



**Lake Curtis Management Report**

***Popular Report***

**Federal Aid Project – F111R**

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Lake Curtis is a 91-acre Department owned public fishing lake in Stafford County. With exception of the dam site, all timber was left standing in the lake basin creating excellent fish habitat. Curtis Memorial Park (~ 500 acres) is a multi-use facility bordering the lake which offers tennis courts, a swimming pool, golf course, and picnic area. These accommodations make Lake Curtis truly an ideal destination for family activities, offering something for everyone. In 1978, Lake Curtis was initially stocked with Largemouth Bass, Redear Sunfish, Bluegill, Channel Catfish, and Tiger Musky. Today, populations of Largemouth Bass, Redear Sunfish, Black Crappie, Bluegill, and Warmouth are all maintained by natural reproduction. Channel Catfish have been stocked annually since 1986 due to limited or no natural reproduction. The lake is fertilized annually to stimulate the aquatic food chain, and also receives extra nutrients from the golf course. These added nutrients increase the lake's productivity and overall fish production without adding to nutrient loads downstream.

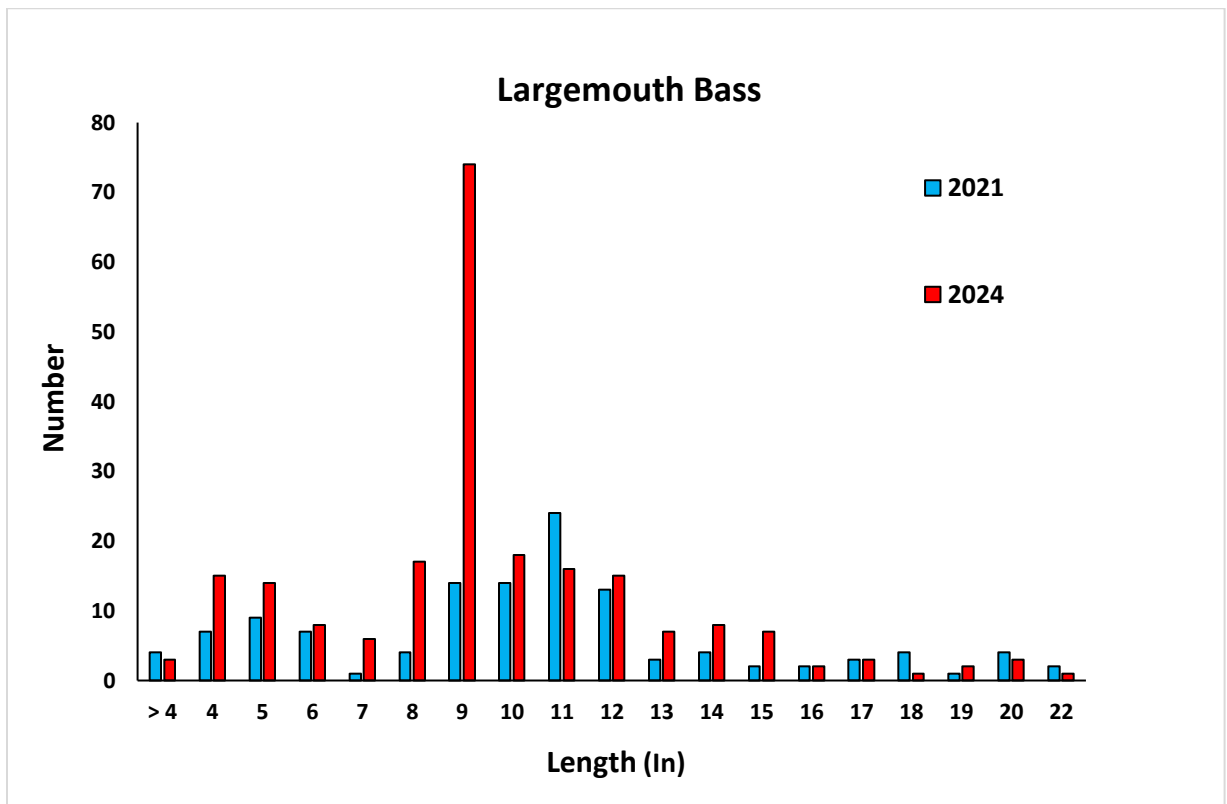
Lake Curtis is sampled every 3 to 5 years by electrofishing to assess the status of the fishery, most recently in 2024. Electrofishing is an active sampling method used to sample fish populations to determine abundance, density, and species composition. Curtis currently ranks 12<sup>th</sup> in the NOVA district waters for catch rate of preferred size ( $\geq 15''$ ) Largemouth Bass.

Biologists use shoreline electrofishing to obtain estimates of population size structure and relative abundance. Abundance is usually described as a catch rate of fish per hour of sampling effort (CPUE, or Catch per Unit Effort). Biologists employ numerical descriptors of length-frequency data such as Proportional Stock Density (PSD) and Relative Stock Density (RSD) 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 (by national standards for each species - 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 (8'' for Largemouth Bass). RSD is the percentage of any designated length group found within a population. RSD 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 larger, while memorable fish are those 20'' or larger.

### ***Largemouth Bass***

The population size structure of Largemouth Bass in 2024 was slightly smaller than the previous sample in 2021. The Proportional Stock Density (PSD) value was 32 in 2024, less than the previous sample in 2021 (43). A PSD value of 40-70 indicates a balanced fish population.

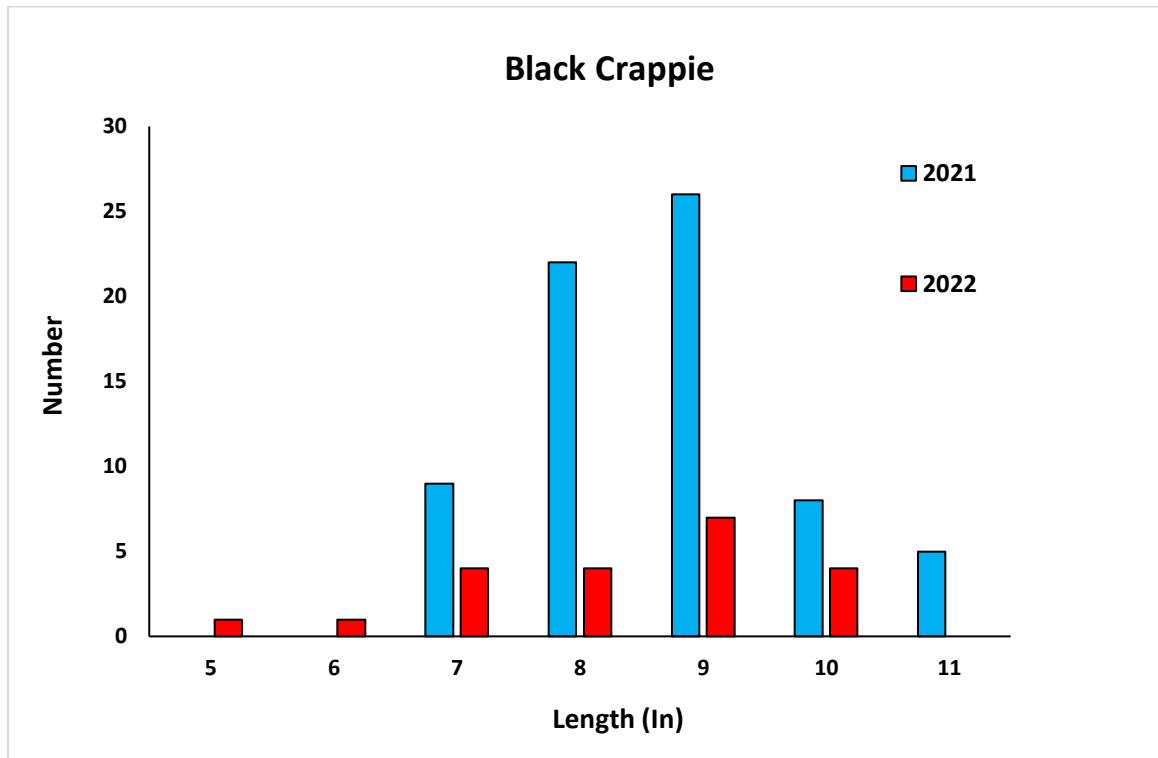
Relative Stock Density of Preferred fish (RSD-P; ratio of adults greater than 15”) decreased to 13 in 2024 from the previous sample (20), suggesting a shift in the population towards smaller fish and an unbalanced population. Catch per unit effort (CPUE) of Largemouth Bass was a high 220 fish/hr, greater than 2021. CPUE of preferred size bass decreased in 2024 (23 fish/hr) as compared to 2021 (29/hr). This shift is due to the majority of bass collected being 8-10”. High catch rates of 8-12” bass should provide improved angling in coming years as they recruit to “preferred” size. Anglers are encouraged to practice catch and release on larger bass, as their value to the fishery can provide enjoyment for the many other anglers that fish the lake.



### ***Black Crappie***

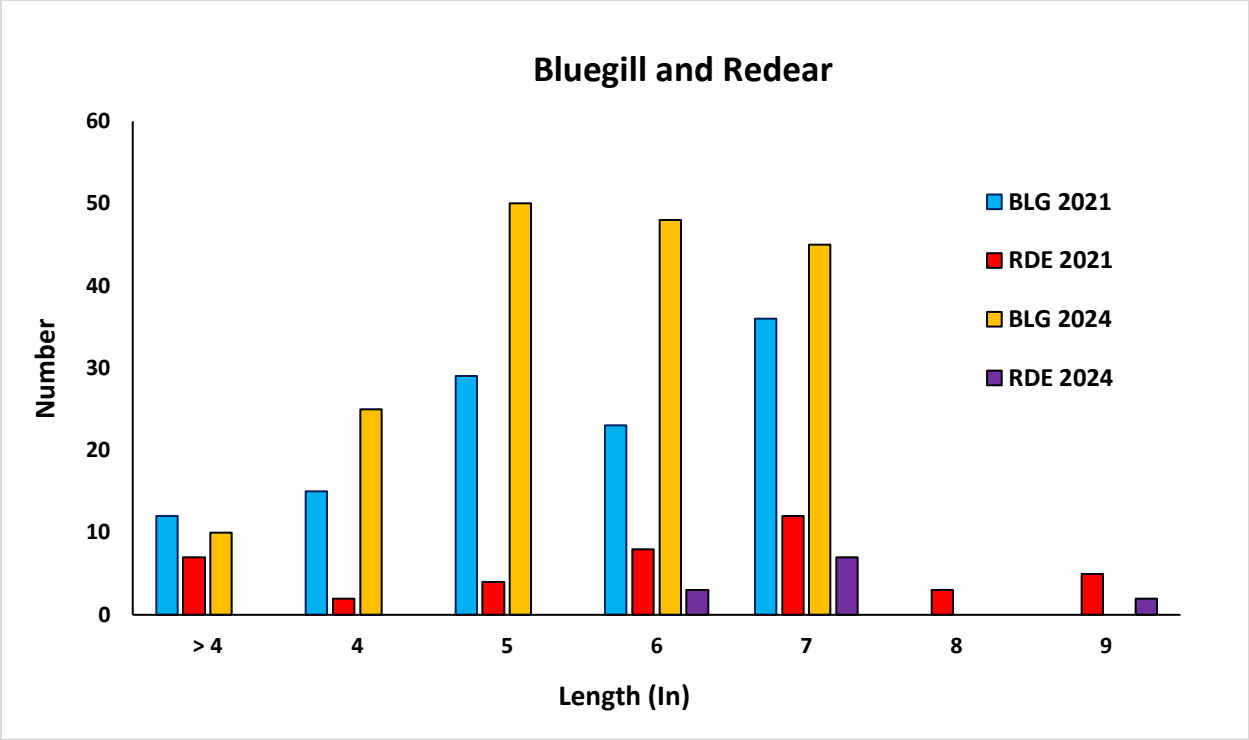
Black Crappie (BLC) electrofishing CPUE significantly decreased in 2024 (21 fish/hr) from the previous sample of 70 fish/hr. Lake Curtis provides an average Black Crappie fishery with numerous fish in the 8 to 10 ” range. Proportional Stock Density (PSD) decreased in 2024 to 80 from the 2021 sample of 97. A PSD of value of 30-60 is indicative of a balanced population. The PSD values suggest the population is lacking some of the smaller fish less than 8 inches. A RSD-P value of 25 in 2024 was less than the 2021 sample (29). Crappie populations are known for fluctuating due to high annual variation in spawning success. Black Crappie are generally considered undesirable in small impoundments due to their ability to quickly

overpopulate and stunt. Anglers are also encouraged to harvest any crappie caught up to the 25-fish/day creel limit. Crappie are readily available lake-wide especially in the spring and fall months.



### *Panfish*

Bluegill (BLG) electrofishing PSD increased from 52 to 65 in 2024, which suggests the population is close to balanced and stable. CPUE increased to 178 fish/hr from 141 fish/hr in 2021. Redear Sunfish PSD values also increased from 46 to 75 in 2024. A CPUE of 12 fish/hr in 2024 was a decrease from 41. Panfish fisheries are typically considered balanced when PSD falls in the range of 20 – 60. Both populations are close to being balanced with the majority of fish being 5 to 7 inches, so anglers need to be mindful that most fish caught will be on the smaller side. There is no size limit on sunfish (Bluegill, Redear Sunfish, Warmouth, etc.) and anglers can harvest 50 sunfish (combined) per day. Anglers are encouraged to harvest these species in hopes of thinning the populations to allow for increased growth and eventually larger fish. Opportunities also exist to catch White Perch with harvest of this species also highly encouraged. Channel Catfish were collected up to 22 inches and are stocked annually at 10 fish per acre.



Lake Curtis has a large parking lot, boat ramp, courtesy pier, and several handicapped accessible fishing piers. Anglers can reach Lake Curtis from I-95 and Fredericksburg by taking Rt. 17 north to Rt. 616 north. Follow Rt. 616 to Rt. 622, then turn left (west) to reach the boat ramp. Curtis Memorial Park can be reached by continuing on Rt. 622 and then turn left on Rt. 612. Additional information about the lake can be obtained by contacting the DWR Regional Office in Fredericksburg (540-899-4169) or for information pertaining to Curtis Memorial Park, contact Stafford County Parks and Recreation Department (540-752-5632).

