Ni Reservoir Management Report

Popular Report

Federal Aid Project – F111R

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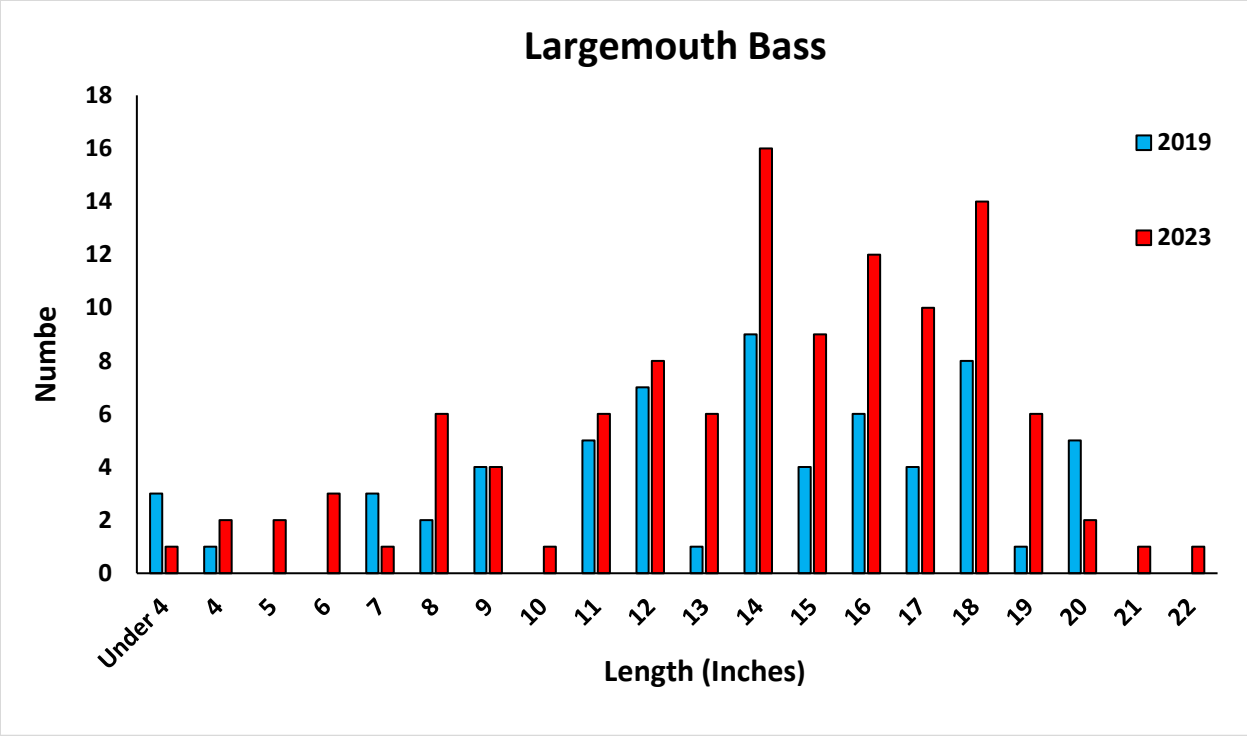
Ni Reservoir is a 411-acre water supply impoundment located in Spotsylvania County near Chancellorsville, Virginia. This waterbody was initially stocked in 1974 with Bluegill and Redear Sunfish, followed by Largemouth Bass and Channel Catfish in 1975-76. Pelagic predator stockings also included Tiger Muskie (1978-1983), hybrid Striped Bass (1986), and Walleye (1987-1993, 1995-1996); however they were discontinued due to poor survival, low angler catch rates, and changes in management philosophies. Currently, the fishery is comprised of self-sustaining populations of Bluegill, Redear Sunfish, Chain Pickerel, Channel Catfish, Black Crappie, Largemouth Bass, and White Perch.

DWR fisheries biologists sample the fishery approximately every three to five years. Recent electrofishing surveys were conducted in 2019 and 2023, allowing for comparisons over time. Biologists utilize shoreline electrofishing to obtain estimates of population size structure and relative abundance. Abundance is usually described as a catch rate in number of fish per hour (CPUE, or Catch per Unit Effort). Biologists employ numerical descriptors of length-frequency data such as Proportional Size Distribution (PSD) when evaluating fish populations. PSD is calculated by dividing the number of fish $\geq$ minimum quality length by the number of fish $\geq$ minimum stock length x 100. Quality length is defined as the minimum size of fish most anglers like to catch (these are by national standards -for example, 12" for Largemouth Bass). Stock length is the minimum length at which a fish provides recreational value and/or is recruited to the fishery (for example, 8" for Largemouth Bass). PSD-* is the percentage of any designated length group (*) found within a population and is calculated by dividing the number of fish $\geq$ specified length by the number of fish $\geq$ minimum stock length x 100. "Preferred" bass are those 15" or longer, while "memorable" fish are those 20" or longer.

Largemouth Bass

The population structure of Largemouth Bass (LMB) remained similar to findings in 2019, with Proportional Size Distribution (PSD) values slightly increasing to 84 in 2023 over the previous sample of 79 in 2019. A PSD value of 40-70 indicates a balanced fish population. Size Distribution of "preferred" fish (PSD-P) increased to 59 in 2023 from 52 in 2019, suggesting a shift in the population towards larger fish. Catch per unit effort (CPUE) of Largemouth Bass increased greatly in 2023 to 111 fish/hr from ther 63 fish/hr in 2019, with CPUE of "preferred fish" increasing to 61 fish/hr in 2023 from the previous 30 fish/hr. Angler success should improve at Ni Reservoir with good numbers of bass larger than 15" available and up to 22". Anglers should target aquatic vegetation around the reservoir shorelines, lily pads held the most fish in the most recent survey.

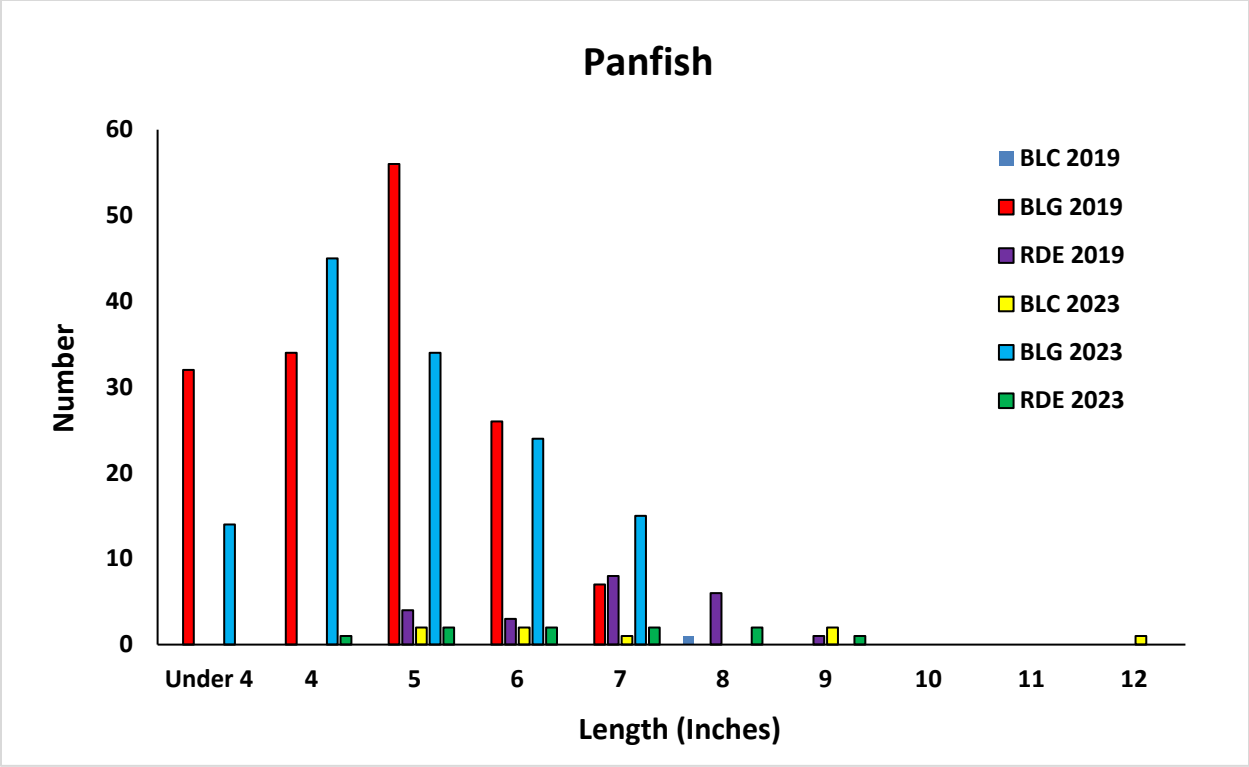


Black Crappie

Black Crappie (BLC) CPUE in 2023 was higher (8 fish/hr) compared to 2019 where a single crappie was collected. Most of these were in the 5” to 8” range, but fish up to 12” were collected. PSD was 38 in 2023, indicative of a balanced population. As water temps were in the low 70s, the majority of fish likely went deep seeking cooler water and were not susceptible to sampling gear. Crappie populations are known for fluctuating due to high annual variation in spawning success. Crappie are piscivorous and can compete with bass exacerbating poor growth and suboptimal size structure for both species. Anglers targeting BLC should focus on underwater structures, and are encourage to keep the limit of 25/day.

Panfish

Bluegill (BLG) PSD values increased to 42 in 2023 20from 37 in 2019, remaining indicative of a balanced population (balance 20-60). CPUE decreased to 132 fish/hr from the 155 fish/hr seen in 2019. Redear Sunfish (RDE) PSD values decreased to 50 from 68, and CPUE decreased from 22 fish/hrto 10 fish/hr). These trends could have been as a result of a smaller population of Redear Sunfish in the reservoir, or they may have been missed in the samples. Ample opportunities exist for anglers to target panfish during spring/summer when these fish tend to move into shallow shoreline areas easily accessible from bank or boat. Anglers just need to be mindful that most fish will be less than 6 inches. It’s not surprising the RDE and BLG fisheries were slightly depressed, as this is a common occurrence when these species cohabitate with Gizzard Shad and White Perch (both of which are self-sustaining in Ni Reservoir).



White Perch are also abundant in the reservoir and are an underutilized resource that anglers are encouraged to harvest. Opportunities to catch Chain Pickerel, Yellow Bullhead, Brown Bullhead, Warmouth, Bowfin and Channel Catfish also exist.

Spotsylvania County Parks and Recreation operates a concession at the lake where anglers can purchase a daily/or annual fishing permits, rent/launch boats, or buy drinks and snacks. Reciprocal annual fishing permits are available to residents of Spotsylvania, Stafford, and the city of Fredericksburg, which allows seasonal access to Ni Reservoir and Mott's Run Reservoir. Ni Reservoir can be reached from I-95 by taking Rt. 3 west to Rt. 627 south.

For more information on Ni Reservoir please contact:

Spotsylvania Parks and Recreation Department

540-507-7529 or the concession at 540-582-2144.

Virginia Department of Wildlife Resources

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