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Spring Bird Monitoring by Sight and Song

Annual volunteer landbird survey results for Eleanor Roosevelt NHS

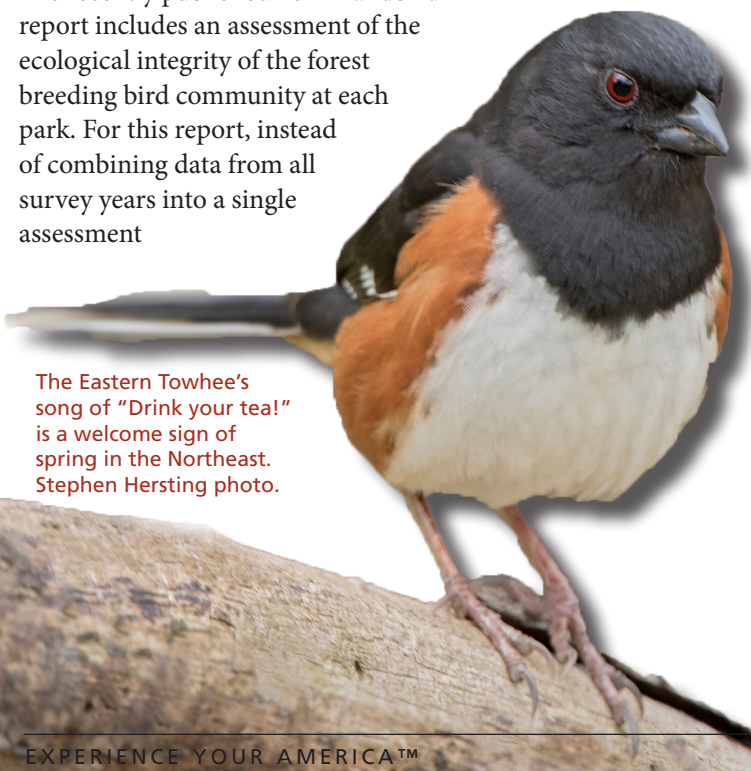
Background

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. 2014 was the 9th year of continual landbird monitoring in the forests of Eleanor Roosevelt 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.

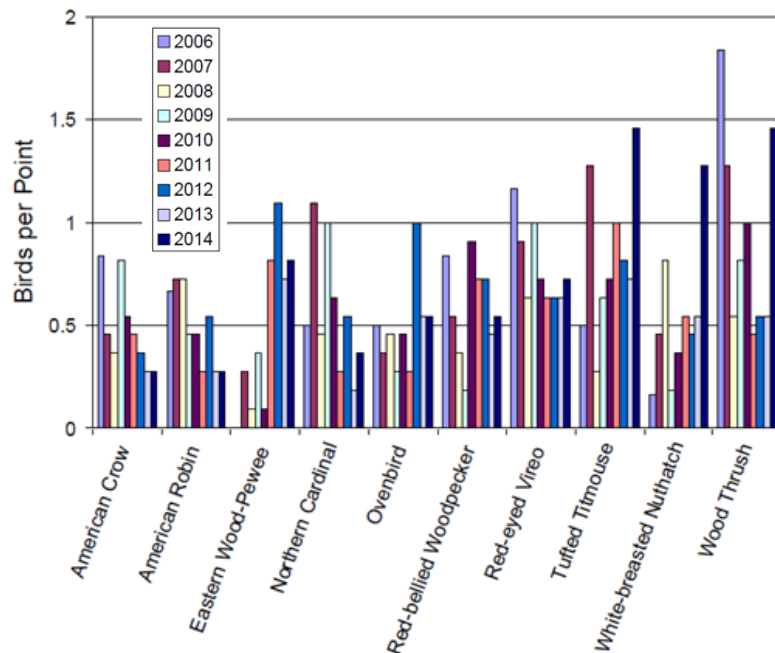
On a broad scale, all 13 NETN parks are located within the temperate deciduous forest biome. At a more refined level, the parks range across four Bird Conservation Regions (BCR) with this park lying in the Lower Great Lakes/St. Lawrence Plain BCR. BCRs, developed by the North American Bird Conservation 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.

Methods

The recently published 2014 Landbird report includes an assessment of the ecological integrity of the forest breeding bird community at each park. For this report, instead of combining data from all survey years into a single assessment



The Eastern Towhee's song of “Drink your tea!” is a welcome sign of spring in the Northeast. Stephen Hersting photo.



Most commonly detected species in the park's forests.

for the park, they were split into two time periods (2006-2009 and 2010-2014) to compare changes over time. The ecological integrity assessments are based on groups of bird species that require similar habitat, food, or other elements for their survival. Over time, these assessments will help to shed light on changes in a broad landscape context and indicate the direction that breeding bird habitat may be going (from “highly disturbed” to “pristine”).

The forest avian ecological integrity assessment consists of 13 guilds in three ecological integrity categories, with each guild being broadly categorized as “specialist” or “generalist.” A specialist is a bird species with very specific habitat needs, or one that has a low rate of population growth. If there are a relatively wide variety of specialist guilds in a park, this indicates a high-integrity habitat condition usually associated with large areas of mature forest. On the other hand, a dominance of generalist species indicates a low-integrity condition. The integrity categories are compositional (indicating species diversity), functional (highlighting ecological processes), and structural (related to the presence of important physical elements, such as tree snags and a shrub layer).

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” suggests a problem may exist; “Significant concern” indicates undesired conditions that may be in need of management actions. Project organizers recognize that the

American Crow	House Wren
American Goldfinch	Indigo Bunting
American Robin	Louisiana Waterthrush
Baltimore Oriole	Mourning Dove
Barred Owl	Northern Cardinal
Black-and-white Warbler	Northern Flicker
Black-capped Chickadee	Northern Mockingbird
Black-throated Green Warbler	Ovenbird
Blue-gray Gnatcatcher	Pileated Woodpecker
Blue Jay	Prairie Warbler
Broad-winged Hawk	Red-bellied Woodpecker
Brown Creeper	Red-eyed Vireo
Brown-headed Cowbird	Red-shouldered Hawk
Canada Goose	Red-tailed Hawk
Carolina Wren	Red-winged Blackbird
Cedar Waxwing	Rose-breasted Grosbeak
Chimney Swift	Ruby-throated Hummingbird
Chipping Sparrow	Scarlet Tanager
Common Grackle	Song Sparrow
Common Yellowthroat	Tufted Titmouse
Cooper's Hawk	Veery
Downy Woodpecker	White-breasted Nuthatch
Eastern Bluebird	Wild Turkey
Eastern Phoebe	Wood Duck
Eastern Towhee	Wood Thrush
Eastern Wood-Pewee	Worm-eating Warbler
Gray Catbird	Yellow-billed Cuckoo
Great Crested Flycatcher	Yellow-throated Vireo
Hairy Woodpecker	

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

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 2014, a total of 162 individuals representing 35 species were detected, including three species that were detected for the first time (Black-throated Green Warbler, Broad-winged Hawk, and Eastern Towhee). In total, 57 species have been recorded during the 9 years, with an average abundance of 10.96 birds per point. In 2014, relative

abundance increased from 12.0 birds per point in 2013 to a record high 14.73 birds per point, while the number of species detected dropped slightly from 38 to 35. Among the 10 most commonly detected species across all years, the relative abundances of all 10 equaled or increased from 2013. A total of four species of regional or USA/Canada conservation concern were detected during 2014 surveys: Eastern Towhee, Eastern Wood-Pewee, Wood Thrush, and Prairie Warbler. A list of species, their relative abundances, and other summary statistics are provided in the full report. Red-eyed Vireo, Wood Thrush, and Tufted Titmouse continue to be the most commonly detected species across all years.

The forest avian ecological integrity assessment comparing the first 5 years of surveys in the park (2006-2010) to the last 4 years (2011-2014), resulted in changes to two categories. The Shrub Nester response guild dropped from "Caution" to "Significant Concern," while Low Canopy Foragers improved from "Significant Concern" to "Caution." Among those guilds that remained unchanged, only three were ranked as "Good" and two (Single Brooded and Canopy Nester) were ranked as "Significant Concern". A bird community with a low proportion of canopy nesting species, which includes birds that require a well-developed canopy layer, may be the result of the park's location within a fragmented landscape. The decline noted among shrub nesters may be indicative of poor structural diversity within the forest, possibly due to a deer over-browse problem. However, the significant increase among low canopy foragers, which includes birds that specialize in feeding within the forest sub-canopy, may suggest that conditions in the understory are beginning to improve.

More Information

To get a "bird's eye" view of all the park's monitoring 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.

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Full Report online at:
<https://irma.nps.gov/App/Reference/Profile/2220973>

NETN Breeding Landbird Webpage
<http://go.nps.gov/netn-birds>



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