Deep Run Park Ponds 2017 Management Report

Virginia Department of Game and Inland Fisheries

Deep Run Park, located near the intersection of Gaskins Road and Ridgefield Parkway, is owned and operated by Henrico County. The park contains two, 2-acre ponds that are managed under the Department's Community Lakes Improvement Program (CLIP). These ponds receive annual stockings of harvestable-sized channel catfish typically each fall during the month of October. The ponds have self-sustaining populations of largemouth bass and sunfish. No boats are allowed, but the ponds have plenty of shoreline accessible sites for anglers to use. Each pond has a large fishing pier that is very attractive for angler use.

On October 14th, 2016, Department of Game and Inland Fisheries staff conducted boat electrofishing surveys of both ponds at Deep Run Park. The surveys were conducted using a 14 foot electrofishing boat with a Smith Root electrofishing box that was powered by a generator. A single, starboard side, anode boom with a 6-wire dropper relayed the electricity to the water. The survey was conducted in a counter clockwise manner to target the majority of the biomass that was tucked in tight to the shoreline cover. The electrofishing box was able to place between 6.5 and 7 amps of electricity in the water to temporarily stun encountered fish. A complete shoreline circuit of the upper pond was conducted with the total electrofishing effort of 730 seconds (0.203 hr). The water temperature was 16.7°C with a conductivity of 71 µS. The complete shoreline circuit of the lower pond was conducted with the total electrofishing effort of 770 seconds (0.213 hr). The water temperature was 17.6°C with a conductivity of 73 µS.

All encountered fish were collected by dip nets and placed in an aerated live well tank. Length measurements were taken on all fish along with weights taken on all bass, crappie and stock-sized sunfish. The surveys were conducted to assess the health of the current fishery. The survey of the upper pond revealed limited species diversity with only 5 species collected. These species in order of overall abundance were bluegill, redear sunfish, largemouth bass, brown bullhead and warmouth sunfish. The lower pond revealed slightly higher species diversity with 7 species collected. These species in order of overall abundance were bluegill, black crappie, redear sunfish, largemouth bass, warmouth sunfish, brown bullhead and channel catfish. The fisheries within the Deep Run Park Ponds may have some potential, but there are some serious limitations based on their small size and overall productivity. The surveys are just snapshot photos of the fish assemblages collected along the shoreline on October 14th, 2016.

Largemouth Bass

The survey of the upper pond only revealed the presence of 3 largemouth bass for CPUE (Catch Per Unit of Effort) of 14 fish/hr. This CPUE is an expanded catch rate based on time as one must accept the fact that only 3 bass were collected during the complete shoreline pass. The CPUE rates well below other small impoundments of comparable size. With the current bass regulations set at a minimum size of 18 inches, one would have hoped to have collected more than 3 bass. The collected bass measured 2.05", 13.86" and 13.98". Anglers should set their hopes in catching a large bass extremely low while fishing on the upper pond. If is unknown at this time whether the poor abundance of bass is a reflection of illegal bass harvest or recruitment difficulties and limitations due to the overpopulation of juvenile bluegill. It could be quite possible that otters may have had a hand in manipulating the bass population.

The lower pond survey revealed a slightly more impressive number of bass with 8 collected (CPUE = 37 fish/hr). The collection, although still rather limited, revealed several year classes of bass. Two Young of Year (YOY) bass were collected and they measured 2.68 and 2.79 inches. One 5 inch bass from the 2015 year class was also collected. Two bass that measured 11.02 and 11.34 inches are most likely survivors from another year class. The three largest bass measured in at 16.18, 16.89 and 17.4 inches. Limited recruitment of these bass is still better than no recruitment. The size limit of bass in the lower pond is set at an 18 inch minimum size with a creel limit of one bass/person/day. Anglers interested in assisting these populations should try their best to practice strict catch and release.

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. A higher relative weight value indicates fish with a better body condition. The relative weight data of the two quality-sized (≥ 12") bass from the upper pond was 95. The three quality-sized bass from the lower pond had a relative weight value of 96. Take it for what it is worth, these relative weight values only represent a very small sample set of fish, but reveal that the bass are finding sufficient forage. The forage base within each pond is based on an abundance of juvenile bluegill.

Bluegill

The surveys revealed an abundance of bluegill present in both of the Deep Run Park Ponds. A total of 199 bluegill were collected from the upper pond. The expanded CPUE of 981 fish/hr far exceeds the catch rate of 14 largemouth bass/hr. The bluegill size range of 3 to 13 centimeters left something to be desired. The smallest bluegill measured 1.4 inches and the

largest bluegill measured only 5.43 inches. The average size bluegill was a whopping 3.23 inches. The relative weight data for the 95 stock-sized bluegill provided a favorable value of 109.

The lower pond survey revealed 106 bluegill (CPUE = 495 fish/hr). The bluegill population of the lower pond is still abundant, but not as strong as the upper pond. The size range of collected bluegill was 5 to 15 centimeters. The smallest bluegill measured 2.05 inches and the largest bluegill measured 5.98 inches. The average size bluegill was 3.37 inches. The relative weight data for the 51 stock-sized bluegill provided a decent value of 95. The bluegill relative weight value from the lower pond was less than the upper pond. This might be a direct reflection from competition with the black crappie population. Based on the findings of the electrofishing surveys, anglers should not expect to catch too many large sunfish from the Deep Run Park Ponds. The surveys revealed a limited presence of Redear sunfish in each pond. The upper pond produced 6 redear sunfish and the lower pond produced 14 redear sunfish. All redear sunfish were less than 6 inches in total length except for one redear sunfish from the lower pond that measured 7.13 inches.

Otoliths were not collected from any of the bluegill. Length at age data from the reading of otoliths might shed some additional light on the bluegill population. This data would assist in showing what year classes comprise the mass of small bluegill. The level of angler harvest is not known at this time. The summer angling pressure might be harvesting a high % of the larger bluegill.

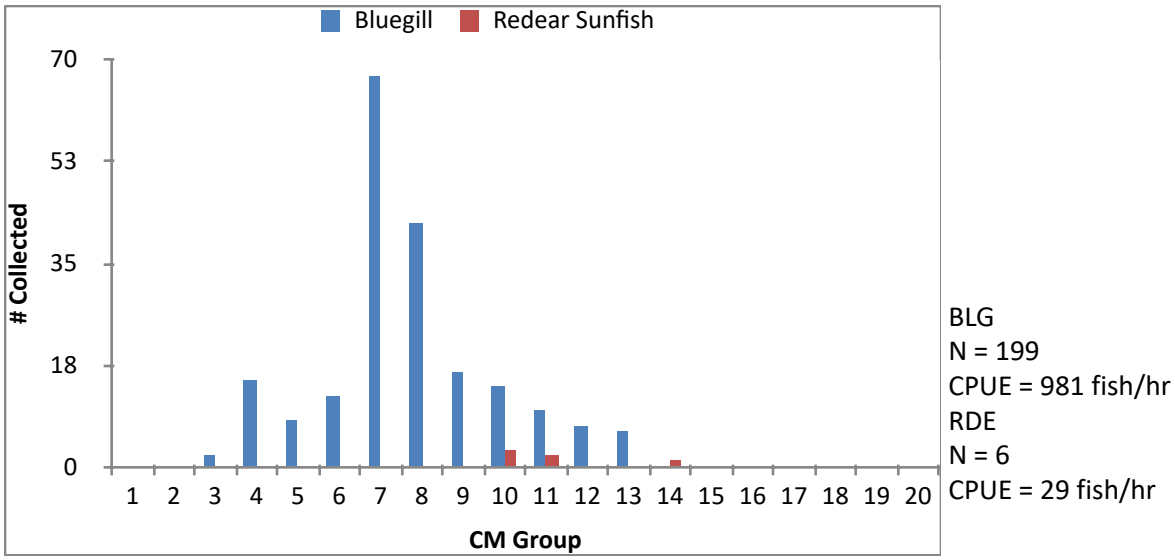

Figure 1. Length-frequency distribution of bluegill and redear sunfish collected during the electrofishing survey of Deep Run Pond (Upper) on October 14th, 2016

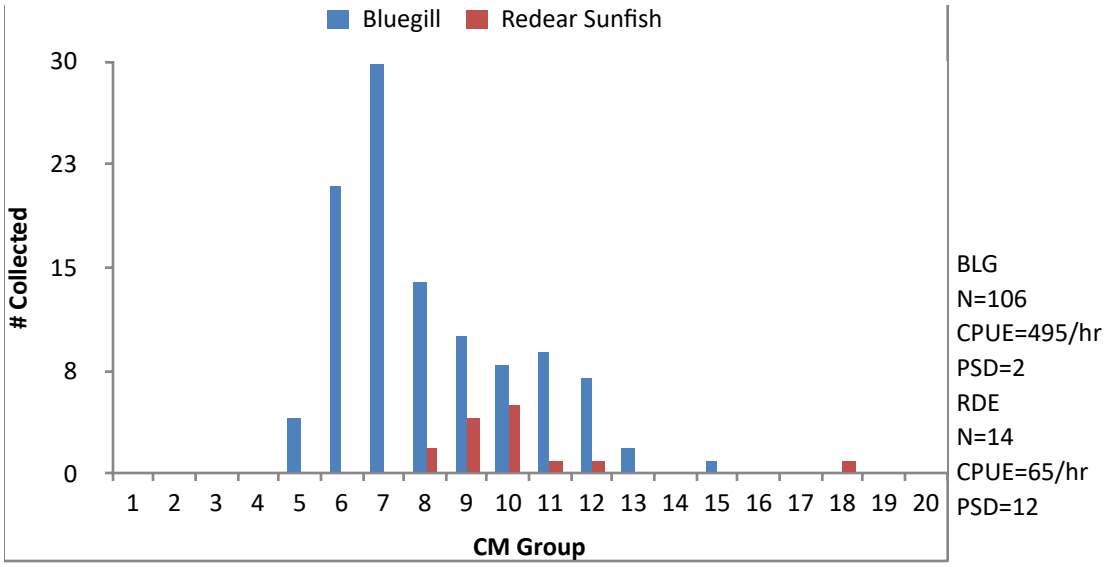

Figure 2. Length-frequency distribution of bluegill and redear sunfish collected during the electrofishing survey of Deep Run Pond (Lower) on October 14th, 2016

Additional Species and Summary

The upper pond survey yielded some additional diversity in the form of three brown bullheads, six redear sunfish and three warmouth sunfish. The brown bullhead ranged in size from 5 to 7 inches. The redear sunfish ranged in size from 4 to 5.6 inches. The warmouth sunfish ranged in size from 1.5 to 5.6 inches. These fish may surprise an angler from time to time, but there are some major limitations on their overall size structure. No channel catfish were collected from the upper pond. Without the presence of cavity spawning habitat, it is doubtful that any channel catfish were able to successfully spawn. Catfish species can be hard to sample if they are holding in the deeper regions of any waterbody. Reoccurring channel catfish stockings would be needed to support a population that suffers loss through harvest and natural mortality over the years. DGIF hatchery staff stocks 200 channel catfish into each of the ponds. The channel catfish regulation for the upper pond has been set at a 15" minimum size limit and a creel limit of 5 catfish/person/day. The majority of stocked channel catfish are in the 10 to 13 inch range. The minimum size limit will hopefully allow these fish some time to mature and create improved angling success in the future.

The lower pond survey provided additional diversity with the collection of 18 black crappie, 14 redear sunfish, 3 warmouth sunfish, 2 brown bullheads and 1 channel catfish. The black crappie sample consisted of small fish ranging size from 3.74 to 5.98 inches. The average size crappie was 4.97 inches. The collected crappie had a relative weight value of 91, which reflects some difficulties these fish are having in finding adequate forage. A balanced black crappie population within a 2-acre pond can be a hard thing to achieve. Black crappie populations within small impoundments can typically become overcrowded with slow-growing

fish. It is unknown at this time how much harvest of crappie occurs from the lower pond. The collected redear sunfish ranged in size from 3.43 to 7.13 inches with the average length at 4.17 inches. The average length is slightly better than the bluegill, but still leaves something to be desired. The warmouth ranged in size from 3.23 to 6.73 inches. The brown bullhead measured 8.42 and 8.78 inches. The one channel catfish measured 12.68 inches and weighed 0.52 pound. The catfish regulation on the lower pond has been set at a minimum size of 18 inches with a creel limit of 5 fish/person/day.

Deep Run Park Ponds provide some limited fishing opportunities primarily in the form of largemouth bass and bluegill. The lower pond appears to have some larger size bass present when compared to the upper pond. The majority of the bluegill and redear sunfish are small in size, but healthy in body composition. The channel catfish stockings provide an additional target species for anglers. Anglers should be able to enjoy the channel catfish populations as they allow them to mature over the next couple of years. DGIF plans to stock channel catfish each fall as a way of increasing the catfish biomass that is present. The supplemental stocking of additional largemouth bass is planned for 2017.

This fisheries management report was written by Scott Herrmann, DGIF Aquatic Biologist, Region 1, District 1 (804) 829-6580 ext. 126