

# Discovering Alabama

Teacher's Guide

## Alabama Forests

### Suggested Curriculum Areas

History  
Social Studies  
Science

### Suggested Grade Levels

4–12

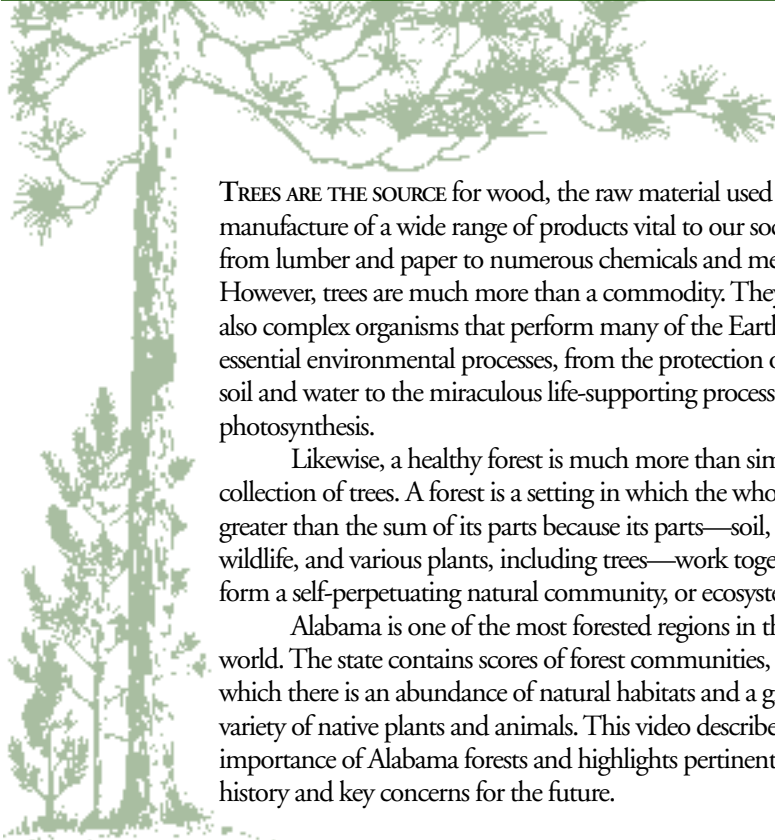
### Key Concepts

Forest Community  
Forest Diversity  
Forest Regeneration

### Key Skills

Research  
Classification  
Communication

### Synopsis



TREES ARE THE SOURCE for wood, the raw material used in the manufacture of a wide range of products vital to our society, from lumber and paper to numerous chemicals and medicines. However, trees are much more than a commodity. They are also complex organisms that perform many of the Earth's essential environmental processes, from the protection of the soil and water to the miraculous life-supporting process of photosynthesis.

Likewise, a healthy forest is much more than simply a collection of trees. A forest is a setting in which the whole is greater than the sum of its parts because its parts—soil, water, wildlife, and various plants, including trees—work together to form a self-perpetuating natural community, or ecosystem.

Alabama is one of the most forested regions in the world. The state contains scores of forest communities, in which there is an abundance of natural habitats and a great variety of native plants and animals. This video describes the importance of Alabama forests and highlights pertinent forest history and key concerns for the future.



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This program was produced with support from the following organizations:



## Before Viewing

1. “The forest” is a broad subject. Begin by having the students write conclusions for the following sentences:
  - a. A tree is...
  - b. A forest is...
2. Continue by focusing on an aspect of local or personal relevance. For example, you might ask students to reflect on whether they have a favorite tree near home: Why is this tree their favorite? Is it fun to climb, to sit under, or to observe? Does the tree’s shape appeal to them? What about the way it changes from season to season?
3. Explore the school grounds to observe any trees in the area and to visit places near the school where the land is still wooded/forested. What do students find attractive, unattractive, or interesting about these features?

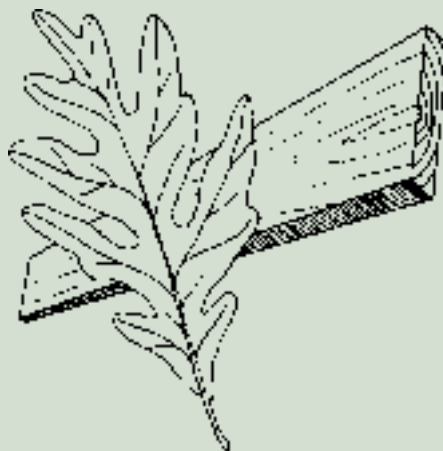
## While Viewing

Alabama forests are often topics of environmental controversy. Some believe the state’s forests are in decline due to harmful logging and commercial timber practices. Others believe that Alabama’s forests are in good condition largely because of management practices that promote commercial productivity. Ask students to watch for information or evidence that will help them decide which view is correct.

**Video Mystery Question:** Did the European settlers in the 1600s encounter a “virgin” forest in Alabama? (Answer: Portions of the forest did, undoubtedly, qualify as “virgin,” meaning they were hundreds of years old and free from any sign of human disturbance, but much of the forest that impressed newcomers was actually less than 100 years old. As the video indicates, forest historians maintain that these forest tracts were relatively recent, having regenerated from lands that had been altered by prehistoric peoples.)

## After Viewing

1. Collect several duplicate sets of between 10 to 20 different kinds of leaves. Divide the class into small groups and distribute one set of leaves to each group. Have each group sort the leaves and draw a dichotomous diagram showing how the leaves can be classified into subgroups. A dichotomous classification is performed by first dividing the whole set of leaves into two groups based on a major observable characteristic such as leaf shape or color. Each subset is again divided into two groups based on the next distinguishing characteristic, and so on. Continue this procedure until the final sets each contain only one leaf.
2. Invite the students to present their dichotomous diagrams to the class and to explain the reasoning for each stage of classification. Discuss how the process of dividing by observable features is a primary means of classification used by scientists.
3. Have the students use a nature field guide to identify the trees to which their leaves belong. (Nature field guides are available in most book stores.)



## Extensions

1. Using a field guide for southeastern trees, explore the school grounds, nearby parks, and woodlands to identify as many trees as possible. Have students work in small groups to examine the habitat, range, ecological role, and commercial uses of each species.
2. Use a microscope to examine the internal structure of wood fiber. Invite a forester to bring wood samples from different trees, to describe each tree’s life history, and to discuss interesting physical, chemical, and biological aspects of tree growth.
3. Invite representatives from timber and paper companies, as well as environmental organizations, to present their different views on issues pertaining to the status and management of forests in Alabama.

## Philosophical Reflections

Scientific evidence reveals that trees and forests have developed over geological time, from earlier primitive forms to today’s very complex and diverse natural systems. As the video explains, the latest major stage of development includes the more specially adapted flowering and seed-bearing trees, many of which are the predominant species of Alabama’s hardwood forests. Does such continuing adaptation suggest that there is an intelligence present in nature? What is the meaning of the word “intelligence,” and how many different kinds of intelligence can you identify? Is there a distinction between intelligence that serves to fulfill the survival needs of individuals and intelligence that seeks to promote group survival, intellectual curiosity, or moral principles?

## Nature in Art

Occasionally, there is disagreement over what Alabama's original forest was like at the time of European exploration and settlement. Some contend it was a great pristine wilderness. Others argue that it was far from pristine due to continual human and natural disturbances. Invite your class to examine which view may be more accurate based on early European literary and artistic accounts of Alabama and the Southeast. (See **Additional References and Resources** for such early written records as those by William Bartram, which provide visual accounts of forest conditions before extensive settlement of the state.)

## Community Connections

1. Prepare an investigative report about local forest conditions. Questions to explore include, a) what is the total forestland acreage in your county, b) who are the major owners, c) what is the status of this forestland, e.g., forest types, ages, conditions, etc., d) how is it "managed," and e) how do views about the forest compare between forestland owners and the general public? Have the students work in teams to organize, write, and edit the report for submission to the local newspaper.
2. Find a place that could benefit from the planting of trees. This location might be part of the school grounds, a neighborhood beautification site, or an abandoned surface mine. Arrange necessary assistance for tree planting from your local Alabama Forestry Commission office, a willing industry, or an environmental group. The educational value will be greater if this project also addresses related forest topics such as soil, climate, erosion, and biodiversity. To this end, have students conduct long-term monitoring of site changes and tree growth.

## Complementary Aids and Activities

**Adopt-a-Forest Program.** To acquire an Adopt-a-Forest Curriculum Guide or more information about the program, contact Ranger Station, Conecuh National Forest, Route 5, Box 157, Andalusia AL 36420, or call 334-222-2555.

**Project Learning Tree.** Activity Guide K-6, Activity 89, "Forest Consequences." Available through Alabama Forestry Association, 555 Alabama St., Montgomery AL 36104, or call 334-265-8733.

Explore forest change using USGS Topographic Maps along with "Map Adventures" or "What Do Maps Show?" Available through Geological Survey of Alabama, Publication Sales Office, P.O. Box 869999, Tuscaloosa AL 35486-9999, or call 205-349-2852.

**Plan•It3.** To receive information on the interactive CD-ROM, the curriculum for forestry education (grades 6-9), or the video "Southern Forest...Southern Heritage," write P.O. Box 70424, Montgomery AL 36107, or call 800-566-4645.

## Additional References and Resources

**100 Forest Trees of Alabama**, 2d ed. (1995). Available through Alabama Forestry Commission, 513 Madison Ave., Montgomery AL 36130, or call 205-240-9361.

**A Key to Common Trees of Alabama**, Circular ANR-509, Alabama Co-operative Extension System. Available from your county extension office. Check your telephone directory under your county or write to Alabama Cooperative Extension Service, USDA, Auburn University, Auburn AL 36849-5612.

**The De Soto Chronicles: The Expedition of Hernando De Soto to North America in 1539-1543**, edited by L.A. Clayton, V.J. Knight Jr., and E.C. Moore (1993). Contact: University of Alabama Press, Box 870380, Tuscaloosa AL 35487-0380, or call 800-825-9980.

**William Bartram: Travels and Other Writings**, edited by Thomas P. Slaughter (1996).

## Parting Thoughts

*The term "tree hugger" is often used as a flip criticism aimed at environmentalists. However on numerous occasions, I have witnessed profit-motivated, industry executives strolling corporate lands giving their trees a gentle pat here and a caring caress there. This is reassuring. Somehow, it only seems appropriate that beautiful, natural wonders such as trees should evoke the human desire to touch or hug them. So we "tree huggers," corporate and non-corporate alike, share a common challenge to find ways of working together to maintain the abundance and the health of our forests for the future.*

*Oh yeah, I almost forgot. You don't have to go trekking off to some distant wilderness to see a special forest or a distinctive tree. Throughout Alabama, there are major tracts of forestland and numerous state "champion trees" (a champion tree is the largest tree on record for a given species in the state). For guidance, check with the Alabama Forestry Commission at 205-240-9361.*



Happy outings,

*D. De Soto*



## Discovering Alabama

Activity/Information Sheet

### Alabama Forests

#### A Few Key Facts about the Productivity of Alabama Forests

- Each year since the 1980s, more than 200,000 acres of timberland have been regenerated.
- Small, independent owners control nearly 50%, or 10.9 million acres, of all commercial forested land.
- Over 65,000 people are employed in the forest industry and have combined earnings of more than 1.3 billion dollars.
- There are more than 1,100 primary forest operations including 15 pulp and paper mills, 196 sawmills, 27 veneer mills, and 27 pole mills. There are approximately 800 secondary forest manufacturing operations.
- 8% of the nation's white-tailed deer and 9% of the nation's wild turkeys live in Alabama forests.

Source: *Forests of Alabama*, Alabama Forestry Commission (1993).  
Data is based on 1989 and 1990 surveys.



#### A Few Key Questions for the Future of Alabama Forestlands

- How has the natural character of Alabama forests, e.g., total acreage, diversity of natural habitats, diversity of flora and fauna, soil and water quality, etc., changed since the early settlement of the state? How is it likely to change as a consequence of human activity in the future?
  - To what extent is the free market the most appropriate means to steer the environmental consequences of forest management?
  - To what degree is the market value—money for timber harvest—the appropriate scale of value for forests that provide vital ecological functions?
    - What should be the proportion of natural forests versus commercial tree farms if human population and demand for forest products continue to escalate?
    - What are the appropriate limits for human population growth and the associated urban and economic developments, which cause forestland to be converted to other uses?
    - In a democracy, who bears the ultimate “responsibility” for shortsighted policies and practices that have far-reaching effects on the natural environment? Ultimately, who are the victims of these policies and practices, and who should see that such problems are corrected?