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S O U T H E A S T    W A T E R S H E D

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# FORUM

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The Southeast Watershed Forum is a cooperative effort among agencies, industries and organizations to: enhance local watershed initiatives; communicate watershed news, programs and resources; facilitate cooperation between the public and private sectors, and champion local watershed issues through the chain of government agencies.

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## *Federal-Tribal Partnership Spurs Stream Restoration*

The Oconaluftee and Ravens Fork Rivers flow through the lands of the Eastern Band of Cherokee Indians in a scenic region of western North Carolina bordering the Smoky Mountains. It is a popular area for tourists and the Tribe provides public facilities at two campsites perched along the riverbanks. But increased stream flows from urbanization within the watershed and removal of vegetation by campers was leaving the streambanks susceptible to erosion and contributing to sediment pollution of the rivers. On nearby Soco Creek, historic gravel dredging had eroded a 19-foot vertical incision along the channel. The erosion was threatening to collapse a farmer's barn, 10-feet from the edge of the bank. Restoration help was needed. All three waterways are part of 30 miles of trout streams which provide an important source of fishing revenue for the Tribe.



*Rock vanes were built in the stream to reduce erosion.*

Former Principal Chief Joyce Dugan contacted Region IV EPA requesting financial and technical assistance to partner with USDA NRCS staff located on the Reservation. I felt that a partnership of this nature would provide the Tribe necessary resources to plan, design and implement the needed BMPs for stream protection, while building greater awareness of watershed protection techniques among Tribal landowners, said Chief Dugan.

With 319 funding from EPA, the Tribal match, and technical expertise from EPA, North Carolina State NRCS staff and the Tribal environmental planning and construction offices, restoration efforts began at the campsites in late summer of 1999. Rock vanes were placed in the stream to reduce the rate of stream flow and deflect higher velocities away from the bank to the center of the channel, promoting sediment deposition near the bank rather than erosion. Native vegetation, such as rhododendron, mountain laurel and hemlock was planted to stabilize the banks and provide a buffer to slow the flow of flood waters.

The Soco Creek restoration, which began in 1998, required a combination of engineering and natural channel restoration

solutions and is still ongoing. To stabilize the 19-foot high banks and save the barn, gabion baskets were installed. Lower in the creek, a 300-foot naturally-configured stream channel was reconstructed based on measurements from a healthy reference section up stream. Similar widths, depths, meanders, slopes and pool spacings were reconstructed based on the up stream section. Rock vanes were also installed to stabilize the new channel until vegetation could secure the banks. Work is continuing to restore nearly 2000-feet of the stream channel using these basic principles known as fluvial geomorphology, a technique which adapts natural river dynamics for stream restoration.

According to NRCS Tribal Liaison, Arthur Wade, The Federal-Tribal partnership brought this new technology to the Tribe faster than we would have been able to otherwise secure it. I see this program as another tool to help us protect our watersheds, and develop our land in harmony with the surrounding rivers.

**Contact: Arthur Wade, NRCS 828-488-4743**

# National Watershed News

## **The Southeast Watershed Forum**

### *Planning Committee*

*Gary Boring (VA), New River Highlands RC&D*

*Jennifer Christman (GA), International Paper*

*Karen Armstrong-Cummings (KY), Commodity Growers Cooperative*

*Sue Robertson (TN), TVA Resource Stewardship Team*

*Rita Harris (MS) National Environmental Justice Advisory Council*

*Milt Jackson (TN), Stop Toxic Pollution*

*Peg Jones (NC), North Carolina Watershed Coalition*

*Justin Ellis (AL), Alabama Rivers Alliance*

*Gene Medley (FL), City of Lakeland Public Works*

*Andy Miller (SC), South Carolina Dept. of Health & Environmental Control*

### *Advisors*

*Don Elder, River Network*

*Don Becker, Tennessee Valley Authority*

*Noreen Clough, SE Federal Coordination Team*

### **Coordinator/Editor**

*Christine Olsenius*

*Newsletter funding provided by TVA, NRCS & US EPA—319 Program*

### **SE Watershed Forum**

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## **Energy Theme for Earth Day 2000**

New energy for a new era is the theme for Earth Day 2000 - April 22. The theme seems apropos for a time of record high gas prices and popular gas-guzzling cars. 27 years after the first oil embargo....no country on Earth has made a serious commitment to a renewable energy future, said Dennis Hayes, one of the original founders of Earth day. The time is long overdue to begin constructing energy systems based on solar, wind, biofuels, and other sustainable sources.

With less than 5 percent of the world's population, the U.S. consumes 25 percent of the world's energy supply. The U.S. is also the largest producer of greenhouse gases, accounting for 23 percent of world-wide carbon dioxide emissions. Earth Day 2000 is encouraging communities and organizations to explore renewable energy sources, like solar, wind, geothermal, hydroelectric, and biomass to create a clean energy future.

The first Earth Day was celebrated in 1970 and represented a massive, grassroots movement to focus public and media attention on the nation's environmental problems. It led to the passage of the Clean Air Act and the creation of the Environmental Protection Agency. In 1990, Earth Day went global and has reached over 200 million people in 141 countries.

**Contact:** [www.earthday.net](http://www.earthday.net) for more information, ideas and a list of activities.

## **Counties Highlight Watershed Work**

During the annual meeting of the National Association of Counties (NACO) Legislative Conference in Washington D.C., nearly 20 county commissioners from across the country stopped by EPA's Office of Wetlands, Oceans and Watersheds to discuss some of their watershed success stories. NACO's Watershed Management Advisory Committee has recently published a compendium of local projects called, Leadership in Watershed Management: The County Role. Watershed management is becoming a major priority for local governments, since they are the local jurisdiction for determining land-use planning. Growth, development and urban sprawl have increased the need for more effective local watershed management.



*C. Hunsicker and R. King (far right) at EPA Meeting.*

Southeast success stories which reflected projects to manage problems associated with sprawl and development were discussed by Charlie Hunsicker from Manatee County, Florida, where they are using treated wastewater for urban and agricultural irrigation (see Local Initiative Updates). Ross King, Assistant Director of the Association County Commissioners of Georgia, discussed the Georgia Water Management Campaign, an effort to expand the technical, financial and managerial capabilities of county staff to better protect water resources. Other SE county officials included Patricia Glass (Manatee County, FL) Commissioner Ellen Reckhow (Durham County, NC) and Commissioner Geraldine Robertson (Glynn County, GA) and Dave Canaan, Director of Stormwater Services (Charlotte-Mecklenburg County, NC).



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# National Watershed News

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A number of projects presented had been partially funded by EPA's Five Star Wetland Restoration program. County officials encouraged EPA to continue their financial assistance for wellhead protection, wastewater treatment, stormwater management, wetlands restoration and 319 nonpoint source funding.

**Contact:** Abigail Freidman, NACO, 202-393-6226

## *An ISTE A For Watershed Management?*

Calling for a Water ISTE A, Congressman Earl Blumenauer (D - OR) presented his Water Vision 2000 at a March 14 symposium on Capital Hill sponsored by the Environmental and Energy Study Institute, a nonprofit organization which provides resources, symposia and briefings on energy and environment-related issues for Congress. Chairman of the



*Joe Carter (right) discusses Winyah Bay experience.*

House Livable Communities Task Force, Blumenauer has introduced a Sense of the Congress resolution calling on federal agencies to use ISTE A-like principles to work with communities to solve watershed-wide problems. He feels that ISTE A, the legislation which sought to address transportation problems with system-wide planning, federal flexibility and a requirement for meaningful citizen participation, provides a model for bringing those qualities to watershed planning.

According to Blumenauer, the country has approached water management as an exercise in engineering, rather than striking a balance with a dynamic water cycle that crosses jurisdictional boundaries. He feels that this piecemeal approach

has cost taxpayers billions of dollars, while 40 percent of U.S. waters still fail to meet drinking water, recreation or aquatic habitat needs. As a case in point, he is currently supporting H.R. 2728 which reforms the National Flood Insurance Program. If homeowners refuse to move away or elevate their homes in flood-prone areas, they will be made to pay insurance premiums that reflect the actual costs of the policy. Blumenauer wants to move away from local engineering solutions to identifying problem symptoms, and allow conservation and uses of green infrastructure to play a greater role in addressing watershed problems.

**Joe Carter**, Chairman of **Winyah Bay Focus Area Task Force** in South Carolina was invited to provide a perspective on local watershed management beyond the Beltway. He noted that ISTE A had not promoted flexible, system-wide planning in the Winyah Bay area south of Myrtle Beach, where state and private interests originally wanted to push highway development through a coastal marsh, in spite of opposition from local citizens and the availability of less environmentally-damaging routes. Eventually, Carter was able to build a broad coalition of community stakeholders which included local, state and federal agencies to protect nearly 87,000 acres of land through conservation easements, mitigation banking and expansion of a coastal wildlife refuge. He recommended to Congressman Blumenauer that any watershed legislation which directs federal funding through the states should require local citizen participation in its allocation.

Other speakers included Pixie Hamilton, USGS, who presented highlights from monitoring efforts within the National Water Quality Assessment Program, and Rebecca Wodder, President of American Rivers, who discussed the growing impact of urban sprawl on water quality.

**Contact:** Don Gray, EESI, 202-662-1882 and Nicole Bowles, for Rep. Blumenauer, 202-225-4811

## *Conferences:*

Monitoring For the Millennium will take place at the Hyatt Regency in Austin, Texas, April 25-27, 2000. Cost \$195. Call 405-516-4972, email: jeff@gwpc.site.net.

Buffers: Commonsense Conservation for Urbanizing Landscapes May 9-11, 2000 Nebraska City, NE Call toll free: 888-448-7337

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# Regional News

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## *An Interview with Lindsay Thomas*

Federal Commissioner, ACT/ACF River Basin Compacts

*Note: To date, Georgia, Alabama and Florida continue to wage the first major water war east of the Mississippi. Negotiators have failed to iron out an agreement on sharing the waters of the Apalachicola-Chattahoochee-Flint (ACF) and Alabama-Coosa-Tallapoosa (ACT) River Basins. Their deadline is May 1.*



### **Q. Prognosis for the negotiations seem grim. Why?**

A. There is no doubt that the sheer complexity of these compacts are defeating them. We are dealing with 40,000 miles of river basins, 12 federal water projects, two dozen private projects and a multiplicity of competing needs and interests from navigation, flood control, water quality, municipal drinking water, industry, agriculture, hydropower, recreation and aquatic life.

These are the first compacts to be enacted after all the federal environmental legislation has been passed, like the Clean Water Act and the Endangered Species Act. They are also the first of their size and significance to be addressed east of the Mississippi. Given all those factors, I'm not sure we started with the all the tools we needed. In addition, we used a structure that formed the basis for western water negotiations, but the compact may not be designed for eastern water issues. A different set of political, historical and legal questions needed to be included.

### **Q. Would a shorter time frame for an allocation formula provide greater flexibility in reaching consensus?**

A. A shorter time frame holds more merit. If I were a state, I would be reluctant to strike a 50-year agreement, especially with changing weather patterns and the impact of development on watershed yield. The only hope is for a shorter, interim agreement with further development as trust builds among the participants and more technical and scientific information is received. At this time, there is no trust among the three states.

### **Q. Is demand management part of the plan?**

A. That's the big question. Demand management is a stickler. I had hoped that everyone would come to the table and face the facts about limited water supplies and their effect on development. It's like eating an ear of corn from both ends you finish it faster! Growth will increase demand and the same growth activity impacts watershed yield. If we're going to allocate water, the first step is to focus on quality and quantity. But this debate has centered on allocation.

In my opinion, the federal government has been somewhat handicapped in this process. We should have established first and foremost, the required inflows needed to ensure the integrity of the rivers. In 50 years we want healthy rivers for all uses. We needed a baseline from which to start the negotiations. But we never had one. There was never consensus on whose facts to use or which scientific model to use. The negotiators essentially disregarded major pieces of the compact study. There should have been clear, definitive sources of information and assumptions that all agreed to at the start. A case in point is the agricultural multiplier for determining how much water southwest Georgia will need in times of drought. The USDA-NRCS predicts a 1.7 multiplier, but Georgia wants 2.5.

### **Q. What has this process taught you about interstate water disputes?**

A. This is a classic confrontation that will occur in many places in the South. Changing weather patterns will only complicate the problem. Given growth and development pressures, a history of changing land-use practices and a propensity to avoid watershed protection measures, we will be faced with this issue for many years to come. That's why I hate to see this process fail. It was a chance to do things better. If you want to attract the right kind of growth and maintain quality of life, how can you do it with this uncertainty of adequate supplies of water hanging over your head?

With the last two talks canceled, no new talks planned and the May 1 deadline approaching, it looks like allocation decisions will be made in the Supreme Court, not in the South. The real irony is that the compacts gave three states the opportunity for self-determination and even the potential for some changes in federal law. Southern states dislike the federal government telling them what to do. But by default, they have left the decision on the most decisive issue of their future to a federal authority the courts!



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# Regional News

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## *Survey Provides Clues to Largemouth Bass Virus*

Within the last five years, Largemouth Bass Virus (LMBV) has caused fish kills in a dozen lakes in the Southeast and Texas. To address this concern, B.A.S.S. Inc sponsored a workshop with U.S. Fish and Wildlife Service fish health specialists from the Warm Springs Fish Health Center, along with state and federal fishery managers and fish health scientists from across the Southeast. The workshop was held on February 3 in Savannah, Georgia, to gather information, and implement a plan to deal with the impacts of LMBV on sportfish populations.

LMBV has occurred in 12 states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Missouri, Mississippi, North Carolina, South Carolina, Tennessee, and Texas.

What causes the virus to turn into a deadly disease for largemouth bass is still a mystery, said Sam D. Hamilton, Southeast Regional Director. Hamilton went on to say that all of the fish kills have occurred during warm weather, and stress caused by water pollution or from frequent handling by anglers may also be a factor.

Valuable stocks of fish are at risk because of a lack of knowledge about the distribution of pathogens and parasites in wild fish. We have been looking for the virus (LMBV) as part of the Wild Fish Health Survey, said Norm Heil, project leader at the Warm Springs Fish Health Center in Georgia. Our findings have shed additional light on the distribution of LMBV and the species affected by the virus.

Anglers can help minimize the spread of LMBV virus and its activation into a lethal disease by cleaning boats, trailers, and other equipment thoroughly between fishing trips to keep from transporting LMBV as well as other undesirable pathogens and organisms, by not transporting fish or fish parts from one body of water to another, and by not releasing live bait into a fishery.

The National Wild Fish Health Survey was initiated in 1997 under the leadership of the U.S. Fish and Wildlife Service's Regional Fish Health Centers, and in cooperation with States, Tribes, Universities, and the Aquaculture industry. The Centers have been mandated to establish and maintain a National Fish Disease Database.

**If any agency would like to participate in the survey, or would like more information, visit the survey website at <http://wildfishsurvey.fws.gov>.**

**Contact: Tom MacKenzie, 404- 679-7291**

## *SE Watersheds Designated for Special Focus*

Declaring that watershed restoration and maintenance is the oldest and highest calling of the Forest Service, Chief Mike Dombeck has made restoration and maintenance an



*Rafting on the Chattooga River*

over-riding priority of forest planning and management. In line with this stated priority, the US Forest Service will invest an additional \$11.8 million to help restore 12 large watersheds nationwide in this fiscal year. Nearly 60 watersheds competed for the funds, with three out of the 12 watersheds chosen located in the Southeast; the Conasauga, Chattooga and Lower Mississippi watersheds.

The Conasauga River (GA-TN) and its tributaries are home to over 90 different species of fish and some of the rarest freshwater mussels in the world. A broad consortium of interests have been working together in the watershed, including the Conasauga River Alliance, Fish and Wildlife Service, Limestone Valley RC&D, The Nature Conservancy, Southern Appalachian Forest Coalition, Tennessee Aquarium and local landowners and teachers.

With strong partnerships and a steady flow of technical and financial resources, the Initiative hopes to make substantial progress toward reducing siltation, nutrients, fecal coliform, and toxic chemicals that are flowing into the river and its tributaries. There will be an emphasis on streambank stabilization and the use of riparian buffers to protect water quality. The Forest Service is also studying the best way to restore oak and short-leaf pine forests, which are dwindling due to the loss of their traditional fire regimes.

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# Regional News

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The Chattooga River restoration project will maintain and restore water quality and aquatic habitats through the relocation and improvement of recreational facilities, roads, trails and conservation education in cooperation with tribes, state and county agencies, recreation and conservation groups, and private landowners. The Chattooga River watershed contains one of the most highly treasured Wild and Scenic Rivers in the Eastern United States, offering some of the best trout fishing and white water rafting. It is centrally located to Atlanta, GA, Greenville, SC, Asheville, NC and Chattanooga, TN.

Emphasis in the Lower Mississippi River Valley will be on bottomland hardwood restoration and will include a host of partners from industry and the nonprofit sector, as well as other federal and state agencies.

**Contact:** Ray Johnston, FS, 404-347-3597

## *Puerto Rico Develops Restoration Strategies*

The Commonwealth of Puerto Rico is currently working on the development of Watershed Restoration Action Strategies for its first two priority watersheds: Río La Plata and Río Grande de Arecibo. These two watersheds extend over a drainage area of 5,284 acres and 9,983 acres, respectively, draining into the Atlantic Ocean on the northern side of the Island. State and Federal agencies have formed a multi-agency committee to address nonpoint pollution in Puerto Rico, and are currently reviewing the draft strategies. These strategies are primarily directed toward controlling the impact of nonpoint sources of pollution in two main drinking water supply waterbodies.

The Puerto Rico Environmental Quality Board, with the assistance of the US EPA and the Natural Resources Conservation Service, convened a series of seminars with the purpose of educating the community about the development of the Clean Water Action Plan and the Watershed Restoration Action Strategies in Puerto Rico. These workshops have included the participation of the community, as well as, State, Federal and Municipal Governments.

Also, Federal and State agencies are forming a partnership with the Southeastern Natural Resources Leaders Group, to address watershed restoration in the Caribbean. This partnership will be studying possible projects targeted to improve water quality and quantity, protection of the karst area on the

north coast of Puerto Rico, and the creation of corridors to improve wildlife habitat.

**Contact:** Ariel Iglesias Portalatin, US EPA, 787-729-6951 x. 252 [iglesias.ariel@epamail.epa.gov](mailto:iglesias.ariel@epamail.epa.gov)

## *Federal Coordination Team Responds to Southeast Forum*

Forum Coordinator, Christine Olsenius presented recommendations from the August, 1999 Southeast Watershed Forum Roundtable to the Southeast Federal Coordination Team (FCT) last October and to the Clean Water Action Plan Principals (CWAP) in Washington this past February. The FCT, a committee made up of representatives from all the regional federal agency offices met again in Atlanta in February to discuss several programs being developed to address Roundtable recommendations for more interagency participation in watershed initiatives. Three new interagency teams are being developed to join the Forest Service and local stakeholders on restoration and protection activities in the Chattooga, Conasauga and lower Mississippi watersheds. The FCT also stated its support for the Forum.

The CWAP Principals are federal agency representatives at the assistant secretary level who oversee the implementation of this national program. Noreen Clough, Executive Administrator of the Southeast FCT, joined Olsenius for the Roundtable presentation at their February meeting. She explained how CWAP has forged a closer working relationship between the federal agencies and the Southeast Watershed Forum, a cooperative effort among states, industry, agriculture, municipalities and watershed groups. Clough feels the resulting partnership will provide greater cooperation and communication in the delivery of programs and services and will keep the agencies more mindful of local stakeholder needs.

A representative from EPA's Puerto Rico office joined the FCT meeting in Atlanta. Watershed initiatives are just beginning there, according to Ariel Iglesias Portalatin, and he is interested in developing an interagency team to work on one of their priority watersheds. Puerto Rico will continue to partner with the Southeast FCT and Forum.

**Contact:** Christine Olsenius, 410-849-2975



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# Regional News

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## *Forum Provides Panel for National Monitoring Council*

The Southeast Watershed Forum was asked by USGS to provide a panel of regional speakers to address the **National Water Quality Monitoring Council** at its February 16 meeting at EPA Region IV Headquarters in Atlanta. The Council



*Marty Kearins, GA River Network, gives presentation.*

is a national partnership established to implement a voluntary, integrated, nationwide strategy to improve water resource monitoring, assessment and reporting. Members expressed an interest in learning about local and regional watershed activities at their various meetings across the country.

The Forum panel included four speakers. Dr. William Deutsch, manager of Alabama Water Watch, described the growth of this successful volunteer monitoring network, based out of Auburn University. Don Anderson, a TVA watershed specialist reviewed the work of the Hiwassee Interagency Team, a federal-state partnership which targets technical and financial support to local watershed groups in an area spanning three states. Marty Kearns, Executive Director of the Georgia River Network discussed the programs the Network has developed to educate and empower local river and watershed groups in the state. Christine Olsenius reviewed the programs and objectives of the Southeast Watershed Forum.

**Contact: Toni Johnson, USGS, 703-648-6810**

## *Regional Meetings:*

**NC Watershed Coalition** The Flood, The Floodplain & Protecting Our Rivers - June 23-24, 2000 at Catawba College in Salisbury. **Contact:** Peg Jones at 828-369-7877 or email: rivers@dnet.net

### **Blending Art & Science in River Management**

April 19 — 22, 2000 Charleston, SC The River Management Society **Contact:** Christine Greenleaf: 843-953-5822 or email: coned@cofec.edu and view website: [www.river-management.org](http://www.river-management.org).

## *Erosion Control Workshops*

Western North Carolina Tomorrow will conduct a series of workshops in Franklin, Fletcher, and Boone to ensure that the people of the region know the law and changes in the Sedimentation Pollution Control Act of 1973 that occurred in the last year. Speakers will discuss a variety of technical issues such as proper installation and maintenance of erosion and sediment control devices, and development of subdivisions on steep land.

The workshops will take place from May 1 — 3, 2000. Registration is \$20 and lunch is included. Register soon. Space is limited. For more information, contact Phillip Gibson at 828-227-7492.

## *Planning for Small Communities*

A new CD developed by EPA Region V and Purdue University, offers guidance on a wide range of environmental issues affecting small-to-medium-sized communities. Major sections include environmental laws and regulations, self-assessment, planning and comparative-risk analysis, case studies, a contact and information directory, and interactive tools. Published by the Local Government Environmental Assistance Network (LGEAN), this CD also features 10 other EPA/Purdue cooperative efforts, including an EPA grant-writing tutorial, a ground-water primer, household waste management, and mercury in medical facilities.

Free copies of the CD (vol. 2, 1<sup>st</sup> edition) are available to local governments with populations of 10,000 or less, only while supplies last, by calling 877-865-4326 or [lgean@icma.org](mailto:lgean@icma.org). Larger local governments can download the free software at <http://www.epa.gov/seahome>



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# Regional News

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## ***The TMDL Primer***

Everyone is talking about TMDLs but do you understand what they are and what they mean to local watershed management? Portions of hundreds of lakes, rivers and streams in the Southeast fail to meet their water quality standards. Under the Clean Water Act, the states are re required to write detailed cleanup plans, known as Total Maximum Daily Loads or TMDLs, for each of those impaired waterways. Here adapted from EPA fact sheets is an overview of the TMDL program and the role it plays in watershed management.

### ***What Is a TMDL?***

A TMDL or total maximum daily load is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards. In other words, it is the sum of the allowable loads of a single pollutant from all contributing sources, and includes a margin of safety to ensure that the waterbody can be used for the purposes the state has designated. The calculation must account for seasonal variations in water quality. In addition, a TMDL calculates the reductions needed to meet water quality standards and allocates those reductions among pollution sources in the watershed.

### ***Who is Responsible for Establishing and Implementing TMDLs?***

States, territories and authorized tribes are responsible. If they fail to establish the TMDLs, the EPA must do it.

### ***When Do TMDLs Need To Be Established?***

The EPA is proposing that TDMLs should be established over a 15-year time frame, with TMDLs for high-priority waters to be completed first. Priorities are based on the severity of the pollution and uses of the waterbody. The proposed changes would also give high-priority status to impaired waters that are drinking water sources or have endangered species.

### ***How Are 303(d) Lists Established?***

Under current regulations, states, territories and tribes identify their impaired or threatened waters and submit a

list of these waters to the EPA every two years. This is known as the 303(d), or "dirty waters" list The EPA has 30 days in which to approve the lists or add waters to a state s lists, if it determines the state s list is not complete. TMDLs are required for waterbodies on the 303(d) list. In its proposed regulation, the EPA is asking for comment as to whether the two-year time frame for 303(d) list submittal should be changed.

### ***What Are the Major Causes of Impairments To Our Waterways?***

Both the 1996 and 1998 section 303(d) lists reflect similar patterns with sediments, nutrients, and pathogens being the top three causes of impairment. Other causes include: dissolved oxygen, habitat and flow alterations, pH, metals, mercury (including fish advisories) and pesticides.

### ***What Is The Relationship of TMDLs To Watershed Management?***

Lasting solutions to water quality problems are best achieved by looking at all activities in a watershed. TMDLs are an important part of translating water quality standards into any point (end-of-pipe discharge) and non-point (runoff) source load reductions needed to achieve healthy watersheds. The EPA encourages watershed approaches in establishing TMDLs so that the cumulative and synergistic effects may be considered. TMDLs will be less expensive and more effective when bundled together to clean up an entire watershed. At the watershed level, TMDLs can structure innovative solutions, e.g., nutrient trading among wastewater dischargers and nonpoint sources; or the development of new point or nonpoint source technologies.

### ***What Are The Major Changes Being Proposed? Proposed revisions would require states to:***

- Submit a more comprehensive list of waters threatened by pollutants and pollution. TMDLs would be established for pollutants;
- Set out schedules for establishing TMDLs over a 15-year period, starting with the highest priority waterbodies;

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# Regional News

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- Provide more specific and consistent listing methodologies to the EPA and make them subject to public review;
- List waterbodies until water quality standards have been achieved;
- Include an allowance for foreseeable increases in pollutant loadings to encourage Smart Growth ; and Include an implementation plan in the TMDL, with on-the-ground actions for example discharge permit conditions, to ensure that water quality standards are achieved in the time frame.

## ***How Will Further Progress Toward Attaining Water Quality Standards Be Achieved In Impaired Waterbodies Until a TMDL Is Developed?***

The EPA has proposed that large, new or significantly expanded dischargers will be permitted to discharge to impaired waterbodies provided they offset their discharge by obtaining pollutant load reductions from an existing source(s) of the same pollutant in the waterbody.

### ***What Is An Offset?***

An offset is a form of effluent trading. It involves an increased discharge of a particular pollutant to a waterbody in exchange for a decreased discharge of that same pollutant to the waterbody. The end result would be a net environmental improvement in the water quality of an impaired waterbody.

### ***From What Source(s) Can An Offset Be Obtained And For How Long Must It Be Maintained?***

An offset could be obtained from one or more existing point or nonpoint sources in the same waterbody. The off-

set must be maintained either until the TMDL has been established and is reflected in the discharger's permit or until the discharger stops discharging.

## ***How Will the Changes To The Discharge Permit Program Help To Assure That TMDLs Will Be Implemented?***

States, when establishing a TMDL, must provide reasonable assurance that all affected sources will be able to meet their allocated load reductions. There may be instances where the EPA, in approving a TMDL, will find that the state did not provide reasonable assurance that a particular nonpoint source will meet its allocated load reduction. In such a case, the EPA will work with the state to provide that reasonable assurance. Where working with the state has failed and reasonable assurance was not provided, the EPA would disapprove the TMDL and establish it itself.

Changes to the permit program will give the EPA, in establishing a TMDL, the discretion to designate certain dischargers causing significant water quality impairment as point sources requiring a discharge permit. Dischargers that may be designated include selected animal feeding operations, aquatic animal production facilities and forestry operations. In states authorized to administer the permit program, the EPA will also have the discretion to object to and reissue expired permits which contain limits that are inconsistent with an established TMDL where the state has failed to do so.



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# State Agency News

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How are you progressing on TMDL development? How many TMDLs have been approved and for what pollutants? What funding resources are you using for TMDL work?

## Alabama

Alabama has 8 TMDLs nearing the draft stage that will soon be released for public review and comment. Stream segments for which the TMDLs are being developed are located in the Black Warrior River and Cahaba River basins. Pollutants of concern include fecal coliform bacteria, organic enrichment / low dissolved oxygen, and ammonia, primarily from nonpoint sources.

In 1997 EPA approved 12 TMDLs in Alabama, primarily for organic enrichment / low dissolved oxygen and ammonia. Each of these included a point source.

Funding for TMDL development to date has been from a combination of state and US EPA funds, including Sec.104(b), Sec.106, and Sec.604.

**Contact:** Norm Blakey, ADEM, NB@adem.state.al.us

## Florida

The state of Florida will initiate its rotating basin approach to assessing all its surface waters on July 1, 2000. However, many issues need to be resolved prior to the development and submittal of any TMDLs. Of major concern is the current uncertainty associated with EPA's proposed changes to the federal regulations governing the TMDL program. While the comment period closed at the end of January, we believe EPA will need time to consider making changes to the proposed language based upon the more than 30,000 comments they received from interested parties. Of considerable concern to Florida's Department of Environmental Protection (FDEP) is whether EPA will pursue the new requirement that an implementation plan (with reasonable assurance as a component) be included at the same time as the assimilative capacity (load) is provided.

A second factor is the need in Florida to comply with the conditions in the Watershed Restoration Act passed in 1999. This legislation requires that a rule be written and adopted that clearly spells out the methodology for identifying impaired waters in Florida. A Technical Advisory Committee has been meeting for six months to aid FDEP in the development of the rule language, which is expected to be offered for approval later this summer.

Until this rule is final, FDEP is prohibited from generating TMDLs. (The bill provided an exception to this for Lake Okeechobee. It has been determined to be impaired and a TMDL is being developed by the state. In addition, EPA proposed a TMDL for the Lake in January of this year.)

FDEP has submitted to EPA, the following 4 TMDLs, all of which have been approved:

Lake Thonotosassa - Total nitrogen and total phosphorus

Tampa Bay - Total nitrogen

Halifax River - Nutrients and dissolved oxygen

Manatee River - Nutrients and dissolved oxygen

While EPA has approved these TMDLs, they will need to be adopted as a rule by FDEP before they can be implemented.

FDEP has been undergoing a reorganization of its resources within the Division of Water Resource Management to better focus its available personnel resources to address the TMDL program. General Revenue funds many of the staff being committed to this effort. In addition, FDEP has allocated significant dollars toward upgrading the field and office (computer hardware and software) equipment, providing training, and to contracts. Most of these funds come from 104(b)(3), 319, and 106 programs.

**Contact:** Jan Mandrup-Poulsen, FDEP, 850-921-9488

## Georgia

In Georgia, 116 TMDLs were developed in 1997 and 1998 primarily by EPA. Almost all of these TMDLs were for fecal coliform for contaminated waters in rural areas. In 1999, the state developed two TMDLs for waters impaired for dissolved oxygen due to point sources.

By June 30, 2000 and as a result of new sampling, the state and EPA must develop 165 TMDLs in the St. Mary's, Suwannee, Satilla, and Ochlocknee River Basins. Georgia has had little experience in developing TMDLs for nonpoint sources or for blended point/nonpoint source waters. Also, the development of methodologies for these type of TMDLs has been very slow in coming.

Over the next two years, Georgia Environmental Protection Division and US EPA will be producing as many as 400 to 500 TMDLs. The TMDL development schedule is court-ordered and EPA has a court-ordered responsibility to back-stop TMDL development in Georgia and complete any undeveloped TMDLs by August 30 of each year.

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# State Agency News

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Funding for activities supporting TMDL development has been provided by the Georgia General Assembly as well as EPA grant programs (106, 104(b) and 604(b)). However, future funding will be even more critical since it is estimated that the State of Georgia will have to produce over 1100 TMDLs over the next 5 years.

**Contact:** Clint Moyer GA EPD, 404-675-1752

## *Kentucky*

KY has made great effort to link all monitoring, TMDL development, and implementation plan development to the Watershed Framework schedule. That is, as data is generated in year 2 of the cycle for a given basin management unit, the assessments are done and the 303(d) list is updated. TMDL work is then re-prioritized based on the new information, needs, resources, and the watershed schedule. Implementation plans will be developed in year four.

The current status for completed and approved TMDLs by pollutant in Kentucky is:

- 17 pathogens (Upper Cumberland and North Fork of Kentucky River)
- 4 organic enrichment/Low DO (Harrods Cr, Chenoweth Run, Floyds Fork, East Fork of Little Sandy River)
- 2 nonpriority organics (deicing fluid - Elijah Creek and Gunpowder Creek)
- 3 chlorides (South Fork Red, Sand Lick Fork, Stump Cave Branch)

Several others are in various stages of data collection, draft, or review for approval.

Kentucky mostly uses funding from Section 106 funds. Some TMDLs will be accomplished with additional funds under the Clean Water Action Plan Section 319 money. Section 319 funds are used extensively for monitoring and data collection. Section 104(b)3 funds are used for coordination and facilitation of the watershed process and plan development.

**Contact:** Lee Colten, KY Div of Water, 502-564-3410

## *Mississippi*

EPA Region IV settled the lawsuit regarding TMDL development in Mississippi with a Settlement Agreement with the plaintiff and a Consent Decree. Mississippi Department of Environmental Quality (MDEQ) is now working to meet the

requirements set out in the Consent Decree. DEQ will use its established Rotating Basin Approach to work on TMDLs in a different basin each year. In 1999, DEQ completed the TMDLs in the Pascagoula River Basin.

At the end of 1999, EPA had approved approximately 65 TMDLs primarily dealing with pathogen impairment. Work is scheduled in 2000 for approximately 100 TMDLs on impairments caused by pathogens, low oxygen levels, nutrients, sediment, and mercury. The Mississippi Legislature has increased funding for the Basin Rotation Planning and TMDL development program to support this activity. EPA Region IV has also increased support for TMDL projects in the state with technical assistance, computer model training, and monitoring support.

**Contact:** Greg Jackson, MS DEQ, 601-961-5171

## *North Carolina*

The NC Division of Water Quality has made steady progress over the years towards developing TMDLs for impaired waters within the state. Many of the TMDLs developed in the past have been point source related and were handled through the NPDES permitting program. The majority of our remaining impaired waters are impacted, at least in part, by nonpoint sources of pollution. On average, these waters require more monitoring and modeling resources to address the problem, as a variety of diffuse sources may be contributing to the impairment. In order to effectively develop and implement TMDLs for waters dominated by nonpoint sources of pollution, strong stakeholder involvement is essential. The Division is currently working with stakeholder groups across the state on TMDLs for parameters ranging from nutrients, fecal coliform and mercury, to oxygen-consuming wastes. Although considerably more staff time and resources are required to involve stakeholders in the TMDL process, the Division strongly feels that solving nonpoint source related problems are achieved most efficiently with support of the public.

NC has over 100 TMDLs for pollutants ranging from oxygen-consuming wastes, nutrients, and toxicants including metals and dioxin. Of particular note is the approved Phase I total nitrogen TMDL in the Neuse River basin. A basinwide approach to control nutrients delivered to the estuary has been developed and continues to evolve with input from a wide range of stakeholders. Water quality issues in the Neuse estuary have stemmed from significant legislation for the basin including rules for controlling urban stormwater, agricultural nutrient loading, and protecting riparian buffers.



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# State Agency News

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NC has relied on several funding sources including grants from EPA 104(b)(3) and 319. The DWQ has been awarded approximately \$ 2.1 million from the NC Clean Water Management Trust Fund to develop restoration strategies for a selected set of impaired watersheds. The NC General Assembly has allocated funds for a number of projects including: the Neuse ModMon project, a joint monitoring and modeling effort in the Neuse basin which has supported Phase I and will support Phase II of the total nitrogen TMDL; the RiverNet project which includes the deployment of a network of continuously monitoring water quality stations designed to close gaps in our sampling program; and the Cape Fear River Assembly which supports research programs throughout the basin including support for the lower Cape River basin dissolved oxygen TMDL.

**Contact:** Alan Clark, NCDENR, 919-733-5083 X 570

## South Carolina

SC Department of Health and Environmental Control has made steady progress on TMDL development. During the last two year 303(d) listing cycle, 22 TMDLs have received EPA approval. Of these, 14 target reductions in dissolved oxygen and eight target fecal coliform bacteria. These TMDLs were developed by existing DHEC staff who will continue to work on new TMDLs in addition to other duties. One new Watershed Analysis staff position has recently been added. This person will be dedicated full time to TMDL development primarily in CWAP priority watersheds. Additionally, two TMDLs have been contracted out, one to a university and the other to another natural resource agency. No new state or federal funding programs have been available to develop or implement TMDLs. As further NPS modeling experience is gained and as approval requirements become more standardized, it is expected that TMDL development will accelerate somewhat during the next cycle. However some existing and potential barriers may eventually slow TMDL development. Among these are: the lack of adequate tools for developing TMDLs for estuaries and large reservoirs, lack of funding for TMDL implementation, and potential changes to federal TMDL regulations.

**Contact:** Larry Turner, SC DHEC, 803-898-4005

## Tennessee

On February 7 and 8, TN Department of Environment and Conservation (TDEC), TN Department of Agriculture (TDA), and EPA Region IV staff met to discuss future commitments for Tennessee s TMDL program. Over the next 5 years, approximately 190 TMDLs will be completed for Tennessee waterbodies. The major efforts will be provided by TDEC, with some assistance supplied by EPA. At the present time, TDEC has 17 TMDLs in various stages of development. Implementation of point source controls will be performed by TDEC. Reasonable assurance of non-point source BMP implementation will be conducted by TDA.

On August 14, 1999 President Clinton announced new draft regulation for TMDLs. In those rules, EPA lists priority waterbodies for cleanup and TMDL development; calls for specific requirements on the State s list of impaired waterbodies 303(d) list; sets additional timelines for TMDL development; includes a new requirement that states assign a high priority to impaired waterbodies designated as public drinking water supplies and/or containing endangered or threatened species habitat; provides specific components of a TMDL and its implementation plan; and establishes additional public comment requirements. For a copy of the draft regulation, see the EPA web site: [www.epa.gov/owow/tmdl](http://www.epa.gov/owow/tmdl). The new requirements are drawing critical comments from states, agricultural, and other interests nationwide.

**Contact:** Sherry Wang, 615-532-0656 or  
Melanie Catania, 615-532-0739

## Virginia

Virginia s TMDL development program is making significant progress. One TMDL has been approved by EPA, and 12 additional TMDLs will be submitted to EPA by summer.

Most of the TMDLs being developed are addressing fecal coliform bacteria impairments. Virginia also expects to complete a TMDL for a nitrate impairment in drinking water by early April 2000. Thirty additional TMDLs are scheduled for completion by 2002. These will address fecal coliform bacteria and benthic community impairments.

TMDL development is being paid with state funds and from EPA grants authorized by sections 104(b)(3), 604(b), and 319 of the Clean Water Act.

**Contact:** Bill Hayden, DEQ, 804-698-4447



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# Local Initiative Updates

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## *Manatee County Finds New Water Source*

Manatee County, Florida faces an immediate and long term water supply crisis. Recent scientific modeling has determined that groundwater withdrawals for agricultural, industrial and public supply needs are exceeding the regional aquifer's ability to replenish itself. Agriculture can use as much as 120 million gallons of water per day for irrigation, competing with a growing number of residential and commercial users drawing from the same groundwater. Large seasonal withdrawals for irrigation have caused historic declines in the aquifer, at times allowing salt water intrusion from the Gulf.

In an effort to avoid an outright ban on new well construction and a confrontation among water users, Manatee County officials are developing plans to interconnect three county-owned regional wastewater treatment plants with the Bradenton and Palmetto plants in an effort to reclaim as much as 30 million gallons of water per day. This reclaimed water will be pumped 15 miles inland for agricultural uses to substitute for groundwater. The \$40 million program is funded through revenues generated from the sale of water and wastewater services by the Public Utilities System Enterprise Fund, from matching grants totaling \$12 million from the local water management district (which has ad valorem taxing authority) and \$7.2 million in Congressional appropriations. User fees in the form of utility fees and charges to reclaimed customers are estimated to cover 10 to 15 percent of the total (non-grant) local costs. The balance is absorbed through rates and fees paid by wastewater customers.

According to Charlie Hunsicker, Ecosystems Manager for the county, local governments should be willing to subsidize the cost of reclaimed wastewater systems provided to agriculture. Subsidies are justifiable when you consider the economic value of reducing discharges to surface water, conserving groundwater for future generations and supporting the local agricultural base with a viable source of water.

This partnership approach among elected officials, state water management agencies and the agricultural community was key to avoiding a confrontation and redefining the water shortage crisis as an opportunity for sustainable practices, said Hunsicker.

**Contact:** Charlie Hunsicker, 941-749-3070 ext. 6823

## *Community Partnership Expands Refuge & Greenway*

For 10,000 years the Ocmulgee River has been a highway of change in central Georgia. A transportation route for the Swift Creek Indians and explorer, Hernando de Soto, the river is now home to hikers, boaters and fisherman. A



diverse partnership of over 30 organizations and agencies based in Macon, Georgia is working to increase public access, open space and recreational opportunities along the Ocmulgee.

Coordinated by the Ocmulgee Heritage

Greenway Committee, this partnership is reaping impressive results. Working together the U.S. Fish and Wildlife Service, the Trust For Public Land and the Georgia DNR were able to leverage \$3 million for land acquisition to expand the 5,500-acre Bond Swamp National Wildlife Refuge by an additional 2,000 acres. This area located along the river, includes some of the last remaining forested wetlands in Georgia. The refuge will provide opportunities for environmental education, interpretation, hunting, fishing, canoeing and hiking. The Trust For Public Land secured \$1 million in North American Wetland Conservation Act funding and the Georgia DNR received \$2 million in Georgia Rivercare funding.

This was one phase of the Greenway Committee's Conceptual Management Plan for providing greater public access along a 45-mile stretch of river, including the wetland conservation area in the Refuge and an in-town system of trails, boat ramps, and overlooks. Plans are now being developed to build a 6.5 mile Greenway Trail to link the Old Macon Water Works Site with the Central City Park with the Ocmulgee National Monument. Bibb County Board of Commissioners and the Macon Water Authority have already donated river front property.

**Contact:** Carolyn Rogers, U.S. Fish & Wildlife Service, 912-986-5441

**Andea Williford, Greenways Coordinator, 912-742-8844**

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# Local Initiative Updates

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## *Muddy Creek Gets Clean Up*

The **NC Watershed Coalition** will be working with the **Muddy Creek Watershed** Restoration Initiative in the western part of the state to significantly reduce sediment and other nonpoint sources of pollution. Muddy Creek joins the Catawba River about one mile downstream of the Lake James Powerhouse. The project requires a long-term commitment to establishing buffers, securing conservation easements, and restoring and reconstructing parts of the natural stream channel. Sediment from Muddy Creek is impacting trout and bass habitat in a 17-mile stretch of the Catawba. Restoration of Muddy Creek could help the Catawba River be a significant cold water fishery. Progress was begun in 1999 when two sections of the stream channel were reconstructed, possibly reducing sedimentation from erosion by nearly 10 percent. This year the nine-member Initiative will conduct an inventory of the whole watershed to identify sources of sediment input using GIS, site-specific observations and aerial photography. Education and landowner outreach programs are also planned. The Initiative includes Trout Unlimited, the Foothills Conservancy of NC, Burke and McDowell Counties, Duke Power Company, National Fish & Wildlife Foundation, NRCS, NC Clean Water Management Trust Fund, and NCWRC.

**Contact:** Steve Johnson, Duke Power  
srjohnso@duke-energy.com

## *Fort Gordon Aids Robust Redhorse Sucker Begins Wiregrass Restoration*

Fort Gordon (GA) biologist and natural resource specialists are working with the Georgia DNR to provide habitat for the robust redhorse sucker, a species being considered for the federal endangered-species list. Native to central Georgia, with a habitat that spans North and South Carolina, the robust redhorse sucker has dwindled in numbers because of declining water quality and the introduction of the predator flat-head catfish. The Robust Redhorse Sucker Conservation Committee, a coalition of state DNRs and power companies needed a pond to establish a sanctuary. Fort Gordon biologists set aside a 1.5 acre pond by removing all predator species. Nearly 3,000 robust redhorse suckers were released

to the pond, where they will have time to grow and develop before the State uses them to restock rivers, or as a brood stock for more fish. The suckers are equipped with a tag to help environmental experts track their migration and survival rate in the future.

Fort Gordon recently received a Department of Defense Grant for wiregrass restoration. Long-leaf pine, with a wiregrass understory is native to the Southeast and once covered nearly 60-90 million acres. Today there are less than 4 million remaining. The restoration is a cooperative project with the US Forest Service and Clemson University. Students from the Non-commissioned Officers Academy and area Boy Scouts have volunteered to collect seeds. They hope to replant five acres. The wiregrass is critically important in maintaining the long-leaf forest due to its ability to carry the fires necessary for the long-leaf pine life cycle and to provide food and cover for native wildlife. Long-leaf pine provide habitat for many rare or endangered species such as the red-cockaded woodpecker, Bachman's sparrow and the gopher tortoise. In the 1940s and 1950s the Forest Service policy was to suppress forest fires, but controlled burning is important to producing the seeds necessary for long-leaf pine regeneration.

**Contact:** Steve Willard, Envir. Officer 706-792-2403

## *New Association in Upper Callasaja*

The Upper Callasaja Watershed Association (UCWA) is a new organization which just received its 501(c)(3) status in late 1999. The Upper Callasaja is a tributary to the Little Tennessee River. The association will focus primarily on sedimentation, siltation concerns near the Highlands-Cashiers areas of North Carolina. The group elected their board of directors last December and approved a technical advisory board, which includes TVA's Little Tennessee Watershed Team. The association has completed their first stream restoration project in cooperation with the Little Tennessee Watershed Association and the NC Clean Water Management Trust Fund.

**Contact:** Clem Patton, UCWA President, 828-526-9115  
ce/mpatton@meiworld.com

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# Local Initiative Updates

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## *Logger Training Initiated*

The NC Forestry Division, working in cooperation with representatives from the wood products industry, completed a Pro Logger Training Program in Murphy, NC in January. The program focused on safe and environmentally acceptable methods of timber harvest. The program involved 39 loggers from Clay, Cherokee, and Graham counties in North Carolina and Fannin, Towns and Union counties in Georgia. Program partners included Georgia Pacific, Valwood Corporation, Buckhorn Lumber, Bowater Paper, Trust Joist McMillan, Blue Ridge Paper, Brawley Wood Yard, Mundy's Veneer, Bryant Timber, Southwest NC RC&D and TVA's Hiwassee Watershed Team. Program information is available at [www.ncforestry.org/temp/Programs/professionals.htm](http://www.ncforestry.org/temp/Programs/professionals.htm).

**Contact:** Gary Meese, NC Division of Forestry

## *The Power of Mini-grants*

Each year, the **Kentucky Division of Water** provides the **Kentucky Waterways Alliance (KWA)** with a grant to issue Nonpoint Source Mini-grants through a competitive process. The funds come from an EPA 319(h) grant to the state. Approximately 13 grants between \$3,500 and \$5,000 were given to organizations in 1999. Here are some of the accomplishments from just two of the minigrants.

The **Appalachian Clean Water Partners** designed and constructed an artificial wetland suitable for homeowners where leach beds are not a feasible component of a septic system. The wetland cell, built with the help of local vocational school students, is located on an Interpretive Trail on the Prestonsburg Community College campus. The **Gateway District Health Department** is working with local school groups to monitor over 35 sites. Samples are being collected and analyzed regularly by local students and the results are to be published on a newly developed web page at <http://pros.eastky.net/mmaddox>. The District also purchased a portable incubator laboratory to test and demonstrate fecal coliform sampling to the students.

**Contact:** Judy Peterson, KWA, 270-524-1774 or [judy@kwalliance.org](mailto:judy@kwalliance.org)

## *Association Maps Sedimentation*

The Kiawah Island Community Association (SC) is currently in the middle of a comprehensive study of their entire 117

lake system. This involves bottom mapping using a GPS/depth sounder and GIS program. It is generating great, 3D images of the lake and calculates average depth and volume. The association is planning on using these images to determine long-term sedimentation rates of the lakes for budgetary projections of dredging. They hope to be done with the study by fall.

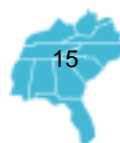
In addition, a relatively new organization has developed on the island, the Kiawah Island Natural Habitat Conservancy. The Conservancy is involved in habitat preservation and consequently, the lake edges. They have raised \$40,000 to produce a video series that will be distributed or shown to property owners, landscape architects and landscape contractors promoting the benefits and uses of native plants in landscaping.

**Contact:** Norm Shear, Kiawah Island Community Assoc. 843-768-2315 [KiawahLakes@compuserve.com](mailto:KiawahLakes@compuserve.com)

## *Farmers Look to Alum for Reducing Poultry Waste*

There is some interest in the use of alum on poultry waste in several parts of the Tennessee Valley. According to Dr. Philip Moore, Jr. with the USDA Agricultural Research Service in Fayetteville, AR, adding alum (aluminum sulfate) to the floor of poultry houses reduces the buildup of ammonia, and it can also reduce phosphorus runoff substantially. Some members of the Sand Mountain Lake Guntersville Watershed Conservancy District (AL) have been using this treatment on their own for four or five years with limited success. They do not know at this time why they have not had more success but their efforts have not been part of a managed project. DeKalb County, AL is seventh in the nation in number of broilers produced annually with 90 million in 1997. Therefore, the Conservancy is looking for ways to reduce the potential for poultry waste causing harm to water quality. Sometime this year Goldkist Poultry Processing will be conducting a trial of furnishing alum to some of its growers on Sand Mountain for a few months to determine the benefits. Dr. Robert Burns, U of TN is also partnering with some local growers in Coffee County, TN this spring and summer to test the application of alum, as well.

**Contact:** David Brewster, TVA, 256-571-4283



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# Resources

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## *Watershed Position Available*

The KY Division of Water is ready to post positions for three Basin Coordinators for the Green and Tradewater Basins, Cumberland and Four Rivers Basins (includes Upper and Lower Cumberland, Lower Tennessee, and tributaries to the Ohio and Mississippi Rivers in the Purchase area) and Big Sandy, Little Sandy, and Tygarts Basins.

**Contact:** Lee Colten, Watershed Coordinator at 502-564-3410 [lee.colten@mail.state.ky.us](mailto:lee.colten@mail.state.ky.us) or Personnel Cabinet (<http://www.state.ky.us/agencies/personnel/pershome.htm>)

## *2nd Annual CWAP Report Out*

Copies of the Second annual CWAP report are now available through the Southeast Watershed Forum. The report provides an update on the 111 action items within the Clean Water Action Plan. Approximately 50 percent of the actions have been completed or are more than half-way completed. Progress is being made on the other 50 percent, many of which had completion dates beyond 2000. Budget limitations were the single greatest limitation to implementing the action items.

## *Forest Service Issues New Report*

Stating that 66 percent of the Nation's freshwater resources originate on forests, the U.S. Forest Service has published a

report outlining their commitment to watershed protection, restoration and partnership-building. **Water & The Forest Service** outlines the key role that the agency plays in preserving water supply, water quality and biodiversity as a manager of the nation's headwaters. The Forum has a limited supply for those who would like to receive copies. The report can also be viewed on the agency's web site at [www.usfs.gov](http://www.usfs.gov).

**Contact:** Christine Olsenius [cholsenius@aol.com](mailto:cholsenius@aol.com)

## *Funds Available from OSM*

As part of their Appalachian Clean Streams Initiative, the U.S. Department of the Interior Office of Surface Mining will be dedicating up to \$1,750,000 to fund cooperative 2-year agreements with nonprofit watershed organizations that undertake local acid mine drainage reclamation projects. The cooperative agreements will be in the \$5,000 - 80,000 range in order to assist as many groups as possible to undertake actual construction projects to clean streams. **Applications will be accepted until June 1, 2000** or until all funds have been awarded. Contact your local OSM representative for more information:

Alabama	Jeannie O Dell	205-290-7282 x21
Kentucky	Dave Beam	606-233-2896
Tennessee	Danny Ellis	423-545-4103 x147
Virginia	Ronnie Vicars	540-523-0024

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