



# Carolina Bays

## Fact Sheet

### DEFINITION

Carolina bays are isolated wetlands in natural shallow depressions that are largely fed by rain and shallow groundwater. These bays have an elliptical shape and generally a northwest to southeast orientation. They are found primarily in Georgia and the Carolinas, but range from Florida to Delaware. As many as 300 Carolina bays exist on the Savannah River Site.

### HABITAT DESCRIPTION

Carolina bays vary in size from less than an acre to many acres. Water levels are normally lowest in autumn and highest in early spring. Some Carolina bays are wet all year, while others fill with water, then dry up, depending on the season. The amount of time a typical bay holds water can vary greatly from year to year depending upon rainfall. For example, during a 13-year period, Rainbow Bay on the Savannah River Site held water only five days one year and about 280 days another year.

### CAROLINA BAY WILDLIFE

Although many Carolina bays are temporary ponds that hold water only part of the year, these wetlands host a variety of wildlife, providing valuable habitat for such animals as frogs, salamanders, turtles, snakes and alligators. Many birds, such as herons, egrets and migratory waterfowl, live in Carolina bays. Also mammals, such as deer, raccoons, skunks and opossums get food and water from Carolina bays. In addition, microscopic organisms called zooplankton live in Carolina bays. Salamanders and frogs are among the most abundant wildlife found in Carolina bays. As amphibians, these animals spend part of their lives in the

water; as adults, they depend on Carolina bays as breeding sites where they lay their eggs.

### PLANT LIFE IN BAYS

Average water depth and soil type have a large influence on the types of plants found in and around Carolina bays. Many bays contain trees such as black gum, sweet gum, magnolia, bald cypress and maple, and shrubs such as sumac, button bush, gallberry and red bay. Also common in Carolina bays are water lilies, sedges and various grasses. On the SRS, 60 percent of the rare and threatened plant species are found in Carolina bays.

### WETLAND FUNCTIONS

Although different types

of wetlands vary, some of the most important and most common functions of wetlands are:

1. Flood control and water availability.
2. Water quality — they purify water by processing nutrients, suspended materials and other pollutants.
3. Erosion control.
4. Wildlife habitat.
5. Recreation.

## **DID YOU KNOW?**

- Researchers believe Carolina bays are 30,000 to 100,000 years old or older, yet scientists are not certain of their origins.
- One theory of the origin of Carolina bays suggests that a meteor hit Earth thousands of years ago, breaking into pieces that made dents as they skipped across the planet's surface. One legend even has it that Carolina bays are dinosaur footprints (not true).
- Some people consider Carolina bays to be annoying wet spots. Farmers commonly plowed through them and builders filled and paved over them until federal wetlands regulations began protecting them in the mid-1970s. Still, Carolina bays and other wetlands continue to be lost to agriculture and commercial development.
- More than 97 percent of the Carolina bays once found in South Carolina have been destroyed or severely altered. More protected Carolina bays are found on the SRS than in the remainder of South Carolina.
- The United States has lost more than half of its original wetland areas. More than 400,000 acres are lost annually.

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### **BAY RESEARCH**

Water levels vary greatly from one Carolina bay to the next and from one year to the next even at a single bay. Given the variations, ecologists at the Savannah River Ecology Laboratory are studying how amphibians, plants and zooplankton (near-microscopic organisms totally dependent on water to survive) adapt to such extreme change. Scientists are developing a computer-based model that could predict the effects of climatic change — particularly global warming — on the zooplankton and other animals and plants of Carolina bays.

### **WETLANDS PROTECTION**

The Environmental Protection Agency offers a toll-free hotline that is responsive to public interest, questions and requests for information about the values and functions of wetlands and options for their protection. The hotline operates from 9 a.m. to 5:30 p.m., Eastern

Standard Time, on weekdays. The phone number is 1-800-832-7828.

### **MORE INFORMATION**

For more information on Carolina bays, please call the Savannah River Ecology Laboratory, Outreach (803) 725-0156 or Public Relations (803) 725-2473.

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## **The University of Georgia**

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