Bird Monitoring Report, 2017 – South River Greenway IBA

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South River Greenway Important Bird Area (IBA) is a site of statewide importance for bird conservation. It was identified as an IBA using data from a series of Bird Blitz surveys carried out in 2007. These surveys indicated that three at-risk species were present in significant numbers, including: Kentucky Warbler, Louisiana Waterthrush and Worm-eating Warbler. Three other at-risk species (Wood Thrush, Prairie Warbler, Prothonotary Warbler) were found in 2007 but it was unlikely that their populations exceeded thresholds set in the IBA criteria. The site also qualifies as an IBA for its diverse assemblage of Forest Interior-Dwelling Species (FIDS), supporting 18 of 24 FIDS that regularly breed in Maryland's Coastal Plain. Population thresholds for IBA site selection and the bird species assemblages characteristic of Maryland's major habitat types are provided in the IBA Criteria for Site Selection, available online at http://md.audubon.org/conservation/important-bird-areas .

In 2017, Audubon Maryland-DC and Maryland Bird Conservation Partnership (MBCP) implemented a program of bird monitoring at several IBAs across Maryland, with funding from Maryland Department of Natural Resources and individual donors. The goal of the monitoring was to provide managers with data on bird abundance and location and to provide a current baseline against which to measure population trends in the future. At South River Greenway IBA, bird monitoring was carried out in the Bacon Ridge area in the northern part of the IBA.

Methods

Birds were monitored using point count surveys conducted during the height of the bird breeding season between 21 May and 30 June. Each point count location was surveyed twice with the two replicate surveys at least 1 week apart. Observers were instructed to conduct the first survey before 11 June and the second survey on 11 June or later, and this was followed in most cases. Surveys were completed during the first four hours after sunrise generally between 0600 and 1000 EST. Weather and wind conditions were recorded during each count following the Beaufort scale and standard weather codes. Surveys were not conducted during high wind conditions (> 12 mph) or during dense fog, steady drizzle, or prolonged rain.

Birds survey locations were divided into routes that could each be easily covered by an observer in a single morning. In order to reduce the probability that individual birds were counted more than once (from two points) survey locations were selected using ArcGIS so that a minimum of 300 meters separated points. The volunteer observers were assigned a route and navigated to survey

locations using the Avenza app on Smart phones. This eliminated the need to mark survey points with flagging. One survey point on Route C was omitted due to excessive traffic noise from I-97, bringing the number of points on Route C down from seven originally planned points to six.

Counts at each survey location were 5 minutes in duration, with counts split between an initial 3-minute period and the following 2-minute period. The division into two time periods can provide a measure of how detectable each species is within a given timeframe. All birds seen or heard upto an unlimited distance were counted – we did not ask observers to estimate distance to birds because observers generally vary greatly in their ability to do this accurately.

Table 1. Bird survey routes and dates of survey completion at South River Greenway IBA in 2017.

Route name	Habitat	# survey points	Observer(s)	Date of 1st visit	Date of 2nd visit
SRG_ A	Forest	7	Sean Clotworthy	6-10-2017	6-30-2017
SRG_ B	Forest	8	Rich Mason	6-14-2017	6-30-2017
SRG_ C	Forest	6	Rich Mason	6-6-2017	6-29-2017

Observers recorded birds during surveys on field datasheets designed by Audubon and MBCP, and, after surveys were completed, entered data into the computer on Excel spreadsheet templates also provided by Audubon and MBCP. Audubon staff and volunteers combined and summarized the individual datasets submitted by observers.

Results and Discussion

At Bacon Ridge in 2017, two surveys were completed at each of 21 survey points, and 376 detections were made of 36 bird species. The number of detections does not equate directly to the number of individual birds detected because some individuals may have been detected on both survey visits.

Twelve of the bird species detected were FIDS (see Table 2), and 10 of these are listed as Species of Greatest Conservation Need (SGCN) on Maryland's State Wildlife Action Plan. Five of the six most abundant species (Red-eyed Vireo, Ovenbird, Eastern Wood-pewee, Scarlet Tanager, Wood Thrush, Acadian Flycatcher) were FIDS. The mean number of birds detected per point was 8.95 and 58% of these detections were FIDS.

The number of FIDS species detected in the 2017 surveys (12) is significantly fewer than the number detected during the Bird Blitz surveys of 2007. FIDS found in 2007 but not in the 2017 surveys include: Red-shouldered Hawk, Black-billed Cuckoo, Barred Owl, Hairy Woodpecker, Black-and-white Warbler, Prothonotary Warbler, and Summer Tanager. This difference most likely reflects the fact that the 2017 surveys covered only a small portion of the IBA, at Bacon Ridge, whereas the 2007 Bird Blitz covered most the IBA. However, two of these species, Hairy Woodpecker and Black-and-white Warbler were found at Bacon Ridge in 2007 and it is surprising that they were not found in 2017.

Table 2. Total detections and mean relative abundance (detections/point) of each species observed at 21 survey points in forest habitat at Bacon Ridge in South River Greenway IBA in 2017. Each point was surveyed twice, yielding a total of 42 counts.

Species	Species of Greatest Conservation Need (SGCN)	Habitat assemblage	Total detections	Mean detections/ 5-min. count
Acadian Flycatcher	**SGCN**	**FIDS**	**29**	**0.69**
American Crow			6	0.14
American Goldfinch			2	0.05
American Robin			1	0.02
Blue Jay			8	0.19
Blue-gray Gnatcatcher			7	0.17
Brown-headed Cowbird			2	0.05
Carolina Chickadee			4	0.10
Carolina Wren			8	0.19
Common Yellowthroat			3	0.07
Downy Woodpecker			13	0.31
Eastern Bluebird			1	0.02
Eastern Kingbird			1	0.02
Eastern Towhee		SHRUB	2	0.05
Eastern Wood-Pewee			36	0.86
Great-crested Flycatcher			2	0.05
Hooded Warbler	**SGCN**	**FIDS**	**2**	**0.05**
Indigo Bunting			4	0.10
Kentucky Warbler	**SGCN**	**FIDS**	**2**	**0.05**
Louisiana Waterthrush	**SGCN**	**FIDS**	**4**	**0.10**
Mourning Dove			5	0.12
Northern Cardinal			11	0.26
Northern Flicker			3	0.07
Northern Parula	**SGCN**	**FIDS**	**6**	**0.14**
Ovenbird	**SGCN**	**FIDS**	**37**	**0.88**
Pileated Woodpecker		**FIDS**	**8**	**0.19**
Red-bellied Woodpecker			8	0.19
Red-eyed Vireo		**FIDS**	**51**	**1.21**
Scarlet Tanager	**SGCN**	**FIDS**	**36**	**0.86**
Tufted Titmouse			18	0.43
White-breasted Nuthatch			6	0.14
White-eyed Vireo		SHRUB	2	0.05
Wood Thrush	**SGCN**	**FIDS**	**33**	**0.79**

Table 2 (cont'd)

Species	SGCN	Habitat assemblage	Total detections	Mean detections
Worm-eating Warbler	**SGCN**	**FIDS**	**3**	**0.07**
Yellow-billed Cuckoo			2	0.05
Yellow-throated Vireo	**SGCN**	**FIDS**	**10**	**0.24**
Total relative abundance				8.95
Total FIDS relative abundance				5.19

In 2017, the FIDS species that nest and forage in the shrub understory layer (Hooded Warbler, Kentucky Warbler, Worm-eating Warbler) were found in small numbers. This contrasted with 2007 when they were found in significantly larger numbers. Survey methods and locations differed between the two years, so it is not possible to draw definitive conclusions, but these data may indicate a decline in these species and this should be investigated with further surveys in 2018.

Attachments

1. Map of location of bird survey points in 2017.
2. Monitoring birds at IBAs, 2017 – Instructions.

Data Associated with this report

The following data associated with this report are available:

1. Field data sheets containing raw data collected by volunteers are stored at the offices of Audubon Maryland-DC.
2. Bird survey data were entered into an Excel database by the observers who collected the data and copies are held by Audubon Maryland-DC. Individual Excel spreadsheets were combined into a single file and summarized by pivot table.
3. A GIS shapefile of bird survey point locations is held by Audubon Maryland-DC and by Maryland Bird Conservation Partnership.