population with a limited number of predator fish species.

Table 1. Species composition and catch rate of fish collected from the electrofishing survey of Lake #1 at Three Lakes Park on May 11th, 2016

Species	N	CPUE #/hr	Species	N	CPUE #/hr
Bluegill	428	1100.57	Pumpkinseed	9	23.14
Redear Sunfish	55	141.43	Brown Bullhead	4	10.29
Gizzard Shad	53	136.29	Golden Shiner	4	10.29
Largemouth Bass	32	82.29	Channel Catfish	3	7.71
Black Crappie	30	77.14	Yellow Perch	1	2.57
Common Carp	11	28.29	Flier	1	2.57
Creek Chubsucker	11	28.29	American Eel	1	2.57

Largemouth Bass

The survey produced a total of 32 largemouth bass for a CPUE (Catch Per Unit of Effort) of 82 fish/hr. This catch rate ranks higher than most public, small impoundments within Region 1, District 1. The catch rate showed a favorable increase when compared to the 2014 survey (N = 19; CPUE = 57 fish/hr). The fishery has some potential to produce a few larger bass due to the abundance of forage that is present and the protective regulations that are in place. Collected bass range in size from 3 to 18 inches. The largest bass measured 18.07 inches and weighed 3.32 pounds. The largest bass by weight was 3.79 pounds and 17.75 inches. The average length for the collected bass was 11.44 inches.

The collected bass were in good shape with favorable relative weight values. Relative weight values from 95-100 represent an ideal range that indicates collected fish are finding plenty of suitable forage. The overall relative weight value was 101, which showed a decline from 2014 (Wr = 107). The ten preferred-sized bass (≥ 15 inches) had a relative weight value of 103, which showed a decline from 2014 (Wr = 118). The difference in relative weight values may be directly related to the difference in survey date. The fall survey of 2014 might have revealed elevated relative weight values. Bass tend to stock-pile body fat reserves during the fall for the approaching winter months. Bass during the mid to late spring can reveal decreased relative weight values due to the stress associated with spawning activity. The larger bass should have easy access to the abundant forage base of bluegill and juvenile gizzard shad. It might take some time for post-spawn bass to recover all of their lost weight from the spawn.

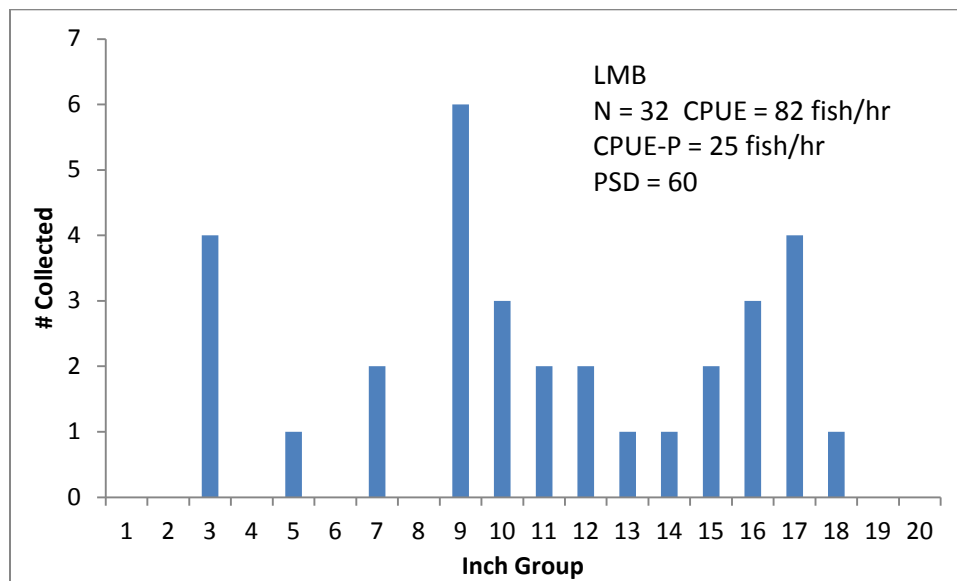


Figure 1. Length frequency of largemouth bass collected from electrofishing survey of Lake #1 at Three Lakes Park on May 11th, 2016.

The survey produced a very respectable catch rate of preferred-bass (≥ 15 inches). The collection of 10 preferred-sized bass yielded a CPUE of 25 fish/hr, which was a large increase from 2014 (CPUE-P = 6 fish/hr). The limited abundance of juvenile bass is an area of concern. The 2015 year class does not appear to be very strong. Certain variables (presence of common carp, an

abundant bluegill population, turbid water condition, etc.) can all work against bass recruitment. The bass population in Lake #1 is regulated under a minimum size limit of 18 inches with a harvest limit of one bass per day. Although anglers can harvest one bass per day, anglers should carefully release all bass from the lake unless they are in serious need of a fish dinner. By protecting the bass population, the fishery may eventually reach a better balance in the future.

Bluegill

The survey produced a total of 428 bluegill for a CPUE of 1,100 fish/hr. This catch rate showed a decline when compared to the 2014 survey (N = 429; CPUE = 1,287 fish/hr). The collected bluegill ranged in size from 1 to 7 inches with the majority of fish in the 2 to 4 inch range. The largest bluegill measured 7.79 inches, which was greater than 2014 (max TL = 7.16 inches). The average size bluegill was only 3.76 inches, which showed a minor increase from 2014 (mean TL = 3.6 inches). The survey collected a total of 21 quality-sized bluegill (≥ 5.9 inches). This increased presence of slightly larger fish showed an improvement from the 4 quality-sized fish collected in 2014. Anglers that fish the lake should not expect to catch too many larger bluegill. The bass population and the limited assortment of other predator fish have not been able to keep the bluegill population in check.

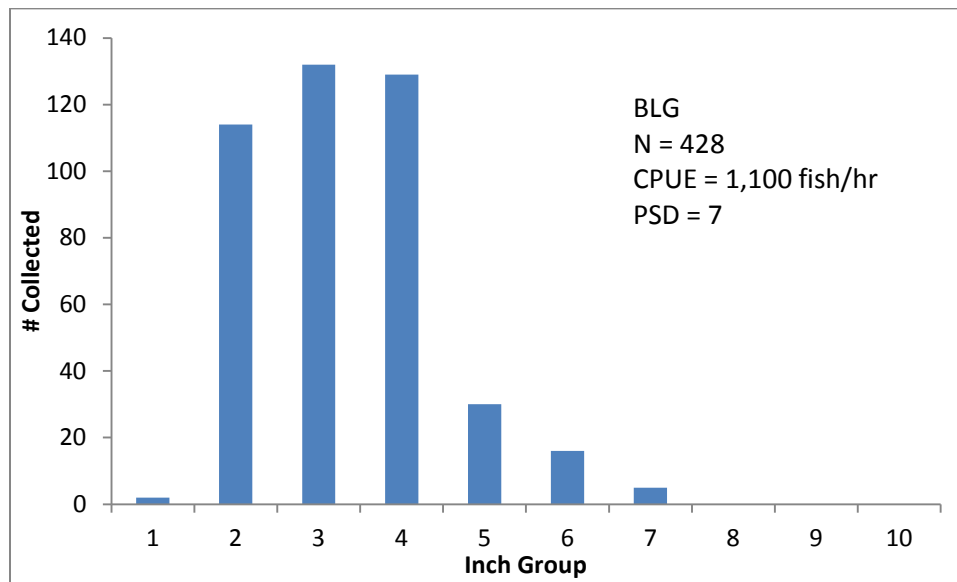


Figure 2. Length frequency of bluegill collected from electrofishing survey of Lake #1 at Three Lakes Park on May 11th, 2016

Redear Sunfish

The survey collected a total of 55 redear sunfish for a CPUE of 141 fish/hr. This catch rate showed an increase from 2014 (CPUE = 105 fish/hr). The collected redear sunfish ranged in size from 3 to 8 inches with a high proportion of fish in the 5 to 6 inch range. The largest redear sunfish measured 8.74 inches, which was a large improvement from 2014 (max TL = 6.22 inches). The average size redear sunfish was 5.52 inches, which showed a favorable improvement from 2014 (mean TL = 4.4 inches). The redear sunfish population provides added diversity to the fishery along

with increased size potential when compared to the bluegill population. The fishery has some potential to produce decent redear sunfish even though redear sunfish typically grow better in impoundments that have clearer water than the normal turbid conditions found in Lake #1.

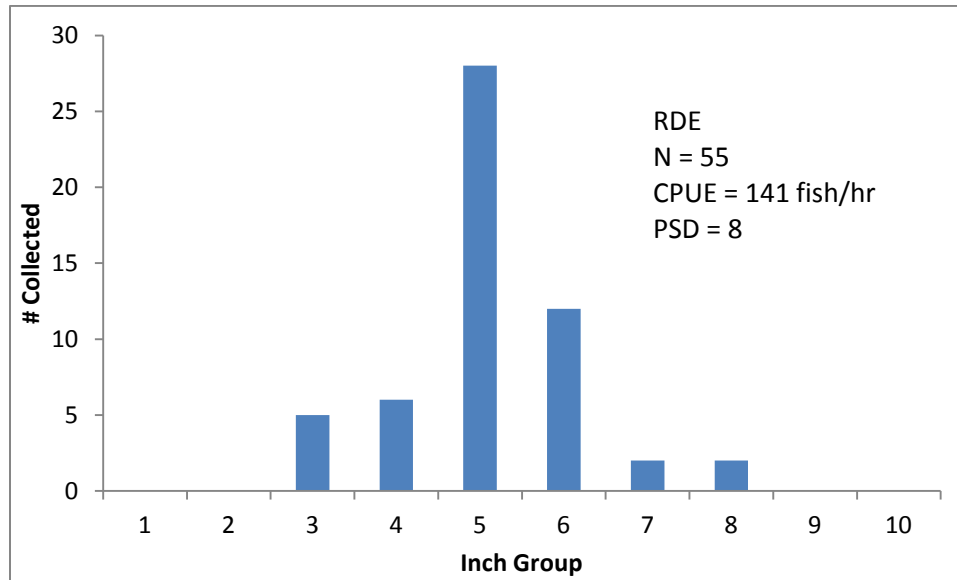


Figure 3. Length frequency of redear sunfish collected from electrofishing survey of Lake #1 at Three Lakes Park on May 11th, 2016.

Black Crappie

The survey produced a total of 30 black crappie (CPUE = 77 fish/hr) which showed a moderate increase from 2014 (CPUE = 39 fish/hr). Collected crappie were relatively small in length and ranged from 3 to 8 inches. The largest crappie measured 8.74 inches, which showed an increase from 2014 (max TL = 7.4 inches). The average size crappie measured a disappointing 4.65 inches, down from 2014 (mean TL = 5.76 inches). The relative weight value from the limited sample set of 8 stock-sized crappie was 90. This relative weight value is greater than most values from ponds of similar size. Crappie populations within small impoundments can typically result in an overcrowded and stunted population. Based upon the last two electrofishing surveys, the limitations of the black crappie population are most likely derived from the shallow, turbid water conditions than from a large stock-pile of stunted fish. There is no creel survey data to shed light on the amount of black crappie harvest that might occur over the course of any given fishing season. The abundant bluegill population may also have some impact on black crappie recruitment.

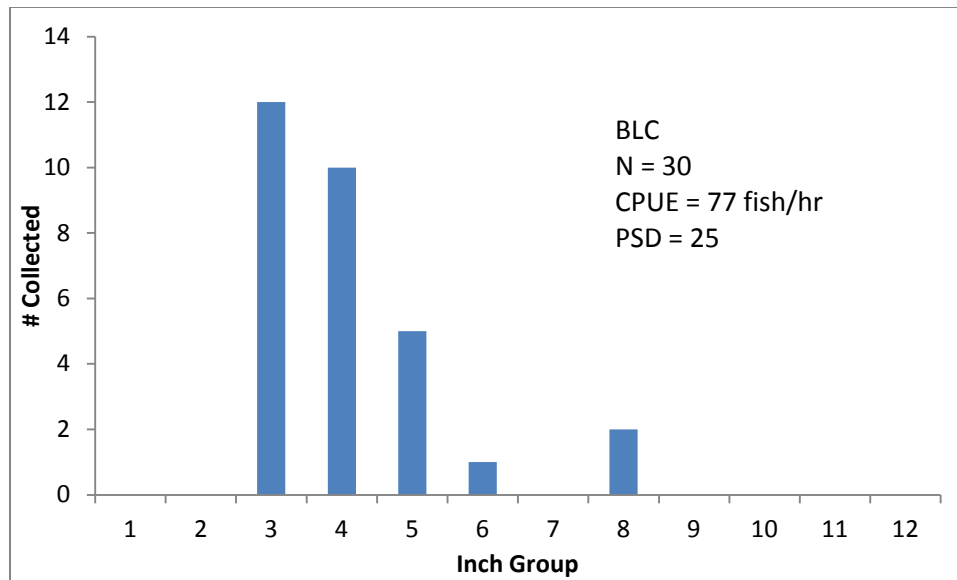


Figure 3. Length frequency of black crappie collected from electrofishing survey of Lake #1 at Three Lakes Park on May 11th, 2016

Additional Species

The survey revealed high species diversity within Lake #1 with the collection of 14 fish species. The survey collected a total of 53 gizzard shad (CPUE = 136 fish/hr), which showed a similar catch rate to 2014 (CPUE = 132 fish/hr). Gizzard shad ranged in size from 4 to 15 inches with the average shad measured at 8.2 inches. The average length was greater than the 2014 survey (mean TL = 6 inches). The presence of gizzard shad within a small impoundment can create serious complications on the fishery's balance and overall dynamics. Gizzard shad will filter feed zooplankton from the water column. They can also forage through the substrate and detritus for a variety of macroinvertebrates. These feeding patterns will have the gizzard shad competing with the sunfish species along with juvenile bass and crappie. Another potential detriment to the fishery is the presence of common carp. The lake remains somewhat turbid and unfortunately this could be due to the carp. The suspended materials created by the carp feeding in the shallows could negatively affect the spawning success of largemouth bass and black crappie. The survey collected 11 common carp (CPUE = 28 fish/hr) that ranged in size from 17.32 to 23.82 inches. The average size carp measured 19.62 inches.

The survey collected 9 pumpkinseed sunfish that ranged in size from 1.65 to 5.04 inches. The survey collected 11 creek chubsuckers that ranged in size from 5.8 to 12 inches. Four brown bullheads were collected. These fish ranged in size from 8.8 to 9.9 inches. Four golden shiners in the 4 to 6 inch range were collected. Three channel catfish were collected. These fish measured 14.25, 15.67 and 16.81 inches. These fish are most likely holdover fish from the fall 2015 stocking. Many of the catfish stocked in the previous years were most likely caught and harvested by anglers. The catfish fishing regulation consists of a 15 inch minimum size with a creel limit of 5 catfish/person/day. This regulation will hopefully serve to protect the stocked catfish long enough to allow them to reach a more favorable size. Channel catfish continue to be stocked annually at high

rates, so anglers always have a good chance of catching a few especially near the time of the stocking. The remaining species diversity came in the way of a 4.8 inch flier sunfish, a 16.73 inch American eel and a 4.7 inch yellow perch. Anglers will be hard pressed to catch any of these last three species due to their limited abundance.

The fishery within Lake #1 has some potential with a high species diversity of 14 species detected. The bass population has shown signs of improvement in size structure and density of larger specimens. The bluegill population is still dominated by an abundance of smaller fish. The redear sunfish population shows some decent size potential. The black crappie population showed a less than ideal distribution of smaller fish during the survey. The fishery can provide a variety of action for anglers using night crawlers on the bottom as you may catch a variety of fish from common carp to channel catfish. Fishing at Three Lakes Park is ideally suited for young children that don't mind catching a high number of sunfish over the course of a fishing trip. Bass fishermen might find some decent fish as they try the various fishing spots along the trail that loops around the lake.

