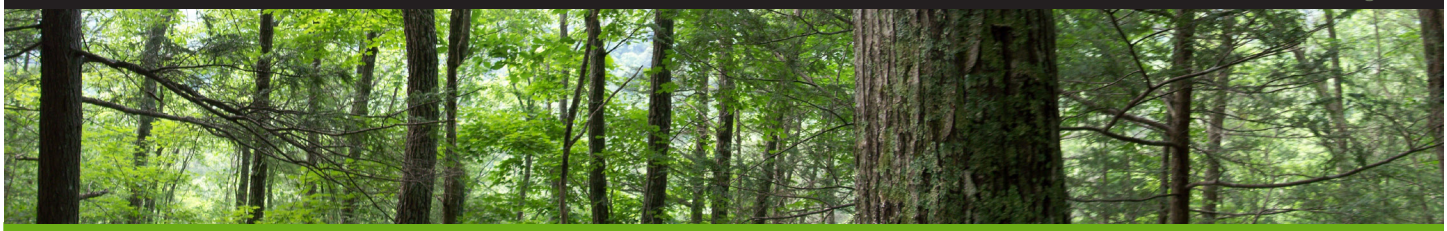
Forest Vegetation
2009 RESOURCE BRIEF

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

Eastern Rivers and Mountains Network
Inventory & Monitoring Program



Allegheny Portage Railroad National Historic Site

IMPORTANCE

The majority of Allegheny Portage Railroad National Historic Site (ALPO) is forested, and these forests are critical park resources that provide many important functions. Forests in ALPO 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 ALPO's 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. By the end of 2010, all 20 permanent monitoring plots will be established in ALPO. Data will be collected from 5 plots every year, such that each plot will be visited every 5 years.

WHAT WE ARE FINDING

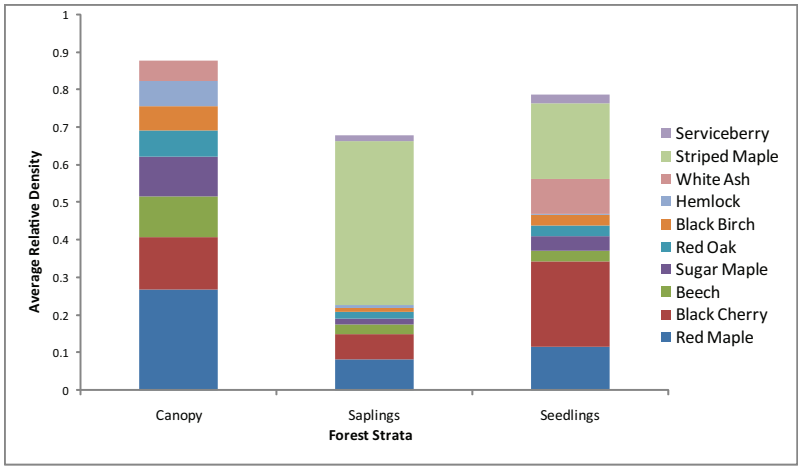
In general, forests in ALPO are typical of other second-growth forests in the Appalachian Mountains. Some important highlights from the forest health monitoring results include:

Collecting forest monitoring data in ALPO. Photo: S. Perles.

Exotic Invasive Species

Throughout most of the park, the plants and shrubs found on the forest floor are native to Pennsylvania. Exotic invasive plant species are relatively uncommon in most of ALPO's forests; they tend to be clumped in a few disturbed areas. In addition, many harmful forest pests and pathogens are absent or rare in ALPO. These findings are good news for the condition of the park's forests and suggest that management goals should be focused on maintaining this good condition. It is important to mitigate threats to park resources from invasive species by:

- Managing areas with invasive exotic species;
- Detecting and eliminating new occurrences of new invasive species introduced to the park; and
- Working with partners to encourage research on treatments of invasive species within the park.



Relative density of tree species among forest strata in ALPO.

Forest Composition

Striped maple is disproportionately abundant in the sapling and seedling layers when compared to the diversity of tree species in the forest canopy (see figure above). This means that as large trees die, they likely will be replaced by striped maple. This future canopy will be less diverse, since it will contain mostly striped maple trees. Any management of striped maple at ALPO should be conducted as a targeted pilot study from which more information on the effects of different management strategies can be learned.

CONTACT INFORMATION

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