CONSERVE. CONNECT. PROTECT.

Harwood's Mill Reservoir 2020 Popular Report
Virginia Department of Wildlife Resources

This 265-acre impoundment is the terminal reservoir for the City of Newport News water supply system. Oriana Road (Route 620) divides the reservoir into two sections that differ in terms of habitat and fish population characteristics. The northern section has an abundance of cypress trees and is the better producer of bass. The southern section has more open water, which has historically produced decent action for yellow perch and various sunfish species.

An electrofishing survey was conducted on May 20th, 2020. The previous electrofishing survey was conducted on April 20th, 2018. Five electrofishing runs of 1,200 seconds each were conducted. The total effort of 6,000 seconds (1.66 hours) allowed for a representative sample of the fishery. Three survey runs were conducted in the lower basin and two survey runs were conducted in the upper basin. The survey revealed great diversity with 14 species collected. An in depth look at several of these species will be covered in this report.

Largemouth Bass

The survey produced 83 largemouth bass for a Catch Per Unit of Effort (CPUE) of 50 fish/hr. This catch rate showed a decline from the 2018 survey (CPUE = 63 fish/hr). The 2020 CPUE fell below the historic mean CPUE of 55.6 fish/hr (years 1997 – 2018). The survey collected 41 bass from the three survey runs conducted in the lower reservoir basin (CPUE = 41 fish/hr). The survey yielded 42 bass from the two survey runs conducted in the upper basin (CPUE = 63 fish/hr). The lower basin typically provides better spawning habitat for bass during the spring. The survey was conducted well past the heat of the spawn even with the colder water temperatures found during the month of April. Staff shortages and time constraints do not allow each scheduled water body to be sampled at the most ideal time. The catch rate of preferred-sized bass (CPUE = 19 fish/hr) showed a large decline from 2018 (CPUE = 33 fish/hr).

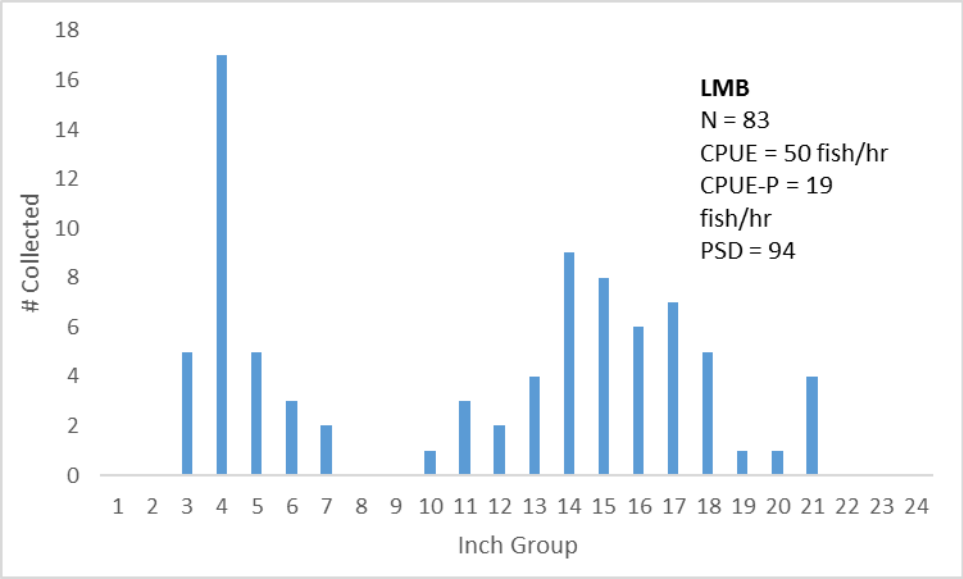

Figure 1. Length frequency of largemouth bass collected during the electrofishing of Harwood's Mill Reservoir, May 20th, 2020

Fisheries biologists of the past established certain size classifications to describe the fish they collected. It is through these size classifications that population dynamics are analyzed. The size designations are stock, quality, preferred, memorable, and trophy. The PSD (Proportional Stock Density) is the proportion of stock-sized bass (8 inches or larger) that are also equal to or greater than 12 inches (quality size). A balanced bass/bluegill fishery has a bass PSD value within the 40–60 range. 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. The RSD-P (Relative Stock Density of Preferred bass) is the proportion of stock-sized bass that are also equal to or greater than 15 inches in length. The 2020 values for PSD and RSD-P (94 and 63) showed some similarity to the 2018 survey (PSD = 97; RSD-P = 64), but fell well above the desired ranges that would describe a balanced bass population**.** The 2020 PSD value represents the collection of 48 quality-sized bass from the 51 stock-sized bass. The RSD-P value represents the 32 preferred-sized bass (≥ 15 inches) from the 51 stock-sized bass. The largest bass measured by length was 21.97 inches with a weight of 5.49 pounds. The largest bass by weight was 5.94 pounds and measured 21.34 inches. The average total length of the collected bass was 11.69 inches. The large assortment of juvenile fish, primarily one-year old bass in the 3 to 5 inch range, decreased the average length.

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 values for stock, quality, preferred and memorable bass (≥8", ≥12", ≥15") were 105, 105, and 104 respectively. These values showed a favorable increase from the 2018 survey (stock = 101, quality = 101, preferred = 100). These relative weight values are well above the preferred range of 95 to 100 as bass are finding plenty of forage.

Bluegill and Redear Sunfish

Harwood's Mill Reservoir has an average bluegill population. The electrofishing survey produced 322 bluegill (CPUE = 193 fish/hr), which showed a minor increase from the 2018 survey (CPUE = 186 fish/hr). The bluegill size distribution was 1.5 to 7 inch range. The average sized bluegill measured 4.08 inches with the largest bluegill measured at 7.16 inches. The bluegill PSD value of 14 showed a favorable increase from 2018 (PSD = 2). This PSD value reflects the collection of 234 stock-sized bluegill of which 33 fish were of quality-size. No preferred-sized bluegill were collected. Bluegill growth rates have not been assessed. The limited nutrients in this high flow-through system may be holding back the growth rates of the bluegill population. Anglers can expect to have decent action from the bluegill, but should not expect to catch many larger fish during your average day on the water.

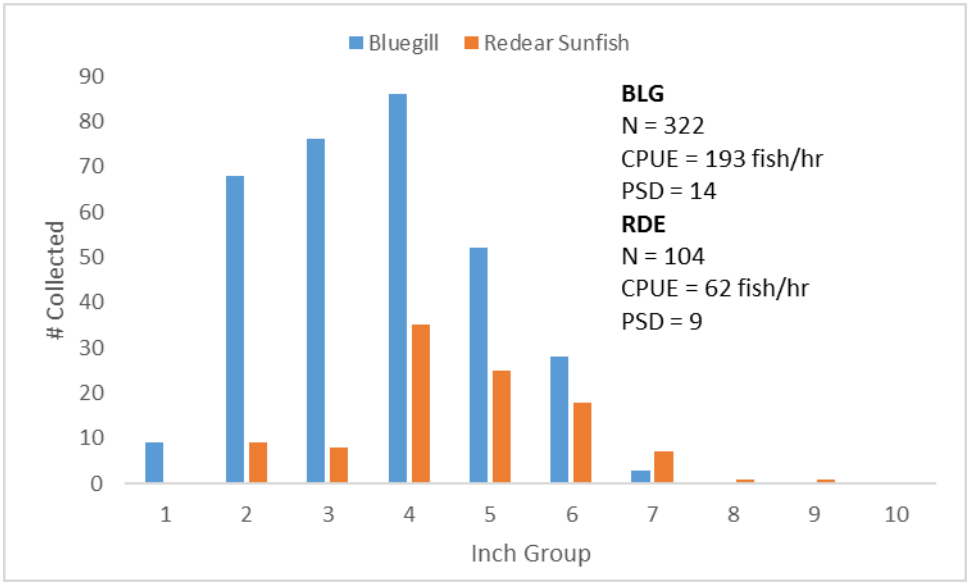

Figure 2. Length frequency of bluegill and redear sunfish collected from the electrofishing of Harwood's Mill Reservoir, May 20th, 2020

The redear sunfish population provides some better potential than the bluegill population when it comes to the possibility of encountering a few larger specimens. The survey produced 104 redear sunfish (CPUE = 62 fish/hr), which showed a decline from the 2018 survey (CPUE = 96 fish/hr). The collected redear sunfish had a length frequency distribution from 2.4 to 9.13 inches). The average length for the redear sunfish was a 5.07 inches. The redear sunfish population may surprise an angler from time to time, as there are a few respectable fish in the 7 to 9 inch range.

Black Crappie

The black crappie fishery within Harwood's Mill Reservoir has historically been severely limited. Past electrofishing surveys of Harwood's Mill Reservoir have yielded limited abundance of black crappie. Surveys have collected only a handful of black crappie at a time. The 2020 survey was pretty much on par with past surveys with 10 black crappie collected (CPUE = 6 fish/hr). This CPUE was below the historic mean

CPUE of 16 fish/hr, but showed a minor increase from 2018 (CPUE = 2.4 fish/hr). Black crappie tend to school up tightly in deeper water more than bass and bluegill. With this in mind, the typical shoreline electrofishing run could miss the black crappie if they were holding in deeper water. The 2020 size distribution was not very impressive with the limited sample set of fish in the range of 3.5 to 7.7 inches. Some anglers that fish the reservoir on a regular basis have been able to catch their fair share of decent crappie from the reservoir. It will take some time on the water to figure out where the schools of fish are holding.

Yellow Perch

The yellow perch population appears to show a decreased abundance when compared to past surveys. The survey yielded a total 22 yellow perch for a catch rate of 13 fish/hr. This catch rate showed a decline from the 2018 survey (CPUE = 30 fish/hr). The length distribution was 5 to 10.35 inches, with the majority of fish in the 6.5 to 7 inch range. Harwood's Mill Reservoir has some potential to produce a few larger yellow perch as evidence by a recent angler report of fish well over 2 pounds. Anglers may be surprised occasionally by a better than average yellow perch, but they should be cautioned that there are very few fish greater than 7 inches in size. Juvenile yellow perch will provide a valuable forage base for the bass and chain pickerel.

Chain Pickerel

The survey produced 27 chain pickerel (CPUE = 16 fish/hr). This catch rate showed an increase from the 2018 survey (CPUE = 8.4 fish/hr) and was above the historic mean CPUE of 11.2 fish/hr. The chain pickerel length distribution consisted of young of year at 2.4 inches all the way up to a solid specimen of 21.69 inches that weighed in at 2.98 pounds. The chain pickerel will have the ability to surprise an angler from time to time. A few citation-sized pickerel have been caught by anglers over the last few years. Anglers are reminded that chain pickerel are important in helping to control the excessive number of juvenile yellow perch that are present. The increased growth of submerged aquatic vegetation on both reservoir basins provide ideal ambush habitat for the chain pickerel population.

Additional Species

The electrofishing survey conducted in 2020 collected 14 fish species. The sample collected the above listed species along with limited abundance of brown bullhead, yellow bullhead, creek chubsucker, American eel, eastern mudminnow, pumpkinseed sunfish, bluespotted sunfish and warmouth sunfish. Out of these species, the only one that will truly provide some angling excitement will be the brown bullhead, which showed some size potential with fish up to 14 inches and 1.5 pounds.

Sample Summary

The 2020 electrofishing survey of Harwood's Mill Reservoir provided some additional insight into the current fishery. The later than normal spring survey most likely underestimated the full stock density of larger bass that are typically found near the shoreline during the spawning season. The bass size distribution showed an abundance of

juvenile bass making their way through the fishery as the 2019-year class appears to be rather strong. The catch rate of preferred-sized bass showed a decline when compared to the 2018 survey. Harwood's Mill Reservoir has historically been one of the better bass fisheries for trophy bass, but recent surveys have shown a sharp decline in bass greater than 5 pounds. It is quite possible that the timing of the survey did not yield the opportunity to cross paths with the 5 to 7 pound bass that are normally found during the electofishing surveys. Relative weight values of collected bass were extremely high and reflect the relative ease that bass have in finding sufficient forage. The size structure of the bluegill and yellow perch continues to leave something to be desired with the majority of these fish in the 3 to 6 inch range. The redear sunfish population picks up a bit of the slack from the bluegill population with some redear sunfish found in the 7 to 9 inch range. The chain pickerel population has shown an increase in abundance with several year classes represented. The collection did not shed much light on the overall strength of the black crappie population as only 10 crappie were collected. Future trap net surveys will be needed to fully assess the strength or limitations of the crappie population. Harwood's Mill Reservoir provides a wide assortment of fish diversity with 14 species collected. Anglers may find some excitement from a variety of fish species that are present, but most of the action will be targeted at the largemouth bass population.

Boats can be rented on both sides of the reservoir on weekends and public holidays from May through September. Private boats can be launched from the ramp on the southern portion of the reservoir. There are picnic facilities and a popular biking trail. Further details can be obtained from the Newport News Department of Parks and Recreation at 757-886-7912. The reservoir is Oriana Road (Route 620) off of Denbigh Boulevard (Route 173). Newport News Waterworks has informed DWR staff that they plan on having the reservoir drawn down several feet to allow for needed repairs to the dam. The full extent of the drawdown to the upper basin's water pool is not known at this time. Some impact to normal day-to-day operations and public access may be present in the near future.