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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

2012 annual volunteer landbird survey results for Weir Farm NHS

Background

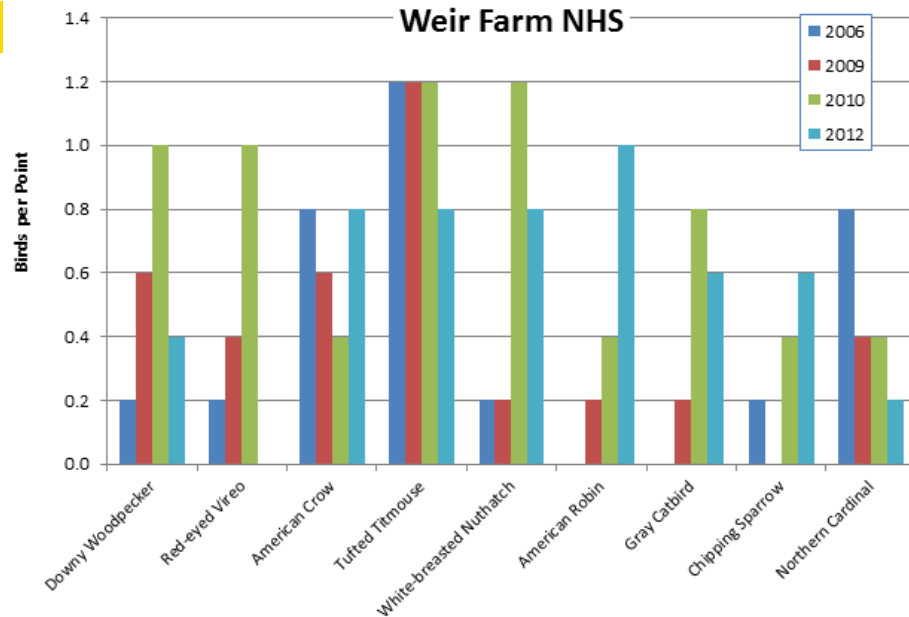
The Northeast Temperate Network (NETN) monitors a variety of natural resource indicators, called vital signs, for 12 parks in the northeast and the Appalachian National Scenic Trail. Breeding birds are one of these vital signs because they are a reliable indicator of ecological integrity and a high profile taxonomic group. 2012 was the fourth year of landbird monitoring in the forests of Weir Farm NHS. NETN and the Vermont Center for Ecostudies are able to maintain this bird monitoring program only with the invaluable help of volunteer birders who crawl out of bed at ungodly early hours, endure hordes of biting mosquitoes and black flies, and contribute their time, efforts, and expert birding skills each season.

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 Weir Farm lying in the Southern New England/Mid-Atlantic Coast BCR. BCR's, developed by the North American

Bird Conservation Initiative, are ecologically defined areas that provide a consistent framework for bird



Yellow Warblers are frequently parasitized by the Brown-headed Cowbird, and it sometimes builds a new nest directly on top of the parasitized one, resulting in nests that can have up to six tiers. Kelly Colgan Azar 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 at all participating NETN parks from 2006 through 2012. In an attempt to better characterize the bird community at each park, the assessment results presented were produced by combining data from all survey years (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

Five point count stations were established at Weir Farm National Historic Site in 2006. Two annual surveys have been conducted in 2006, 2009, 2010, and 2012. A volunteer birder visits each point at least twice per year between late May and June, and records 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

American Crow	House Wren
American Goldfinch	Louisiana Waterthrush
American Redstart	Mourning Dove
American Robin	Northern Cardinal
Baltimore Oriole	Northern Flicker
Black-capped Chickadee	Ovenbird
Black-throated Green Warbler	Red-bellied Woodpecker
Blackpoll Warbler	Red-eyed Vireo
Blue Jay	Red-tailed Hawk
Carolina Wren	Red-shouldered Hawk
Chipping Sparrow	Red-winged Blackbird
Common Grackle	Scarlet Tanager
Common Yellowthroat	Song Sparrow
Downy Woodpecker	Tufted Titmouse
Eastern Bluebird	Warbling Vireo
Eastern Phoebe	White-breasted Nuthatch
Eastern Wood-Pewee	Wood Thrush
Gray Catbird	Yellow-billed Cuckoo
Great Crested Flycatcher	Yellow-throated Vireo
Hairy Woodpecker	Yellow Warbler

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

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

A total of 79 individual birds of 21 species were detected in 2012, including two species that were detected for the first time during monitoring at the park (Hairy Woodpecker and Yellow Warbler) and three species that were only detected on the second survey (Black-capped Chickadee, Common Grackle, and Mourning Dove). In total, 40 species have been recorded (including five that were only detected on repeat surveys: Black-throated Green Warbler, Common

Yellowthroat, Eastern Bluebird, Louisiana Waterthrush, and Yellow-billed Cuckoo), with an average abundance of 7.70 birds per point. In 2012, relative abundance decreased to 7.60 birds per point from 2010 (10.6 birds per point), and species richness decreased by one. Among the 10 most commonly detected species across all years, the relative abundances of three increased from 2010, and the relative abundances of half were above the 4-year average. Although five species of USA/Canada conservation concern (Eastern Wood-Pewee, Yellow-throated Vireo, Wood Thrush, Scarlet Tanager, and Baltimore Oriole) have been detected during the 4-survey years, only Eastern Wood-Pewee and Wood Thrush were detected in 2012. 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 in the park resulted in four categories ranked as “Good,” six ranked as “Caution,” and three ranked as “Significant Concern”. This represents no change from the 2010 assessment. Once again, guilds within the structural category earned no “Good” rankings, while “Significant Concern” ratings reflected low abundance of canopy and single brooded species, and high abundance of shrub nesting species, indicative of the park’s location within a suburban, fragmented landscape.

More Information

To get a “bird’s eye” view of all the park’s monitoring 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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