

The Birds of Guilford Courthouse National Military Park

A report submitted to the National Park Service

John A. Gerwin
Rebecca B. Browning
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Frank Ripp

Guilford Courthouse National Military Park, known locally as "Guilford Battleground," contributes 220 acres to the Guilford Battleground/Country Park complex that comprises over 450 acres of typical northern Piedmont mixed deciduous oak-hickory woodland. Completing the complex for birding purposes is the adjacent large City-operated cemetery, Forest Lawn, which is both traditionally landscaped and partially-wooded. Cumulatively, this creates an oasis for wildlife in the middle of suburban and commercial development (Burnette 2003).

In addition to its natural value as good woodland bird habitat, the area is of significance in American history. In the battleground area, American General Nathaniel Greene, for whom the city of Greensboro is named, led a group of 4,400 American militia and Continental soldiers against 1900 troops of the British General, Charles, Second Earl Cornwallis, in 1781. Dubbed "The Battle of Guilford Courthouse", this engagement was a technical victory for the British when Greene chose to withdraw his forces, but the battle so weakened Cornwallis' army that it is credited with being the turning point that led to the surrender at Yorktown and final victory for the United States.

We conducted breeding bird surveys on 4 dates and non-breeding bird surveys on 9 dates at Guilford Courthouse National Military Park from January 2005 to June 2006. (Table 1)

Table 1. Survey Information

Date	Start	Survey types and number conducted			Season
		Flock	Transect	Point	
17-Jan-05	0720	4	5	2	Non-breeding
07-Mar-05	0715	5	4	7	Non-breeding
18-Mar-05	0740	2	4	13	Non-breeding
26-May-05	0540			15	Breeding
11-Jun-05	0539			15	Breeding
18-Nov-05	0650	6	4	4	Non-breeding
16-Dec-15	0916	3	4	5	Non-breeding
20-Jan-06	0715	7	4	7	Non-breeding
07-Feb-06	0705	7	5	7	Non-breeding
03-Mar-06	0619	9	5	7	Non-breeding
22-Mar-06	0655	8	5	7	Non-breeding
24-May-06	0557			15	Breeding
09-Jun-06	0551			15	Breeding

During the breeding season five-minute, fixed-radius point counts were conducted at 15 points selected by the National Park Service. We recorded bird detections in time intervals of 0-3 minutes, and 3-5 minutes. We also estimated the distance of each detection in three "bands" of 0-25m, 25-50m, and >50m. We participated in some distance estimating exercises and discovered that our abilities to accurately estimate individual bird distances were rather poor, even after training (resulting in unacceptably high variances). The results indicated we were better able to estimate within "bands", and thus we resorted to the traditionally used bands noted above. These should still provide a useful distance estimate while greatly reducing variances.

In the non-breeding period, surveys were conducted using a combination of three observation methods: flock encounters, transects and points. "Flock encounters" involve documenting both the species in a flock and the number of individuals of each species (most flocks contain more than one

species). These flock encounters were scored while walking between the preset point count locations. If a mixed species flock was discovered at one of the preset points, it was recorded as occurring at that point.

Transects supplement the data taken by flock encounters and points. A transect is a line of a known distance, walked by the observer for a known time period. Both the species and the distance between observed birds and the line are recorded.

During the first non-breeding survey on 17 January 2005, we conducted five transects (Table 2). Transect 4 was discontinued after this first visit because this area was adequately surveyed using flock encounters and points. On 7 February 2006 we added Transect 6 in the park annex, an area that had previously been difficult to access.

Table 2. Transect information

transect name	transect #	start lat	start long	finish lat	finish long	Description
maintenance	1	36.13260	79.84836	36.13269	79.84877	40m S perpendicular to maintenance shed.
Field	2	36.13494	79.84144	36.13388	79.84027	150m SE next to point 6 through open field
Winston/Forsyth	3	36.13058	79.83999	36.13017	79.84005	100m, E to Winston Memorial from edge of clearing.
Point 5 through point 13	4	point 5		point 13		discontinued after 17 January 2005
restroom	5	36.13457	79.83419	36.13421	79.83517	100m, SE through clearing parallel to parking area
New	6	36.12782	79.85105	36.12755	79.84895	150m SSE through park annex

When conducting both breeding and non-breeding surveys, we alternated the route through the main body of the park to avoid bias caused by being in the same area at the same time each morning. However, we always visited the area around the visitor center (including points 1, 15, 9, 14) early because the rush hour traffic noise prevented accurate surveying otherwise.

We documented several species of waterbirds flying over the park, on numerous occasions (e.g. Great Blue Heron, Ring-billed Gull, and Canada Goose). These species are known to feed, or rest, in large open, grassy areas, but we did not observe this. The park does not contain large bodies of water. There is a pond at the apartment complex situated next to the Park maintenance building, and the geese were found there several times.

The most frequently detected species was the White-throated Sparrow, which we often found in large flocks, during the non-breeding season. Other frequently detected species were Northern Cardinal, Carolina Chickadee, and American Robin, all permanent residents of the park.

We detail here some noteworthy observations. We saw Barred Owls and Great Horned Owls twice each while surveying the park. Steve Ware, the Head Ranger, further reported Great Horned owlets that were found in the park during the spring of 2006. Louisiana Waterthrush and Yellow Warblers are Neotropical migrant species that are seldom found in suburban areas. We expected to find more Red-breasted Nuthatches in the park since they are not rare in most of the NC piedmont in the winter. This species scarcity may be due to high seed crops elsewhere, causing the bird to stay at different wintering grounds. We also had expected to find Acadian Flycatcher, an uncommon summer resident partial to

small streams like the ones found in Guilford Courthouse Park-but none were detected. Broad-winged Hawks have nested in the Park for years, and continue to do so (one pair). This, along with the occurrence of Pileated Woodpecker, is notable, as these species tend to be negatively affected by urbanization and subsequent fragmentation of forested areas. Finally, note that 8 of the 10 most often detected species are “permanent residents”. This is to be expected in a primarily urban setting.

The results are sorted into two tables encompassing the data from all 13 visits. The first (Table 3) lists all species detected. The second (Table 4) ranks these species by the overall number of detections, and includes the number of survey events in which they were detected. In addition we have suggested the status for each species. We used four status categories: Permanent **resident** is a bird that lives in the park all year round and breeds in the park. **Summer resident** is a bird that breeds in the park in the summer but is absent in the non-breeding season. **Non-breeding resident** is a bird only present in the park in the non-breeding season, which is generally from mid September until mid May. **Spring/fall migrant** is a bird that is only found in the park during spring and/or fall migration (and thus absent during our winter season).

Table 3. Species and number of detections

Species	# of detections
Accipiter sp.	1
American Crow	161
American Goldfinch	144
American Robin	219
Barred Owl	2
Blue-gray Gnatcatcher	6
Brown-headed Cowbird	9
Brown-headed Nuthatch	10
Blue Jay	110
Brown Creeper	2
Brown Thrasher	5
Broad-winged Hawk	1
Carolina Chickadee	242
Canada Goose	37
Carolina Wren	142
Cedar Waxwing	58
Chimney Swift	13
Common Grackle	40
Coopers Hawk	5
Common Yellowthroat	2
Dark-eyed Junco	106
Downy Woodpecker	49
Eastern Bluebird	16
Eastern Phoebe	4
Eastern Towhee	49
Eastern Wood-pewee	5
Eastern Tufted Titmouse	184
European Starling	2
Field Sparrow	3
Fox Sparrow	5
Great Blue Heron	1
Great-crested Flycatcher	7
Golden-crowned Kinglet	14
Great-horned Owl	2
Gray Catbird	7
Hairy Woodpecker	8
Hermit Thrush	4
House Finch	10
House Wren	2
Indigo Bunting	6
Louisiana Waterthrush	2
Mourning Dove	39
Northern Cardinal	258
Northern Mockingbird	1

Table 3. Species and number of detections (cont)

Species	# of detections
Pine Warbler	11
Pileated Woodpecker	8
Ring-billed Gull	1
Red-breasted Nuthatch	1
Red-bellied Woodpecker	65
Ruby-crowned Kinglet	7
Red-eyed Vireo	46
Red-shouldered Hawk	2
Red-tailed Hawk	7
Ruby-throated Hummingbird	4
Song Sparrow	18
Summer Tanager	4
White-eyed Vireo	1
Winter Wren	7
Wood Thrush	42
White-throated Sparrow	446
Yellow-bellied Sapsucker	14
Yellow-rumped Warbler	72
Yellow-shafted Flicker	30
Yellow Warbler	1

Table 4. Number of detections, survey events, species, and status

# of detections	Survey events	species	status
446	36	White-throated Sparrow	non-breeding resident
258	137	Northern Cardinal	permanent resident
242	117	Carolina Chickadee	permanent resident
219	69	American Robin	permanent resident
184	100	Eastern Tufted Titmouse	permanent resident
161	49	American Crow	permanent resident
144	160	American Goldfinch	permanent resident
142	92	Carolina Wren	permanent resident
110	67	Blue Jay	permanent resident
106	15	Dark-eyed Junco	non-breeding resident
72	23	Yellow-rumped Warbler	non-breeding resident
71	40	White-breasted Nuthatch	permanent resident
65	52	Red-bellied Woodpecker	permanent resident
58	5	Cedar Waxwing	non-breeding resident
49	43	Downy Woodpecker	permanent resident
49	38	Eastern Towhee	permanent resident
46	32	Red-eyed Vireo	summer resident
42	32	Wood Thrush	summer resident
40	17	Common Grackle	permanent resident
39	26	Mourning Dove	permanent resident
37	12	Canada Goose	permanent resident
30	23	Yellow-shafted Flicker	permanent resident
18	15	Song Sparrow	permanent resident
16	11	Eastern Bluebird	permanent resident
14	10	Golden-crowned Kinglet	non-breeding resident
14	14	Yellow-bellied Sapsucker	non-breeding resident
13	8	Chimney Swift	non-breeding resident
11	8	Pine Warbler	permanent resident
10	7	Brown-headed Nuthatch	permanent resident
10	5	House Finch	permanent resident
9	8	Brown-headed Cowbird	permanent resident
8	7	Hairy Woodpecker	permanent resident
8	7	Pileated Woodpecker	permanent resident
7	7	Great-crested Flycatcher	summer resident
7	5	Gray Catbird	summer resident
7	6	Ruby-crowned Kinglet	non-breeding resident
7	7	Red-tailed Hawk	permanent resident
7	6	Winter Wren	non-breeding resident
6	3	Blue-gray Gnatcatcher	summer resident
6	6	Indigo Bunting	summer resident
5	4	Brown Thrasher	permanent resident
5	5	Coopers Hawk	permanent resident
5	4	Eastern Wood Pewee	summer resident

Table 4. Number of detections, survey events, species, and status (cont.)

# of detections	Survey events	species	status
5	1	Fox Sparrow	non-breeding resident
4	4	Eastern Phoebe	permanent resident
4	4	Hermit Thrush	non-breeding resident
4	4	Ruby-throated Hummingbird	summer resident
4	4	Summer Tanager	summer resident
3	1	Field Sparrow	non-breeding resident
2	2	Barred Owl	permanent resident
2	2	Brown Creeper	non-breeding resident
2	1	Common Yellowthroat	summer resident
2	2	European Starling	permanent resident
2	2	Great Horned Owl	permanent resident
2	2	House Wren	summer resident
2	1	Louisiana Waterthrush	summer resident
2	2	Red-shouldered Hawk	permanent resident
1	1	Accipiter sp.	permanent resident
1	1	Broad-winged Hawk	summer resident
1	1	Great Blue Heron	permanent resident
1	1	Gray-cheeked Thrush	spring/fall migrant
1	1	Ring-billed Gull	permanent resident
1	1	Red-breasted Nuthatch	non-breeding resident
1	1	White-eyed Vireo	summer resident
1	1	Yellow Warbler	summer resident

Species addendum

A Screech Owl was found in the park during the spring and Broad-winged Hawks currently nest in the park. This data is from Lynn Moseley, professor of Biology at Guilford College and past president of the Piedmont Bird Club. Dr. Moseley has led many bird walks through the park over the past 20 years.

Bibliography

Burnette, D. (2003). *Finding Birds in Guilford County*. Retrieved October 25 2006, from <http://www.piedmontbirdclub.org>.