



Lake Orange Management Report

*Popular Format*

Federal Aid Project – F111R

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### ***Introduction and History***

Lake Orange is a 124-acre Department-owned public fishing lake in Orange County that was impounded in 1964 and opened to fishing in 1967. The lake is located a few miles east of Orange, VA and offers a scenic setting surrounded by gently rolling farmland and hardwood forests. Lake Orange can be reached by taking Route 629 off of either Route 20 or Route 522, depending on where you are traveling from. Signs for Lake Orange are posted as to where to turn. Travel on Route 629 until you see Route 739. Route 739 will take you to the peninsula located in the middle section of Lake Orange. Access to the lake is off of the main lake peninsula on the western side where the boat ramp, concession, fishing pier, parking lot, picnic facilities and plenty of great shoreline access can be found.

Lake Orange offers a concession that provides boat rental, bait and tackle. Picnic facilities of a shelter, tables and grills make for an enjoyable family outing. The lake is open year round and 24 hours a day for shore fishing and private boats. The concession is open from mid-March through mid-October, however; the other facilities are open all year. The fishing pier is a popular spot for handicapped and shore-bound anglers. Several fish attractor reefs have been installed around the lake to help concentrate fish in areas accessible to anglers. Fish reefs are marked by buoys and a few have been suspended under the fishing pier.

Lake Orange supports a typical warmwater fish community of largemouth bass, bluegill, redear sunfish, black crappie, channel catfish, chain pickerel, white perch and walleye. Northern pike have been stocked occasionally over the last decade, and a very limited fishery exists. Walleye and channel catfish are stocked on a regular basis to provide anglers with good fishing opportunities. Lake Orange is fertilized annually, as the added nutrients increase the lake's productivity and angler catch.

The lake became known for producing the world record white bass of 6 pounds 13 ounces in 1989. How white bass were introduced into Lake Orange is still a mystery, as they were never officially stocked. Illegal angler introduction or accidental hatchery stocking are two possible answers. Gizzard shad were first documented in Lake Orange sometime in the mid-1990's, and the population is now well established. The main target species for anglers at Lake Orange are black crappie and largemouth bass.

## ***Methods***

DGIF fisheries biologists sample the fishery approximately every 4-5 years. Most recently, an electrofishing sample was conducted in May 2011. Biologists employ numerical descriptors of length-frequency data such as Proportional Stock Density (PSD) and Relative Stock Density (RSD) when evaluating fish populations. Proportional Stock Density is calculated by dividing the number of fish  $\geq$  minimum quality length by the number of fish  $\geq$  minimum stock length  $\times$  100. Quality length is defined as the minimum size of fish most anglers like to catch. Stock length is the minimum length at which a fish provides recreational value. Relative Stock Density (RSD) is simply 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  $\times$  100.

## ***Bass***

Lake Orange has a 16-22 inch slot limit on largemouth bass, which means that fish 16 to 22 inches in length must be released. Anglers may harvest 5 bass per day, but only one bass may be larger than 22 inches. The slot limit allows for more harvest of the abundant smaller bass, while promoting the protection of larger bass to a trophy size.

The 2011 electrofishing sample produced 122 largemouth bass/hour of sampling. The data showed the CPUE-P (catch rate of fish  $\geq$  15") to be 8 per hour. Based on CPUE-P, Lake Orange is ranked 16<sup>th</sup> out of 19 popular northern VA impoundments. Largemouth bass stock density values were indicative of a quality balanced fishery (PSD 51, RSD-P 10). The largemouth bass fishing is good at Lake Orange with numerous fish in the 10 to 12 inch size range with trophy bass up to 24 inches available. The 2014 Lake Orange creel survey revealed anglers caught and released 825 largemouth bass. Anglers harvested 193 bass (214 lbs.) with the average weight being 1.1 pounds indicating that smaller bass are being harvested.

## ***Panfish***

The Lake Orange crappie fishery is healthy and abundant. Creel surveys have been conducted at Lake Orange over the years with angler species preference being

recorded. Black crappie and largemouth bass have been the most sought after species. Black crappie were the dominant species caught during the 2014 creel survey with a harvest of 886 fish totaling 449 pounds of crappie (average weight was 0.5 pounds) and a average length of 10 inches.

Bluegills are abundant with fish averaging in the 6 – 8 inch size range. The 2014 creel survey results indicate that 348 bluegill were harvested for a total weight of 162 pounds (average weight of almost 0.5 lb). Redear sunfish are also plentiful with many fish in the 8 – 10 inch range. Gizzard shad have fully established themselves in Lake Orange and as a result largemouth bass are feeding more upon the shad and less on the bluegill. This change in the food chain allows for increased numbers of bluegill surviving to spawn, producing greater year classes of bluegill. The biomass of bluegill if not thinned out by predators or angler harvest, will shift toward slower growth and smaller size, resulting in a stunted population. Anglers are encouraged to continue harvesting bluegill.

### ***Walleye***

Lake Orange offers a nice walleye fishery. The lake has been stocked annually at a rate of 100 walleye/acre since 1977, however the lake will be stocked at a rate of 200 walleye/acre from 2014-2018 for a study. The study is designed to learn more about angler catch rates and harvest of walleyes with variable stocking rates. Approximately one hundred walleye will be tagged annually at Lake Orange during the study with sequentially numbered floy tags attached below the dorsal fin. Anglers who catch a tagged walleye can return the tag (with information) for a \$20 reward. Anglers who actively target walleye have some success with catches of fish in the 3 to 5 pound range not uncommon. Walleye should be more abundant during the study resulting in more success for anglers.

### ***Catfish***

Channel catfish have done well at Lake Orange and are the second most abundant species harvested at the lake. Channel catfish have been stocked since the lake was first impounded in 1964. The lake has been stocked annually since 1986 and the current

stocking rate of 10/acre produces numerous catfish in the 2-pound plus range. In 2014, anglers harvested 429 catfish for a total of 574 pounds. The average weight of harvested catfish was almost 1.5 pounds.

### ***Management Outlook***

Lake Orange continues to provide a wide range of angling opportunities. The creel survey has shown that the number of anglers visiting Lake Orange has increased and many fish are being caught. Anglers should continue to have success with all species and are encouraged to continue harvest of small bass and bluegill. A community electrofishing survey will again be conducted in May 2015. The creel survey, walleye and catfish stockings will continue annually.

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