



To study or not to study—that is the question....

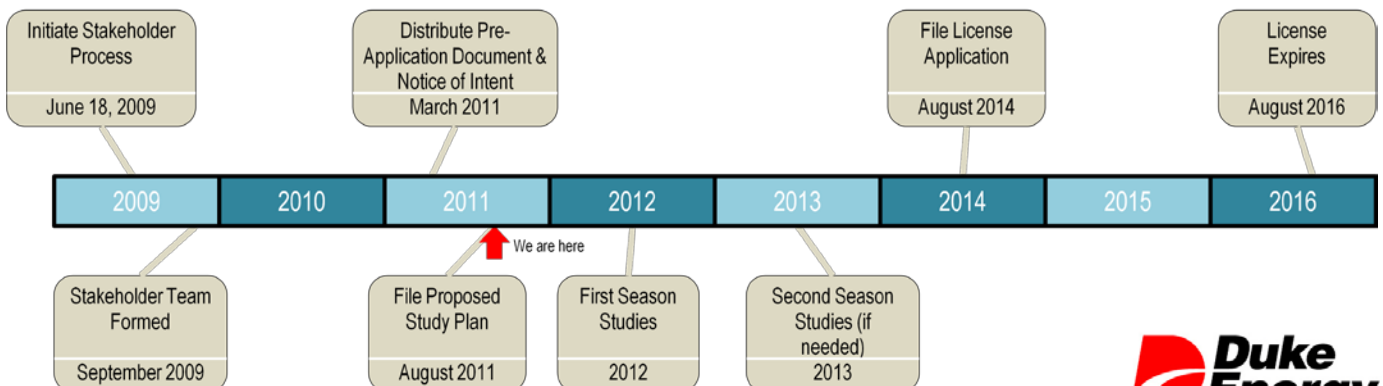
The relicensing of the Keowee-Toxaway Project (Project) has passed another significant milestone – the submittal of Duke’s Proposed Study Plan (PSP) to the FERC. The PSP is the result of the more than a year of effort by members of the Stakeholder Team, the seven Resource Committees (RC), and Duke relicensing team members to develop proposed study plans. The Duke relicensing team is very appreciative of the efforts of all those who have participated in the development of the individual study plans.

If you’ve been keeping up with all the various submittals to the FERC, you know that stakeholders recommended many studies. Clearly, the Duke team needed some criteria for identifying which recommendations to accept. Fortunately, the FERC anticipated this need and established seven study criteria in the relicensing regulations. For the exact wording, check out Section 1.2 of the PSP, but in essence, the FERC stipulates that study requests should:

1. Clearly and specifically describe the goals and objectives of the study and the information to be obtained;
2. If the request is from a governmental agency or Native American tribe, explain how the study relates to that agency or tribe’s mandated mission;
3. If the requester is not an agency, explain how public interests are related to the requested study;
4. Describe existing information concerning the subject of the study proposal, and why additional information is needed;
5. Explain any nexus (i.e., connection) between Project operation and effects on the resource to be studied, and how the study results would inform the development of license requirements;
6. Identify a proposed study methodology and how that proposed methodology is consistent with generally accepted scientific or engineering methods; and
7. Describe the level of effort and cost and why any proposed alternative studies would not be sufficient to meet the stated information needs.

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Timeline Overview



Continued from front page

So, based upon more than a year of relicensing team meetings, the information presented in the Pre-Application Document, and the study request letters submitted to the FERC by the July 16, 2011, deadline, Duke is proposing 14 studies. The individual studies are summarized beginning on the next page, but the goal of all the studies is the same – to provide information about the Project and its effects to the FERC. The Stakeholder Team will consider the results when developing the Relicensing Agreement. The FERC will also use study results in combination with the tremendous amount of existing data about the KT Project and its resources and any Relicensing Agreement filed with the License Application to develop the New License for the KT Project.

We'll spend the remainder of this year finalizing the study plans. After the FERC rules whether or not the study plans are approved in January of next year, we'll begin the studies in 2012. To learn more about the specific studies that are being proposed as well as Duke's response to studies requested, check out the PSP in the online library at the KT Project relicensing website.

Jen Huff
KT Relicensing Project Manager

Study Plan Meeting Scheduled

Duke will host a Study Plan meeting on September 13 and 14 at Duke's Wenwood Operations Center located at 425 Fairforest Way in Greenville, SC. The purpose of the meeting is to review the Proposed Study Plan filed by Duke in August and answer questions from stakeholders about studies. These meetings are open to the public, but attendees should RSVP no later than September 6 by sending an email to ktrelicensing@duke-energy.com.

September 13, 2011 (12:30 – 5:00)

- Hydro Structures National Register of Historic Places Eligibility Assessment
- Shoreline Management Plan Mapping Update
- Lake Jocassee Erosion Study
- Recreation Use & Needs Study

September 14, 2011 (9:00 – 5:00)

Morning Session

- Water Supply Study
- Operations Models
- Reservoir Level Study
- Keowee Reservoir Water Quality Model
- Jocassee Tailwater Water Quality Study

Afternoon Session

- Avian Study
- Botanical Survey
- Mammal Survey
- Wetlands Survey
- Tailwater Fish Survey

Stakeholders Begin Considering Future Agreement



To Keowee-Toxaway Stakeholder Team Members, the August 4 meeting may have seemed much like previous ones. To me, it may have been one of the most important so far, and not because the group discussed two topics with high community interest and concern. It's because the Stakeholder Team is beginning to look to the Project's future, and it took a small step in that direction as it began to focus on a preliminary Agreement in Principle (AIP) – really, at this point, just a document shell that will later capture the results of the Stakeholder Team's consensus agreements.

For two years, we've been learning about the FERC process and its scope, identifying stakeholder issues and needs related to the Project, learning how various aspects of the Project work together, identifying studies that will help us make informed decisions, and, importantly, learning how to work together as a team. It's a good base, but now comes the hard part: from all the competing interests, the stakeholders need to find the Project's one "best future" to recommend for the new Federal Energy Regulatory Commission (FERC) license.

Proposed Keowee-Toxaway (KT) Relicensing Studies

Duke has proposed 14 studies to support KT relicensing. The detailed study plans are provided in the Proposed Study Plan (PSP) that Duke submitted to the FERC in August. To access the PSP, visit the online library found on the KT Project relicensing website.

Stakeholders can submit comments regarding the PSP to the FERC by November 28, 2011. Duke will evaluate these comments and issue a Revised Study Plan by December 28, 2011.

Study Title	Description
Fish Community Assessment Study	Collect information on fishery resources in the immediate tailwaters of both the Jocassee Pumped Storage Station and Keowee Hydro Station, locations downstream of these facilities, and the Little River Bypassed Reach.
Hydro Structures National Register of Historic Places Eligibility Assessment	Determine if the Project structures (i.e., powerhouses, dams, dikes, and other facilities) are eligible for the National Register of Historic Places.
Recreation Use and Needs Study	Determine the need for enhancing existing recreational facilities and/or providing new recreational facilities to support current and future demand for public recreation at the Project over the term of the New License.
Lake Jocassee Shoreline Erosion Study	Determine the current status of shoreline erosion at Lake Jocassee and identify any impacts to sensitive resources within the Project Boundary.
Shoreline Classification Map Update	Update the current shoreline classification maps for the Project to reflect: (1) new shoreline uses that have occurred since the SMP maps were created; (2) adjustments to the existing shoreline classifications identified during field review of permitting activities by Duke personnel; and (3) mapping errors identified since the creation of the 2006 Keowee and 2008 Jocassee shoreline classification maps.
Jocassee Tailwater Water Quality Study	Provide the information necessary to determine how Project operations affect dissolved oxygen levels immediately downstream of Jocassee Pumped Storage Station.
Keowee Reservoir Water Quality Model	Develop the CE-QUAL-W2 water quality model for Lake Keowee to evaluate the effects of potentially larger drawdowns at Lake Keowee on water quality released by Keowee Hydro Station. Modeled predictions will be used in the development of the 401 Water Quality Certification Application.
Reservoir Level Study	Organize historic lake level data for both Lake Keowee and Lake Jocassee into a database format that will allow easy computer access and analysis. Identify potential Normal Operating Ranges for Lakes Keowee and Jocassee under non-drought conditions.
Operations Model	Customize the CHEOPS™ (pronounced <i>KEE-ops</i>) (Computerized Hydro Electric Operations Planning Software) model and the HEC-ResSim (Hydrologic Engineering Center's Reservoir System Simulation) model for the Project and other water resources of the Savannah River. The models will be used to analyze and assess various proposed operating scenarios for the period of the New License.
Water Supply Study	Document current water withdrawals, water returns, and overall water use within the Savannah River Basin, and estimate future water needs based upon reasonable growth projections and assumptions.
Wetlands Study	Identify and characterize the existing wetland habitats within the Project Boundary.
Avian Study	Characterize the avian resources affected by the Project.
Mammal Study	Characterize the mammalian resources affected by the Project.
Botanical Study:	Characterize the botanical resources affected by operation of the Project. A special investigation of Oconee bells (<i>Shortia galacifolia</i>) will be conducted.

Improvements Underway at Lake Keowee Access Areas

Duke Energy has begun construction improvements on three Lake Keowee access areas--Cane Creek, Fall Creek and the Keowee-Toxaway State Natural Area. These improvements will enhance visitors' recreational experiences at the sites and support Duke Energy's commitment to provide safe access to the lake. These upgrades were identified in the Recreation Management Plan (RMP) for the Keowee-Toxaway Project.

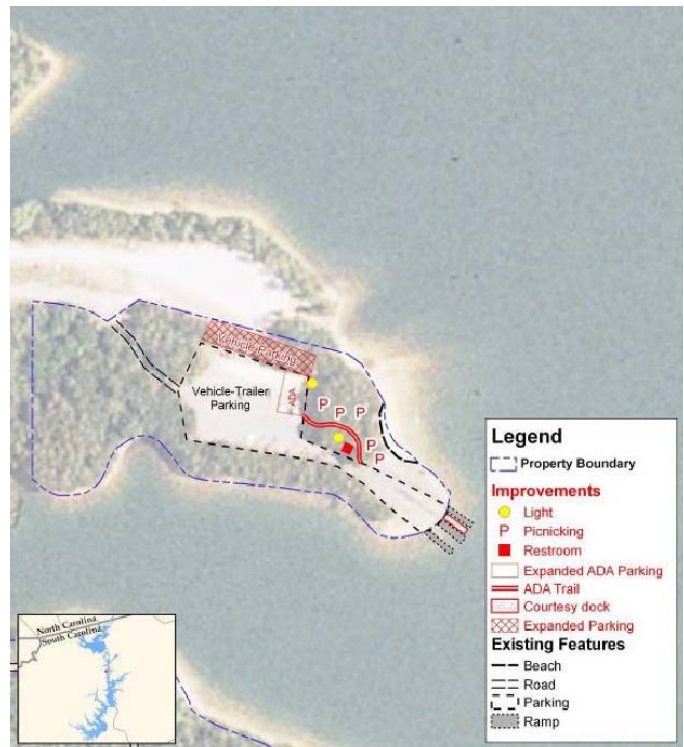
Improvements include installation of lighting, new parking areas, paved roadways, installation of courtesy docks, installation of vault toilets, canoe/kayak access, picnic sites, natural trails and shoreline stabilization.

The primary Fall Creek access area located off Shallow Ford Road on Lake Keowee closed Monday, August 22. While the primary access area is closed, guests may access Lake Keowee via the seasonal Fall Creek Access Area boat launch on Fall Creek Landing Road. Visitors may also use the Keowee Town Access Area boat launch on Keowee Town Landing Road. Once the primary access area reopens, construction will follow at the seasonal access area. All improvements are scheduled to be completed by February 2012.

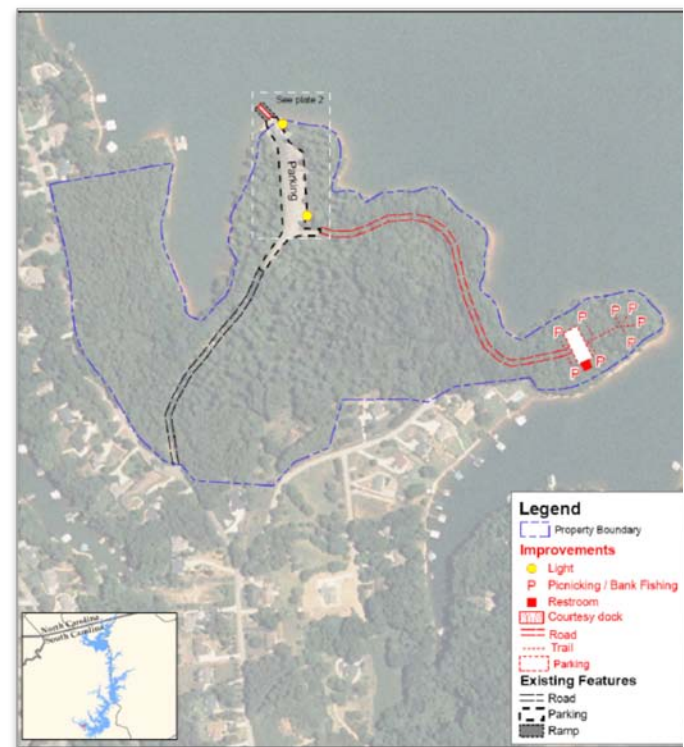
The Cane Creek access area, located off Highway 188, will temporarily close the week of October 3 for construction. During the closing, guests may access Lake Keowee via the South Cove County Park Access Area located on South Cove Road, off Highway 188 and Highway 28.

Construction of a new canoe/kayak launch and additional parking has begun at Keowee-Toxaway State Natural Area, and work is expected to be completed by December 2011.

Visitors with questions can call 800-443-5193 or check the Lake Access website <http://www.duke-energy.com/lakes/access-information.asp> for updated ramp access and closure information.



Planned enhancements at Fall Creek Access Area



Planned enhancements at Cane Creek Access Area

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Within the FERC’s relicensing deadlines, the time allotted to identify, discuss and negotiate the inevitable trade-offs falls into a seven-month window that begins September 2012. For something this complicated, that’s not much time. So in September 2012, when we hope to have the Project hydrologic models tested, up, and running plus most of the study preliminary results, the Team needs to be fully prepared to dig in.

Each AIP section now has Facts, Assumptions, and Related Stakeholder Team Member Interests. In September 2012, the Team will begin to add the potential agreements.

There will be other sections that cover the process, the legal language, etc., that will be needed to convert the AIP into the formal, binding Relicensing Agreement.

From now to September, Team Members will refine their interests to fit into applicable sections. Stay tuned.

Ken Kearns

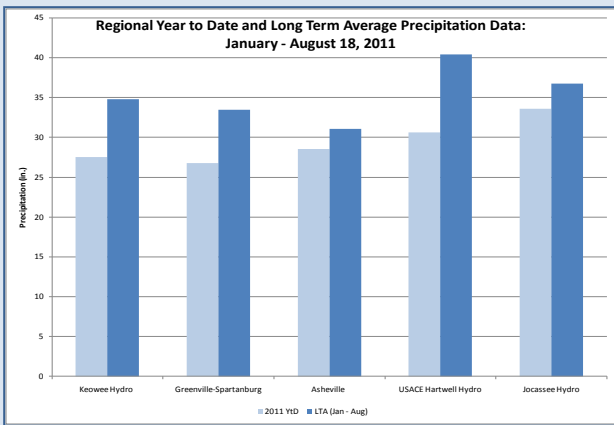
Keowee-Toxaway Stakeholder Team Facilitator

KT Agreement-in-Principle Sections

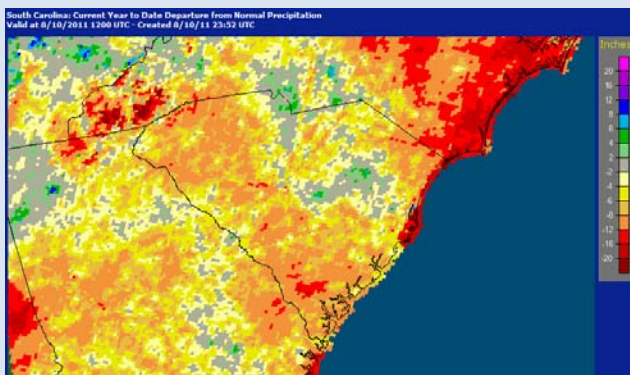
Section #	Title	Contents
1	Introduction	Will set the context for the rest of the document and provide a brief summary of what it contains.
2	Normal Operating Ranges for Reservoir Levels	Will establish normal maximums and minimums reservoir levels. “Normal” means when not operating in a drought or some other type of unusual condition.
3	Actions to Support Water User Needs	Will describe how water will be shared from the Project. At issue is how the Project can operate to simultaneously keep the lights on, keep water flowing from taps, take good care of the fish and wildlife, and provide recreation, aesthetics, and more for people that depend on it.
4	Low Inflow Protocol and Water Storage Coordination	Will establish how Duke will operate the Project and how other water users will respond during droughts.
5	Maintenance and Emergency Protocol (MEP)	Will define most likely maintenance and emergency situations (e.g., high inflow, hydro unit outage, voltage emergency, etc.), possible impacts on license conditions, and actions Duke will take to lessen those impacts and communicate with FERC and others affected.
6	Historic Properties	Will identify the contents of the Historic Properties Management Plan (HPMP). The HPMP will define how Duke will manage Historic Properties at the Project.
7	Public Recreation	Will include components of a new Recreation Management Plan that sets forth new recreation improvements for the public.
8	Shoreline Management	Will update and replace the current Shoreline Management Plan that has been in effect since 2006. This guides decisions about construction and development on Project land.
9	Species Protection	Will contain Species Protection Plans to address state- and federally-listed Rare, Threatened and Endangered (RTE) fish, wildlife and botanical species and possibly other important species.
10	Water Quality	Will present concepts and continuing activities intended to provide input into the formal 401 Water Quality Certification process to be conducted by SCDHEC.
11	Other Resource Enhancements	If applicable, will include other resource agreements to provide protection, mitigation and enhancement measures to complement actions in other sections.

Keowee-Toxaway River Basin Water Resources Update Summer/Fall 2011

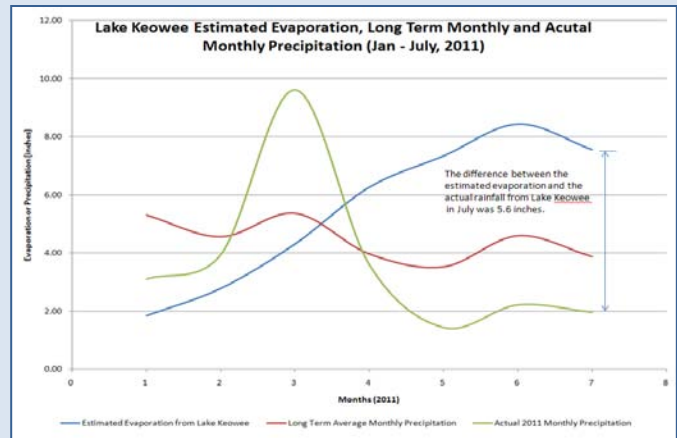
It is not easy to get a “handle” on the water resources in the Keowee-Toxaway (KT) Basin. I am always cautious in looking at just one precipitation station to get a picture of rainfall in any particular place. The chart below provides a regional look at precipitation for the year to date. Generally we see that the region has seen less than average precipitation up to this point. Further investigation into monthly patterns of rainfall show us that in March, Jocassee and Keowee recorded 7 and 4.5 inches respectively above average rainfall, which is preventing the graph below from looking a good deal bleaker than it does.



The graphic below details the precipitation decline from the long-term average since January 1. If you can visualize where the Keowee-Toxaway River Basin is located, then you’ll see areas showing a deficit of 16 or more inches since the beginning of the year. The South Carolina Department of Natural Resources has recently classified Pickens and Oconee Counties as being in an incipient drought.



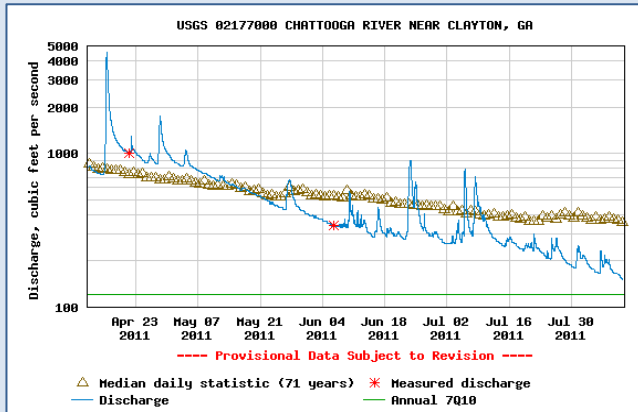
In addition to precipitation, we also have to consider evaporation from the lake surfaces. The graph below shows the estimated evaporation based on data collected at the Clemson Oconee Airport for 2011, along with average and actual precipitation at Keowee Hydro Station. In the example outlined on the graph, estimated evaporation from Lake Keowee for July exceeded precipitation by 5.6 inches (almost half a foot). If we looked at the period of May to July, we would see more than 23.3 inches of evaporation compared to only 5.6 inches of rainfall (for a loss of about 1.5 feet).



Stream flows are important data, and there are three US Geological Survey (USGS) sites that have long data records in the region. The Chattooga River near Clayton, Ga., has a 71-year record. On August 10, the river had a flow of 150 cubic feet per second (cfs), just below the 6th percentile. That means that over the previous 71 years, 94 percent of the time the stream flow has been greater than 150 cfs. That is a good indication of how dry it is. If we look at the graph below, it shows the Chattooga River over the last 120 days as compared to the daily long-term average.

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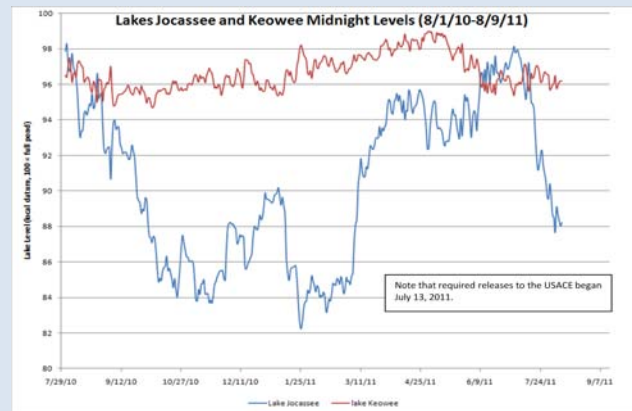
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Two other USGS sites in the region show similar trends. Twelve Mile Creek near Liberty, S.C., has a 28-year record. Its streamflow is currently 24 cfs, which is less than the 5th percentile flow. The French Broad River near Rosman, N.C., has a 76-year record and is currently seeing flow at 84 cfs, which is less than the 20th percentile flow.

To summarize the hydrologic indicators, stream flows are lower than normal and the hot weather has produced considerable deficits when comparing evaporation to precipitation.

With a summer that thus far has had very warm temperatures, dry conditions, and high customer demands, Duke Energy began making required releases to the U.S. Army Corps of Engineers (USACE) the week of July 13, 2011. Without significant rainfall, dry conditions will likely continue and require weekly water releases downstream. Below is a graph of Keowee and Jocassee lake levels during this time period, which clearly shows the cyclical pattern within our operating guidelines.



Without significant rainfall, Lake Keowee will likely be operated in the range of 94.6 feet to 98 feet (local datum) and Lake Jocassee will very likely decline.

Do we see any relief from tropical storms or hurricanes this season? It's hard to say. The National Oceanic and Atmospheric Administration (NOAA) suggests there is about an 85 percent chance of having an above normal hurricane season overall. NOAA expects an active tropical season (but fewer named storms than last year). While rainfall from tropical storms in the Keowee-Toxaway River Basin could be beneficial, there is no forecast to suggest rainfall from such storms this year will be in the Keowee-Toxaway River Basin. Historically, data from Southeast River Forecast Center show that annual average precipitation during hurricane season increases by 10 to 12 percent in the Keowee-Toxaway Basin.

Duke contract meteorologists are forecasting that the period of August through October will transition from a normal probability of precipitation to a drier probability.

Current trends of the many factors that influence the water resources in the Keowee-Toxaway Basin indicate that conditions will remain dry into the fall.

*George Galleher, PE
Hydro Fleet Operations*

More than 350 Volunteers Converge to Clean Lake Jocassee

Lake Jocassee sparkled a bit cleaner recently after more than 350 volunteers pitched in for the largest organized clean-up effort in the lake's history.

Together, the crowd in South Carolina gathered about 28 cubic yards of trash and debris, fueled by more than 700 hot dogs and 2,600 bottles of water.

The dive community and local law enforcement were instrumental in the day's activities, involving more than 140 registered scuba divers and nearly 100 emergency responders. The Devils Fork State Park served as host, providing locations for registration tents and boat launching points for work teams dispatched to clean the lake above and below the surface.

Two Cub Scout packs built and installed 36 bird houses for the park and forged a quarter-mile section of new trail. Three Boy Scout troops were represented, as well as one Eagle Scout candidate participating for an Eagle Scout project.

"We were really impressed with the community support we received and the number of volunteers who came out despite the heat," said Allan Boggs, hydro regulatory and compliance supervisor for Keowee-Toxaway and Nantahala areas. "It demonstrates how much people value this lake and what it has to offer the Upstate."

A variety of local dive shops, local businesses, environmental groups and others joined to sponsor and organize the day, including Duke Energy, Waste Management, Sunrift Adventures, Subway, and South Carolina State Parks. The level of interest in this year's event leaves the organizing team already making plans for hosting a clean-up annually.

"Duke Energy's hydroelectric operations in the area are certainly one reason we were involved, but even more so, our employees in the Upstate live and recreate here," said Reggie King, area hydro manager. "This reflects the heart of our core values -- to be involved in our community and help protect its natural resources."



Cub Scouts from Pack 133 and Pack 125 prepare to start their clean-up efforts



Divers participated in the recent Lake Jocassee clean-up effort.



Several of the more than 350 community volunteers who participated in the Lake Jocassee clean-up effort.

Take Your Best Shot! World of Energy to Host Annual Hunting and Fishing Event

The World of Energy will host the 5th annual Outdoor Family Adventure in honor of National Hunting and Fishing Day on October 1 from 9 a.m. to 3 p.m. It is a unique way to celebrate the great outdoors.

Bring the entire family for a day of fun-filled, FREE outdoor adventures. All ages can enjoy the many interactive events available. These activities will teach guests how to safely benefit from the many recreational opportunities in the Upstate. Experts will be on hand to demonstrate safe air rifle and archery shooting, kayaking and boating. Children even have the chance to dress in camouflage and show off their hiding skills.

“Upstate National Hunting and Fishing Day is a wonderful opportunity for families to join together in a beautiful outdoor setting at the World of Energy,” said Greg Lucas of S.C. Department of Natural Resources. “From fly-casting to kayaking, there is an activity for everyone. It’s also a great place to learn about conservation from many of the outstanding local groups and agencies participating.”

“There is nothing more fulfilling than seeing a child’s excitement over catching their first fish or watching them climb into a kayak to paddle their way around the lake,” said Angela Viney of Upstate Forever. “This celebration is a wonderful opportunity to introduce the outdoors to our youngsters so that they become passionate about our natural world. It is a great place to spark a lifetime interest in a sport that will hopefully ignite a passion for conservation.”

All events are free of charge. Bring a picnic lunch or purchase food from the onsite concessionaire. Free bus shuttle service will be available at the Oconee Nuclear Station parking area off Hwy. 130.

Duke Energy, Upstate Forever, South Carolina Department of Natural Resources, Clemson University 4-H Shooting Sports, Trout Unlimited, Clemson Extension 4-H, South Carolina Wildlife Federation, Harry Hampton Memorial Wildlife Fund, The Weatherby Foundation, and Calm Water Kayak Tours partner to host this event.

Events and Demonstrations

- **Air Rifle Shooting** by 4-H Shooting Sports
- **Archery** by SC Bow Hunters Association
- **Lake Fishing** by SC Department of Natural Resources
- **Butterfly Exhibit** by Clemson University
- **Butterfly Gardening** by Mickey Taylor
- **Camo Games** by Oconee County Extension Service
- **Fly Casting** by the Chattooga River Chapter of Trout Unlimited
- **Fly Tying** by the Chattooga River Chapter of Trout Unlimited
- **Kayaking** by Outdoor Adventures and Calm Water Kayak Tours
- **Laser Shot** by SC Department of Natural Resources Law Enforcement
- **Fishing Simulator** by SC Department of Natural Resources
- **Wildlife Artifacts (Snakes and Critters)** by SC Department of Natural Resources
- **Retriever Demonstrations** by Foothills Retrievers
- **Boating Safety** by SC Department of Natural Resources Law Enforcement



National Hunting and Fishing Day participants will have the chance to learn about camouflage.

Duke Energy Funds Jocassee Gorges Program, Foothills Trail Guidebook

Courtesy of SC Department of Natural Resources

Duke Energy recently made separate grants of \$10,000 each to the Jocassee Gorges education and recreation program and to the Foothills Trail Conference for printing its new edition of the trail guidebook.

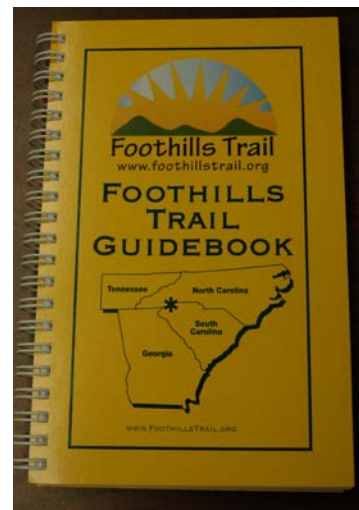
“Supporting programs for youth and adults to experience the natural lands of the Upstate is important to us,” said Duke Energy District Manager Mike Wilson. “Many organizations partner to help maintain and advance these recreational opportunities and Duke Energy is pleased to be among them.”

The grant to the Jocassee Gorges education and recreation program, which has operated as part of the Clemson S.C. Department of Natural Resources office since 2002, will essentially help fund four programs:

- 1) The Jocassee Gorges class presented by the Osher Lifelong Learning Institute (OLLI) at Clemson University;
- 2) DNR’s participation in helping coordinate the Upstate Master Naturalist program;
- 3) DNR’s role in the Foothills Trail Conference and its associated board and recreational outings. The 77-mile Foothills Trail traverses lands owned and managed by both DNR and Duke Energy;
- 4) and, Jocassee Gorges educational programs for schools, church, conservation and other groups.

Duke Energy’s grant of \$10,000 to the Foothills Trail Conference helped print the recently updated version of the Foothills Trail guidebook.

“Duke Energy has been a strong supporter and partner of the Foothills Trail Conference for the past 37 years,” said John Park, Foothills Trail Conference board chairman. “Without Duke’s support, many projects on and off the trail would not be possible. We are grateful for the Duke Energy’s ongoing support.” Foothills Trail guidebooks are available on the Foothills Trail website at www.foothillstrail.org and from local outdoor retailers in South Carolina and North Carolina.



Foothills Trail Conference Board of Directors members proudly display the recently updated guidebook.

For more information about KT Relicensing, check out the relicensing website at www.duke-energy.com/lakes/keowee-toxaway-relicensing.asp

To subscribe electronically to this newsletter, send an email to ktrelicensing@duke-energy.com.