



Mid-Atlantic Network

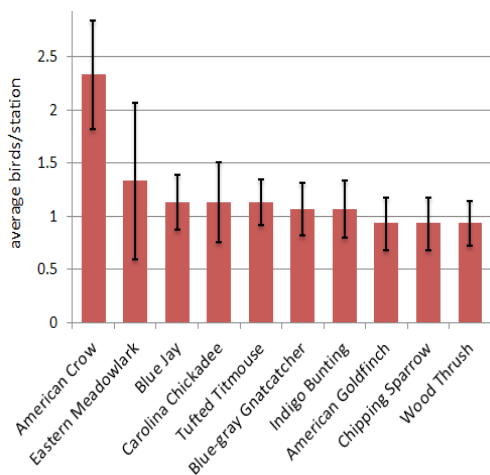
Breeding Bird Resource Brief



Eastern Phoebe

Booker T. Washington National Monument 2013 Status & Trends

A total of 15 bird monitoring stations were surveyed at Booker T. Washington NM, including 11 stations in forested habitats and 4 in grassland habitats. Two volunteer birders from the local birding community conducted an average of 2.6 surveys per station, producing a total of 39 surveys for the season.



The 10 most commonly detected bird species at Booker T. Washington NM in 2013 and their associated relative abundance (average birds/station). Error bars indicate standard error, a measure of variation.

Between May and July, 656 birds of 59 species were detected throughout the park. Forested habitat had slightly higher species richness than grassland habitat with 51 species in forested habitats and 39 in grassland habitats.

A few species were detected this year that were not in previous monitoring years including the Belted Kingfisher, Broad-winged Hawk, and Common Raven. The American Crow had the highest relative abundance averaging 2.33 birds / station, and tied with the Blue Jay and Tufted Titmouse for most prevalent species occurring in 73.33% of the stations surveyed.

Volunteers detected 25 species considered to be of conservation concern by Partners in Flight (PIF). PIF distinguishes species of concern facing immediate threats as “watchlist” species. “Stewardship” species are representative of avifaunal biomes that may or may

Objectives

1. Determine annual changes and long-term trends in species composition and relative abundance.
2. Improve our understanding of relationships between breeding birds, habitats, and park management.

not be in immediate danger. Within the park, 13 watchlist species and 12 stewardship species were detected. Four species of concern, including 2 watchlist species (Eastern Meadowlark and Wood Thrush) and 2 stewardship species (Carolina Chickadee and Indigo Bunting), were among the 10 most abundant species.

Avian guilds, or groups of species occupying similar ecological niches, can be utilized for assessing responses to environmental changes and ecosystem stressors via bird community assessments, or “indices” (BCIs). Based on a BCI developed for the Piedmont/Coastal Plain region, forested stations



Blue-gray Gnatcatcher

Importance

In the densely populated Mid-Atlantic region, birds face numerous threats including urbanization, habitat loss, and fragmentation. National parks provide refuge from such threats with contiguous and protected tracts of habitat suitable for breeding birds. These parks host species of continental concern and other species that are declining throughout their range.

Birds are also excellent barometers of ecosystem health due to their high metabolism and prominent position in the food web. Detecting changes in bird populations may help alert park staff to ecological stressors such as invasive species, overbrowsing, detrimental park management practices, or climate change and help guide future management actions.

Management Applications

- A total of 59 species were detected across the park, including 25 species of concern.
- The Eastern Meadowlark and Wood Thrush, watchlist species, were among the 10 most common species in the park.
- The park's forested stations maintained the highest ecological integrity rank measured using a Bird Community Index (BCI).

Long-term Monitoring

Between May and July of each year, volunteer birders conduct point counts at monitoring stations in forest and grassland habitats. Many stations in forested areas are located within 125 m of forest vegetation monitoring plots enabling park staff to associate long-term trends in vegetation with avian population trends.

During each 10-minute count, the volunteer records environmental

conditions, how the bird was detected (visually or aurally), and the distance and minute of first detection.

Each site is visited at least once, but volunteers are encouraged to make multiple visits in a season. Multiple visits are especially important for obtaining accurate density estimates as information on variability due to observers, weather, etc. can be accounted for.

Status & Trends Continued...

surveyed in the park maintained their ecological rank of "naturalistic," the highest rank available in the metric (see table below). All other guilds maintained their rank with the

exception of the pine associated and exotic guilds, which were one rank lower than in the previous year.

		2012		2013	
Guild		Percent	Rank	Percent	Rank
Structural	Forest Interior	35.60	Naturalistic	33.69	Naturalistic
	Pine Associated	2.08	Largely Intact	1.89	Moderately Disturbed
	Urban/Suburban	34.18	Largely Intact	39.66	Largely Intact
Functional	Bark Prober	16.80	Largely Intact	17.16	Largely Intact
	Ground Forager	6.57	Largely Intact	4.98	Largely Intact
	Upper Canopy Forager	22.78	Naturalistic	20.42	Naturalistic
Compositional	Nest Predator/Brood Parasite	12.69	Largely Intact	13.69	Largely Intact
	Single Brooded	51.42	Naturalistic	48.46	Naturalistic
	Exotic	0.00	Naturalistic	0.87	Largely Intact
Total BCI Score		0.86	Naturalistic	0.81	Naturalistic

Avian forest guild summary and Bird Community Index (BCI) score for 2012-2013. Values indicate the average percent guild membership at sampled monitoring stations. Total BCI scores range from 0-1 with 1 having the highest integrity. Ranks in descending order of ecological value are: Naturalistic, Largely Intact, Moderately Disturbed, and Humanistic.

A Final Note

It is important to note that the results presented in this brief are preliminary and are limited to areas sampled in the park. For more information on this protocol, please see the full annual report accessible from the protocol website linked below.

We'd like to thank all our volunteers for walking off the beaten path in the summer heat to count birds: Anne Tucker and Bill Tucker.



Lead Scientist
Mark J. Johnson
Mark_Johnson@nps.gov
Ecologist / Data Manager

Mid-Atlantic Network
120 Chatham Lane
Fredericksburg, VA 22405
<http://science.nps.gov/im/units/midn/monitor/birds.cfm>

Protocol Website:
More information and full annual reports may be found at
<http://science.nps.gov/im/units/midn/monitor/birds.cfm>

Photographs: Bill Tucker

Number of detections of Partners in Flight (PIF) watchlist and stewardship species and percent of stations with detections at Booker T. Washington NM in 2013. Detections exclude flyovers and incidental encounters.

References:

Johnson, M. J. 2014. Breeding bird monitoring: Mid-Atlantic Network 2013 summary report. Natural Resource Data Series NPS/MIDN/NRDS—2014/736. National Park Service, Fort Collins, Colorado.

Photographs: Bill Tucker

Species	Detections	% Occupied
Watchlist Species		
Broad-winged Hawk	1	6.7
Brown Thrasher	1	6.7
Brown-headed Nuthatch	6	20.0
Eastern Kingbird	3	13.3
Eastern Meadowlark	20	33.3
Eastern Towhee	7	26.7
Eastern Wood-Pewee	12	66.7
Field Sparrow	10	46.7
Grasshopper Sparrow	2	6.7
Northern Flicker	4	20.0
Prairie Warbler	1	6.7
Wood Thrush	14	66.7
Yellow-billed Cuckoo	1	6.7
Stewardship Species		
Acadian Flycatcher	10	33.3
Blue Grosbeak	1	6.7
Carolina Chickadee	17	53.3
Carolina Wren	12	60.0
Downy Woodpecker	9	40.0
Indigo Bunting	16	66.7
Northern Parula	1	6.7
Pileated Woodpecker	1	6.7
Pine Warbler	3	20.0
Red-bellied Woodpecker	5	33.3
Red-shouldered Hawk	-	-
Summer Tanager	1	6.7