



Freshwater Fisheries
South Carolina
Stream Assessment

DNR

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Seagreen Darter



Brook Trout



Dollar Sunfish



Greenfin Shiner

Mussels

South Carolina has approximately 24,000 miles of freshwater streams and rivers in four major river basins: the Savannah, Santee, Pee Dee and Ashepoo-Combahee-Edisto (ACE). In addition to providing water and recreation for South Carolina's residents, these streams support diverse communities of fish, crayfish, mussels, and other aquatic animals and plants. There are roughly 150 species of fish, 36 species of crayfish, and 29 species of mussels found in fresh waters of the state.



Bluebarred Pygmy Sunfish



Mud Sunfish



Stream Team

The health of streams is related to the condition of the lands that drain into them, called watersheds. Native forest and vegetation along streams provides an important function in filtering rainfall and buffering streams against runoff and sediment. By removing forest and streamside vegetation, too much development within a watershed can cause an increase in pollution and sediment loading to streams, leading to poor water and habitat quality. Many native fish and aquatic animals are sensitive to changes in water quality and will begin to disappear when this happens.

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09-6751



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Fieryblack Shiner



Savannah Darter



Crayfish



Mussels



Piedmont Stream

Stream Sampling

In 2006, the South Carolina Department of Natural Resources (SCDNR) began a study to monitor the status of South Carolina's streams. Freshwater fisheries personnel sample between 150 and 200 streams each year throughout the state. Regional fisheries crews sample reference streams — those selected to represent the highest



Leopard Frog

quality watersheds in each river basin and region of the state. In addition, SCDNR's "Stream Team" samples randomly selected streams from each river basin and region of the state.

Streams are sampled using a non-lethal method called backpack electrofishing, in which mild electricity is used to bring fish to the surface. Fish are collected with nets, identified by species and counted, then released back into the stream. Habitat features are measured including water depth, flow and substrate (stream bottom) pebble size. Water temperature, dissolved oxygen levels, and other characteristics are measured. Additionally, a water sample is taken and sent to a chemistry lab for analysis.



Bluespotted Sunfish

Stream Conservation

Biologists use this information to track changes in habitat conditions and the numbers and types of species found in the streams. Certain species—called Conservation Priority Species—are especially vulnerable to changes in stream quality. By monitoring these and other species, biologists can determine factors causing species to decline and make management recommendations to ensure that native species are protected for future generations.



Santee Chub



Pumpkinseed



Lowland Shiner



Habitat Sampling