



Abel Reservoir 2010

Abel Reservoir is a 185 acre water supply impoundment serving Stafford County. The reservoir has one primitive boat ramp and associated parking area that is maintained by Stafford County Parks and Recreation Department. This access point is located off Route 651 on the upper end of the lake. Initial fish stockings (largemouth bass, redear sunfish and bluegill) occurred in 1973, and channel catfish were stocked in 1974. Channel catfish were then maintenance stocked (usually on alternate years) at 25-50 per acre, and walleye were stocked annually (usually at 50/acre) from 1977-1992 and biannually from 1994-1996. Walleye stocking was discontinued after 1996 due to changes in statewide walleye management. Stafford County received permits to stock sterile triploid grass carp during the 1990s after the aquatic weed Hydrilla became established in the reservoir and impeded shoreline angling and boat launching. Other fish species known to exist in this riverine impoundment include black crappie, redear sunfish, chain pickerel, warmouth, white sucker, white perch, golden shiner, American eel, yellow bullhead and brown bullhead.

Electrofishing and trap netting were historically used to sample the fishery. Recently, electrofishing samples were conducted in 2005 and 2009. Despite the long intervals between samples, comparisons are still useful, and the most recent sample can be compared with data from other district impoundments.

In 2009, the electrofishing catch rate (CPUE) of largemouth bass was 144/hour, an increase from 99/hour in 2005. The CPUE of “preferred” bass (those 15” and greater) decreased from 20/hour in 2005 to 14/hour in 2009. Proportional Stock Density (PSD) and Relative Stock Density (RSD) are numerical descriptors of length-frequency data that is used to describe the size structure of a fishery.

PSD is calculated by the formula:

$$\text{PSD} = (\# \text{ of fish} \geq \text{min. quality length} / \# \text{ of fish} \geq \text{min. stock length}) \times 100$$

RSD is calculated by the formula:

$$\text{RSD} = (\# \text{ of fish} \geq \text{specified length} / \# \text{ of fish} \geq \text{min stock length}) \times 100$$

PSD values of 40-70 are indicative of balance for largemouth bass. The PSD value for largemouth bass was 34 in 2009, a decrease from 49 in 2005 which indicates that the population is slightly out of balance, likely a result of slowing growth rates due to increased competition. RSD-P values are for “preferred fish” or the proportion of bass in a population over eight inches that are also at least 15”. RSD-P values were 20 in 2009 and 24 in 2005 suggesting that there are currently a few less bass greater than 15” than there were in 2005. Abel Reservoir currently ranks as the 11th best of 19 impoundments in the district and 14th best of 33 impoundments in the region for largemouth bass based on catch rates of “preferred” fish.

Bluegill size structure was relatively consistent and was within the desirable range. CPUE for “quality” fish (those 6” and greater) increased from 40/hour in 2005 to 74/hour in 2009. This is probably a result of more predators thinning out the bluegill allowing for more bluegill growth due to reduced competition among them. The redear sunfish population was also healthy with individuals over 8” collected. In most cases, PSD values of 20-60 indicate balance in a bluegill population. Bluegill and redear sunfish PSD values were 23 and 60 which are indicative of balanced populations. These sunfish populations are similar to those in other district small impoundments.

A strong black crappie population was observed with a catch rate of 117/hour and an ideal size distribution. Abel is also known as a good channel catfish lake and continues to get stocked annually. Though not vulnerable to standard electrofishing gear, channel catfish were nonetheless observed again during both the 2005 and 2009 samples further suggesting that a good population was present – likely the result from years of stocking.

Future plans for Abel Reservoir include monitoring the fishery with electrofishing gear in 2014, conducting age and growth analysis for bass and to maintaining current fishing regulations. Annual channel catfish stockings will continue at a rate of 10 fish/acre.

Anglers can access Abel Reservoir from I-95 and taking Route 17 north from Fredericksburg, From Rt.17, turn right onto Route 616 and the right again onto Route 651. Additional information about the lake can be obtained by contacting the DGIF Regional Office in Fredericksburg (540-899-4169).

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