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Birding by Ear

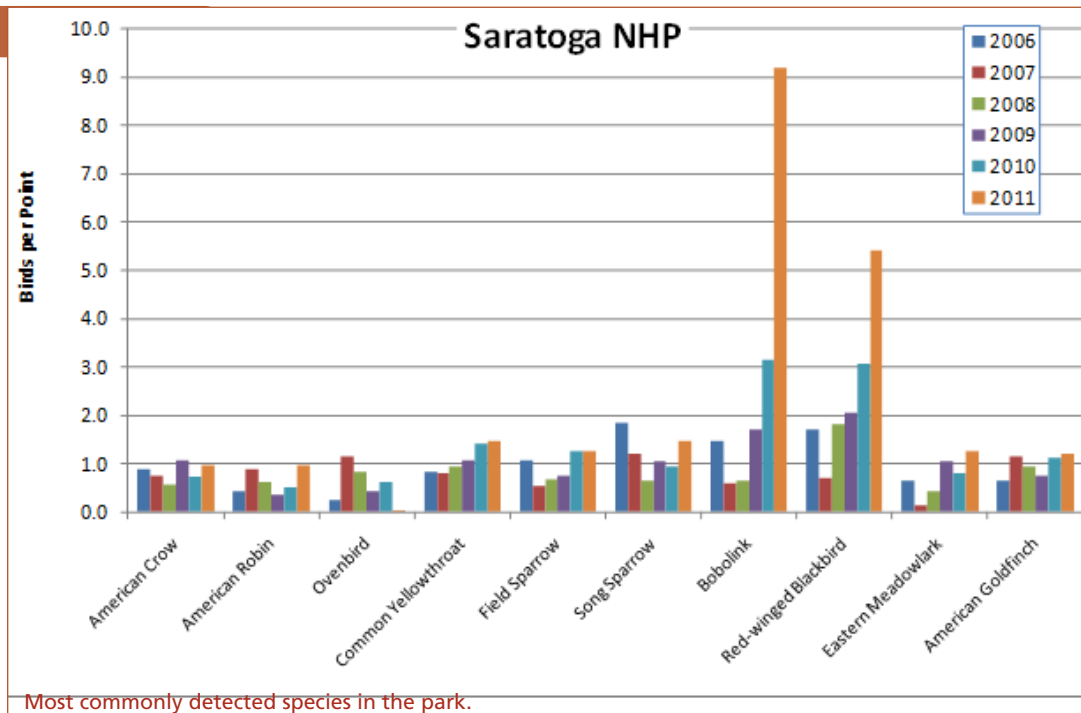
Annual volunteer landbird survey results for Saratoga NHP

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 Saratoga 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 Saratoga NHP lying in the Lower Great Lakes/St. Lawrence Plain BCR. BCR's, developed by the North American Bird

Field Sparrows often breed in old fields and build ground-based, open cup nests composed of interwoven grasses, and lined with rootlets and hair. Saratoga NHP provides this critical habitat which has drastically declined in the Northeast over the past century. Kelly Colgan Azar photo.



Most commonly detected species in the park.

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. Part of the results for each park is an avian ecological integrity assessment that is produced by combining data from all survey years at a given park (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 six study sites consisting of 51 point counts were established in 2006 and 2007 at Saratoga National Historical Park. 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). Point count surveys were initiated in 2006 when Wilkinson Trail Forest and all three grassland sites were sampled. However, because the observer at Wilkinson Trail was lacking at bird identification skills, the data



Acadian Flycatcher	House Wren
Alder Flycatcher	Indigo Bunting
American Crow	Least Flycatcher
American Goldfinch	Louisiana Waterthrush
American Kestrel	Mourning Dove
American Redstart	Northern Bobwhite
American Robin	Northern Cardinal
American Woodcock	Northern Flicker
Baltimore Oriole	Northern Harrier
Barn Swallow	Northern Mockingbird
Black-and-white Warbler	Northern Waterthrush
Black-billed Cuckoo	Orchard Oriole
Black-capped Chickadee	Ovenbird
Blue Jay	Pileated Woodpecker
Blue-gray Gnatcatcher	Prairie Warbler
Blue-winged Warbler	Purple Finch
Bobolink	Red-bellied Woodpecker
Brown Creeper	Red-breasted Nuthatch
Brown Thrasher	Red-eyed Vireo
Brown-headed Cowbird	Red-tailed Hawk
Canada Goose	Red-winged Blackbird
Cedar Waxwing	Rose-breasted Grosbeak
Chestnut-sided Warbler	Ruby-throated Hummingbird
Chipping Sparrow	Savannah Sparrow
Common Grackle	Scarlet Tanager
Common Raven	Sharp-shinned Hawk
Common Yellowthroat	Song Sparrow
Cooper's Hawk	Tree Swallow
Downy Woodpecker	Tufted Titmouse
Eastern Bluebird	Turkey Vulture
Eastern Kingbird	Veery
Eastern Meadowlark	Vesper Sparrow
Eastern Phoebe	Warbling Vireo
Eastern Towhee	White-breasted Nuthatch
Eastern Wood-Pewee	Willow Flycatcher
European Starling	Winter Wren
Field Sparrow	Wood Thrush
Golden-winged Warbler	Yellow Warbler
Gray Catbird	Yellow-bellied Sapsucker
Great Blue Heron	Yellow-billed Cuckoo
Great Crested Flycatcher	Yellow-rumped Warbler
Hairy Woodpecker	Yellow-throated Vireo
Hermit Thrush	

All species that have been detected during initial point count surveys in the park since 2007.

from 2006 were not used (previous reports had included these data). Since 2007, the first year that all six study sites were available to be surveyed, 100 percent coverage was only achieved in 2008. Overall, 73% of point count locations have been surveyed each year at Saratoga. In 2011, all three grassland sites were surveyed, while the Bemis Heights Forest site was only partially completed due to extremely dense vegetation which prevented the volunteer observer from locating several point count locations. Due to the dense vegetation, along with hazards pointed out by the park Resource Manager, the Bemis Heights study site has been discontinued. A new forest site has been established in the northwest corner of the park and will be surveyed in the next field season.

To get a “bird’s eye” view of all of Saratoga’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.

The avian ecological integrity assessment for forest and grassland breeding bird communities 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. 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 at 27 point counts, observers detected a total of 857 individual birds representing 53 species, including a Sharp-shinned Hawk (a new detection for the park). During the 6 survey years a total of 4,139 individual birds representing a NETN high of 85 species having been detected, with a mean abundance of 20.59 birds per point. During 2011, relative abundance was the highest in the survey’s history (31.7 birds per point), while species richness declined from 2010 (59 species) to

53 species. Of the 10 most commonly detected species across all years, the relative abundances of only two declined from 2010, while the relative abundance of only one species (the Ovenbird) in 2011 was below the 6-year mean (this was not unexpected since only two point counts were conducted in forested habitat in 2011). Eight species of conservation concern have been recorded during the surveys (Black-Billed Cuckoo, Eastern Wood-Pewee, Wood Thrush, Blue-winged Warbler, Golden-winged Warbler, Eastern Towhee, Field Sparrow, and Baltimore Oriole). A list of species of birds detected during initial point counts is provided on the previous page. Relative abundances, and other summary statistics are provided in the full report.

The park-wide forest avian ecological integrity assessment for all years combined remained unchanged from 2010, with five categories ranked as “Good,” five ranked as “Caution,” and three ranked as “Significant Concern”. With the exception of single brooded (which again earned a “Caution” rating), compositional metrics were rated “Good,” while structural and functional metrics were dominated by “Caution” or “Significant Concern.” These results indicate that the forest bird community at this historic battlefield dominated park may be affected by the generally fragmented landscape consisting of small forest blocks broken up by fields and early successional habitats. The effects of deer on understory vegetation structure is also likely having an impact. The forest avian ecological integrity assessment has been

calculated for each forest site, and the results are available in the full report.

The grassland avian ecological integrity assessment also remained unchanged from 2010, with one good, two “Caution”, and one “Significant Concern” rating. This community is considered a high priority in the region, and project organizers encourage the park to continue its efforts to manage grassland habitat to support grassland species.

More Information

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

Saratoga NHP is dominated by large expanses of open fields that preserve historic battle sites as well as provide critical grassland habitat for many bird species. Diana Cordell photo.



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