

Chapter 10

Natural Resources

10.1 Ecological Significance of the Savannah River Basin

Although small in total area compared to most of North Carolina’s river basins, the Savannah River basin is one of the most ecologically diverse landscapes in the southeastern Appalachians and North Carolina. The region is located where the steep eastern face of the Blue Ridge turns and faces south, and with its relatively warm and extremely wet climate (over 80 inches of rainfall a year), creates a unique setting within the Blue Ridge. A total of 87 rare plant species are known to exist among a diversity of habitats that include spray zones of waterfalls, rock faces of outcrops and overhanging crags and cliffs, and rich coves and other forest communities.

North Carolina contains only headwaters of the Savannah River basin which, when protected, are particularly important for the proper hydrological and biological functioning of downstream waters. Headwater streams provide numerous benefits to downstream waters including: sediment and nutrient control, flood control, water and food supply, and wildlife habitat. Headwater streams can also serve as refugia for species impacted by downstream degradation. Upon improvements in downstream water quality, these species may naturally recolonize upstream habitats.

10.2 Rare Aquatic and Wetland-Dwelling Animal Species

Table 18 lists rare aquatic and wetlands-dwelling animals within the Savannah River basin. For more information on these and rare plant species, visit the NC Natural Heritage Program (NHP) website at www.ncnhp.org.

Table 18 List of Rare Aquatic and Wetland Animal Species in Savannah River Basin (April 2006).

Scientific Name	Common Name	Major Taxon	State Status	Federal Status
<i>Drunella longicornis</i>	A mayfly	Invertebrate	SR	
<i>Matrioptila jeanae</i>	A caddisfly	Invertebrate	SR	
<i>Micrasema burksi</i>	A caddisfly	Invertebrate	SR	
<i>Micrasema sprulesi</i>	A caddisfly	Invertebrate	SR	
<i>Cambarus chaugaensis</i>	Oconee stream crayfish	Crustacean	SC	
<i>Cambarus reburus</i>	French Broad River crayfish	Crustacean	SR	FSC
<i>Etheostoma inscriptum</i>	Turquoise darter	Fish	SC	
<i>Hybopsis rubrifrons</i>	Rosyface chub	Fish	T	
<i>Micropterus coosae</i>	Redeye bass	Fish	SR	
<i>Notropis lutipinnis</i>	Yellowfin shiner	Fish	SC	
<i>Percina nigrofasciata</i>	Blackbanded darter	Fish	SR	
<i>Sorex palustris punctulatus</i>	Southern water shrew	Mammal	SC	FSC
<i>Aneides aeneus</i>	Green salamander	amphibian	E	FSC

Listing Abbreviations: E = Endangered; T = Threatened; SC = Special Concern; SR = Significantly Rare; FSC = Federal Species of Concern

The **rosyface chub**, **turquoise darter**, and **redeye bass** (native populations) are restricted to Horsepasture and Toxaway Rivers in North Carolina, although their distribution continues into other states, including South Carolina and Georgia. **Yellowfin shiner** occurs in the Savannah and also the Little Tennessee River basin in North Carolina. The diets of these species consist largely of aquatic insects and the redeye bass may also feed on crustaceans and other small fish. The **green salamander** is found in only two small areas in North Carolina, one which includes the Savannah River basin in Macon, Jackson, and Transylvania Counties. Because it is a nocturnal species and occupies narrow crevices in rocky outcroppings, sampling is difficult and scientists are attempting to gain more biological information on this rare salamander. The **Oconee stream crayfish** is found in North Carolina, South Carolina, and Georgia; however, it is not known to be abundant in any of these states. The **French Broad River crayfish** is endemic to North Carolina and is a fairly abundant species.

10.3 Significant Natural Heritage Areas in the Savannah River Basin

The NC NHP compiles a list of Significant Natural Heritage Areas as required by the Nature Preserves Act. The list is based on the program's inventory of natural diversity in the state. The terrestrial and aquatic natural heritage areas included on this list are the best representatives of the natural diversity of the state, and therefore, have priority for protection. Inclusion on the list does not imply that any protection or public access to the site exists. The identification of a significant natural heritage area conveys no protection; these lands are the responsibility of the landowner.

The Savannah Basin contains over 30 significant natural heritage areas (Figure 13), one of which is an aquatic significant natural heritage area: Savannah River Headwaters Aquatic Habitat. The Savannah River Headwaters Aquatic Habitat is considered state significant due to ecological resources among the highest quality occurrences in North Carolina, and is composed of several rivers and gorges including: Chattooga, Whitewater, Thompson, Horsepasture, and Toxaway Rivers. As mentioned earlier, these systems are vital for the maintenance and protection of downstream waters. Examples of other significant natural heritage areas within the Savannah include: bogs, waterfalls, cliffs, and mountains.

Two unique high-quality wetland types that are less extensive in area than the gorges (but no less significant) are spray cliffs and mountain bogs.

Spray Cliffs – In this region known for waterfalls, sloping rock faces are bathed in spray from plunging water. The resulting constant humidity and moderate temperatures support a rich plant community dominated by ferns, mosses and liverworts. The presence of species more typical of the tropics than the Southern Appalachian Mountains makes these communities unique. Sites where the spray cliff community can be found are few; known from only a few dozen occurrences, most of them are less than one acre in size. Yet the spray cliffs are home to the largest number of rare plants in North Carolina's portion of the Savannah River basin.

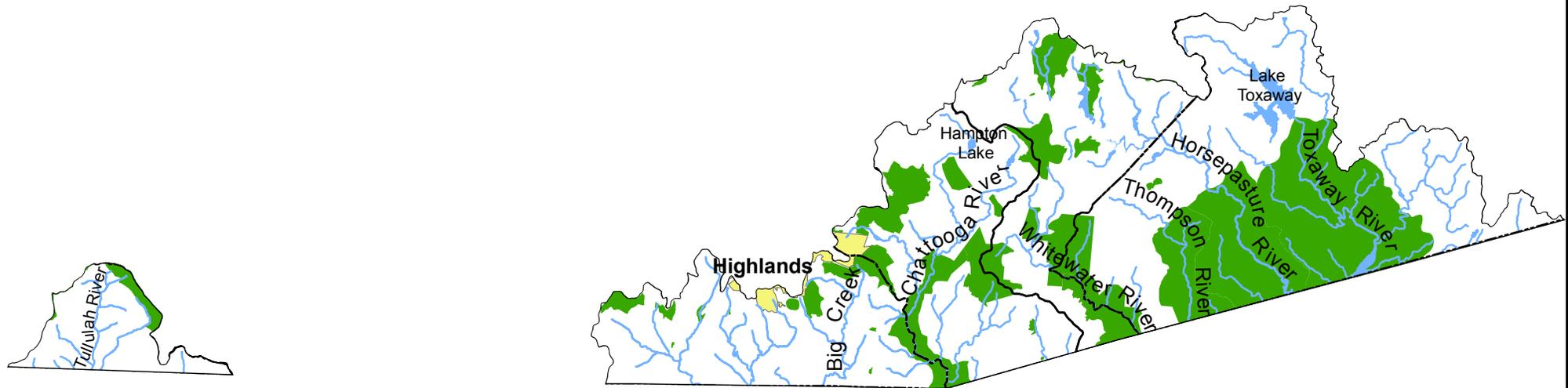
Mountain Bogs – Mountain bogs are saturated with water most of the year, and may have thick layers of sphagnum moss underlain by peat. Most mountain bogs are acidic. These areas, where water enters the system faster than it leaves, form bogs on flat, stream-bordered glades, habitat that also hosts a number of rare or unusual plants such as swamp pink and/or insectivorous plants. Dulany Bog in Jackson County is an example of this interesting community type. Bogs provide food and shelter for wildlife, as well as aid in flood control and act as natural water

purification systems. Even small bogs, most of which are located on the headwaters of trout streams, contribute to the productivity and high water quality needed by the fish downstream.

10.4 Public Lands

A large portion of the Savannah River basin is publicly owned, much of it by the U.S. Forest Service as Nantahala National Forest. Additionally, the state owns approximately 10,000 acres in Transylvania County. This land was purchased in 1999 and NC Parks and Recreation manages 7,000 acres as Gorges State Park, the western-most state park, and NC Wildlife Resources Commission manages 3,000 acres as Toxaway Game Land. The Nature Conservancy owns the Silver Run Preserve which consists of approximately 1500 acres in Jackson and Transylvania Counties. These lands are managed for multiple uses, but are afforded basic protection from developmental pressures.

Figure 13 Significant Natural Heritage Areas in the Savannah River Basin



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