

Creek experiment aims to restore native treasure — brook trout in East Tennessee waterway

By Morgan Simmons

Thursday, October 20, 2011



TELLICO PLAINS — Blue Goodson has been a mule man all his life. Over the years he has packed everything from sleeping bags to sweet feed in his saddle bags, but never until the other day had he hit the trail with a load of live fish.

Goodson, from Loudon, is a member of the Southern Appalachian Backcountry Horsemen. Recently the club was recruited by the U.S. Forest Service and the Tennessee Wildlife Resources Agency to haul brook trout and rainbow trout from Sycamore Creek in the Cherokee National Forest to hatchery trucks parked on nearby gravel roads.

It was the first step in an experiment to restore southern brook trout — the only trout species native to the southern mountains — to the lower reaches of Sycamore Creek where rainbow trout previously have dominated. The biologists knew that transporting the fish by horseback would be less damaging to the trails than using off-road vehicles. After a trial run a few months ago they determined that the fish, when packed in water-filled plastic bags injected with oxygen, would survive the 25-minute trip by horseback and mules from the stream to the hatchery trucks.

Trout Unlimited also was on hand to help. Using fish shockers, crews collected 69 brook trout (38 males and 31 females) from the high-elevation headwaters of Sycamore Creek, and about 800 rainbow trout on a 1.6-mile stretch of the creek near its confluence with the Tellico River.

The brook trout were taken to the Tellico Fish Hatchery where they will be spawned. This spring biologists hope to stock 2,000 of those brook trout fingerlings in the lower stretch of Sycamore Creek from where the rainbow trout came. The rainbow trout collected that day were released in the Tellico River.

What makes the project unusual is that the U.S. Forest Service and TWRA believe the brook trout fingerlings can hold their own in the lower reaches of Sycamore Creek even though some rainbows still remain.

That's counter to the conventional wisdom that rainbows out-compete brook trout, and that the two species must occupy separate reaches of a stream — brookies in the headwaters, rainbows farther downstream — separated by a natural barrier such as a waterfall.

"What we're doing is very new," said Jim Herrig, fisheries biologist with the Cherokee National Forest. "This is the first time anybody has tried to allow the brook trout and rainbow trout to co-exist."

Rainbow trout were introduced into Tennessee in the late 1800s at a time when native brook trout were being decimated by widespread logging in the mountains. About a decade ago researchers determined that brook trout native to the Southern Appalachians are genetically distinct from the northern strain.

In the early 1990s, TWRA's Tellico Fish Hatchery became the first hatchery to successfully spawn Southern Appalachian brook trout, and some biologist believe this colorful little fish is ready to reclaim the lower reaches of Tennessee's mountain streams.

During the 1990s, TWRA stocked Southern Appalachian brook trout in the upper reaches of Sycamore Creek after the northern strain released in the same waters failed to reproduce. Surveys showed that the native southern strain not only thrived in the headwaters but also survived in the lower reaches of the creek once they swam past a bedrock slide and migrated downstream.

About a mile below the natural stream barrier the ratio of brook trout to rainbows was 50-50. A quarter mile below the barrier, the ratio of brookies was even higher — 70 percent brook trout to 30 percent rainbows.

"That was very good news," Herrig said. "We had never seen brook trout displace rainbow trout in our streams. Genetically, that's about what we'd expect since the best adapted strain should be from the Southern Appalachians."

Herrig said water quality in the Cherokee National Forest has improved to the point where the brook trout range might be extended in other streams.

Biologists say brook trout occupy only 15 percent of their original range across the Eastern U.S., and that the loss has been most severe in the Southern Appalachians.

Great Smoky Mountains National Park has restored 17.2 miles of brook trout water in its headwater streams. In 2006, after a three-year study, the park reopened brook trout fishing parkwide for the first time since 1976.

Steve Moore, chief fisheries biologist for the Smokies, said dry weather trends over the past 12 to 15 years have made for more of the slower water habitat that actually favors brook trout over rainbow trout. He added that the park also is analyzing how spring floods in recent years may have hampered the rainbow trout's spawning.

"Are these environmental factors giving brook trout an increased advantage?" asked Moore. "The Sycamore Creek experiment is coming at an interesting time and I'm curious to see how it goes."

