

# SUCCESS STORIES

REPORTING EXAMPLES OF OUR PROGRESS IN CARING FOR THE LAND AND SERVING PEOPLE



## Slippery When Wet

By [Gwyn Ingram](#) on Aug 8, 2008



Fisheries Biologist Jeanne Riley and crew use an electrofishing unit to stun fish and net them for data collection.

*South Carolina DOT teams with the Forest Service to restore a different kind of byway.*

Most South Carolina residents probably associate the South Carolina Department of Transportation (SCDOT) with standard images of concrete abutments, orange highway cones, road patches or freeway lane construction. But...fish?

On the Sumter National Forest, Forest Service fisheries biologists are joining forces with SCDOT far from any barricade or flagman to improve a travel way that has nothing at all to do with the flow of traffic.

It's a creek bed in what was, long ago, a bottomland hardwood forest - a once-meandering stream channel deeply damaged by forces completely unrelated to any of the transportation agency's construction projects.

Through a concept called mitigation banking, SCDOT engages in projects designed to restore or enhance a wetland, stream or other aquatic resource within a county as a compensatory measure for the unavoidable impacts to similar habitats resulting from road and bridge repairs or construction.

A mitigation bank project in Newberry County on Hunting Creek will convert some 16,000 linear feet of damaged and eroded creek bed into approximately 17,500 linear feet of stable stream habitat and associated wetlands. SCDOT bought the land specifically to restore the stream channel

and establish mitigation bank credits in and around Newberry County.

Ron Ahle, a South Carolina Department of Natural Resources employee, proposed the project to SCDOT after discussing prospective restoration projects with Forest Service Fisheries Biologist Jeanne Riley and Wildlife Biologist Gary Peters.

On site early this year for a monitoring project, Ahle described the stream bed issues as Riley and a team of students and employees prepared to survey the aquatic life in the stream. The crew would record fish species, size and weight range as well as the total number in each species to monitor diversity and reproduction in the population.

"If you look out here right now you see that the creek bed is a Grand Canyon, and that's not natural," said Ahle. "This should be a creek that you could jump across, maybe three feet wide instead of the 10 to 12 feet you see here."

The original hardwood wetland was cleared years ago and the land, at least at one time, was used for dairy farming. Perhaps as many as 80 years ago, Ahle speculated, the meandering stream was probably straightened into a channel, cut to a depth of about six feet and widened to about 12 feet.

The channel would likely have been used for irrigating crops and watering animals. Land on either side of the stream was completely cleared of its trees, shrubs and grasses, exposing the stream banks, which dramatically increased the erosion potential from storm runoff and the deposition of sediment input from the open fields.

"It completely destabilized the channel," explained Ahle. "That's when things started to go wrong. Now you can see where roots and whole trees are hanging down into the channel. The water just cuts at the toe and things start to collapse from the bank"

According to Riley, Enoree Ranger District Hydrologist Jay Swafford plans to restore five lower tributaries to the main channel that flow across Forest Service lands this fall. Swafford seized the opportunity to correct similar issues downstream of the main channel project as a natural complement to the mitigation repairs. The Forest Service tributaries, compensating for hydrologic anomalies on the damaged upper section of Hunting Creek, have developed headcuts and other notable erosional problems of their own.

Because of the extent of the damage, SCDOT will use heavy equipment to restore the stream channel to its original profile, Riley explained. A professional stream mitigation consulting firm designed the restoration projects at both the SCDOT mitigation bank site and the lower Forest Service locations. The firm compared the characteristics of less impacted reference streams within the local area to formulate its design for the restoration of Hunting Creek and its tributaries.

On their most recent visit, Riley, Enoree District personnel and employees from the Center for Aquatic Technology Transfer from the Blacksburg, Virginia branch of the Forest Service Southern Research Station sampled two stream segments of the main channel to compare those findings to earlier data gathered on species and populations.

"The Forest Service and the South Carolina Department of Natural Resources set up one fish inventory site that was surveyed in 2001. An additional site sampled this year is located further downstream below stream restoration activities," said Riley. "We're really gathering baseline data so we can come in later and monitor any changes to the aquatic community that may occur with restoration implementation."

Riley fully expects to see some impacts during the restoration and for a period of time after its completion. But, she said, "We do expect improvements in the aquatic community with improvements in stream habitat. We'll be able to go back three or four years later and monitor how the population is doing after the streams have been fully restored."

The entire 306.4 acre Hunting Creek tract, which is bordered on three sides by Forest Service lands on the Enoree Ranger District, will likely come under Forest Service management and protection at the conclusion of the project.