

Discovering Alabama

Teacher's Guide

Dauphin Island

Suggested Curriculum Areas

History
Social Studies
Environmental Studies

Suggested Grade Levels

4–12

Key Concepts

Conservation
Habitat
Natural Heritage

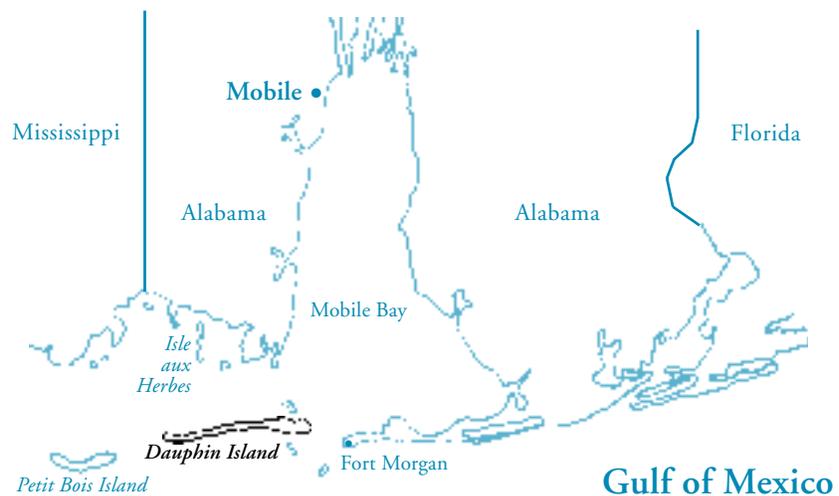
Key Skills

Research
Analysis
Critical Thinking

Synopsis

Dauphin Island is unique among barrier islands because of its special natural qualities and its special role in the history of America. The island has a diversity of natural habitats including marshlands, forests, and lakes, and it was an attraction for many early European explorers, including the Spanish, the French, and the English.

This video highlights both the natural and human history of Dauphin Island in the context of geological forces that continuously affect barrier islands. By looking at environmental changes occurring to the island from modern growth and development, the video poses the question of how to manage such activities for the island's future.



THE UNIVERSITY OF
ALABAMA



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This program was produced with support from the following organizations:



Before Viewing

1. Using globes or world maps, have the students pick one or more islands they believe might fit their image of an “island paradise.” When they have made their selections, have them work to determine the hemisphere, longitude, latitude, and probable natural features of their chosen islands.
2. List their island selections on the blackboard. Discuss the defining characteristics of barrier islands in contrast to other kinds of islands. Ask the students to examine their maps and identify those islands among the list that might be barrier islands.
3. Have students imagine themselves aboard the ship of a seafaring adventurer of ancient times, perhaps an early Spanish explorer attempting to sail around the world in search of new lands. Ask them to imagine how they might feel when, after being at sea for months, they encounter an exotic island and prepare to go ashore. Introduce the video by explaining that this Alabama island was the subject of similar discoveries prior to the founding of our nation.

While Viewing

Have students watch for the various natural features and habitats present on Dauphin Island and the number of different nations and cultures that have inhabited the island over time.

Video Mystery Question: Ancient visitors to Dauphin Island found it at a place different from its present location. Why? (Answer: As the video explains, over many centuries, the precise size and location of the island has shifted as a consequence of tidal flow, hurricanes, and other forces of nature.)

After Viewing

1. Discuss the video and list the students’ observations pertaining to the “While Viewing” assignment.

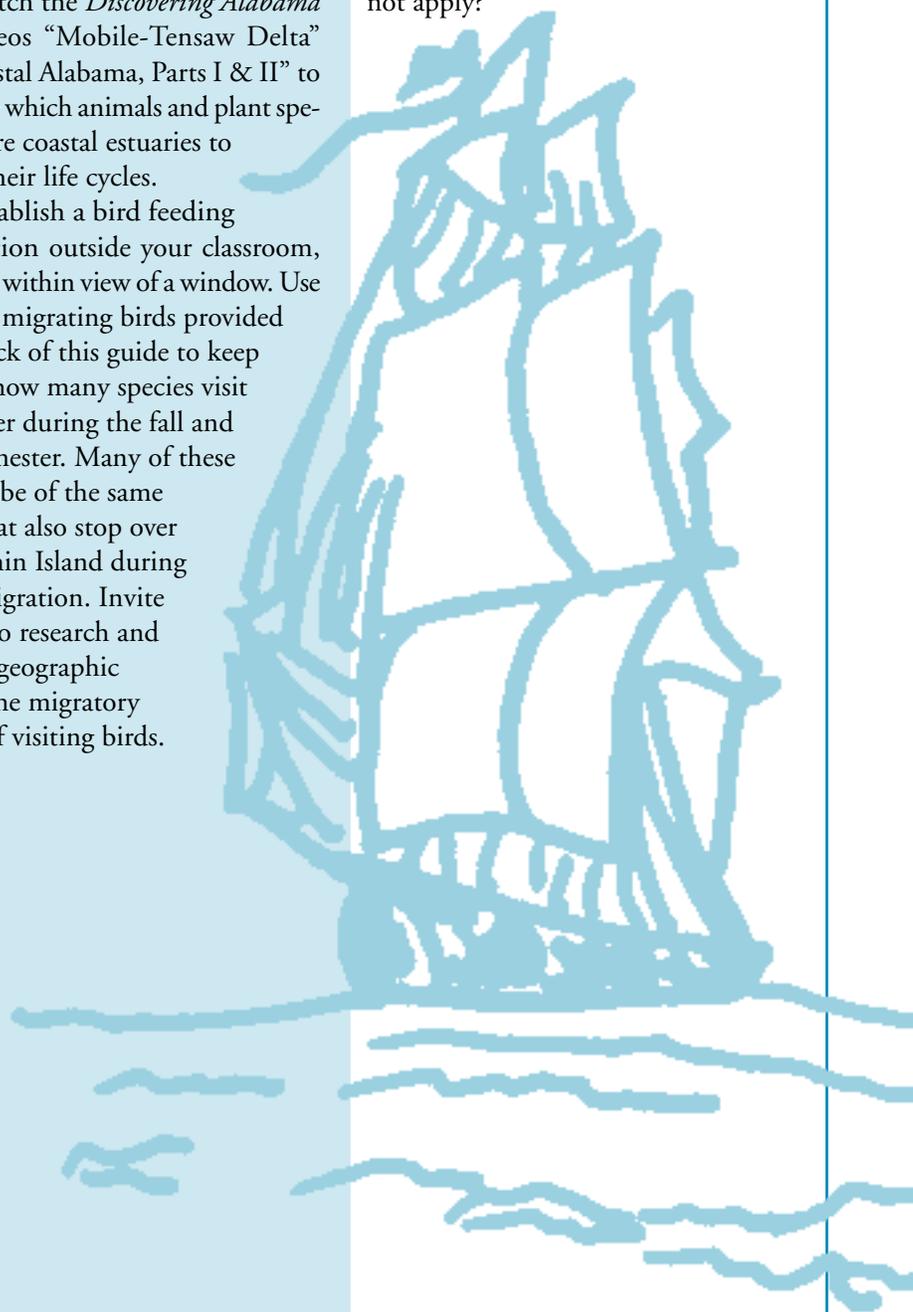
2. Compare the characteristics of Dauphin Island to those of other barrier islands in the Gulf of Mexico. Discuss changes to the island from human activities in modern times.

Extensions

1. Arrange for your class to participate in one of the educational programs conducted on the island by the Dauphin Island Sea Lab (see **Additional References and Resources**).
2. Watch the *Discovering Alabama* videos “Mobile-Tensaw Delta” and “Coastal Alabama, Parts I & II” to determine which animals and plant species require coastal estuaries to support their life cycles.
3. Establish a bird feeding station outside your classroom, preferably within view of a window. Use the list of migrating birds provided on the back of this guide to keep count of how many species visit your feeder during the fall and spring semester. Many of these birds will be of the same species that also stop over on Dauphin Island during annual migration. Invite the class to research and chart the geographic route of the migratory journey of visiting birds.

Philosophical Reflections

Barrier islands are particularly affected by wind, water, and various forces of continuous geological change, reminding us of the old saying, “The one thing that never changes is that things are always changing.” Does this saying also apply to natural features other than barrier islands? Does it apply to such aspects of life as cultural norms, beliefs, and values? Are there some matters about which you believe this saying does not apply?



Nature in Art

Beaches, seascapes, and similar scenes have always been popular subjects for drawing, painting, and photography. Artists often find inspiration from these settings and portray in their art such themes as the wonder of life and the mysteries of time and change. These themes are particularly evident in the nature of barrier islands. An easy assignment is to have students explore their school, their home, or other local sources to locate similar artwork. Or, you might prefer to have students draw, paint, or photograph their own coastal, river, or lake scenes. Collect and display a number of such works and interpret the artists' renderings.

Community Connections

1. Dauphin Island was one of the first parts of Alabama to be settled by European adventurers: first came the Spanish, then the French and English. Thus many place names around Dauphin Island and Mobile are of European origin. Conduct a study of your community to determine if there are place names (or perhaps family names) that are traceable to early European settlement at Dauphin Island or Mobile.

2. Most of the water that flows from inland Alabama eventually reaches the bays and estuaries near Mobile and Dauphin Island. This is because most Alabama communities are within the large watershed (roughly three-quarters of Alabama's surface) that drains to the Gulf of Mexico by way of rivers that flow to Mobile Bay. Obtain topographical maps of your area and locate major streams near your community. In accordance with the Community Right-to-Know Act, ask local industries and agencies to provide you with data on the kinds and quantities of waste materials discharged into these streams. Share this information with the Dauphin Island Sea Lab, with the Alabama Department

of Environmental Management (ADEM), or other water resource specialists, and ask their assistance in understanding the cumulative effect of such discharge to coastal estuaries.

Complementary Aids and Activities

1. Use a map to track the movement of hurricanes in the western Atlantic, the Caribbean, and the Gulf of Mexico. Contact the Alabama Museum of Natural History and ask for *Ephemera #45*.

2. The location of storm centers is available from CNN and The Weather Channel, but this information originates from the National Oceanographic and Atmospheric Administration (NOAA). On the Internet, look at www.noaa.gov and www.websites.noaa.gov for lots of weather goodies. (Some of these web sites are not active except during hurricane season—June through November.)

3. Check out the following webpage devoted to waterfowl habitat areas and recent activities to reduce the trend of wetland loss: www.fws.gov/r9nawwo.

Additional References and Resources

The Dauphin Island Sea Lab is a great place to visit. It has an exhibit hall as well as the Estuarium, which features the Living Marsh Boardwalk. For information, contact: Dauphin Island Sea Lab, 101 Bienville Blvd., Dauphin Island AL 36528, 334-861-2141. Check the lab's website: www.disl.org.

Books: *Alabama Birds* by Thomas A. Imhof, University of Alabama Press, 1976; *Field Guide to the Birds of Eastern and Central United States* by Roger Tory Peterson, Houghton Mifflin, 1985; and National Geographic's *Field Guide to the Birds of North America*.

To create a detailed map of the Dauphin Island area, put together the following maps: "Heron Bay," "Little Dauphin Island," "Fort Morgan," "Fort Morgan Northwest," "Petit Bois Pass," and "Isle aux Herbes," all available from the Geological Survey of Alabama, Box 869999, Tuscaloosa AL 35486-9999.

Parting Thoughts

America's coastal areas are experiencing a rapid increase in population growth and all manner of related development. In many places, this growth has resulted in significant impact to the environment, threatening fisheries or other resources from which traditional economies, life-styles, and values are derived. Is such induced environmental change an unavoidable side effect of the pursuit of our free enterprise system? Or is it an example of harmful change that a free society should take care to control? The answer we choose will determine the future of Alabama's coastal area. And our answer will ultimately shape one of two scenarios: our gulf coast will either maintain its unique natural qualities, or it will become just one more crowded, garish commercial strip devoid of the natural qualities that, today, set it apart as distinctively attractive.

Oh yeah, I almost forgot. The Dauphin Island Sea Lab is a research and educational facility recognized as a model for the nation. The fine facilities and excellent staff are a wonderful asset that increases our pride in Alabama. If you cannot arrange a visit to Dauphin Island Sea Lab, at least contact them for information to use with your class.



*Happy outings,
Dr. Deez*



Discovering Alabama

Activity/Information Sheet

Dauphin Island

Migratory Birds

Three hundred years ago, there were four times as many known bird species as now exist. The historical demise of incalculable numbers of birds can be linked to a number of environmental effects due to our expanding industrial society. Today, conservationists are warning us that continuing effects of global warming and the deforestation of the tropical rain forests of the continents of Central and South America will soon lead to further loss of winter homes for North America's migrating birds.

In the past decade or two, the number of songbirds has dramatically decreased, and it is becoming increasingly difficult to spot the scarlet tanager and the rose-breasted grosbeak. Likewise, warblers of all kinds are also vanishing at an alarming rate.

But changes in the environment haven't been the only problem. Until 1918, there was a significant problem with the hunting and killing of migratory birds, especially songbirds. On July 3rd of that year, this activity was restricted by the Migratory Bird Treaty

Act signed by the United States and Canada. Periodically, this treaty has been amended so as to identify specific birds that are now endangered. The Migratory Bird Treaty Act went beyond simply restricting the killing of birds and also forbade the taking of nests, eggs, or feathers.

This legislation and cooperation between Canada and the U.S. was further strengthened when in 1936, Mexico entered into a similar agreement, thus the whole of North America was covered by the treaties.

Some Migratory Birds

Many Alabamians would be amazed at the beautiful birds that live or migrate through their state. Nearly 400 species of birds live in Alabama or spend some time of the year here. Some live the year around, some just pass through, and some spend the winter here. Ask the children if they can guess why some of the birds listed below are in more than one category.

These birds live in Alabama all year and are **resident birds**: gray catbird, American robin, red-tailed hawk, cardinal, blue jay, pine warbler, mourning dove, and wood duck.

These birds live and breed up north and fly south to Alabama to spend the winter. They are **nonresident birds**: gray catbird, American robin, yellow-bellied sapsucker, goldfinch, white-throated sparrow, ring-necked duck, and the harrier, or marsh hawk.

Each fall, the following birds, called **Neotropical migrants**, fly south from the Alabama coast to the New World tropics. The gray catbird, ruby-throated hummingbird, wood thrush, scarlet tanager, prothonotary warbler,

cattle egret, Mississippi kite, and the Baltimore oriole return each spring dressed in their breeding colors.

Endangered & Nongame Birds

There are a small number of birds on the endangered list: wood stork, American bald eagle, piping plover, and the red-cockaded woodpecker.

Alabama's Nongame Species Regulation, number 220-2-.92 states: It shall be unlawful to take, capture, kill, or attempt to take, capture or kill; possess, sell, trade for anything of monetary value or offer to sell or trade for anything of monetary value, the following nongame wildlife species (or any parts or reproductive products of such species) without a scientific collection permit or written permit from the Commissioner, Department of Conservation and Natural Resources, which shall specifically state what the permittee may do with regard to said species. Birds on this nongame list include:

Mississippi sandhill crane
Common ground dove
American bald eagle
Golden eagle
Reddish egret
Peregrine falcon
Cooper's hawk
Merlin
Osprey
American oystercatcher
American white pelican
Piping plover
Snowy plover
Wilson's plover
Wood stork
Gull-billed tern
Bachman's warbler
Red-cockaded woodpecker
Bewick's wren