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2020 Sandy Bottom Pond Management Report **Virginia Department of Wildlife Resources**

Sandy Bottom Nature Park consists of 465 acres of land that provides a sanctuary from the development of the Hampton area. The park was established in the early 1990s. It provides various activities for the outdoor enthusiast. There are trails for biking, hiking, and horseback riding. Facilities include boat rental, a fishing pier, picnic areas, nature center, wildlife center, primitive camping areas, and tent cabins. The park is home for the 12-acre Sandy Bottom Pond. The pond was formed from an old borrow pit that was originally excavated for construction of Interstate 64. Sandy Bottom Pond provides some decent fishing opportunities for park visitors.

The Virginia Department of Wildlife Resources sampled Sandy Bottom Pond on April 24, 2020. The previous survey was conducted on April 23, 2018. A full community sample was conducted to assess the present fishery. The electrofishing effort of 2,400 seconds (0.66 hour) was used to attain a representative sample of the present fishery. A complete circuit of the shoreline was conducted with the water temperature being an ideal 17.9°C (64.2°F) and almost matched the 2018 survey (17.7°C, 63.9°F). Electrofishing efforts consisted of shocking along the shoreline habitat as close as possible, with the majority of the effort concentrated in the 2 to 5 foot depth range. Being that the pond was constructed from an old borrow pit, the shoreline drops off pretty quickly. Efforts were made to hold tight to the bank and shoreline brush as close as possible. A total of four fish species were collected with the majority of the sample similar to 2018 with an abundance of largemouth bass. The remaining fish assemblage consisted of bluegill, American eel, and warmouth sunfish.

Largemouth Bass

Sandy Bottom Pond has historically provided a decent bass fishery for a borrow pit with limited nutrient flow and overall productivity. A total of 158 largemouth bass were collected which yielded a CPUE (Catch Per Unit of Effort) of 237 fish/hr. The catch rate showed a large decline when compared to the 2018 sample (CPUE = 376 fish/hr). The mean CPUE from all past surveys is 157 fish/hr. The 2020 survey rates much higher than the historic mean CPUE from past spring surveys (CPUE = 125 fish/hr). The 2020 survey continues to show an abundance of stock-sized bass (CPUE = 147/hr). Year class strength can vary from year to year, but juvenile bass have historically had a hard time surviving their first winter. This has not been the case over the last few years. The majority of the

2020 bass collection was less than 11 inches in total length. The length distribution revealed three distinct peaks that are most likely associated to year classes. Age and growth analysis (otolith collection) was not conducted at this time to verify the exact age of the collected bass. The protective catch and release regulation on the largemouth bass population was recently removed by park staff. It would be in the best interest of the bass population if anglers would harvest these abundant small bass to allow surviving fish to potentially have an increased growth rate. DWR staff was able to remove 40 largemouth bass in the 9 to 12 inch range from Sandy Bottom Pond and transfer these fish over to nearby Armistead Pointe Pond to strengthen that bass population.

The survey showed strong recruitment from several year classes, but a weak assemblage of fish greater than 13 inches in total length. The large assortment of stock-sized bass set the average bass length at 9.12 inches, which was less than 2018 average length of 9.92 inches, but still greater than 2016 (6.02" mean TL). The survey produced only two preferred-sized bass (CPUE-P = 3 fish/hr), which revealed a decline from 2018 (CPUE-P = 8.5 fish/hr). The 2020 survey came nowhere close to the 2016 survey (CPUE-P = 33 fish/hr). The sampling efforts are a representative picture of the fish community collected along the shoreline on April 24, 2020. The bass collected during the survey were holding tight to the cover of the shoreline brush. Additional bass may have been holding in deeper water not covered by the boat's electric field. Sandy Bottom Pond has some deep pockets that reach at least 18 to 20 feet deep.

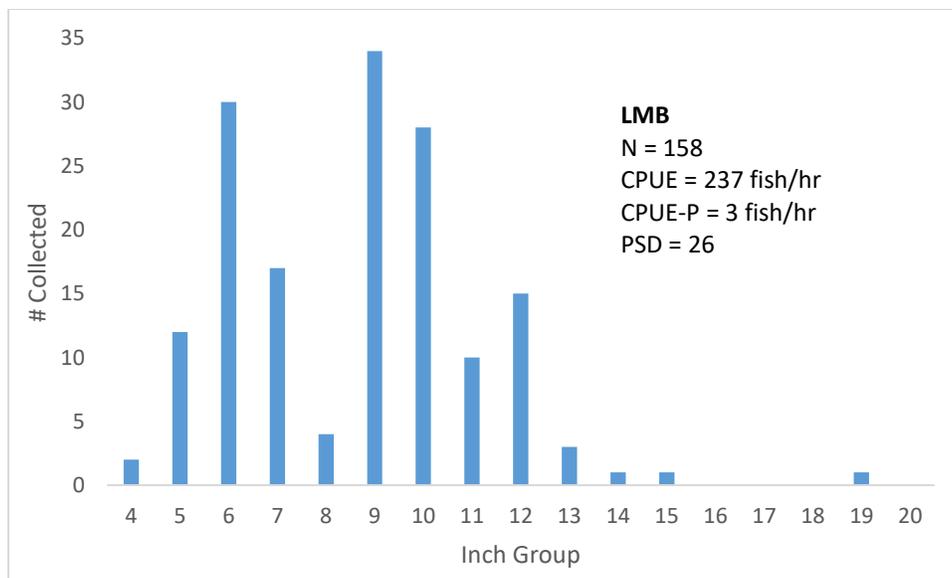


Figure 1. Length-frequency distribution of largemouth bass collected during the electrofishing survey of Sandy Bottom Pond on April 24, 2020

With largemouth bass being the most popular game fish in this country, it has been considered that a “quality” bass is one that is 12 inches or larger. A “preferred” bass is one that is 15 inches or larger in length. These size classifications help to describe the present

dynamics of the population. 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. One must consider the relatively small sample size of bass collected when assessing the PSD and RSD-P values. The survey collected a 98 stocked-size bass ($\geq 8''$) in which 25 of those bass were of quality size ($\geq 12''$). The PSD value of 26 is below the desired range of 40-60 and showed a favorable increase from 2018 (PSD = 4). The RSD-P value of two is based upon the collection of two preferred-sized bass. A balanced fishery has a population that is composed of various year classes that are represented by distribution peaks. Your typical length frequency graph from Sandy Bottom Pond has some major gaps in the distribution where very few bass greater than 12 inches are encountered. The 2020 survey failed to present any substantial presence of bass in the 15 to 20 inch range. Angler harvest of larger bass in the 2 to 4 pound range or the loss of larger bass to otter predation may factor into the lack of preferred-sized bass.

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 value for the 98 stock-sized bass ($\geq 8''$) was 90 and the 25 quality-sized bass ($\geq 12''$) was 89. These relative weight values showed a minor increase from to the 2018 survey (Wr stock = 87, Wr quality = 86). The largest bass collected during the 2020 survey was an old male bass that measured 19.33 inches and weighed 3.61 pounds. Past surveys have shown a few larger bass. The 2018 survey provided more excitement with a bass the measured 20.51 inches and weighed 4.71 pounds. One of the largest bass ever collected out of Sandy Bottom Pond came during the 2016 survey with a bass that measured 23.11 inches and weighed an impressive 6.35 pounds.

Bluegill

The bluegill population within Sandy Bottom Pond has been severely impacted by the overcrowded largemouth bass population. The survey collected only 25 bluegill for a CPUE of 37.5 fish/hr. This catch rate showed a continued trend in declining presence of bluegill (2018 CPUE = 102 fish/hr). The mean bluegill CPUE from past spring surveys is 208 fish/hr. The bluegill size distribution ranged from 1.65 to 8.15 inches, with the majority of fish (80%) less than 6 inches in length. The PSD for bluegill is the proportion of bluegill over 8 cm (stock-size) that are also at least 15 cm (quality-size). The bluegill PSD of 26 is a reflection of the 5 quality-sized bluegill from the 19 stock-sized bluegill that were collected. The 2020 PSD value showed a decline when compared to the 2018 survey (PSD = 41) and was still within the desired range of 20-40. The PSD value was based on a very small sample set of only 19 stock-sized bluegill. The average size bluegill measured in at 4.46 inches, which showed a decline from 2018 (mean TL = 4.84). The largest bluegill measured a respectable 8.15 inches in length. Relative weight value of stock-sized bluegill

was 108. This value showed the fish to be in great physical shape and finding adequate food resources. Although the upper end of the size distribution showed some improvements from past surveys, anglers that fish Sandy Bottom Pond should not expect to catch too many large bluegill.

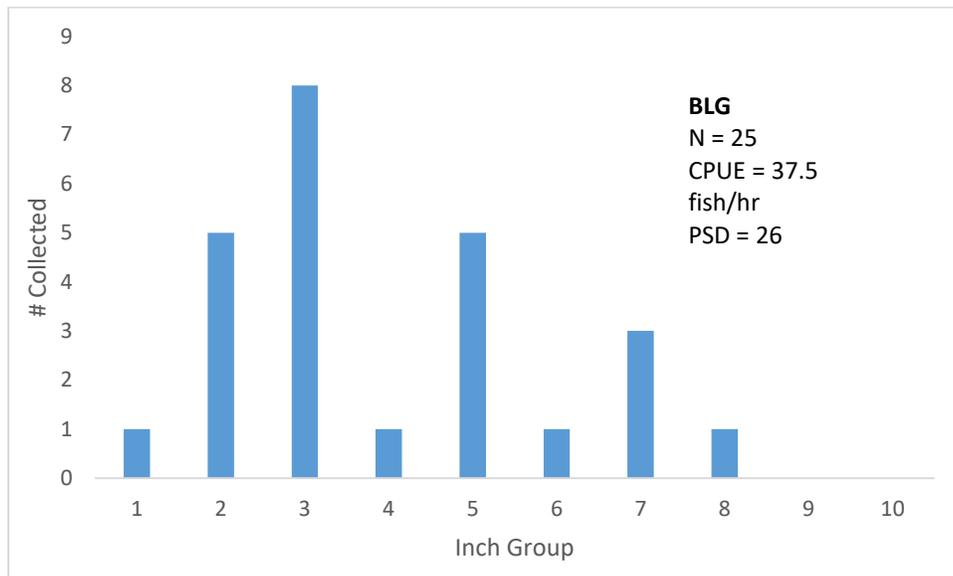


Figure 2. Length-frequency distribution of bluegill collected during the electrofishing survey of Sandy Bottom Pond on April 24, 2020

Additional Species

The survey revealed limited diversity with only four fish species collected. The remaining species collected in limited abundance were American eels and warmouth sunfish. A total of 13 American eels were collected (CPUE = 19.5 fish/hr), which showed an increase from 2018 (CPUE = 12 fish/hr). The eels ranged in size from 10 to 26 inches. Additional eels were observed along the shoreline as they avoided the edge of the electric field. All collected eels were removed from the pond. American eels can directly compete with the bass population for the limited abundance of juvenile sunfish. The survey collected four warmouth sunfish for a whopping CPUE of 4 fish/hr. This catch rate showed a minor increase from 2018 (CPUE = 2 fish/hr). The size range of collected warmouth was 4.37 to 6.61 inches. The survey did not reveal any channel catfish that are stocked into the pond each fall. Sandy Bottom Pond receives 120 channel catfish each year as a way of providing some additional diversity for anglers. These fish species collected in limited abundance will provide some level of excitement to anglers that are lucky enough to find them.

Sample Summary

The electrofishing survey of Sandy Bottom Pond revealed some changes from the previous survey conducted in 2018. The fishery, for the most part, is the classic largemouth bass and bluegill water with a few other species present in a limited capacity. The

largemouth bass population continues to be out of balance with the survey revealing a stockpile of bass in 9 to 12 inch range. The decreased abundance of bass greater than 15 inches in length is an area of concern. Angler harvest of bass greater than 12 inches in length may have directly changed the standing biomass of the population. Anglers should harvest bass in the 9 to 12 inch range to thin out that segment of the population.

The bluegill population appears to be in poor shape based on their low abundance when compared to the largemouth bass population. The bluegill size distribution showed some potential with the largest bluegill measured at 8.15 inches. Very few juvenile sunfish were collected during the survey. The majority of the 1 to 2 inch bluegill from the 2019-year class were most likely consumed by largemouth bass and American eels. Sandy Bottom Pond is stocked with channel catfish each fall. The survey did not reveal any channel catfish. Catfish will typically hold tight to the bottom in deep water that is hard to survey with high frequency electrofishing methods/gear. The continued stocking of channel catfish into Sandy Bottom Pond will hopefully assist the fishery and excite a few fishermen along the way. The survey provided some additional diversity in the form of American eels and warmouth sunfish. Anglers are encouraged to harvest any eels caught as the eel population is most likely having a negative impact on the sunfish recruitment.

The park is open from sunrise to sunset every day except for Christmas; however the fishing pier is open to pedestrians for fishing 24 hours a day. The park is located at 1255 Big Bethel Road, a few minutes from I-64 by way of the Hampton Roads Center Parkway West exit. Please call the park office at (757) 825-4657 or try their website at www.hampton.va.us/sandybottom for additional information.

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