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MORRISTOWN NHP • ROOSEVELT-VANDERBILT NHS • SAINT-GAUDENS NHS • SAUGUS IRON WORKS NHS • SARATOGA NHP • WEIR FARM NHS

# Spring Bird Monitoring with Sight and Song

## Annual volunteer landbird survey results for Marsh-Billings-Rockefeller NHP

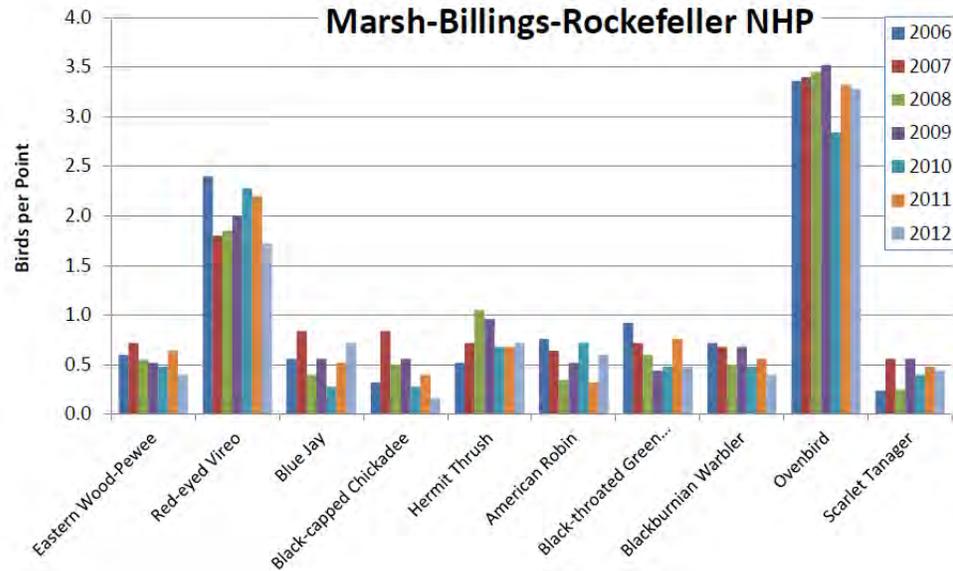
### Background

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. 2012 marked the seventh year of continual landbird monitoring in the forests of Marsh-Billings-Rockefeller NHP 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 Atlantic Northern Forest 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 2012. In an attempt 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

The almost incessant "Here I am, where are you?" song of the Red-eyed Vireo is a familiar sound in the park's forest. Jerry Oldenettel photo.



Most commonly detected species in the park.

(up to 7 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

Three forested study sites were established at Marsh-Billings-Rockefeller National Historical Park and have been surveyed annually since 2006. Two of the sites consist of 10 point count locations each, and the other has five point count locations. Volunteer birders visit each point at least once per year between late May and June, and record the species of each individual bird as well as the time and distance away when they were first detected.

One way in which the health of the park's bird community is measured is through the Avian Ecological Integrity Assessment. This 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

American Crow	Golden-crowned Kinglet
American Goldfinch	Great Crested Flycatcher
American Redstart	Hairy Woodpecker
American Robin	Hermit Thrush
Baltimore Oriole	Indigo Bunting
Barred Owl	Least Flycatcher
Belted Kingfisher	Louisiana Waterthrush
Black-and-white Warbler	Mourning Dove
Blackburnian Warbler	Mourning Warbler
Black-capped Chickadee	Nashville Warbler
Black-throated Blue Warbler	Northern Flicker
Black-throated Green Warbler	Ovenbird
Blue Jay	Pileated Woodpecker
Blue-headed Vireo	Pine Warbler
Bobolink	Purple Finch
Broad-winged Hawk	Red-breasted Nuthatch
Brown Creeper	Red-eyed Vireo
Brown-headed Cowbird	Red-winged Blackbird
Cedar Waxwing	Rose-breasted Grosbeak
Chestnut-sided Warbler	Scarlet Tanager
Chimney Swift	Song Sparrow
Chipping Sparrow	Tufted Titmouse
Common Grackle	Veery
Common Raven	White-breasted Nuthatch
Common Yellowthroat	Wild Turkey
Dark-eyed Junco	Winter Wren
Downy Woodpecker	Wood Thrush
Eastern Kingbird	Yellow-bellied Sapsucker
Eastern Wood-Pewee	Yellow-rumped Warbler

All species that have been detected in the park since 2006.

actions. Project organizers recognize that the assessment is based on ecological criteria, and that especially at historical parks, management goals may not always seek to attain “ecological integrity.” A management assessment could be developed by those parks and NETN scientists that would reflect progress towards avian and ecological management goals. 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 2012 surveys, observers detected a total of 368 birds representing 34 species, including three that were only detected on repeat surveys (Belted Kingfisher [which was detected for the first time], Yellow-rumped Warbler, and American Redstart). A total of 58 species have been recorded over the 7 years of monitoring. Average abundance during

the first site survey across all 7 years was 13.67 birds per point. In 2012, relative abundance (12.12 birds per point) and species richness declined from 2011. Of the ten most commonly detected species across all years, the relative abundances of three species (Blue Jay, Hermit Thrush, and American Robin) increased over 2011, while the relative abundance of just three species (Blue Jay, American Robin, and Scarlet Tanager) were above the 7-year average. Ovenbird and Red-eyed Vireo continue to be the most abundant species detected. Three species of regional or USA/Canada conservation concern were detected during point count surveys in 2012: Eastern Wood-Pewee, Wood Thrush, and Scarlet Tanager (all of which have been detected every year). A list of species, their relative abundances, and other summary statistics are provided in the full report.

The park-wide forest avian ecological integrity assessment for all years combined at the park resulted in seven categories ranked as “Good,” six ranked as “Caution,” and none ranked as “Significant Concern.” This represents no change from the 2011 results. It should be noted that four of the guilds that were ranked as “Caution” (“Low Canopy Forager,” “Omnivore,” “Forest-ground Nester,” and “Shrub Nester”) were again less than three percentage points away from a “Good” rating, suggesting that the forest bird community is doing well in the park. The assessment has also been calculated for each site, individually, and these results are provided full report.

## More Information

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.

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Full Report online at:  
<https://irma.nps.gov/App/Reference/Profile/2194186>

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



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