

Living Streams

A Flexible Aquatic Science Curriculum for Educating Youth about Nutrients and Other Nonpoint Source Pollution Issues



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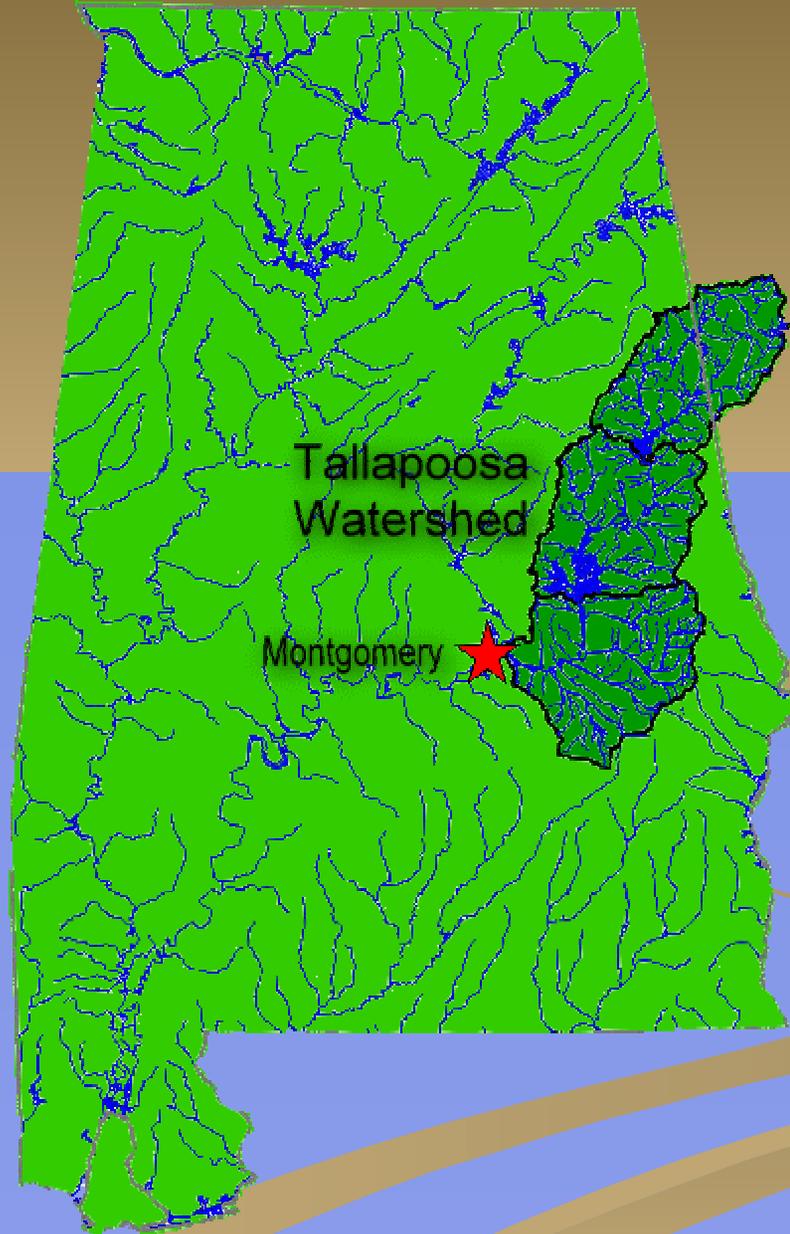
Auburn University Dept of Curriculum and Teaching

Tallapoosa Watershed Project



A Transferable Model of Stakeholder Partnerships for Addressing Nutrient Dynamics in Southeastern Watersheds

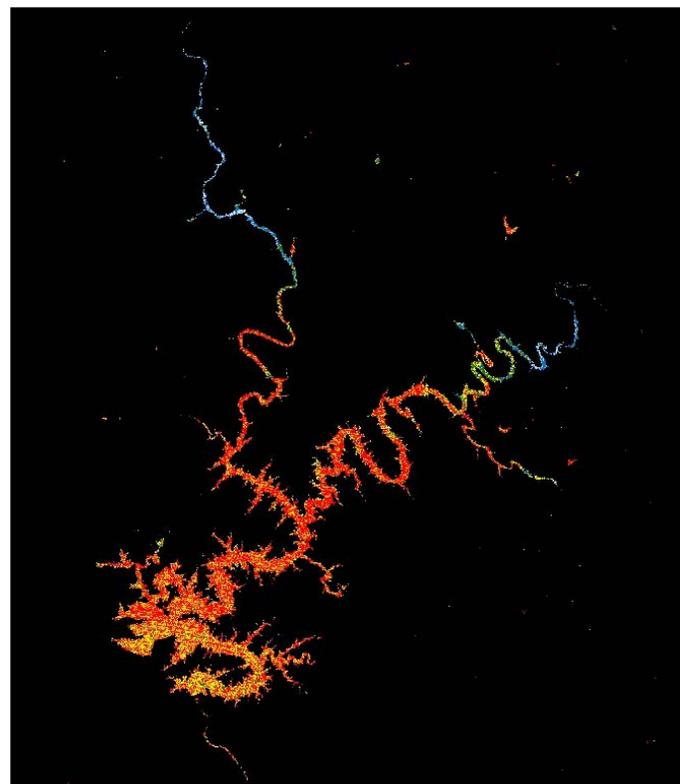
**Three-year, integrated project funded by the USDA,
Cooperative State Research, Education and Extension System**



Tallapoosa
Watershed

Montgomery

TWP Lake Maps Chlorophyll a

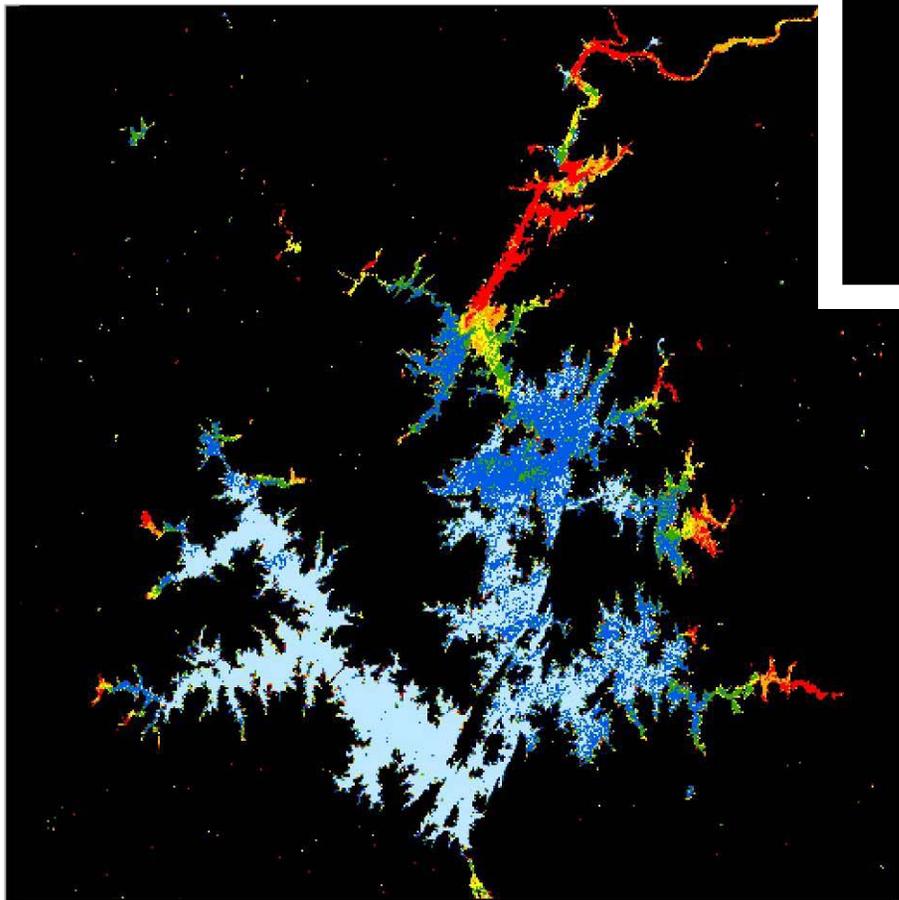
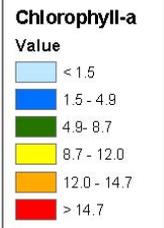


Lake Harris (Wedowee)
Chlorophyll-a

(Derived from April 18, 2005
Landsat-5 TM satellite image)



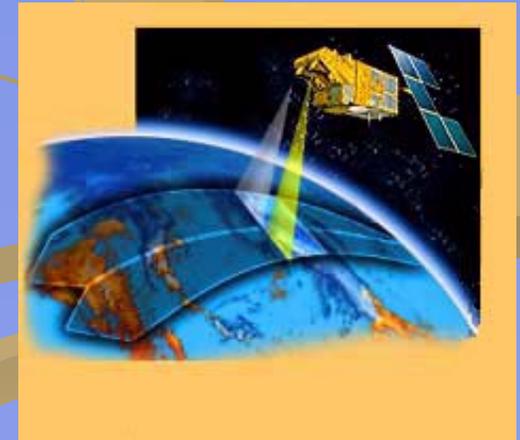
0 1 2 4 6 8 Kilometers

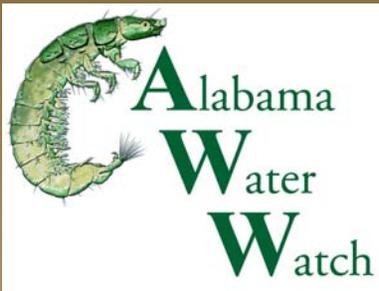


0 1.5 3 6 Kilometers

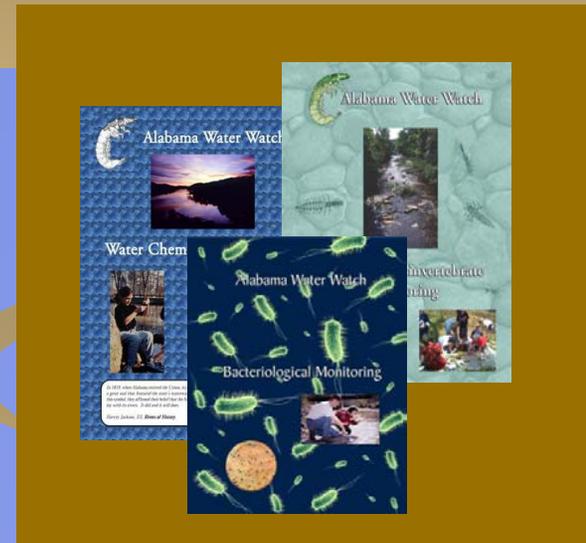


Chlorophyll-a
micrograms/liter





... is a statewide citizen volunteer water quality monitoring network.



www.alabamawaterwatch.org

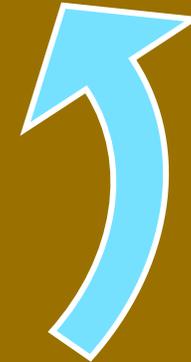
Working collaboratively in Alabama to address nonpoint source pollution...



AWW Citizen Volunteers



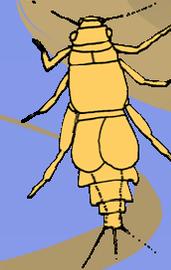
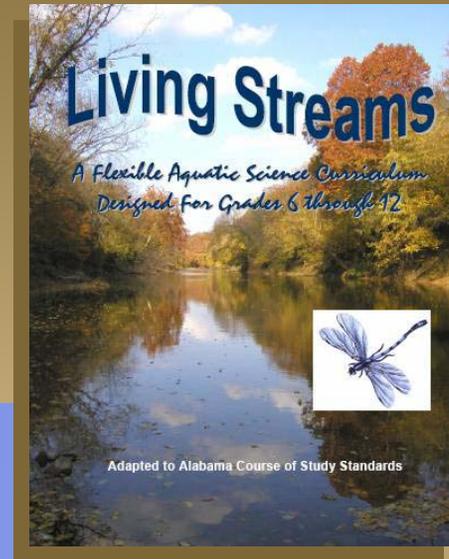
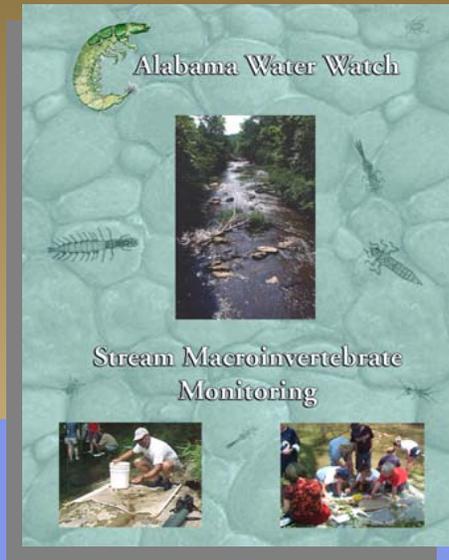
Future Teachers & Current Educators

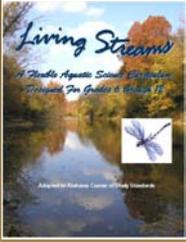


AWW Program

AU Dept of Curriculum and Teaching







Living Streams consists of five main modules designed to be taught over the course of about one week.

Topics covered:

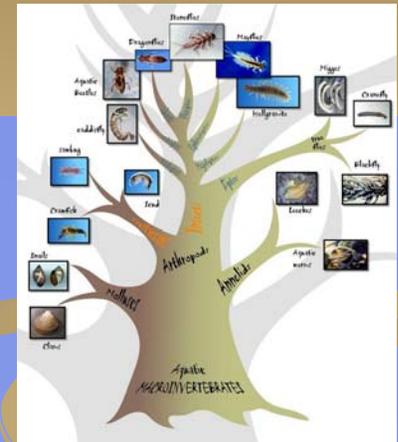
The Water Environment

Pollution and Water Quality Standards

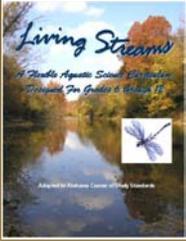
Ecology of Streams

Stream Critters as Pollution Indicators

Field Preparation and Biomonitoring

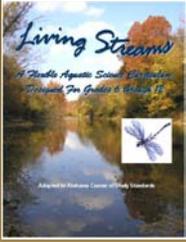


Functional Feeding Groups Seen In Macroinvertebrates			
Feeding Group	Food Source	Preferred Habitat	Adaptations
 Shredders	Leaves and twigs colonized by bacteria and fungi	Headwater streams: shaded, fast flowing, plenty of oxygen	Large and strong mouth parts adapted for tearing leaves into bite-sized pieces
 Collector-Filterers	Fine leaf particles, plant fragments, feces from shredders, algae, bacteria	They replace shredders in middle and lower reach streams where food particles are abundant on the bottom and in the water column.	Stik nets or modified mouth parts to collect small particles from the water.
 Scrapers	Algae, bacteria and fungi attached to stream bottom or sticks and logs	Mid-streams where sunlight and nutrients promote algae growth	Mouth parts adapted for scraping, rasping or sucking
 Predators	Small insect nymphs and larvae	All stream reaches: They feed on other organisms in all stream habitats along the stream continuum	Large strong jaws able to grab, hold and crush, claws for holding prey, rasping, piercing and sucking mouth parts



Outdoor
ALABAMA

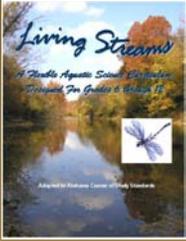




Field Trip !!

Whitney's
Pilot Video





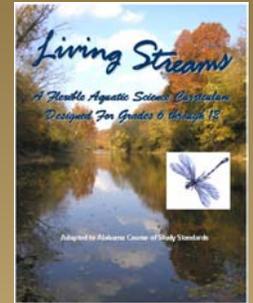
Future of *Living Streams*:



Photo: Locust Fork River



Questions?



Mayfly