



LOWER SHERANDO LAKE

Fisheries Management

Sport Fish Restoration Document F-111-R-11

April 1, 2002 to March 31, 2003

Who is responsible for fisheries management at Lower Sherando Lake?

The professionals responsible for fishing programs at Lower Sherando Lake are fisheries biologists at the Virginia Department of Game and Inland Fisheries (DGIF) in Verona, VA (540-248-9360) and the U. S. Forest Service (540-291-2189).

What are the responsibilities of the fisheries biologists?

Fish stocking, fish sampling, water quality monitoring, habitat improvement, aquatic weed control, angler access, angler surveys, program development, fishing regulation proposals, coordination with Forest Service staff, and public outreach.

Who owns Lower Sherando Lake?

The U. S. Forest Service owns the 70-year-old, 20-acre impoundment and manages it as a recreational facility. A smaller upper lake is located upstream and serves as a flood control structure. Much of the infrastructure at the 100-acre Sherando Recreation Center was built by the Civilian Conservation Corps in the 1930's. Modern campgrounds, complete with showers, flush toilets, drinking water, and a dump station are located near the lake. A small amphitheater is the venue for programs on wildlife, resource management, and natural or cultural history on summer evenings. Use of gasoline motors are prohibited.

What kind of fish can I catch from Lower Sherando Lake?

Largemouth bass, bluegill, redear sunfish, and channel catfish are the warm water fish species likely to be encountered at the lake. Limited populations of yellow bullhead (catfish), green sunfish, and black crappie are present, as well. Lower Sherando Lake is also stocked with rainbow trout by DGIF eight times October through May. Other than trout, the only other species stocked are channel catfish, which lacks the appropriate habitat for spawning.

Who needs a license to fish?

A state resident, non-resident, or 5-day trip license for those 16 years and older is required at all times. A trout license, in addition to a regular fishing license, is required for Lower Sherando Lake from October 1 – June 15. A National Forest Permit is also needed to fish the lake.

Fishing Regulations		
Species	Daily Limit	Minimum size
Largemouth bass	5/day	12 inches
Sunfish	50/day	no minimum size
Crappie	25/day	no minimum size
Channel catfish	5/day	15 inches
Trout	6/day	7 inches

How do the biologists check the fish populations in the lake?

Biologists sample fish populations in a variety of ways. Electrofishing is used at Lower Sherando Lake to assess the warm water fish population. Bass and panfish populations were examined with electrofishing gear in 1984, 1987, 1989, 1996, 1999 and 2002.

Different types of nets can be employed to target sport fish that live in deep or open water. Channel catfish can be effectively monitored with gill nets, but this technique has not been used in Lower Sherando Lake because of the probability of capturing a significant number of stocked trout.

What kind of things do biologists do with the fish after they “shock” them?

Biologists target both predators and prey. As they work their way around the shoreline at night with their boat electrofisher, they “dip” whatever bass, panfish, catfish, and trout that get stunned and can be easily netted. In a small lake like Lower Sherando Lake, usually one trip around the lake constitutes a sample. The entire sampling trip is timed. Fish are identified, counted, measured, weighed, and released unharmed. In other studies, some fish are tagged and others are taken back to the lab for age and growth analysis.

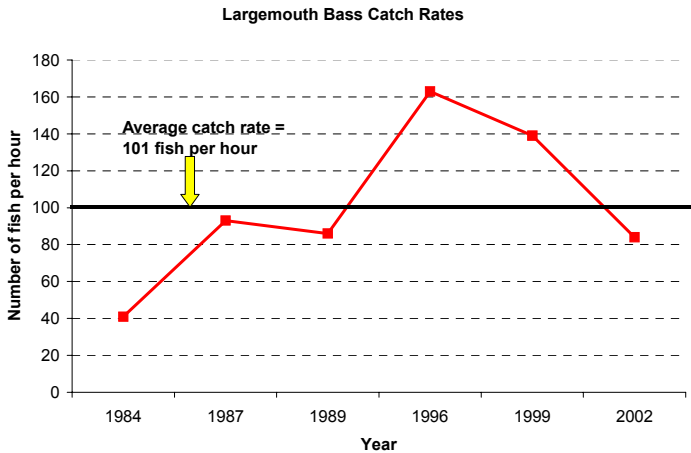
What do biologists do with the information?

First, density or relative abundance of target species is determined. This is calculated by taking the total number of an individual species and dividing by 3,600 seconds (1hour). By normalizing our count by one hour, we can compare the number of largemouth bass from sample to sample, from year to year, from lake to lake. Too many predators can result in an abundance of small, skinny fish. Too few can produce more trophy size fish, but a longer wait between bass bites. The same reasoning applies to prey species. The idea is to achieve balance in a fish population. Slow growth can be found by determining a fish's age and looking at its length at that age. This can be done by counting annuli, or growth “rings”, on hard structures such as scales or otoliths (ear stones). Biologists also divide fish into size groups and use simple ratios to evaluate the balance of medium, keeper, and trophy size fish in the population. These are referred to as population indices, and they can be used to monitor species balance over time. Are fish too thin for their length? “Plumpness” can be measured using an index that compares the weight of an individual fish to those of the same size across the U.S. This is called relative weight and a fish scoring 100 would be considered the right weight for its length. Fishing regulations, such as length limits, are usually derived from periodic sampling and from harvest data generated through angler surveys. Often, a minimum length limit, such as 12 inches for bass, is imposed on a lake. Such a regulation is designed to make anglers “throw back the little ones”. This type of regulation is fine if you are trying to maintain a large number of small bass. Another type of length

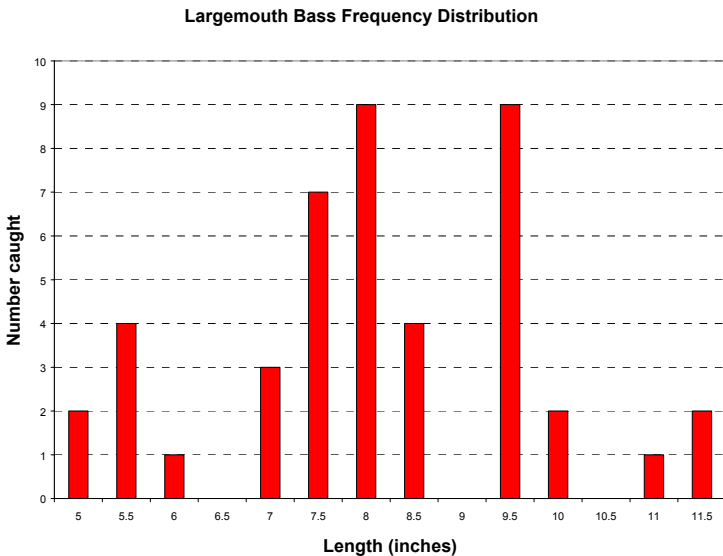
regulation is a “slot size limit”. A slot limit is meant to protect a group of fish (usually of larger size), and allows anglers to harvest younger fish and trophy fish. This regulation is used to “thin out” plentiful young fish while protecting substantial numbers of quality size fish.

What does the fish population look like in Lower Sherando Lake?

Largemouth bass: The 2002 catch rate for this predator was around 84 fish per hour. This rate is above average for small lakes in Virginia. Look at the graph below to see how the largemouth bass catch varied over time.



In 1984, only 41 bass per hour were caught. As the above graph shows, the catch rate increased to 163 in 1996, but has dropped to 84 in 2002. Is this level of predator too high? Only if it slows down growth and reduces the food supply in the lake. A catch rate of 84 is more desirable than a density of 163. In 2002, the average size in the sample was 11 inches and the largest was 23 inches long.



The red bar graph above shows the distribution of largemouth bass by size. The bulk of the bass fishery is composed of fish from 7-9 inches, however, the opportunity to catch trophy size bass exists. Although there are plenty of bass in the lake, most are small. Are they fat for their size? Yes. The average relative weight was 94 (out of 100). Bass can be caught around any woody debris (brush piles, beaver lodges, fallen trees), large rock, or drop-offs.

Panfish: Three types of panfish were found at Lower Sherando Lake in 2002: bluegill, redear sunfish, and black crappie. Bluegill

are the most abundant and are the main prey item in the lake. The redear sunfish population, very robust in the 1990’s, still maintains a strong presence in the lake. These sunfish grow to trophy proportions and can be located along deep drop-offs. A single black crappie, probably introduced by well-meaning anglers, was collected. Crappies are desirable sportfish in large reservoirs, but tend to overpopulate and stunt in small lakes like Lower Sherando Lake. We’ll keep an eye on this species in future surveys.

Channel catfish: This popular sportfish has been stocked annually since 1996. In 1997, the Forest Service and DGIF purchased a large number of channel catfish to be stocked in USFS impoundments. Lower Sherando Lake received an allocation of 550 channel catfish that year. In fact, VDGIF has changed its channel catfish stocking policy and will be introducing larger (>10 inches) fish on an alternating-year basis. Although no channel cats were sampled in 2002, Upper Sherando Lake was drained and several harvestable specimens were moved to the lower lake. With a good forage base and the introduction of larger fish, catfishing should improve in Lower Sherando Lake over time. Channel catfish have the reputation of being “trash” eaters. Not so. Channel catfish are very predacious and have been known to even take a fly on the surface. Use live minnows, night crawlers, or “stink bait” fished on the bottom for best results.

Other species: A single stocked brown trout and seven stocked rainbow trout were netted in the 2002 electrofishing survey. Typically, trout are found in deep water in the summer and the shocking gear does not do an effective job sampling for them. Fingerling walleye were stocked from 1988-1993, but were discontinued due to lack of angling and sampling success.

What other kinds of fisheries improvement work has taken place at Lower Sherando Lake?

Beaver have been busy adding woody structure to the lake, in the form of lodges and dropped trees. USFS and DGIF personnel added brush structure in 1999, but none since.

What is the fishing future at Lower Sherando Lake?

Adult channel catfish will be stocked biennially. Catchable trout will be stocked at current levels. DGIF will continue to work with the Forest Service on lake management issues, especially development of handicap access. We hope you enjoy your fishing experience at Lower Sherando Lake!

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