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Birding by Ear

Annual volunteer landbird survey results for Vanderbilt Mansion NHS

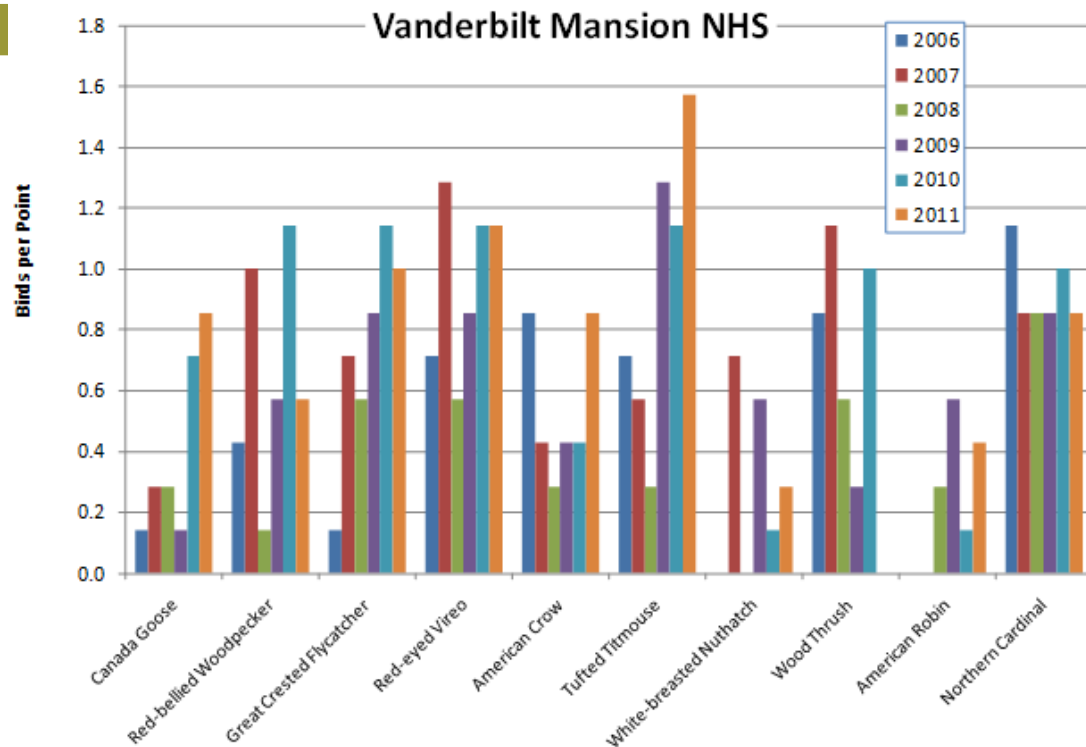
Background

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 Vanderbilt Mansion 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 Vanderbilt Mansion NHS lying in the Lower Great Lakes/St. Lawrence Plains BCR. BCR's, developed by the North American Bird Conservation Initiative, are ecologically defined areas that provide a consistent framework for bird



Many Great Crested Flycatcher nests contain shed snakeskin. Other crinkly materials, such as plastic wrappers, cellophane, and onion skin, are sometimes used as well. Amy Evenstad photo.



Most commonly detected species in the park.

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 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

One study site with seven point counts was established at Vanderbilt Mansion NHS (one of the Roosevelt-Vanderbilt National Historic Sites) and surveyed annually 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).

American Crow	House Wren
American Redstart	Indigo Bunting
American Robin	Louisiana Waterthrush
Barred Owl	Mallard
Black-billed Cuckoo	Mourning Dove
Blue Jay	Northern Cardinal
Canada Goose	Northern Flicker
Carolina Wren	Ovenbird
Chipping Sparrow	Pileated Woodpecker
Common Yellowthroat	Red-bellied Woodpecker
Downy Woodpecker	Red-eyed Vireo
Eastern Bluebird	Rose-breasted Grosbeak
Eastern Phoebe	Scarlet Tanager
Eastern Wood-Pewee	Tufted Titmouse
Fish Crow	White-breasted Nuthatch
Great Crested Flycatcher	Wood Thrush
Hairy Woodpecker	Worm-eating Warbler

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

To get a “bird’s eye” view of the park’s site, 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.

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

Fifty-seven individual birds of 12 species were detected in 2011, including the first detection of a Louisiana Waterthrush in the survey’s 6-year history. In total, 34 species have been recorded, with an average abundance of 8.21 birds per point. In 2011, relative abundance decreased to 8.14 birds per point from 2010’s 9.29 birds per point, and species richness dropped to the lowest yet recorded. Among the 10 most commonly detected species across all years, the relative abundances of four declined from 2010, and the relative abundances of three species in 2011 were below the 6-year average. Four species of conservation concern (Black-billed Cuckoo, Eastern Wood-Pewee, Wood Thrush, and Worm-Eating Warbler) have been detected during the 6-survey years. A list of species detected during initial point counts is shown at left. Relative abundances and other summary statistics are provided in the full report. Great Crested Flycatcher, Red-Eyed Vireo, Tufted Titmouse, and Northern Cardinal were the most commonly detected species.

The park-wide forest avian ecological integrity assessment for all years combined at the park resulted in five categories ranked as “Good,” four ranked as “Caution,” and four ranked as “Significant Concern”. Guilds within the structural category earned no “Good” rankings, while “Significant Concern” ratings for metrics measuring abundance of canopy and single brooded species are indicative of the park’s location within a fragmented landscape.

More Information

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



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