

## Conasauga River Watershed Planning

### *An Initiative to Recover Imperiled Species*

#### **Conasauga River Basin, Georgia and Tennessee**

The Conasauga River watershed, one of the few remaining free-flowing rivers in the Mobile River system and southeastern United States, is widely known among biologists for its exceptional mussel, snail, crayfish, and fish biodiversity. Three federally-listed fishes, six federally-listed mussels, a mussel proposed for Federal listing, and 16 other State-listed aquatic species occur in the basin.

The headwaters of the Conasauga and several of its tributaries are protected by National Forest lands. However, reaches below the Forest Service boundaries are threatened by agricultural runoff, inadequate buffers, urbanization, and other factors.

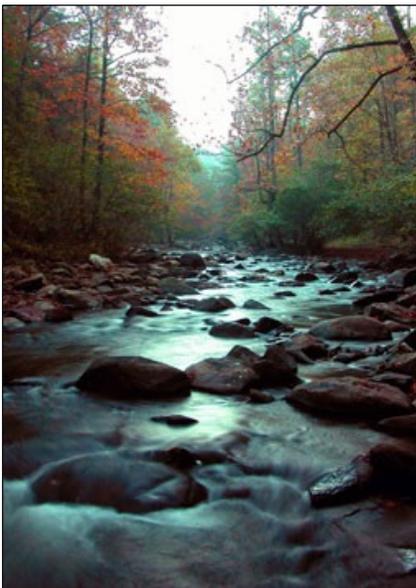


Photo credit: Nate Thomas, The Nature Conservancy

#### **Conasauga Summit**

In 2008, approximately 70 participants, representing a diversity of stakeholders from universities, State and Federal natural resource agencies, agricultural interests, non-profit environmental organizations, environmental consulting firms, city and county governments, and industry attended the first Conasauga Summit. In 2007, USGS/UGA analysis of survey data indicated that populations of some Conasauga fish species, including listed species, had declined significantly over the past 5-7 years. The Service, working with The Nature Conservancy (TNC), organized the Conasauga Summit, to (1) inform stakeholders of the latest research results on status of imperiled fish, mussels, and other aquatic species in the basin; (2) discuss ongoing coordination activities with landowners and industry in the basin to improve water quality and habitat for these species; and (3) develop a list of important action items to recover imperiled species. Strategic Habitat Conservation is taking place by using information gathered at the Conasauga Summit to inform biological planning and conservation design, enabling conservation delivery.

Georgia ES, along with TNC, UGA, and USGS, has taken an active role in starting to accomplish the conservation action items identified at the Summit. Action items *already completed* include:

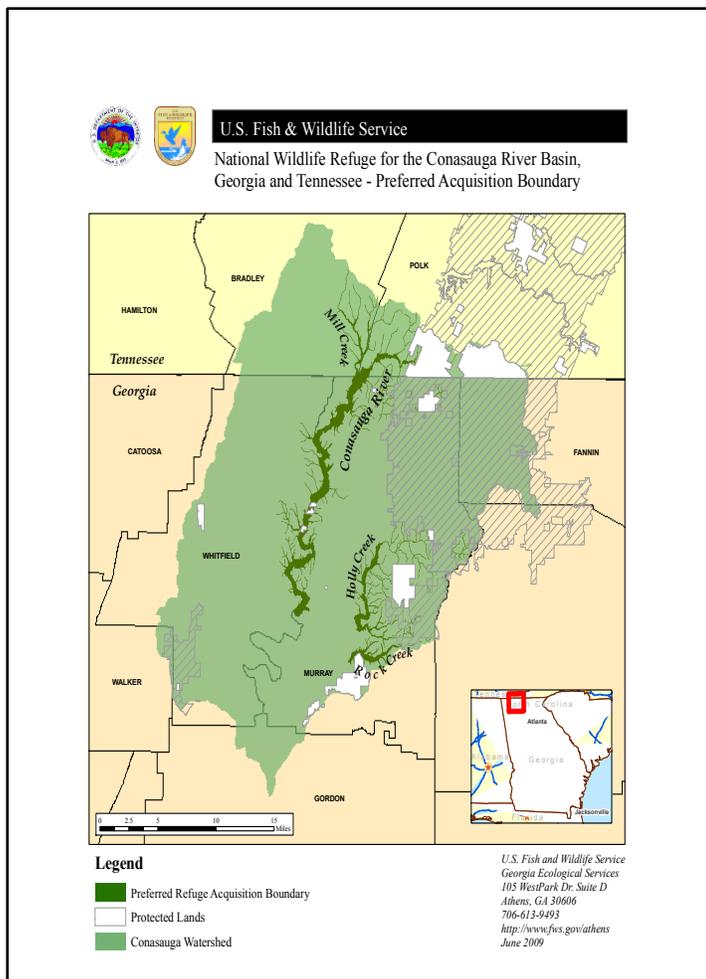
- Meeting with Whitfield and Murray County and City of Dalton government officials to foster working relationships and relay the importance of our federally listed aquatic species in their watershed;
- Surveying the river from the headwaters down to Dalton to identify restoration needs and land use patterns adjacent to the river;
- Establishing a committee of stakeholders to identify reasons for the recent fish declines, and develop and implement on-the-ground actions to reduce threats to aquatic life. The committee, currently NRCS, TNC, FWS, UGA, and the Georgia Soil and Water Commission (GSWC) is focusing on riparian buffer design and the impacts of widespread use of Roundup ready crops;
- Acquiring funding for research on the major stressors causing recent declines in fish abundance in the Conasauga;
- Establishing a listserv for enhanced communication between Conasauga River stakeholders;
- Developing a restoration and protection prioritization map for the basin; and
- Developing a proposal for a new wildlife refuge in the basin.

#### **Proposed Conasauga River National Wildlife Refuge**

In June 2009, Georgia ES completed a PPP for a Conasauga NWR that would protect and restore high priority aquatic and riparian habitat to facilitate recovery of rare aquatic species, provide habitat for high priority neotropical migratory birds, provide recreational opportunities to the public, and implement environmental education and interpretation programs that focus on ecosystem management and stewardship. The proposed refuge would extend protection downstream from the National Forest lands in Georgia and Tennessee, focusing on strategic habitat conservation and restoration of stream channels, riparian buffers, and floodplain lands.



# U.S. Fish & Wildlife Service, Georgia Ecological Services



## Conservation Playing Cards

Georgia ES is working with TNC, Conasauga River Alliance, and the Upper Etowah River Alliance to develop a set of conservation playing cards in FY10 for fishes and mussels in the Conasauga River Basin as an educational outreach effort. The four suits will be represented by fishes, mussels, threats, and conservation measures. These cards were modeled after similar "Fishes of the Big Muddy" playing cards that were developed by the U.S. Fish and Wildlife Service and the North American Native Fishes Association (NANFA) for fishes of the Mississippi River Basin.

## Long Term Water Quality Monitoring

Georgia ES, using recovery flex funding, is currently funding water quality monitoring of the middle Conasauga River Basin through FY10. Conducted by the University of Georgia, dissolved oxygen, temperature, conductivity, selected nutrients, and algal blooms have been monitored in an 18-mile stretch of the Conasauga River since 1995. This stretch of river is within amber darter (*Percina antesella*) critical habitat and just below Conasauga logperch (*Percina jenkinsi*) critical habitat.

## Distribution, Abundance, and Population Status of the Conasauga Logperch

Funded by the Quick Response program, USGS is currently evaluating the status of the federally endangered Conasauga logperch population by using updated surveys and nonbiased methods for estimating stream fish distribution and abundance through FY10. FY09 flex funds also funded a study, by Conservation Fisheries Incorporated and the Tennessee Aquarium, to evaluate Conasauga logperch genetics and mate selection, and to attempt to establish a captive population.



Photo credit: Conservation Fisheries, Inc.

## Efficacy of Agricultural Best Management Practices (BMPs)

The Service's Partners for Fish and Wildlife Program is currently funding TNC to determine the best methodology for reducing agricultural runoff into the Conasauga River Basin. The dominant land use in the upper Conasauga River Basin is agriculture, primarily no-till cropland planted in corn, soybeans, and wheat. Most of the cropland is located in bottomland areas that are flat, have poor drainage, and are prone to flooding. In a recent assessment of 40 miles of the mainstem Conasauga and five tributaries, TNC determined agricultural drainage ditches were one of the most prominent man-made structures throughout the assessment. Man-made drainage networks are extremely efficient at draining croplands; however, they also create efficient conduits for pesticides and nutrients to move into rivers. This research project, set to be completed by FY 2012, will test three potential BMPs and determine the most effective method to remove pollutants before entering the Conasauga River Basin.



Photo credit: Katie Owens, The Nature Conservancy

Contact information:  
Robin Goodloe or Alice Lawrence  
U.S. Fish and Wildlife Service  
Georgia Ecological Services  
Athens, GA 30606  
(706) 613-9493  
<http://www.fws.gov/athens>  
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