# Going off the deep end at Lake Jocassee

**BY PHILLIP GENTRY**
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As a fisherman, I love the beauty of Lake Jocassee, especially when I'm holding a fishing rod. Even without the fishing, the scenery around Lake Jocassee is breathtaking.

Overlooking the obvious signs that drought has stricken the water levels, even 20 feet below full pond is a drop in the bucket when you consider Jocassee's depths nearly touch 300 feet.

The landscape is a vertical one from the water with towering trees that stretch upward from rocky slopes and sheer cliffs. With development along less than 5 percent of the shoreline, and that only near the public access area, the surrounding Jocassee Gorges property embodies the Appalachian chain.

In winter when high clouds hang over the mountains and low fog hang over the water — it's often hard to tell where the land ends and the sky begins.

Below the surface is an equally if not oppositely other-worldly view. Scuba divers who frequent the clear waters during the summer describe sheer rock faces the size of buildings and boulders the size of dump trucks scattered along its floor. Even deeper within Jocassee's pools are standing forests of trees that reach into depths unseen.

According to biologists, for all the abundant life above and below the water, Jocassee is classified as a relatively infertile reservoir. The deep, cold water gives little purchase to decomposing matter on the lake floor, which bolsters nutrient loads in other lakes.

The lake's tributaries also provide cold, clear water that flow pristine but are lacking in fertility. Despite these conditions, Jocassee offered the state the possibility of creating a cold water trout fishery in a man-made lake environment.



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**After establishing a trophy trout impoundment at Lake Jocassee, biologists are now working to make sure they can keep it amid growth of the lake's popularity.**

During impoundment, fisheries biologists weren't exactly certain that an impoundment fishery for trout was viable. Trout need cold water and high dissolved oxygen levels on a year-round basis to survive and questioned if the lake, while incredibly deep by South Carolina standards, would provide this and enough food for trout to survive.

Since it was understood trout would not reproduce in the lake, annual stockings of brown and rainbow trout from the nearby Walhalla fish hatchery, a then-federally owned trout hatchery that was the source of stock brood for mountain streams in the Appalachian Mountains, were needed.

In 1972, 10,000 nine-inch brown and rainbow trout were stocked into Jocassee. As a gesture of good faith, 34,000 threadfin shad were also planted in the hopes that the trout would learn to survive on bait fish over their normal diet of insects and crayfish.

The state records for the two trout species prior to the Jocassee project was 5-08 for rainbow trout and 13-01 for brown trout.

In 1987, Larry Edwards of Pickens established the current state record for brown trout at 17-9.5, and then in 1993, Scott Coggins of Travelers Rest reset the current rainbow record at 11-5. Both fish came from Lake Jocassee.

The question of whether the SCDNR would be able to create a trophy trout fishery at Lake Jocassee has been unequivocally answered. Can they keep it is the next question. Several challenges present themselves, according to Dan Rankin, SCDNR biologist who oversees Jocassee.

"Our biggest concern is the decreased lifespan of these trout in Jocassee," he said. "Trout must be at least 15 inches in length to harvest from Jocassee.

"In the early days we had brown trout living 4-5 years or longer and now 3 years is about the max."

One obvious reason for the decreased lifespan is mortality by anglers. Trout fishing used to be a springtime-only event when the fish were in the upper levels of the water column. Anglers have learned the patterns of the lake trout and now pursue them year round using advanced deep water trolling tactics with downriggers and specially designed baits.

Problems also exist with excessive hooking mortality of sub-limit fish. Trout have a tendency to swallow live baits and are difficult to grasp without injuring to remove artificial baits. Often, the biggest toll is taken when any fish is brought up from the depths, and is especially lethal during the summer.

A third factor that Rankin believes may have an impact on trout mortality is spawning stress. Females, which are typically the bigger trout, expend energy developing eggs that later have to be reabsorbed by their bodies. Rankin claims this effort could be short-cut by stocking triploid, or sterile, brown trout into the lake.

"Since the fish don't reproduce anyway, we've been experimenting with stocking triploid fish into Jocassee," said Rankin. "We find plenty of big female browns still full of eggs up into March. That occurs when there are not enough natural triggers to induce the fish to lay eggs. Our hatchery folks can remedy this by placing the fertilized eggs under pressure shortly after fertilization. The pressure alters the chromosome count and those fish can't reproduce so they won't expend the effort to spawn. Hopefully that effort will be placed into eating and growing and will enhance their life spans."

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