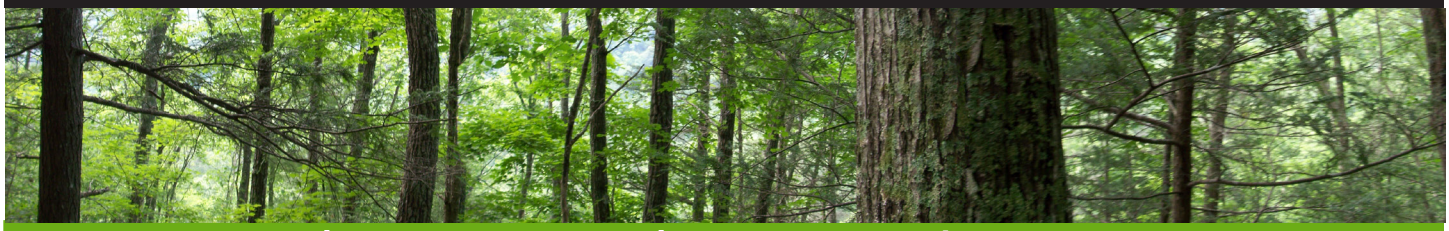
Forest Vegetation
2009 RESOURCE BRIEF

National Park Service · Northeast Region
U.S. Department of the Interior

Eastern Rivers and Mountains Network
Inventory & Monitoring Program



Bluestone NSR - Gauley NRA - New River Gorge NR

IMPORTANCE

The vast majority of Bluestone National Scenic River (BLUE), Gauley National Recreation Area (GARI), and New River Gorge National River (NERI) is forested, and these forests are critical park resources that provide many important functions. Forests in these parks create habitat for hundreds of species of plants and animals; as well as maintain soil stability and protect water quality. Besides providing beautiful landscapes for people to recreate in, forests also influence our weather and reduce some gases that contribute to climate change.

Studying the different components of a forest gives us information on the health of the forest, which allows park managers to make better informed decisions on how to manage the forest. Several important stressors to the parks' forest health are exotic species, white-tailed deer, atmospheric acid and nutrient deposition, climate change, and altered disturbance patterns.

WHAT WE ARE DOING

The Eastern Rivers and Mountains Network (ERMN) monitors forest health by collecting monitoring data on canopy trees, tree regeneration, shrubs, plant diversity, downed logs, and soil at permanent plots established in the parks. Data collection began in 2007, and thus far, a total of 134 plots have been established in BLUE, GARI, and NERI. By the end of 2010, all 180 monitoring plots will be established in these parks. Data will be collected from 45 plots every year, such that each plot will be visited every 5 years.

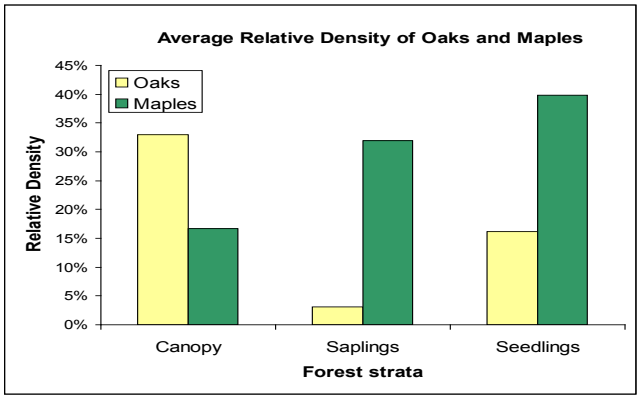
WHAT WE ARE FINDING

In general, forests in BLUE, GARI, and NERI are typical of other second-growth forests in the Appalachian Mountains. Some important highlights from the forest health monitoring include:

Collecting forest monitoring data in New River Gorge NR. Photo: J. Wiley.

Forest Composition

In the future, the parks' ridgetop forests will look different than they do today. Disproportionately fewer oaks occur in the forest understory when compared to the forest canopy (see figure below). This means that as large oaks die, they likely will be replaced by maples that are now common as saplings and seedlings. There are many birds, insects, and mammals dependent on oak trees that would be affected by this shift in forest composition.



Tree species distribution among forest strata in BLUE, GARI, and NERI.

Exotic Invasive Species

An exotic invasive species is a plant or animal that is not native to the parks and has negative impacts on the parks' native flora and fauna when introduced. Currently in BLUE, GARI, and NERI, invasive exotic plant species are relatively uncommon, and many harmful exotic forest insects and diseases are rare or absent. These findings are good news for the condition of the parks' forests. It is important to keep exotic invasive species out of the parks by:

- Educating park visitors about invasive species and how they are transported;
- Detecting occurrences of new invasive species when they are brought to the parks, and quickly eliminating them; and
- Managing small populations of new invasive species before they spread to other areas of the parks.

CONTACT INFORMATION

Stephanie Perles, Plant Ecologist
Stephanie_Perles@nps.gov

Eastern Rivers and Mountains Network