



Mid-Atlantic Network

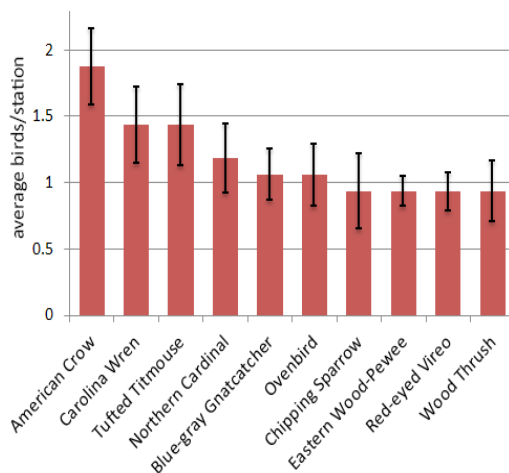
Breeding Bird Resource Brief



Downy Woodpecker

Booker T. Washington National Monument 2012 Status & Trends

A total of 16 bird monitoring stations were surveyed at Booker T. Washington NM, including 12 stations in forested habitats and 4 in grassland habitats. Four volunteer birders from the local birding community conducted an average of 3.0 surveys per station, producing a total of 48 surveys for the season.



The 10 most commonly detected bird species at Booker T. Washington NM in 2012 and their associated relative abundance (average birds/station). Error bars indicate standard error, a measure of variation.

Between May and July, 712 birds of 58 species were detected throughout the park. A few species were detected this year that were not in previous monitoring years including the Brown-headed Nuthatch, Gray Catbird, Song Sparrow, and Wild Turkey.

The 10 most abundant species were the American Crow, Carolina Wren, Tufted Titmouse, Northern Cardinal, Blue-gray Gnatcatcher, Ovenbird, Chipping Sparrow, Eastern Wood-Pewee, Red-eyed Vireo, and Wood Thrush. American Crows had the highest relative abundance averaging 1.88 birds / station, and were tied with the Carolina Wren and Eastern Wood-Pewee for most prevalent species occurring in 87.5% of the stations surveyed.

Volunteers detected 27 species considered to be of conservation concern by Partners in Flight (PIF). PIF distinguishes species of concern facing

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.

immediate threats as “watchlist” species. “Stewardship” species are representative of avifaunal biomes that may or may not be in immediate danger.

Within the park, 14 watchlist species and 13 stewardship species were detected (see table on back right). Three species of concern, including 2 watchlist species (Eastern Wood-Pewee and Wood Thrush) and 1 stewardship species (Carolina Wren), 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



Great Crested Flycatcher

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 58 species were detected across the park, including 27 species of concern.
- The Eastern Wood-Pewee 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...

stressors via bird community assessments, or "indices" (BCIs). Based on a BCI developed for the Piedmont/Coastal Plain region, forested stations 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 guild, which improved from last year.

		2011		2012	
Guild		Percent	Rank	Percent	Rank
Structural	Forest Interior	37.48	Naturalistic	35.60	Naturalistic
	Pine Associated	0.38	Moderately Disturbed	2.08	Largely Intact
	Urban/Suburban	33.57	Largely Intact	34.18	Largely Intact
Functional	Bark Prober	19.44	Largely Intact	16.80	Largely Intact
	Ground Forager	5.52	Largely Intact	6.57	Largely Intact
	Upper Canopy Forager	23.84	Naturalistic	22.78	Naturalistic
Compositional	Nest Predator/Brood Parasite	12.68	Largely Intact	12.69	Largely Intact
	Single Brooded	52.83	Naturalistic	51.42	Naturalistic
	Exotic	0.00	Naturalistic	0.00	Naturalistic
Total BCI Score		0.83	Naturalistic	0.86	Naturalistic

Avian forest guild summary and Bird Community Index (BCI) score for 2011-2012. Percents 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: Marshall Daniels, Tim Quinn, Anne Tucker, and Bill Tucker.

Species	Detections	% Occupied
Watchlist Species		
Baltimore Oriole	1	6.3
Brown Thrasher	3	18.8
Brown-headed Nuthatch	4	12.5
Chimney Swift	-	-
Eastern Kingbird	1	6.3
Eastern Meadowlark	7	31.3
Eastern Towhee	10	43.8
Eastern Wood-Pewee	15	87.5
Field Sparrow	9	37.5
Grasshopper Sparrow	4	12.5
Northern Flicker	1	6.3
Prairie Warbler	3	12.5
Wood Thrush	15	62.5
Yellow-billed Cuckoo	10	56.3
Stewardship Species		
Acadian Flycatcher	13	62.5
Blue Grosbeak	2	6.3
Carolina Chickadee	11	50
Carolina Wren	23	87.5
Downy Woodpecker	5	31.3
Indigo Bunting	12	43.8
Northern Parula	1	6.3
Pileated Woodpecker	3	18.8
Pine Warbler	6	31.3
Red-bellied Woodpecker	12	62.5
Red-shouldered Hawk	3	18.8
Summer Tanager	2	12.5
Yellow-throated Vireo	1	6.3

Number of detections of Partners in Flight (PIF) watchlist and stewardship species and percent of stations with detections at Booker T. Washington NM in 2012. Detections exclude flyovers and incidental encounters.

References:

Johnson, M. J. 2014. Breeding bird monitoring: Mid-Atlantic Network 2012 summary report. Natural Resource Data Series NPS/MIDN/INRDS—2014/650. National Park Service, Fort Collins, Colorado.

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

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