



Virginia Department of Game and Inland Fisheries 2016 Echo Lake Management Report

Echo Lake, located on Springfield Road in the northern part of Henrico County, is owned and operated by the Henrico County Parks and Recreation Department. This 12-acre lake is the centerpiece for this county park. The lake is managed under the Department's Community Lakes Improvement Program (CLIP) and is stocked annually with harvestable-sized channel catfish. The lake was drained in 2008 to allow for a large scale habitat improvement project. A settling basin was constructed above the lake and 14,500 cubic yards of sediment were removed from the lake. DGIF restocked the lake from 2009 to 2011 with bluegill, redear sunfish, largemouth bass, and channel catfish as a way to reestablish the fishery. Catch and release regulations for all fish species were put in place to allow the fish populations adequate time to survive and produce enough natural recruitment of future generations. The shoreline trail provides bank anglers with numerous places to fish. The fishing pier platform is another great place for anglers to fish from. Recent growth of excessive amounts of hydrilla makes fishing this impoundment difficult during the late summer to early fall time frame. Anglers are encouraged to try fishing Echo Lake before the hydrilla has the chance to cover the majority of the shoreline. Triploid grass carp will be stocked into Echo Lake during the spring of 2016 in hopes of eventually controlling the hydrilla growth.

On September 28th, 2015, the fish community of Echo Lake was sampled using boat electrofishing gear. The lack of a boat ramp ruled out the use of the 18.5 foot electrofishing boat typically used on most impoundments. A 14 foot electrofishing boat was used to conduct the electrofishing survey. The 2015 survey was successful in collecting 7 fish species. These species in order of abundance were bluegill, largemouth bass, redear sunfish, golden shiner, creek chubsucker, black crappie and pumpkinseed sunfish.

Largemouth Bass

The largemouth bass population within Echo Lake appears to be in fair shape. A total of 20 largemouth bass were collected. The CPUE (Catch Per Unit of Effort) for largemouth bass provided an expanded catch rate of 77 bass/hr. Out of the 20 collected bass, 12 fish were below the stock-size category of 8 inches. The average-sized bass measured 7.92 inches in total length. The survey yielded no preferred-size bass greater than 15 inches. The largest bass measured 14.65 inches and weighed 1.62 pounds. The excessive amounts of hydrilla present during the survey may have allowed additional bass plenty of hiding places away from the electric field. From initial observations, the lack of brood stock bass is an area of concern. Only three bass greater than 12 inches in length were collected during the survey. The catch and release regulations that are still in place should have allowed for a higher concentration of adult bass to be present. Illegal harvest by anglers or the predation of bass by otters may play some role in the

limited presence of bass greater than 12 inches in length. To protect the adult bass population, the bass will continue to be managed under the current catch and release regulation.

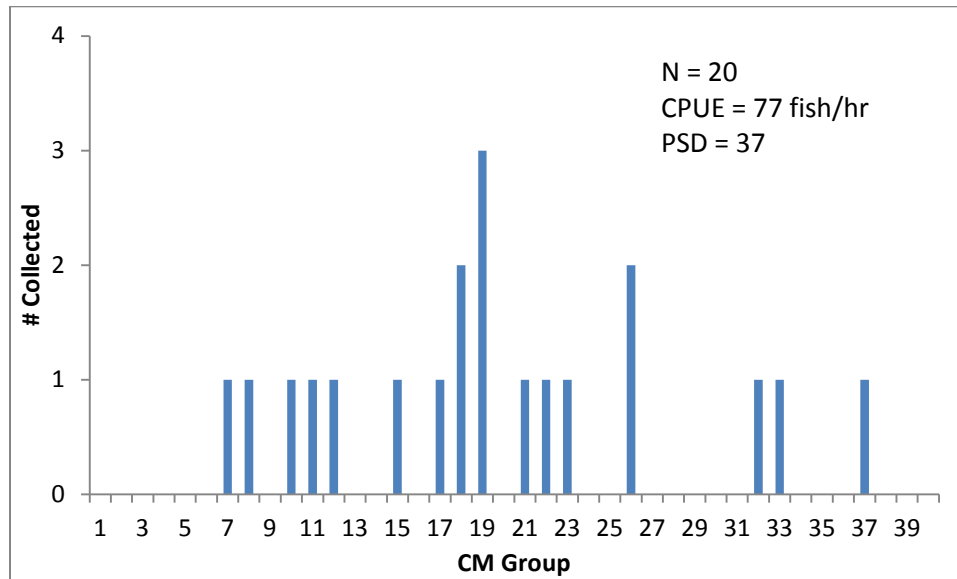


Figure 1. Length frequency of largemouth bass collected from electrofishing survey of Echo Lake on September 28th, 2015.

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 value for the eight stocked-sized bass was 93. This value is slightly below the desired range and may reflect some difficulties that the bass have in finding suitable food within the dense hydrilla mats.

Bluegill and Redear Sunfish

The survey collected 213 bluegill for a catch rate of 816 fish/hr. This catch rate is extremely high when compared to the catch rates of the other fish species. The size distribution of collected bluegill ranged from 3 to 17 centimeters (1 – 6 inch range). The largest bluegill measured 6.77 inches. The abundance of juvenile bluegill brought the average size down to 3.3 inches. The survey produced a total of 107 stock-sized bluegill, with only 5 of these fish reaching the desired quality-size classification of 15 centimeters (5.9 inches). Relative weight data of the stock-sized fish was 93, while the relative weight data of the quality-sized fish was less impressive at a value of 87. It appears a large proportion of the nutrients flowing into Echo Lake are being used for the growth of submerged aquatic vegetation instead of primary productivity and zooplankton growth.

The survey yielded a limited abundance of redear sunfish with only 10 collected (CPUE = 38 fish/hr). The redear sunfish size distribution was nothing to write home about with fish in

the 7 to 18 centimeter range (3 to 7 inches). The two largest redear sunfish in the 17 and 18 cm range show some of the size potential these fish can attain if given enough time to grow. Anglers should not expect too much action from the redear sunfish population. The survey revealed poor recruitment of juvenile redear sunfish with only one fish less than 4 inches in length. The redear sunfish population may improve when the hydrilla growth is significantly cut back.

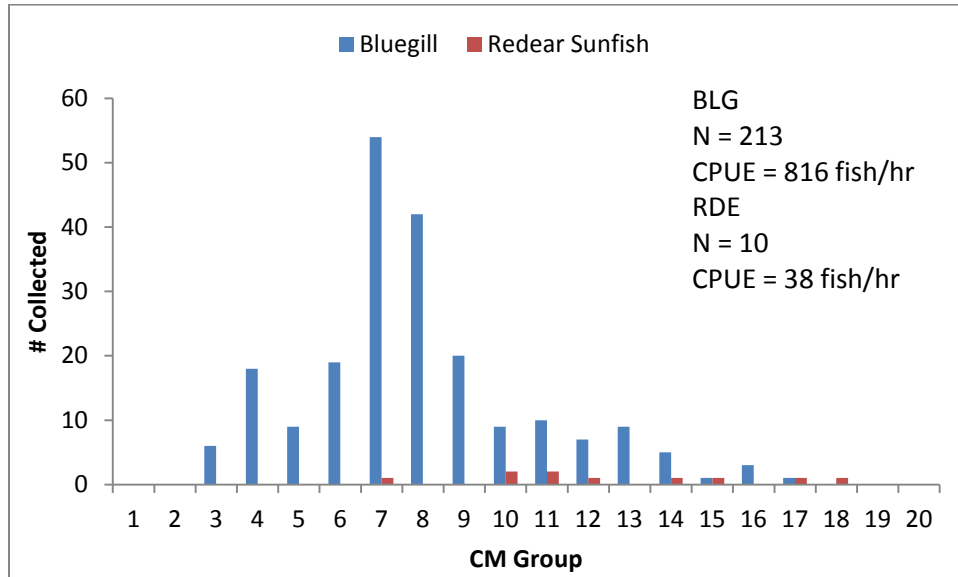


Figure 2. Length frequency of bluegill and redear sunfish collected from electrofishing survey of Echo Lake on September 28th, 2015.

Additional Species

The survey produced additional species diversity in the form of golden shiners, creek chubsuckers, black crappie and pumpkinseed sunfish. A total of 5 golden shiners in the 6 to 7 inch range were collected. Four creek chubsuckers in the 9 to 12 inch range were collected. Two black crappie measuring 7.2 and 7.7 inches were collected. One pumpkinseed sunfish of 7.7 inches was collected. No channel catfish were collected during the survey. Echo Lake was stocked with 600 channel catfish during the late fall of 2015. This stocking will provide anglers with some decent action when the largemouth bass are not biting. Plans are in the works to have triploid grass carp stocked into Echo Lake during the late spring of 2016 in hopes of eventually controlling the hydrilla growth. The fishery within Echo Lake has limited potential and anglers should not expect too much in the way of trophy fish action. Anglers that fish the lake on a consistent basis might have a better feel for where the larger fish are located.

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