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Birding by Ear

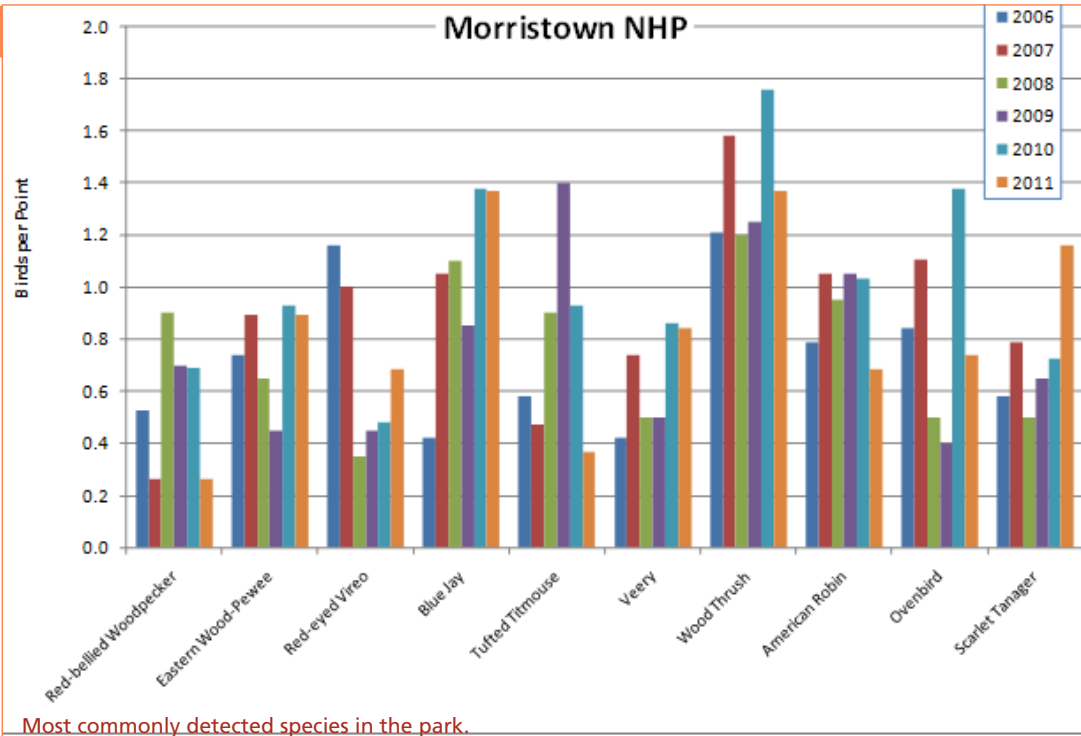
Annual volunteer landbird survey results for Morristown NHP

Background

The Northeast Temperate Network (NETN) monitors a variety of natural resource indicators, called vital signs, for 12 parks in the northeast and the Appalachian National Scenic Trail. Breeding birds are one of these vital signs because they are a reliable indicator of ecological integrity and a high profile taxonomic group. 2011 marked the sixth year of continual landbird monitoring in the forests of Morristown NHS and many other network parks. NETN and the Vermont Center for Ecostudies accomplished this only with the invaluable help of volunteer birders who crawled out of bed at ungodly early hours, endured hordes of biting mosquitoes and black flies, and contributed their time, efforts, and expert birding skills.

On a broad scale, all 13 NETN parks are located within the temperate deciduous forest biome. At a more refined level, the parks range across four Bird Conservation Regions (BCR) with this park lying in the Appalachian Mountains BCR. BCR's, developed by the North American Bird Conservation Initiative, are ecologically defined areas that provide a consistent framework for bird conservation across North America. Each BCR has its own unique list of "priority" species ranked by conservation importance according to a standardized set of criteria.

A recently published NETN report summarizes data collected from 2006 through 2011. In an attempt



Most commonly detected species in the park.

to better characterize the bird community at each park, the assessment results presented for each park were produced by combining data from all survey years (up to 6 years of data). In the future, project organizers plan to work with park managers to produce a parallel assessment based on park management goals.

Methods

A total of 29 point counts in three study sites were established in 2006 at Morristown National Historical Park. Two of the sites have 10 point count locations each, and the other has seven. Two of the sites have been surveyed for 4 years and one site for 5, for a park-wide coverage rate of 72%. In 2011, Primrose Brook was not surveyed for the first time since 2006. A volunteer birder visits each point at least once between late May and June, and records the species of each individual detected, the time each individual is first detected, and the distance band within which each individual was first detected (0-10 m, 10-25 m, 25-50 m, and > 50 m).

To get a "bird's eye" view of all the park's sites, visit the Google Earth Park Maps web page (accessible through the leftmost suite of menu choices on NETN's homepage), which also contains bird monitoring routes, Avian Ecological Integrity Assessments and species detection frequencies for all participating NETN park units.



Red-bellied Woodpeckers use their long tongues to lap up ants and other insects. Ken Thomas photo.

Acadian Flycatcher	Great Horned Owl
American Crow	Hairy Woodpecker
American Goldfinch	Hooded Warbler
American Redstart	House Wren
American Robin	Indigo Bunting
Baltimore Oriole	Kentucky Warbler
Barred Owl	Louisiana Waterthrush
Black-and-white Warbler	Mourning Dove
Black-capped Chickadee	Northern Cardinal
Blackpoll Warbler	Northern Flicker
Blue Jay	Ovenbird
Blue-gray Gnatcatcher	Pileated Woodpecker
Blue-headed Vireo	Red-bellied Woodpecker
Brown-headed Cowbird	Red-eyed Vireo
Canada Warbler	Red-tailed Hawk
Carolina Wren	Rose-breasted Grosbeak
Cedar Waxwing	Scarlet Tanager
Cerulean Warbler	Song Sparrow
Chipping Sparrow	Swainson's Thrush
Common Yellowthroat	Tufted Titmouse
Downy Woodpecker	Turkey Vulture
Eastern Bluebird	Veery
Eastern Phoebe	White-breasted Nuthatch
Eastern Towhee	Wild Turkey
Eastern Wood-Pewee	Wood Thrush
Fish Crow	Worm-eating Warbler
Gray Catbird	Yellow-billed Cuckoo
Great Crested Flycatcher	Yellow-throated Vireo

All species that have been detected during initial point count surveys in the park since 2006.

The avian ecological integrity assessment is based on groups of bird species that require similar habitat, food, or other elements for their health and survival. Over time, it will help shed light on changes in a broader, landscape context and indicate the direction that breeding bird habitat at the park may be going. For forest breeding birds, a rank of Good, Caution, or Significant Concern is assigned based on species richness thresholds and ranks. “Good” represents acceptable or desired conditions; “Caution” indicates a problem may exist; “Significant concern” indicates undesired conditions that may be in need of management actions. Project organizers recognize that the assessment is based on ecological criteria, and that park management goals may not always seek to attain “ecological integrity.” In the future, a management assessment may be developed by park staff and NETN scientists that could reflect progress towards avian and ecological management goals for individual parks. For more information about the Avian Ecological Integrity Assessment, as well as project methodologies, sampling scheme, etc., see the Breeding Landbird Monitoring Protocol available on NETN’s website.

Results and Findings

During 2011 surveys, observers detected a total of 435 birds representing 39 species, including one species (Eastern Screech Owl) that has only been detected on a repeat survey, and two (Baltimore Oriole and Yellow-Billed Cuckoo) that had been previously found but in 2011 were only detected on a repeat survey. Volunteers added four other species not previously detected (Barred Owl, Common Yellowthroat, Song Sparrow, and American Goldfinch). A total of 57 species have been recorded during the 6 survey years.

Average abundance during the first site visit was 12.58 birds per point, slightly above the 6-year average. Of the ten most commonly detected species across all years, the relative abundances of only two increased over 2010, while the relative abundances of four species in 2011 were above the 6-year average. A total of eleven species of regional conservation concern have been detected during the 6 survey years, including three species (Eastern Wood-Pewee, Wood Thrush, and Eastern Towhee) that were detected in all 6 years. In addition, Eastern Wood-Pewee and Wood Thrush were among the 10 most abundant species detected. A list of species detected during initial point counts is shown at left. Relative abundances and other summary statistics from the first survey of each point are provided in the full report.

The park-wide forest avian ecological integrity assessment for all years combined at the park resulted in five categories ranked as “Good,” seven ranked as “Caution,” and one ranked as “Significant Concern”. This is an improvement over what was reported last year due to a change in the methods for calculating the ecological integrity assessment. While the “Significant Concern” metric was for shrub nesters (as it was in 2010), guilds within the structural and functional metrics were dominated by “Caution” ranks or “Good” ranks that are close to the threshold for “Caution”. This could be related to the low structural diversity throughout much of the park; the legacy of a high deer population which has resulted in very limited forest regeneration. The assessment has been calculated for each site and the results are available in the full report.

More Information

Steve Faccio
Project Lead Scientist

E-mail
sfaccio@vtcostudies.org

Brian Mitchell
NETN Program Manager

Phone/E-mail
802-457-3368 ext. 37
brian_mitchell@nps.gov

Full Report online at:
<http://science.nature.nps.gov/im/units/NETN/index.cfm>



Northeast Temperate Network
54 Elm Street, Woodstock, Vermont 05091
802-457-3368
<http://www.science.nature.nps.gov/im/units/netn/>

