

# Discovering Alabama

Teacher's Guide

## North River Watershed

### Suggested Curriculum Areas

History  
Science  
Social Studies  
Environmental Studies

### Suggested Grade Levels

4–12

### Key Concepts

Water (much more than just something from the tap)  
Watershed  
Conservation  
Sustainable  
Stewardship

### Key Skills

Composition  
Research  
Environmental Appreciation  
Environmental Stewardship

### Synopsis

“North River Watershed” is the latest of many *Discovering Alabama* programs highlighting Alabama waters and giving credence to the growing chorus of scientists who proclaim Alabama the “aquatic state.” The program takes viewers across the North River watershed, a major source of water supply for west central Alabama, to examine many of the issues and opportunities associated with water management and the need for water policy in Alabama. Like previous *Discovering Alabama* programs that give attention to water issues that were timely to the moment, “North River Watershed” also is very timely as the state is today pursuing a formal process aimed at developing official water policy for Alabama. Against this backdrop of formal efforts to develop state water policy, “North River Watershed” presents a unique voluntary approach to water management, a model partnership that pro-actively engages local governments, businesses, agencies, and citizen groups cooperatively to promote wise stewardship of water resources.



THE UNIVERSITY OF  
ALABAMA



*Discovering Alabama* is a production of the Alabama Museum of Natural History in cooperation with Alabama Public Television. For a complete list of titles in the *Discovering Alabama* series, as well as for information about ordering videos and accompanying Teacher's Guides, contact us at either: *Discovering Alabama*, Box 870340, Tuscaloosa, AL 35487-0340; phone: (205) 348-2039; fax: (205) 348-4219; or email: [orders@discoveringalabama.org](mailto:orders@discoveringalabama.org). Also visit our website: [www.discoveringalabama.org](http://www.discoveringalabama.org).

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*The Solon and Martha  
Dixon Foundation*

Alabama  
Wildlife  
Federation



## Before Viewing

1 Fill a transparent cup with water from the nearest faucet or water cooler in your school (if feasible have students watch as the cup is being filled). Place the cup in view of the class and have students quietly consider what might be the source of the water (lake, river, spring, water well, etc.) and where this source might be located. Next, have students each consider the value of water and compose a written description of this value using any terms they wish to assign (dollar/economic value, environmental value, personal value, etc.). Do not coach them in these activities; they should be free to think and wonder or guess on their own.

2 Place students in small groups and allow ample time for members of each group to compare and contrast their various individual ideas about the source of the school's water and the value of water. Have each group report their views and ideas to the class while you record the main ideas on a flip easel or blackboard. After all groups report, conduct a brief class discussion of their ideas and of ways the students think water resources can be impacted/harmed. Introduce the video by informing students that it features an important water source in Alabama and the ways this water source is being affected by pollution and other impacts. If your school is in west central Alabama let students know the water source is in your own local area. (Indeed, it is likely the source of your school's water.)

## While Viewing

Have students note 1) the ways that water resources can be detrimentally impacted if not properly managed and 2) the variety of groups/organizations shown in the video that are cooperating together for proper water resource stewardship.

## After Viewing

1 Return students to their small groups and have them share any

new thoughts or information resulting from the video.

2 Engage students in a class discussion of the video, any thoughts or ideas obtained from viewing it, the great importance of water, and actions that can be taken to protect and sustain water resources for the future.

## Extensions

1 View other *Discovering Alabama* programs featuring Alabama waters and related issues. Examples include "Locust Fork River," "Cahaba River Watershed," "Bear Creek Watershed," "Flint River," "Village Creek," "Mobile River Basin," "Alabama Rivers," and "Alabama Countryside." These also have accompanying Teacher Guides with additional helpful learning activities.

2 Arrange a class visit by a representative of your local water authority or one of the agencies/organizations involved with water resources (see **Additional References & Resources**). Have them share with the class the role of their organization and discuss considerations for maintaining the water quality and ecological health of water resources and watersheds in your area.

## Philosophical Reflections

*We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect. There is no other way for land to survive the impact of mechanized man.... That land is a community is the basic concept of ecology, but that land is to be loved and respected is an extension of ethics....*

—Aldo Leopold  
forester, wildlife expert,  
conservationist – popularly known  
as the "father of conservation"  
in America.

Near the end of this video a local water expert refers to Aldo Leopold's philosophy of the "land ethic" as the expert explains that people are part of the

larger natural community and should therefore have an ethical regard for the land, for water, and for the ecological health of watersheds. How does this philosophical perspective contrast with the perspective whereby, as Leopold observed, "we abuse land because we regard it as a commodity belonging to us"? Which of these two contrasting perspectives is dominant among society today? Which perspective is most likely to hold the belief that people should be responsible caring stewards of the land and water? Might it be possible for both perspectives to believe in the importance of such responsible stewardship?

Quotations are excerpted from the acclaimed book, *A Sand County Almanac* by Aldo Leopold (Oxford University Press, 1949).

## Nature in Art

Have students individually (or perhaps with a classmate or two) capture an artistic scene along a local stream or other kind of local water source. This could be done as a photograph or, for the more industrious student, as a drawing or painting. Arrange an art exhibit of the captured scenes, each accompanied by a written interpretation provided by the artist(s) describing why the scene drew their attention.

## Community Connections

1 Conduct a class project to research the school's water use. Determine the source of your water (river, lake, well, etc.), the environmental conditions in the watershed, how the water is obtained, treated, and supplied for school/community use, the purity of water at the school tap, and all aspects of school use (amount used, amount wasted, annual costs, etc.). Prepare a report presenting findings to the community.

2 Identify a local stream pollution problem and conduct a class project to address the problem. Such a project might be a trash clean-up day, planting trees or other vegetation in

barren or eroding areas, or perhaps conducting a public education campaign promoting community awareness for stream protection and water conservation.

3 Arrange to become a certified member of the Alabama Water Watch Program (see **Additional References & Resources**). With Water Watch assistance, have your class “adopt” a local stream and conduct regular monitoring of stream/water conditions.

## Additional References & Resources

Alabama Department of Economic and Community Affairs, Office of Water Resources:  
[www.adeca.alabama.gov/content/owr](http://www.adeca.alabama.gov/content/owr)

Alabama Department of Environmental Management:  
[www.adem.state.al.us](http://www.adem.state.al.us)

Alabama Department of Conservation and Natural Resources:  
[www.dcnr.state.al.us](http://www.dcnr.state.al.us)

Alabama Rivers Alliance:  
[www.alabamarivers.org](http://www.alabamarivers.org)

Alabama Water Watch:  
[www.alabamawaterwatch.org](http://www.alabamawaterwatch.org)

Alabama Association of Conservation Districts:  
[www.swcc.state.al.us/aacd.htm](http://www.swcc.state.al.us/aacd.htm)

Geological Survey of Alabama:  
[www.gsa.state.al.us](http://www.gsa.state.al.us)

U.S. Natural Resources Conservation Service: [www.al.nrcs.usda.gov](http://www.al.nrcs.usda.gov)

Alabama Forestry Commission:  
[forestry.state.al.us](http://forestry.state.al.us)

Alabama Clean Water Partnership:  
[www.cleanwaterpartnership.org](http://www.cleanwaterpartnership.org)

Alabama Association of Resource, Conservation and Development Districts: [www.aarcd.net](http://www.aarcd.net)

U.S. Fish and Wildlife Service:  
[www.fws.gov](http://www.fws.gov)

*A Sand County Almanac, and Sketches Here and There* by Aldo Leopold (Oxford University Press, 1949)

*Land Development and the Natural Environment: Estimating Impacts* by Dale L. Keyes (Urban Land Institute, 1976)

*Discovering Alabama Forests* by Doug Phillips (University of Alabama Press, 2006)

*Discovering Alabama Wetlands* by Doug Phillips (University of Alabama Press, 2002)

## Parting Thoughts

*I want to express my appreciation for the conservation leadership of all the partners and supporters of the North River Watershed Project – and certainly to local governmental leaders who have long placed a priority on protecting the region’s water supply. I’ve known many of these people for years and can say personally that they are a wonderful group committed to working together for the common goal of protecting watersheds, preserving habitats, and sustaining water resources. Their efforts are deserving of the highest praise. Still, I must confide, I have serious concerns about the long term sustainability of Alabama watersheds and water resources as the state experiences expanding growth and population increase in the decades ahead.*

*Of course, the pursuit of new growth is for the worthy aim of economic improvement, which is certainly the beneficial outcome, up to a point. However, beyond an optimum point, growth can contribute to an ironical cycle of community decline, particularly for watersheds and water quality. The trend is only too predictable and can be seen in expanding urban areas across the nation: Growth and development bring jobs. More jobs bring more people. More people require more services. More services require more tax revenues. The need for more tax revenues requires more growth and development. Ever more growth and development bring ever more people, requiring ever more services. And the cycle continues, leading to ever more urbanization, sprawl, land consumption and, eventually, degradation of watersheds and water resources.*

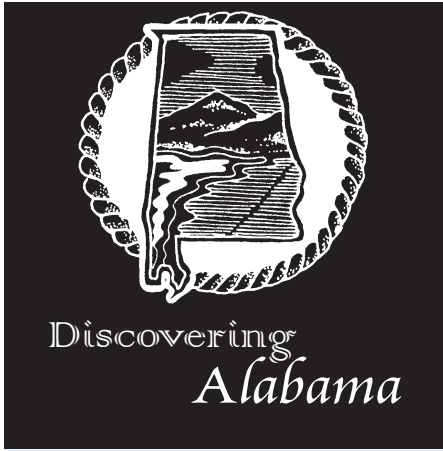
*Fortunately, most Alabamians care deeply that the state’s watersheds and water resources be properly protected. But let us not kid ourselves, there are strong political forces in our state that stand ready to oppose any substantive environmental controls regarding watershed protection. This is perhaps understandable. We Alabamians generally are an independent sort, imbued with a spirit of wanting to live as we choose and use our private properties as we wish. And we don’t want these freedoms constrained by bothersome regulations or restrictions. Thus we are often wary when somebody proposes “land-use planning” or “zoning.” And many of us are suspicious that high-sounding words like “ecosystem” and “sustainability” are actually code words used among those who would impose government intrusion into our personal and community freedoms.*

*Nevertheless, most Alabamians do have a deep love for Alabama and the abundant natural qualities that help make our state special. Therefore, if Alabamians want these qualities protected and sustained for the future, Alabamians must themselves assume the role of ensuring such protection. The need to embrace this responsibility grows more pressing. Alabama’s natural qualities and natural resources will face new impacts as accelerating change comes our way. The challenge to sustain the state’s precious heritage of water resources will become increasingly difficult. Meanwhile, the North River Watershed Project offers a model approach and a vital building block toward enabling Alabamians to exercise their **freedom to be caring stewards** of the state’s lands and waters.*

Happy outings,

*Dr. Doug*





Activity/Information Sheet

## North River Watershed

### About the North River Watershed Project

Excerpted from booklet *North River Watershed Project*, produced by Cawaco Resource Conservation and Development Council

The North River Watershed Project provides a collaborative effort to improve water quality and aquatic habitat through education and cost-effective initiatives based on reliable science. The ultimate goal of the project's cooperative partnership is to reduce pollutant loadings, ensure adequate water resources for future needs, and restore, recover, and conserve aquatic habitats and species. .

The project demonstrates how federal, state, and local agencies can be more effective and less duplicative by working together. Moreover, it represents how the realities of overlapping goals and shrinking budgets can present opportunities for diverse partners to collectively target efforts that assist with achieving common goals and better compliance with changing regulations.

The project is a potential model suitable elsewhere across Alabama for several reasons:

- The approach is non-regulatory by design. Regulatory agencies, such as ADEM, are sometimes partners in the process, but solutions to water resource issues are developed and implemented through a cooperative partnership with willing participants.
- Because the majority of land in Alabama is privately owned, preservation of landowner rights is first and foremost in the process.

- The educational approach has been proven useful statewide and is approved for compliance with Stormwater Phase II education and outreach requirements.

- The process relies on scientific data to discover problems, implement plans and projects to solve those problems, and monitor success.

The Project was initiated by the Alabama Clean Water Partnership and is coordinated by Cawaco Resource Conservation and Development Council. Funding support is provided by the Alabama Department of Environmental Management through a Clean Water Act, Section 319(h), nonpoint source grant from the U.S. Environmental Protection Agency, Region 4.

### Project Partners

#### Drinking Water Source Protection

- City of Berry – Bays Lake
- City of Tuscaloosa – Lake Tuscaloosa
- Fayette County Commission
- Tuscaloosa County Commission

#### Identification of Potential Health Risks

- Alabama Department of Public Health

#### Storm Water Regulation

- City of Tuscaloosa
- City of Northport

#### Habitat for Imperiled Species

- U.S. Fish & Wildlife Service
- Alabama Dept. of Conservation and Natural Resources
- Geological Survey of Alabama

#### Water Quality/Quantity

- Alabama Dept. of Environmental Management
- University of Alabama Water Policy and Law Institute
- Fayette County USDA/NRCS
- Geological Survey of Alabama

#### Education & Outreach

- Alabama Dept. of Environmental Management
- University of Alabama Museum of Natural History
- Tombigbee RC&D Council, Inc.
- Fayette County Soil & Water Conservation District
- Alabama Clean Water Partnership
- Alabama Cooperative Extension System – Fayette County
- Cawaco RC&D Council, Inc.

#### Business and Industry

- Patton Geologics, Inc.
- Weyerhaeuser