



# Jocassee Journal

Information and News about the Jocassee Gorges

Spring/Summer 2003

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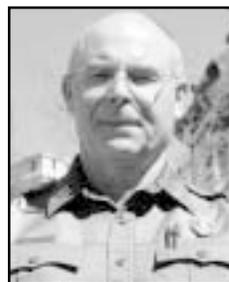
Trout fishing on Eastatoee Creek will be improved thanks to the Partners for Trout project, which won the Wildlife Award from the S.C. Wildlife Federation. (Photo by Tommy Wyche. Reprinted with permission from "Mosaic: 21 Special Places in the Carolinas.")

## DNR, partners receive conservation awards from South Carolina Wildlife Federation

The S.C. Department of Natural Resources and its conservation partners with ties to the Jocassee Gorges region received three conservation awards from the South Carolina Wildlife Federation at its 38th annual Conservation Awards Banquet held in Clemson.

The awards banquet was held Jan. 25 at the Clemson Inn and Conference Center on the Clemson University campus. Honors from the South Carolina Wildlife Federation banquet represent the state's highest conservation awards.

Captain Larry Holbrooks, captain of Upstate Law Enforcement District 1 for the S.C. Department of Natural Resources (DNR), the district that patrols Jocassee Gorges, received the Communications Award. Responsible for Anderson, Greenville, Pickens, Oconee, Spartanburg and Cherokee counties, Holbrooks, of



Larry Holbrooks

Westminster, has been coordinator of the Oconee County Fishing Rodeo for 15 years, an event attended by more than 10,000 children. He forged partnerships with many groups to make the rodeo a success. Holbrooks is an active member of many conservation organizations, including the Whitewater River Corridor Committee, Upstate Environmental Enforcement Group and Keep Oconee County Beautiful Association. He is also the DNR representative on WGOG radio in Walhalla and WRIX in Anderson, answering questions about laws and ethics on a call-in show.

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# Wildlife Federation honors conservation efforts

Continued from page 1

The Lloyd G. Webb Natural Resources Office in Clemson, which houses three-quarters of the Jocassee Gorges Management Team, was awarded the Federation's Bootsie Manning Wildlife Habitat Award, named in memory of a tireless and dedicated Federation volunteer. In addition to providing space for Upstate DNR personnel, the Lloyd G. Webb Natural Resources Office also functions as a major outreach tool for the general public to learn about the natural resources of South Carolina. The Clemson DNR office includes extensive plantings of native wildflowers, butterfly gardens, two Carolina fences, native trees and shrubs, many bird boxes/feeders, a foot trail, educational signs and a Leopold bench, all of which makes the office a wildlife and visitor friendly environment. The Lloyd G. Webb Natural Resources Office was certified by the Wildlife Federation as a Backyard Wildlife Habitat after its establishment.

Partners for Trout, a cooperative conservation effort in the Jocassee Gorge's Eastatoee Valley involving Foothills Resources Conservation and Development Council, DNR, Trout Unlimited and numerous agencies, conservation groups and landowners, received the Wildlife Award. Dave Demarest and Gene Dobbins of Foothills Resources Conservation and Development Council and Dan Rankin of DNR played lead roles in securing funding and landowner cooperation on projects started by Partners for Trout. The project team developed a resource plan to accomplish three major objectives: conserving, enhancing and restoring cold-



**The Lloyd G. Webb Natural Resources Office in Clemson was awarded the Wildlife Federation's Bootsie Manning Wildlife Habitat Award. (DNR photo by Greg Lucas)**

water trout habitat and fish stocks; developing and maintaining increased recreational trout fishing facilities and access; and promoting public education of the value and benefits of South Carolina's trout fishery and conservation measures.

Since its founding by sportsmen in 1931, the South Carolina Wildlife Federation has maintained a diverse membership and sustained its role as the trusted voice in conservation. From hunter to birdwatcher, teacher to backpacker, gardener to farmer, the South Carolina Wildlife Federation has established itself as an umbrella organization representing various interests and is committed to building partnerships that help to ensure that our children and grandchildren enjoy the same natural heritage and opportunities for outdoor recreation.



## 'Jocassee Adventure' teacher's workshop

The "Jocassee Adventure" mountain ecology teacher's workshop was held March 7-9 at the Rocky Bottom Camp of the Blind in the heart of Jocassee Gorges. More than 20 teachers attended, and here they study aquatic insects collected in a stream that runs through the camp. For information on DNR teacher workshops, call (803) 734-7486. (DNR photo by Greg Lucas)



Kayakers from the Clemson University Lifelong Learning program enjoy the scenery on Lake Jocassee during a recent paddling trip. (Photo by Ann James)

## Clemson University Lifelong Learning program tours Jocassee Gorges

The spring 2003 session of the Clemson University Lifelong Learning program featured a series of field trips to Jocassee Gorges.

Called "The Wonders of the Jocassee Gorges," the class met each Thursday afternoon for six weeks (sometimes interrupted by weather) and visited a variety of locations within Jocassee Gorges. The class, which had a total of about 30 participants, was coordinated by the S.C. Department of Natural Resources. Another Jocassee Gorges class is planned for the fall.

Among the destinations were Devils Fork State Park to see Oconee bells in bloom, Pinnacle Mountain to view petroglyphs, Twin Falls, Peach Orchard Branch, Sassafras Mountain and the big finale at Lake Jocassee, where participants paddled kayaks in the Devils Fork Creek arm of the lake. Instructors included Mandy Harrison, Clemson University Lifelong Learning;

Dennis Chastain, Pickens County naturalist; Chris Judge, DNR archaeologist; Anna Huckabee, DNR wildlife biologist; Glenn Gardner, DNR conservation education; and Greg Lucas, DNR conservation education.

Clemson University, in affiliation with the Elderhostel Institute, has joined a growing movement in education by sponsoring an organization for retired adults who are interested in pursuing stimulating academic and recreational courses. Classes generally meet once a week for a six- to 12-week period. Classes are non-credit, have no exams, and there are no educational requirements. Clemson University's Lifelong Learning program structure includes a board of directors and committees.

For more information on the Clemson University Lifelong Learning program, call Carilyn Brown at (864) 656-6912 or e-mail her at [carilyb@clemson.edu](mailto:carilyb@clemson.edu). 

# Parks, preserves recreational opportunities

By Tommy Wyche

*(Editor's note: This is the third installment from Tommy Wyche's book, "Mosaic: 21 Special Places in the Carolinas," published in 2002 by Westcliffe Publishers. Thirty-eight pages of photos and text in the book are devoted to Jocassee Gorges. Text and photos reprinted with permission. Interested readers may buy "Mosaic" from Naturaland Trust for \$22 by contacting Fritzie Mumford at (864) 242-8215 or by e-mail at fmumford@wyche.com.)*

## Devils Fork State Park

Devils Fork State Park is nestled on 644 acres in the mountains of Oconee County, South Carolina. On the western shore of Lake Jocassee, it is a doorway to the Jocassee Gorges area. The park's centerpiece is Lake Jocassee, the beautiful 7,500-acre mountain reservoir constructed by Duke Power in 1973. Devils Fork provides expansive views of the clear blue waters of the lake and of the surrounding landscapes that arise out of the Jocassee Gorges and to the more distant mountains of the Blue Ridge Escarpment.

The park, one of the most popular parks in the upstate, has more than 400,000 visitors each year. It offers a variety of outdoor experiences such as sailing and water skiing, and even scuba diving in the lake's icy, clear waters. There are exceptional opportunities for hiking, fishing and primitive camping. RV camping facilities are also available, and there is "boat-in" camping for canoeists or kayakers who come equipped with tents and camping gear. For those who prefer a more protected outdoor experience, there are modern, fully equipped villas for rent.

The only public boat access to Lake Jocassee is at Devils Fork. The lake is especially popular with anglers seeking brown and rainbow trout and smallmouth bass. Waterfall enthusiasts can arrange a pontoon boat tour of the lake and the cascades of its tributary waterfalls by contacting local private concessionaires.

Devils Fork provides easy access for viewing the Oconee Bell. The natural range of this beautiful wildflower is largely restricted to the Lake Jocassee watershed, and the mile-long Oconee Bell Natural Trail provides a good opportunity to observe this species in its native habitat. This trail is especially popular in mid to late March when Oconee Bells are at their peak. Some enthusiasts make an annual pilgrimage to Devils Fork to see the Oconee Bell in flower and to welcome the start of another spring season in the South Carolina mountains.

Devils Fork is managed by the South Carolina Department of Parks, Recreation and Tourism. For additional park information, call the Devils Fork office at (864) 944-2649.



**Oconee bells are blooming in all their splendor at Devils Fork State Park. To see them is at the Devils Fork Oconee Bell Trail. (DNR photo by ...)**

## Eastatoee Creek Heritage Preserve

In 1979, the 375-acre Eastatoee Creek Heritage Preserve in Pickens County became one of the first areas set aside as part of South Carolina's Heritage Trust Program. Now almost 70 preserves make up this system, but Eastatoee remains one of its gems.

Eastatoee Creek flows within a gorge from an elevation of around 1,400 feet to 1,200 feet. Ridges rise several hundred feet high above the creek. Hiking provides the only way to fully experience the rugged majesty of the gorge. There are huge trees, the crystal clear stream with deep swimming holes, and perfect tent sites located in a surprisingly large flat area on the creek's banks. This area is large enough to accommodate several groups. Downstream only a short distance from the entry point is a remarkable feature: the stream enters the Narrows, where the entire flow of the creek passes through a five-foot-wide channel in

# s offer abundant ities in Jocassee Gorges



ate Park in mid-March and early April. One of the best places to  
(John Lucas)

bedrock. Here, the Eastatoee enters a canyon some thirty feet deep, and as the water emerges from the Narrows, it plummets into a broad deep pool.

The steep gorge, with an annual average rainfall of ninety inches, creates a shady and moist habitat. Christmas fern, lady fern, hay-scented fern, maidenhair fern, rock cap fern, and other spore-bearing plants carpet the ground and hang from dripping rock faces. Two species of filmy ferns, known nowhere else in North America, occur on the Eastatoee.

The preserve's forest includes large hemlocks, white pine, Fraser magnolia and sweet birch. Scarlet oaks grow along the upper slopes, and white and red oaks occupy the lower slopes of the gorge. The Eastatoee is habitat for wild trout, and it is one of the premier trout streams in South Carolina—special fishing regulations apply to this stretch of the creek. There are also ruffed grouse and black bears, but it is the spectacular variety of plant

species and the geography of the gorge itself that make the area unique.

The S.C. Department of Natural Resources manages the area. For information call the Clemson office at (864) 654-6738 or the Columbia office at (803) 734-3894. To reach the preserve, take US 178 west 10 miles from its intersection with SC 11, cross the bridge over Eastatoee Creek, turn immediately left onto unpaved road. Continue to a parking area and follow signs to Eastatoee Gorge.

## Laurel Fork Heritage Preserve

This 1,000-acre South Carolina preserve features deep woods, a mountain stream with waterfalls, an excellent wild rainbow trout population and a rich variety of plant and other animal species. Laurel Fork Heritage Preserve takes its name from the meandering Laurel Fork Creek, and it is noted for its wildflower, fern and amphibian communities. A short walk along the Foothills Trail in the preserve takes the hiker to outstanding examples of the natural resources of the Jocassee Gorges area. These include wildflower displays of trilliums, jack-in-the-pulpit, showy orchids, wood lilies, bloodroot, long-spurred violets, bellwort, trailing arbutus, black cohosh, wood anemones, and other showy species. There is only a small population of Oconee bells in the preserve, but farther downstream on Laurel Fork—outside of the preserve—there is an abundance of the flowers.

Laurel Fork Creek and other nearby streams and seepage areas provide quality habitat for many rare amphibians. Species of salamanders found here include the blackbelly, dusky, spring, Appalachian woodland, red, two-lined, seal and green salamanders, among others.

The S.C. Department of Natural Resources manages the area. For information call the Clemson office at (864) 654-6738. To reach the area, take US 178 west 10 miles from its intersection with SC 11, cross the bridge over Eastatoee Creek, turn immediately left onto unpaved road, where the Foothills Trail may be accessed. (The gate from the Laurel Valley entrance to Laurel Fork Gap is open year-round). To reach Laurel Fork Heritage Preserve, drive 4 miles on unpaved road to Laurel Fork Gap. From the gate at Laurel Fork Gap, hikers may follow a short trail down to an old closed roadbed and follow it along Laurel Fork Creek about 0.5 mile. No reservations or permits are necessary.

*(Next installment: Tommy Wyche describes Keowee-Toxaway State Natural Area, Howard Creek and Tater Hill in Sumter National Forest, Gorges State Park, Toxaway Game Land and Thompson River in Nantahala National Forest.)*

# Jocassee Profile: Walt Cook

## Retired professor volunteers time to make sure trail is done right

*(Editor's note: The following article is the first in an occasional series about people who are making a difference in the Jocassee Gorges region.)*

Dr. Walt Cook, retired forestry professor from the University of Georgia, has gone above and beyond the call of duty in his role as "quality control" coordinator for the Jocassee Gorges Passage of the Palmetto Trail.

Cook, known as one of the pre-eminent trail design experts in the Southeast, has made countless drives from his Athens, Ga., home to the Jocassee Gorges, and spent many long hours in the woods checking routes and construction progress on the Palmetto Trail. All of this has been done as a volunteer, without a penny paid in compensation.

The terrain that the Palmetto Trail follows in Jocassee Gorges is rough and steep, and Cook has negotiated many miles of it over the past several years. (As this newsletter goes to press, the first section of the Jocassee Gorges Passage of the Palmetto Trail is open only from the barn at Table Rock State Park to the park boundary, about 2.5 miles.) Cook, along with DNR wildlife biologist Mary Bunch, has monitored the route of the trail, sometimes rerouting it to lessen the slope or to prevent erosion. He has also closely checked the progress of the trail as construction got underway, making suggestions for improvements.

"Dr. Cook was one of two professors worldwide to teach wilderness management, 15 years before it was taught in other schools," said Johnny Stowe, DNR heritage preserve manager and Cook's teaching assistant at the University of Georgia for five quarters. "He is an expert in forest recreation, as well as a deep thinker who teaches and inspires his students to ponder environmental ethics. On the practical side, he taught forest engineering for decades and taught a generation of land managers

how to lessen erosion and other impacts of forest roads."

Cook, who retired from the University of Georgia in 1996, is the recipient of many conservation awards, including the Georgia Wildlife Federation's Conservation Educator of the Year. He is currently a board member, section maintainer

and maintenance director for the Benton MacKaye Trail Association and a board member for the Oconee River Land Trust. He is a co-founder and continuing board member of the Sandy Creek Nature Center, 225 acres of woodland, fields and wetlands in Athens that serve as a wildlife sanctuary and environmental education facility. Cook has designed more than 50 trails in five states and helped build many of them.



**Jocassee Gorges volunteer Walt Cook takes a break from monitoring the progress of the Palmetto Trail. (DNR photo by Greg Lucas)**

## Jocassee Gorges 4-H Natural Resources Club gets underway

A 4-H Natural Resources Club has been formed for the Jocassee Gorges region. The group has held two introductory meetings, and summer activities are now being planned.

The Jocassee Gorges 4-H Natural Resources Club will focus on service-learning projects and outdoor recreation in the Jocassee Gorges region of Pickens and Oconee counties. The 4-H Club is open to youth 13 to 19 years of age.

Clemson University Cooperative Extension Service and the S.C. Department of Natural Resources are co-sponsoring the Jocassee Gorges 4-H Club.

All youth or parents interested in joining the Jocassee Gorges 4-H Natural Resources Club may call (864) 654-1671, ext. 22, or send an e-mail to [glucas@scdnr.state.sc.us](mailto:glucas@scdnr.state.sc.us).



# Hemlock woolly adelgids reach Jocassee Gorges

Hemlock woolly adelgids, scourge of Eastern hemlocks from Connecticut southward, has been found at numerous locations in Jocassee Gorges.

The hemlock woolly adelgid is a small aphid that feeds on the sap of hemlock trees, causing their death within several years. So far, the fluffy, puffy little white dots coating the underside of the twigs, sign of the hemlock woolly adelgid, have been found on hemlock trees at Sassafras Mountain, Camp Adger, Horsepasture River, Pinnacle Mountain and other areas.

A native of Japan and China, where it existed without causing any problem due to natural resistance and voracious native predators, the woolly adelgid most likely hitched a ride to North America on some specimen of Asian hemlocks. The adelgid came to the United States in 1927 and remained mostly in Maryland and Virginia for decades but started expanding rapidly up and down the Appalachians during the 1980s

Here's how it works its black magic: the adelgid settles at the base of the hemlock needles, inserts its snout and basically sucks the tree dry. Needles desiccate and fall off; buds wither and shrivel. Entire branches die back, and the whole tree can be dead in four years. The adelgid has been attacking the hemlocks in the



**Tiny white growths like tiny cotton balls on the underside of branches signal an infestation of hemlock woolly adelgid. (Photo by Dennis J. Souto, U.S. Forest Service)**

Shenandoah National Park in Virginia for the past 10 years. In 2000, 90 percent of the park's hemlocks were in poor health or were dead. Last year, only 5 percent of the park's hemlock trees were considered to be in good condition.

Hemlock trees are vital to the forest in Jocassee Gorges. Eastern hemlocks love wet, moist areas and keep the temperature of mountain streams cool. If the hemlocks die, and the stream's water temperature increases, it could severely degrade trout habitat in Jocassee Gorges. The rarer Carolina hemlock, which grows in higher elevations, is also threatened by the adelgid.

Chemical controls have proven effective but must be administered regularly and are certainly not feasible for large-scale control. Perhaps the best hope for saving hemlocks lies in an imported lady beetle that has a voracious appetite for the hemlock woolly adelgid. The problem is that since the beetle starves without adelgids, they cannot be released in advance of an infestation. The beetles also cost between \$1-2 apiece, and they are a control measure and will not eradicate the adelgids. Clemson University has begun a breeding program for the beetles.

## Ecosystem modeling in Jocassee Gorges will help with future management

**By Scott Abella**  
**Northern Arizona University**

Predicting vegetation distribution across forest landscapes such as Jocassee Gorges is valuable for understanding major environmental variables affecting vegetation and for planning forest management activities. A diversity of ecosystems and its large size make predictions of vegetation distribution especially valuable in Jocassee Gorges.

As an extension to an ecosystem classification of Jocassee I undertook as part of my master of science thesis at Clemson University, I developed a field-based predictive model for ecosystem distribution in Jocassee Gorges from fieldwork completed in April 2002. The model uses topographic variables like slope gradient and variables measuring site protection to predict where different ecosystems occur in Jocassee Gorges.

I focused on the distribution of eastern hemlock ecosystems, for which there is concern about the woolly

adelgid insect that is killing hemlock in parts of hemlock's range. (See related story above.) The topographic model performed well by correctly identifying 86 percent of sites in Jocassee Gorges that currently support hemlock. I validated the methods used to develop the model by making additional topographic measurements in parts of Great Smoky Mountains National Park and in the Sumter and Pisgah National Forests.

Examples of other potential applications of the ecosystem model in Jocassee Gorges include predicting native ecosystems that may have occurred on pine plantation sites. A manuscript from this ecosystem modeling research was submitted in February 2003 to the *Southern Journal of Applied Forestry*.

*(Scott Abella completed his master of science degree in forest resources at Clemson University and is now a doctoral student in applied forest and restoration ecology at Northern Arizona University.)*



# Jocassee Journal

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## Jocassee Gorges research video completed, distributed to teachers

A video chronicling research projects in Jocassee Gorges has been completed in a collaborative effort between the Jocassee Gorges Education and Outreach Working Group, S.C. Department of Natural Resources and Clemson University.

The video, "Research in the Jocassee Gorges," is part of the Blue Ridge Escarpment natural history curriculum for SC LIFE, a middle school life science curriculum developed by Clemson University. The video features research projects on small mammals, Oconee bells, ecosystem classifications, birds and bats. The video was produced by the Conservation Education and Communications Division of the DNR and made possible by a grant from the Howard Hughes Medical



Chris Lewis, who did her master's work on small mammals in Jocassee Gorges, is one of the featured researchers in the new "Research in the Jocassee Gorges" videotape. (DNR photo by John Lucas)

Institute's Undergraduate Biological Sciences Education Program.

"Research in the Jocassee Gorges" is available to teachers who are participating in the SC LIFE program. For more information, call Ginger Foulk at (864) 656-4224 in Clemson or send an e-mail to [foulk@clemson.edu](mailto:foulk@clemson.edu).

The SC LIFE curriculum builds on the innovative teaching concepts developed in the very successful SC MAPS program. SC LIFE provides detailed field, lab and instruction information on life systems at several sites in

each region of the state. Many of the South Carolina sites are also used in the SC MAPS curriculum and featured on the S.C. Educational Television Web site [www.knowitall.org/sclife](http://www.knowitall.org/sclife).