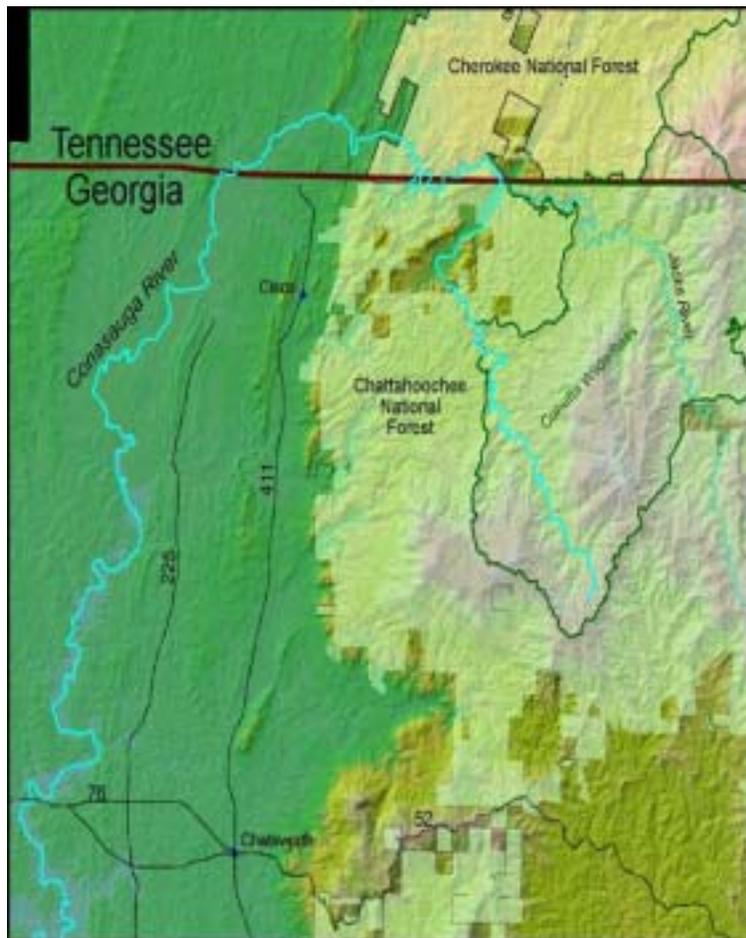


Conasauga River Alliance Watershed Project Community Based Partnership 2002 Annual Report



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Partnership Overview

In 1994, citizens interested in the Conasauga River watershed were brought together by the Limestone Valley Resource Conservation and Development Council to begin a close and coordinated look at their watershed. Local stakeholders joined together to create a community based partnership, the Conasauga River Alliance. The Nature Conservancy played a vital role in the partnership by providing staff and organizational support to the Alliance. The Alliance has been active in both Tennessee and Georgia, where it promotes a coordinated effort between private citizens and government agencies to maintain and improve the quality of the Conasauga River watershed while respecting landowner rights.

The Alliance is governed by a steering committee which is made up of local opinion leaders selected by county commissioners, local soil and water conservation districts, and by the participants. Steering committee members chair sub committees, such as the Agriculture committee, that assist the agencies in prioritizing cost share restoration projects. Interested citizens, industries, partner groups, and agencies are all considered members of the Alliance effort. See Appendix A for a list of partner groups and their roles.

Partnership Goals

The diverse stakeholders in the watershed found common ground, and established three goals to guide the alliance steering committee:

1. Develop respect for natural resources and educate people about their proper use.
2. Protect private property rights
3. Sustain and improve a clean Conasauga River

A few groups in the watershed have developed management plans that direct their work such as, US Fish and Wildlife Service "Recovery Plan" for species in the Mobile Basin which contains direction regarding work in the Conasauga River. The Nature Conservancy develops a "Site Conservation Plan" for the Conasauga every 3 years.

The Natural Resources Conservation Service, the Farm Service Agency, the Resource Conservation Development Councils and the Soil and Water Conservation Districts all work together with the land owners in the watershed to achieve the goals of their agency and the Alliance. Two assistance programs administered by USDA have the largest impact in improving water quality: the Environmental Quality Incentive Program (EQIP) and the Conservation Reserve Program (CRP). Since 80% of the watershed is private land, the work accomplished by cooperating landowners remains the key element in improving the area.

The USDA Forest Service is the steward of approximately 20% of the upper Conasauga River watershed and has been working with the Alliance since it was formed in the mid 90's. In 1999, the two Forest Supervisors assigned a full time coordinator to the complex resource and social issues in the watershed. This coordinator works for both the Cherokee and the Chattahoochee National Forests and provides assistance to the Conasauga River Alliance.

In 2000, the USDA Forest Service Chief chose to assist the Conasauga River Alliance watershed project by providing additional funds to the Cherokee National Forest and the Chattahoochee National Forest. The Forest Service project coordinator worked closely with the Alliance and developed a Business Plan that describes the Alliance strategy and how the USDA Forest Service would be involved in key issues in the watershed. Forest Service emphasis areas were established as follows:

- Restore Degraded Components of the Ecosystem
- Research and Monitor Key Components for Ecosystem Health
- Do Conservation Education that facilitates Alliance Goals

Organizations at work in the watershed follow these general objectives:

- Use a science-based approach to managing an extensive landscape.
- Identify and prioritize components in the watershed that are healthy and fully functioning.
- Identify and prioritize components in the watershed that are degraded and that can be restored.
- Implement on-the-ground and in-the-water improvements in ecosystem conditions so that sensitive species are recovering and others are restored.

ACCOMPLISHMENTS

The Alliance and its supporters have accomplished a remarkable amount of stewardship work, research, monitoring and conservation education.

WATER QUALITY IMPROVEMENT PRACTICES ON PRIVATE LAND

Improvements	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Acres of Watershed, including riparian planned for vegetation improvements	750	200	1,200	1,400	600	2,083
Dead Poultry Composter - contracted	3	0	4	7	7	13
Poultry Litter Storage Shed - contracted	1	5	1	5	9	15
Livestone Stream Exclusions - contracted	0	5	1	3	4	1
Wet Weather Stock - feeding stations	0	2	0	1	1	6
Rotation Grazing Systems Acres Planned	250	0	500	250	1,000	1,510
Riparian Acres Protected by Continuous Reserve Program and Environmental Quality Incentive Program - enrolled each year	30	172	30	36	35	77
Wastewater Lagoon/Nutrient Spray - systems built	0	1	1	0	0	0
Removed Dump-Truck Loads of Trash	3	4	4	5	5	5
Acres of Hardwood Forest Planted	0	0	150	50	50	10
Educational Brochures Distributed	5,000	10,000	4,000	4,000	5,000	5,000
Loggers in Master Timber Harvest Workshops			28			25
Riverbank Miles Established in Buffer 30' minimum	1	16	5	3	4	10

See Appendix B - Table for accomplishments on National Forests

Ecosystem Restoration

Since 1820, approximately 50% of the area has been converted from a forested watershed to intensive uses such as housing, agriculture, industry, etc. These practices can impact water quality unless they employ “best management practices” (BMPs). The NRCS works with farmers to educate and provide incentives for them to use these BMP’s. The watershed was listed as **an NRCS priority area in Georgia** for funding with EQIP from 1999 to 2002. That designation allowed landowners in this watershed to receive almost 1/5 of the funds available statewide for environmental quality improvement projects.

Private Land Projects. Cooperating landowners and the NRCS programs have installed 39 miles of vegetation buffer along streams in the watershed in the past 6 years.

In 2002, 10 miles were installed. Several hundred miles of additional vegetation buffers are needed for improving water quality.

- Perry Creek** is a perennial stream that drains lands in Tennessee and Georgia. It originates on the National Forest, and then runs its 5-mile length across lands owned by numerous landowners. The Alliance and its science committee selected this tributary of the Conasauga River for focusing on restoration efforts in 2002, with a goal of correcting its sediment and fecal coliform loads. Treatments are funded by: Ga EPD funds (sxn 319 EPA grant), The Nature Conservancy, NRCS, RC&D, and Global Filler Products. Successful negotiations with two landowners allowed the installation of a much needed septic tank system at a distance of 400 ft from the stream. Stream bank was revegetated with native grasses and trees for a distance of 900 ft. and livestock were excluded from access to the stream. Quality of life was improved for the resident as electric service was provided to the home when the septic system came into compliance with local guidelines. 8 projects were planned in PerryCreek using EPA 319 funds; 4 of the projects were completed this year.



Site on Perry Creek - before and after riparian buffer established

- **Cisco Baptist Church** was expanding and needed increased septic system capacity. Located in the Perry Creek drainage, it also gave an opportunity for the technical and funding assistance within the Alliance to help establish a demonstration project. The site had poor soil infiltration characteristics and required a peat filtration/time dosing septic system. The RCD worked closely with the church, the Alliance, and The Nature Conservancy, to install this system.



- **Annual Conasauga River Cleanup** continues to enjoy strong participation from concerned citizens in the area. This year 144 volunteers cleaned 3 tons of trash from 2 miles of river. A new partner, the Dalton Whitfield Regional Solid Waste Management Authority, received the waste. Traditional supporters of the cleanup are: Shaw Industries, Dalton Utilities, US Fish and Wildlife Service, Keep Dalton-Whitfield Beautiful, The Nature Conservancy, Whitfield and Murray County Governments and their Road Departments, Dalton City Public Works, 4H, and the Conasauga River Alliance.
- **Alternative Spring Break** – The Nature Conservancy and the Alliance were hosts again for Yankees heading south to enjoy sweet tea and mild winter weather. Students of Grand Valley State University in Michigan are becoming known for their outstanding volunteerism spirit - 3rd year in a row! This group plants trees in riparian areas, controls kudzu and donates a day doing maintenance on National Forest trails.
- **Jimmy Witherow Bridge** is now open for travel, replacing the old single lane “Mitchell Bridge”. The new structure incorporates design consideration for safety and environmental concerns.

National Forest Restoration Initiatives. Water quality and aquatic habitats on the National Forest are in relatively good condition (as determined by the USFS ecosystem assessment and the general consensus by the Alliance science committee). Hot spot problems do exist and the agency is working to address those issues. The most expensive problems to remedy in the watershed are over 50 miles of **national forest roads** that need major maintenance and reconstruction to decrease sediment. In addition, approximately 200 miles of illegal ATV and OHV trails need closure, rehab and enforcement patrols. Dispersed recreation impacts adjacent to streams are causing sediment and sanitation problems. Approximately 36,000 acres of the upper watershed are in the Cohutta Wilderness. Managers completed the Limits of Acceptable Change process for the wilderness this year. This concluded a 2-year effort with a 25-person citizen task force that evaluated resource impacts and made management recommendations. Work has begun to mitigate riparian area impacts caused by the 400 campsites in the wilderness.

Forest Health problems are a major concern. In the past 3 years southern pine beetles have killed over 10,000 acres of National Forests trees in the watershed. The dead and down timber contributes to serious fire hazards. The vegetation communities in the watershed have radically changed from their composition and distribution of 100 years ago. The short leaf pine / oak community has been displaced by Virginia pine and white pine on thousands of acres of the watershed. The USFS Southern Research Station and National Forest specialists are working together to determine the appropriate vegetation communities and to restore those communities where possible. Research treatments in place for 3 years are gathering information for managers on how restoration with burning and thinning can restore the vegetation community and what impacts these treatments may have on water quality.



Prescribed fire, thinning and planting is needed to restore the shorleaf pine and oak communities.

Bridge Construction/Replacement- The Chattahoochee National Forest obtained funds to replace the bridge on the national forest public access road across the Jacks River at the state line between Georgia and Tennessee. The “old steel bridge” had been in place over 50 years and had seriously deteriorated. A new trail bridge was built by the Forest Service at the Conasauga River trail head across a perennial stream to decrease sediment entering the river near the watchable wildlife site.



County Commissioners from Tennessee and Georgia assist the Forest Service in opening the new bridge..

Road and Trail Reconstruction and Maintenance - 5 miles of Forest Service Road 64 in the Chattahoochee NF at the headwaters of Jack’s River were reconstructed this year to correct significant sediment problems in that area. The 120 member volunteer force, “Team Cohutta”, did annual maintenance on the 88-mile wilderness trail system correcting many erosional problems along stream corridors. Maintenance and enforcement patrols were done on 19 miles of illegal ATV trails closed last year. Design and contract development is underway to correct road problems in the Alaculsy Valley in Georgia. The Ocoee District did major maintenance of 5 miles of hiking trail in the watershed and contracts are approved for paving sections of Forest Service Road 221 in Tennessee identified as sediment hot spots.

Research and Monitoring Efforts

Water quality monitoring continues at numerous sites by the Alliance through agreements with Dalton Utilities, Dalton University, TNC, and Tennessee Dept of Environment.

Scientists continue to study the reasons for poor *reproduction of mussels* in the watershed. Possible problems with sediments in the stream are being studied to find appropriate locations to reintroduce mussels. Stream sediment analyses on the National Forests and private lands continue under the leadership of Dr. Paul Johnson of the Tennessee Aquatic Research Institute and Dr. Elizabeth Nichols of North Carolina State University (formerly of UT-Chattanooga). Dr. Johnson continues to propagate juvenile mussels and their respective host fish in a captive program. This system is allowing the production of several thousand juvenile mussels each year which are being stocked to supplement existing populations of mussels in suitable habitats.

The Forest Service has completed its **habitat inventory** of the Conasauga River from the headwaters to the private land boundary using survey protocols from the Center for Aquatic Technology Transfer (CATT). An AmeriCorp stream team trained by CATT did this year’s work. Over 20 miles of streams were evaluated with standard inventory techniques. Fish populations were surveyed this year by the Ocoee Ranger District in Sheeds Creek and Halfway Branch. Water quality tests were done by USGS on streams in the Cohutta wilderness. These results served to remove all six creeks from the 303d list of “impaired” streams.

Genetics researchers work to answer taxonomic questions regarding rare aquatic species (snails, fish, mussels, crayfish) in the watershed. Dr. David Campbell and Dr. Charles Lydeard (University of Alabama) and Dr. R. L. Mayden (St. Louis University). This research may allow stakeholders to accurately diagnose biotic hotspots and identify species that warrant special attention.

Rare Fish Monitoring and Propagation - Conservation Fisheries Inc. of Knoxville, TN has captured rare fish species (authorized by USFWS) for propagation in anticipation that additional suitable habitats can be found for reintroduction. Auburn University researcher, Dr. Carol Johnson continues her assessment and description of microhabitat parameters used by rare fishes on the forest. It is hoped that these projects will allow the reintroduction of rare fishes on suitable stream reaches on private or public lands.

Blue Shiner, Cyprinella Caerulea



Road and Trail Sediment Modeling and Assessment – Forest Service hydrologists at the Coweeta Hydrologic Laboratory are completing a 2 year study on how to model the flow of sediment coming from the road and trail systems of the National Forests. Models show which road and trail segments predictably yield sediment. Sediment samplers have been in place to measure the actual yield of sediment that could reach perennial streams. The Cohutta-Armuchee and Ocoee-Hiwassee Districts are providing the labor for this study. Management will use the resulting sediment models to assist with road maintenance and reconstruction planning. Forest Service hydrologists conducted additional analyses of watershed conditions in specific sub watersheds.

Conservation Education

Alliance Coordination and Partnership Meetings - The Nature Conservancy coordinator for the Alliance worked to bring the steering committee and general participants of the Alliance together for several meetings through the year. Former Lt. Governor Howard, Dalton Utility Vice- president Susan Davis, and Alliance members gave updates on their various efforts in the watershed. The annual “Coosa Basin Science Summit” gathered scientists and agency biologists. This group updates each other on their respective research and monitoring efforts from the past year in the basin. They set priorities for Alliance restoration work in critical streams and are working together on a full color biodiversity poster, which describes the aquatic fauna in the basin. These scientists offer a look at the health of the aquatic species in the Conasauga River watershed.

Teacher Workshops are one of the best ways to transfer technology into the community so that future generations will become good stewards of their water resources. This year the Alliance hosted twenty-six Tennessee teachers, grades K-12 from 11 different schools. Austin Peay University provided training in “Project W.E.T.” and the Forest Service provided 2 hours of in-stream instruction including snorkeling the river.

www.conasaugariver.net is now up and running! The Alliance website provides a host of information about the watershed, aquatic species, the National Forest, and partnerships. The Nature Conservancy’s Freshwater Initiative, the Lyndhurst Foundation and the US Forest Service provided critical funding. Check it out!

Training and community capacity building was provided through 3 conferences offered by The Southeast Watershed Forum, The Nature Conservancy and the US Forest Service for Alliance staff. Alliance partners are helping partnerships outside the watershed such as **The North West Georgia Water Resources Partnership**. The USFS and Limestone Valley RCD are assisting this new 15 county partnership being formed in the Coosa River basin. Preparations are also underway to host the EPA’s Agriculture Sector Policy Group tour in the Conasauga River watershed. This group will be looking at the collaborative stewardship model of the Alliance with specific interests in water (e.g. agriculture nutrient management) and air quality programs (e.g. USFS fire management).

Dr Carol Harden, UT Geography professor, led her graduate students in a GIS study of land use history of portions of the watershed in Tennessee. Her maps showed how the percentage of forest cover has changed over the past 30 years.

Future Outlook and Challenges

The Alliance Science committee has convened annually for several years to discuss the outlook for conserving aquatic species biodiversity in the Coosa Basin. Their in depth knowledge of the Conasauga River watershed comes from research and study from 7 universities, 10 agencies, and several private organizations. Some of the scientists have been working in the watershed for over 25 years on mussels, invertebrates, fishes, and water quality. The group provides a fairly accurate barometer on the health of the aquatic species in the Conasauga River watershed



Fine-lined pocketbook Mussel, Lampsilis altilis

So, what is the outlook for the listed species in the watershed? **Mussel populations and diversity** remain in a state of critical jeopardy. Evidence of reproduction is very poor. Propagation and release of juveniles is a promising tool for recruitment for now. Only 26 species of mussels survive in the watershed which once supported 42 species. Evidence exists that the juvenile life stage of most mussels (glochidia) cannot survive in the sediments of the river due to water quality and flow issues. Research is needed to know more precisely the cause for poor mussel reproduction. It is speculated by the resident malacologist that within 10 years the remaining adult mussels for several species will be gone. Research underway by the Tennessee Aquarium Research Institute, UT- Chattanooga and North Carolina State University will hopefully unlock some of the secrets in the sediment data that is being gathered.



An eroded streambank in Murray County, before and after restoration

Fish species diversity in the upper part of the watershed remains stable. Fishes, however, are more capable of surviving habitat stresses than juvenile mussels. Less is known about the gastropod (snail) diversity and populations than the other life forms. What is known is that as habitats are recovered for mussels, the resulting improved stream conditions will benefit other aquatic species. This will also mean cleaner water downstream available for human consumption and use. A general consensus among biologists and practitioners in the watershed is that the number one habitat treatment needed in the basin is the establishment of vegetation buffers along streams in the watershed.

Budget and Funding

Funding for habitat improvement on private lands was fairly consistent with past years. USDA incentive programs for landowners and landowner donated labor and equipment were the primary resources used for improvements and remained the largest source of financial resources in the watershed. This was the 3rd year of the EPA section 319 funding for the project. Progress is being made in implementing the improvement projects required in this contract between the Georgia EPD (EPA funds) and the Limestone Valley RC&D, which represents the Alliance. A host of other partners contributed resources, staff time, and direct contributions to the work in the watershed. See Appendix C for the summary of partner contributions at work in the watershed.

No funds were sent directly to the Forests this year by the USFS Chief's office. This year project funds were made available from funds controlled by the respective National Forests. Considerable progress was made in restoration, research and education. However, work planned for the summer growing season was significantly impacted by the western fire season. Fire support personnel from the Forests, including the project coordinator, were mobilized to the western fires. All unspent project funds were frozen in mid summer and reallocated to underwrite firefighting costs. Several rehabilitation hot spots were not treated including the Rocky Flats ATV trail, closure of 2 forest spur roads, and the relocation of forest road in the Alaculsy Valley. The spending freeze interrupted research cost share agreements with 2 universities, bioengineering of a bank near the new Jacks River bridge, and botanical surveys. One goal of the project is to help some of the efforts become self-sustaining without annual appropriations from the Forests. The fire research study done in the watershed by Coweeta Lab has received funding from outside the National Forest system. This will allow the study to continue over several more years.

Additional narrative regarding the US Forest Service efforts in the watershed is in Appendix D.