



Seeing the Forest for the Trees (and Snags)

Results of Annual Forest Health Survey for Saratoga National Historical Park

Background

Forests of the northeast have a long history of resiliency and recovery. Ice ages, weather events, large scale clearing, and introduction of pests and invasive species have all played significant roles in shaping the forest communities we have around us today.

Long-term health of the forests of Northeast Temperate Network (NETN) parks is a high-priority for the network. The goals of the forest monitoring program are to assess status and trends in the composition, structure, and function of forested ecosystems, and to interpret and report the condition of forest systems in a way that effectively informs park managers and other stakeholders.

Purpose and Scope

To aid in reporting data in a clear and useful way, NETN developed the Ecological Integrity Scorecard, which interprets the condition of forested ecosystems by

assessing a range of ecological components in relation to their natural or historical conditions.

Integrity is ranked in one of three categories: Good, Caution and Significant Concern. “Good” represents acceptable or expected conditions; “Caution” indicates a problem may exist; and “Significant Concern” indicates undesired conditions that may need management action. It is important to note that “ecological integrity” may not be the primary goal of natural resource management at all network parks, particularly at historical parks and sites where cultural resource management may take precedence. However, being able to compare the condition of park resources to ecological integrity benchmarks is valuable because it provides a deeper understanding of park condition, as well as a consistent baseline for assessment of management goals.

Results and Findings

Tree species composition at Saratoga is typical of the forests in the northeastern U.S. that regenerated from old fields following agricultural abandonment. These areas tend to be dominated by white pine, red maple, and white ash. Density of seedlings less than 1 meter tall is relatively high, and is dominated by ash species (primarily white ash). Other important canopy species such as oak and hickory are underrepresented as seedlings and saplings. If this pattern continues, the resulting future forest may become even more dominated by ash and red maple, and have a smaller component oak and hickory species. White pine is also underrepresented in the regeneration layer as compared to the canopy; this is to be expected as successional forests at this park mature.

Dead wood, in the form of standing dead trees (snags) and fallen coarse woody debris (CWD), is an important structural feature of forests that provides habitat for a wide variety of species. Logging and hazard tree removal can reduce the quantity or quality of these features, but strategic land management can maintain or enhance snags and CWD. The forest plots of Saratoga rated as Significant Concern for snag abundance and Caution for CWD.



Saratoga forest near Schuylerville. NPS photo.

More Information

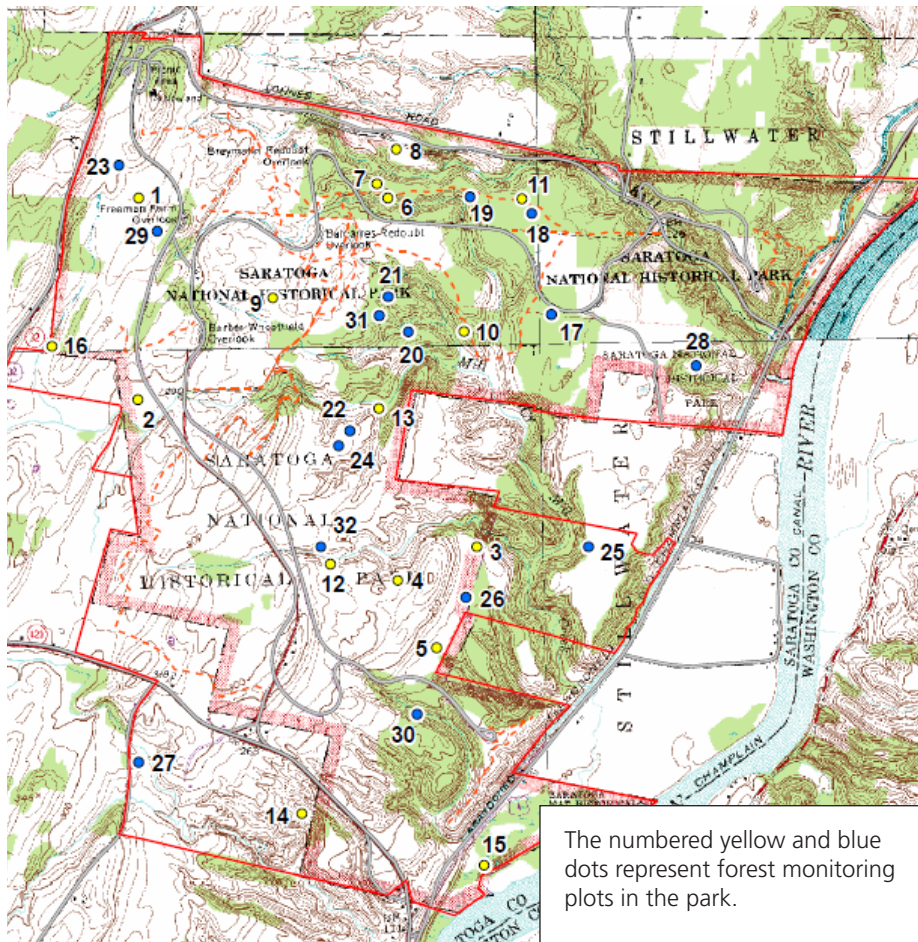
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<http://science.nature.nps.gov/im/units/NETN/monitor/monitor.cfm>



The numbered yellow and blue dots represent forest monitoring plots in the park.



Species Spotlight: Red Maple

Red Maple (*Acer rubrum*), also known as Swamp or Soft Maple, is one of the most common and widespread deciduous trees of eastern North America. Many of its features, especially its leaves, are quite variable in form. Not the tallest of trees in the

northwoods, at maturity it can attain a height of around 50 ft. The tree is aptly named as its flowers, petioles, twigs and seeds are all red to varying degrees, and of course some red maples turn a brilliant scarlet red in autumn. Early settlers even made red dye and ink by boiling its bark.

Over most of its range, red maple is adaptable to a very wide range of site conditions, perhaps more so than any other tree in eastern North America. While not as shade tolerant as its cousin the sugar maple, it is much less picky about where it takes up root. It can be found growing in swamps, on poor dry soils, and most anywhere in between. Elevation is also not a limiting factor in its range, as it grows well from sea

level to about 3,000 ft. Due to its attractive fall foliage and pleasing form, it is often used as a shade tree by landscape designers.

Its seeds are also lighter than sugar maples allowing them to travel farther and find recently disturbed sites or forest fringes.

Red maples are among the first trees to flower in the spring, often with snow still clinging to the ground. Their range and growing traits are why it was chosen as a key species to track for NETN's phenology monitoring program.



Benny Mazur photo.



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