

Cooperative Turtle Conservation

Highlighting Selected efforts in the
Southeastern U.S.

**Made possible by:
Dedicated Partners and Field Office Staff**

Presented by Erin Rivenbark

Highlighted Species

- ◉ Alabama red-bellied turtle (E)
- ◉ Yellow-blotched map turtle (E)
- ◉ Bog Turtle (T)
- ◉ Flattened musk turtle (T)

Alabama Red-Bellied Turtle

- The Mobile Bay Causeway is a 7.5-mile roadway across the Bay.
- ABRT - most frequently killed reptile on the causeway.
- Suggestion: fencing could greatly reduce mortality along the eastern causeway.
- Partnership: local scientists, conservation organizations (private and public), USF&WS, ADCNR, ALDOT, FHWA, and others

Information provided
by Jeff Powell, Daphne

Group Recommendations

- Three Major Goals of the Project
 - Installation of roadside fencing/barriers along the eastern causeway ASAP in 2007.
 - Monitoring of the fencing effort – assess success and document additional mortality.
 - Funding provided by ALDOT to complete and maintain permanent fencing at the site.

Overall Success

- 81% Reduction in Pre-fence – Post Fence Mortality
- Compared to 10 years prior to fencing road-kills declined 73.5 %.
- The fencing is not continuous, due to gaps for driveways. Thus, some turtles can still wander onto the road (at these fencing gaps) where they may be killed. Certainly, additional conservation measures need to be continually reassessed.

Yellow-blotched map turtle

- Ward Bayou Wildlife Management Area (WMA) is a 13,234-acre tract located within the Pascagoula River Basin approximately 15 miles north of Pascagoula in Jackson County, MS.
- The WMA was acquired by the U.S. Army Corps of Engineers (USACE) as part of the Tennessee-Tombigbee Waterway (TTW) Wildlife Mitigation Project.

Yellow-blotched Map Turtle

- In 1992, the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) and the Mobile District of the USACE entered into a license agreement whereby the MDWFP manages the WMA with funding provided by the USACE.
- In 2004, a management plan for the WMA was finalized through the cooperation of USACE, MDWFP, the U.S. Fish and Wildlife Service, and yellow-blotched map turtle researchers. The goal of the plan is to promote the long-term health of the yellow-blotched map turtle population which occurs in this area.



Management Recommendations

- **Strategies to Increase Nesting Success**
 - Sandbar restoration
 - Protection from human disturbance
 - Predator control
 - Public education
 - Monitoring program
- **Strategies to Increase Survivorship of Adults**
 - Increase law enforcement to prevent shooting of basking and nesting turtles



Conservation Goals Achieved

- Cogongrass was removed on sandbars used for nesting.
- Use of sandbars during the day, or for overnight camping, was made illegal.
- Funding was acquired for printing of a brochure for WMA users about the yellow-blotched map turtle
- Law enforcement patrols of the WMA were increased.

Monitoring of Conservation Actions Identified New Strategies

1. Sandbars where use had been denied have become overgrown with vegetation; human use appeared to reduce vegetation. Regulations are being changed to allow recreation on sandbars, but only during the day, as a technique to get this “free” habitat management.
2. Sandbar erosion is occurring. The increased number of large boats on the river may be causing destructive wake action. Regulations may be necessary to limit size of boats in WMA.

Bog Turtle Headstart Program and Mountain Bog Restoration

- Ongoing partnership between the
 - Georgia Department of Natural Resources, Wildlife Resources Division,
 - Georgia Plant Conservation Alliance (GPCA)
 - Chattahoochee Nature Center (CNC)
 - Tennessee Aquarium
 - Zoo Atlanta
 - U.S. Forest Service
 - Atlanta Botanical Garden
 - U.S. Fish and Wildlife Service.

Bog Turtle

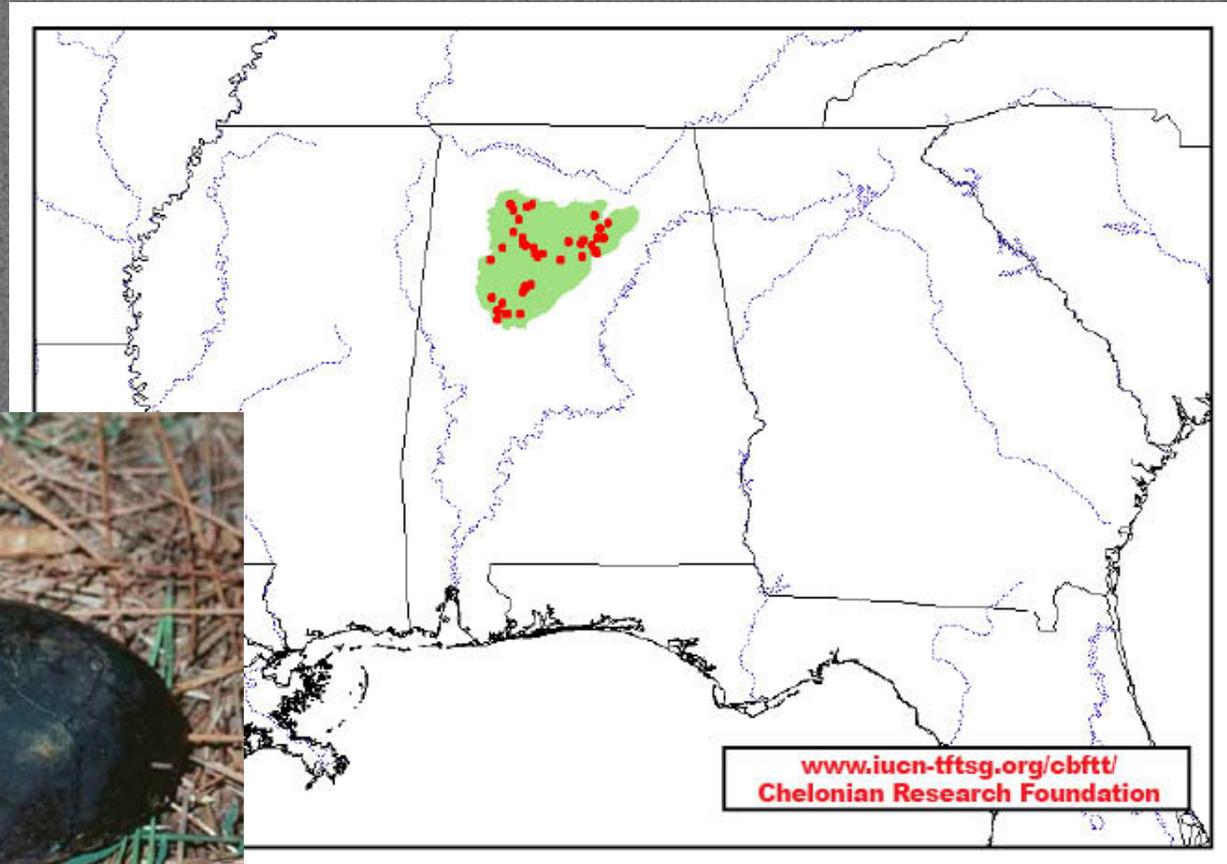
- Georgia's Bog Turtle Headstart Program is jointly carried out with efforts to restore mountain bog habitats throughout Georgia's Blue Ridge led by the Georgia Plant Conservation Alliance
- Restoration of the bogs includes efforts to reduce woody vegetation and occasionally, restoration of wetland hydrology.

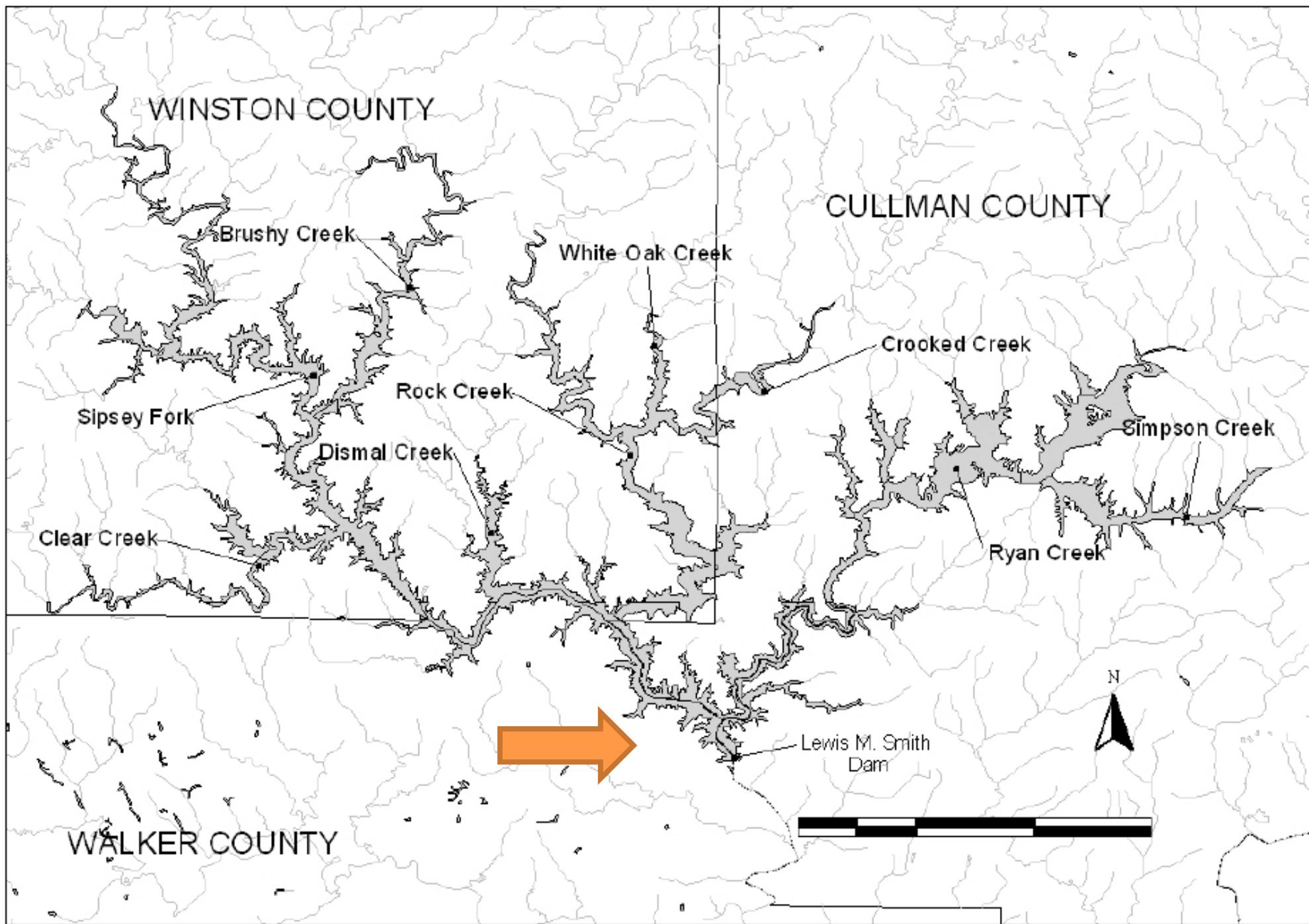
Bog Turtle Headstart Program and Mountain Bog Restoration

- Goal: to release approximately 20 juveniles per year, successfully establishing a population over a five to ten year period.
- Bog turtles in the wild can take up to 6-8 years to reach adult size, however, headstarted bog turtles can reach adult size in two years (due to lack of hibernation and a continuous feeding regime), and are ready for release.
- Progress to Date: 17 individual bog turtles have been released on the Chattahoochee National Forest at a restored mountain bog habitat.

Flattened Musk Turtle (*Sternotherus depressus*)

- Known range and current locations





Overview of the Effort

- Due to its configuration and geology, Lewis Smith is the only reservoir that supports the Flattened musk turtle.
- Distribution of the turtle appears to be spotty, and is dependent on substrate character (especially availability of rock ledges and crevices).
- Daphne FO is working with the Alabama Power Company and their consultant to develop a methodology to streamline their shoreline permitting process on Lewis Smith Reservoir.

Evaluating Suitability

Criteria to be assessed in the field:	Score		
	3 (high)	2 (medium)	1 (low)
Shoreline and Bottom 1-15 ft from Shore			
Mostly rock, with ledges and/or slabs, boulders	X		
Logs or large rocks in sand, mud, sediment		X	
No logs or large rocks; mostly sand, mud, sediment			X

- Above is a draft example of criteria being used to evaluate shoreline habitat. This type of criteria will be also be applied to nesting habitat. A cumulative score will be generated and applied to each section of shoreline.

Habitat Suitability

- Goal: to develop a type of habitat suitability index to rank sensitive areas around the margins of the lake.
- Attempt to identify extensive stretches of shoreline that appear to be inaccessible from the water and therefore unavailable for terrestrial nesting, though will also help show high-use areas.
- Information obtained from this study may be useful in evaluating permit applications for certain shoreline modifications or perhaps in prioritizing areas for conservation actions.

Key Elements in These Projects

- Geographically - Focused
- Dedicated Funding
- Partnerships
- Champions
- Conservation Designations