

2000 REPORT

Reconnaissance surveys to determine which birds and mammals occur in the
Gauley River National Recreation Area (GRNRA)

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Introduction: The first year (2000) of a three-year study in the Gauley River National Recreation Area (GRNRA) was used for reconnaissance to determine the location of birds and mammals by biologists from Marshall University and Concord College. Searches were conducted along the entire length of the GRNRA examining aquatic and terrestrial habitat types in both riparian and upland areas. Surveys for birds and mammals were conducted in representative habitats in 2000.

Objectives: The objectives this first year were to: (1) allow investigators to become familiar with the GRNRA area; (2) determine locations of point counts in the GRNRA; (3) identify locations of specific habitats that should be studied in detail in years 2001 and 2002 to estimate species richness and population sizes; and (4) to collect baseline data on bird and mammalian species presence in the park.

Methods

Birds

Avian species richness was noted during summer (June - July), fall (August - October) and winter (November - February). During the breeding and winter seasons, we used 12, fixed-radius 50-m point count plots. In the fall, we counted migrants at 12 line transects. Both of these methods are standard protocols for counting birds (Ralph et al. 1993). In addition to winter point counts, we sampled for waterfowl and other species by counting individuals with a spotting scope along the Gauley River.

All point counts and line transects were geographically referenced with a global positioning system (GPS) and downloaded into Garmin MapSource 3.02 and plotted on topomaps. Counts were conducted using standardized methods of Ralph et al. (1993), such as 10 min. counts per point and conducting counts from 0630 to 1030 hrs. during the breeding season. Winter point counts were

conducted from 0730 to 1600 hr. because birds can forage at any time throughout the day during the winter months. Surveys were not conducted during heavy snow fall or during windy or rainy weather. Percent cloud cover and wind speed (via wind meter) were recorded using standard scoring codes (Ralph et al. 1993). We recorded the number of birds per species seen or heard, as well as noted breeding pairs, number of flyovers, and whether each bird was observed within or outside the 50-m plot (aided by Bushnell range finder). Migrants were counted from 0630 - 1200 hr. along 300 m line transects by walking the transects at a rate of 100m/10 minutes. All birds were counted, including resident species, short-distance migrants, and Neotropical or long-distance migrants.

Mammals

Small mammals were surveyed with pitfalls. We established six sets of pitfalls arrays with each array having 2-3, half-gallon plastic buckets set flush with the ground. We placed about 7.5 cm of water and a wet sponge in each pitfall bucket and checked pitfalls once each week or as time permitted. Pitfalls were established along rock outcrops and in riparian floodplains and wooded slopes. We also noted any mammals or tracks seen.

Results

Birds

We detected 84 species during the breeding season, where the numerous species was the Red-eyed Vireo (Table 1). Of the species of concern and/or on the West Virginia Partners In Flight list, we detected the Black-crowned Night Heron, Red-shouldered Hawk, Osprey, Yellow-billed Cuckoo, Black-billed Cuckoo, Whip-poor-will, Belted Kingfisher, Eastern Wood Pewee, Wood Thrush, Red-eyed Vireo, White-eyed Vireo, Cerulean Warbler, Blue-winged Warbler, Worm-eating Warbler, Kentucky Warbler, and the Louisiana Waterthrush.

During the fall migration season, we detected 69 species (Table 2) with the most numerous being the Common Grackle (n = 45), American Goldfinch (n = 23), American Crow (n = 22), Cedar Waxwing (n = 20), Red-winged Blackbird (n = 16), and White-throated Sparrow (n = 15). The grackles were seen in flocks heading south, but the crows are not migratory. The most numerous warbler during fall was the Black-throated Blue Warbler (n = 13).

Table 3 shows the bird species observed during the winter, while waterfowl and other species that occur on the river are listed in Table 4. During winter point counts, we detected 36 species. Noteworthy are the Blue-headed Vireo and the Red-headed Woodpecker. The Blue-headed Vireo is a Neotropical migrant and is considered exceptionally rare in winter in West Virginia (Hall 1983), and most likely does not winter in the state in most years. The Red-headed Woodpecker is

declining rapidly throughout its range and is extirpated from many areas of its former range (Canterbury, unpubl. data). We found 17 species during spotting-scope examination of waterfowl and other birds along the GRNRA. Of these 17 species, one was a mature Bald Eagle.

Mammals

The only bat species observed were the Little Brown Bat and the Small-footed Myotis, but specialized trapping methods are needed to survey bats and other small mammals (see 2001 survey below). Table 5 list the mammals observed during this first season or reconnaissance survey.

Discussion

During the first year of the GRNRA survey, we sampled for birds and mammals along forested slopes, riparian floodplains, forested and brushy edges along roads and railroads, and rock outcrops. We found 84 avian species during the breeding season and 69 species during the fall migration period. Sampling during the winter disclosed 17 bird species that foraged in the Gauley River, while winter point counts disclosed 33 additional bird species along the forested slopes. Microhabitat studies along with additional biodiversity studies will be conducted in the future (see below). We will repeat point counts in the second and third year of this study.

Eighteen mammals were observed. The Shorttail Shrew, White-footed Mouse, and the Woodland Jumping Mouse were captured in pitfalls. Detailed mammal surveys will be conducted in the second and third year of this study (see below).

2001 Surveys

During the 2001 season, we will incorporate additional point counts to cover all habitats within the GRNRA and will sample during the spring season. Small mammals will be sampled with pitfalls, Sherman live traps, snap traps, and tommyhawk traps. We will also incorporate nocturnal bird and bat surveys. Nocturnal birds will be sampled by automated song-playback, while bats will be sampled with mist-netting.

Literature Cited

Hall, G. A. 1983. West Virginia birds. Spec. Publ. No. 7. Carnegie Mus. Nat. His.: Pittsburgh, PA. 180 pp.

Ralph, C. J., G. R. Geupel, P. Pyle, T. E. Martin, D. F. DeSante. 1993. Handbook of field methods for monitoring landbirds. Gen. Tech. Rep. PSW-GTR-144, Albany, CA: Pacific Southwest Research Station, Forest Serv., U.S. Dept. Agric. 41 pp.

Table 1. Bird species observed and total number per 12 point counts during surveys in GRNRA. Data collected from June - mid-July 2000.

Species	#
Canada Goose	5
Mallard	3
Wood Duck	1
Great Blue Heron	2
Black-crowned Night Heron	1
Green Heron	2
Killdeer	1
Spotted Sandpiper	1
Wild Turkey	2
Ruffed Grouse	2
Sharp-shinned Hawk	1
Red-tailed Hawk	1
Red-shouldered Hawk	2
Broad-winged Hawk	1
Osprey	1
Turkey Vulture	5
Black Vulture	3
Common Screech Owl	1
Barred Owl	1
Mourning Dove	5
Yellow-billed Cuckoo	1
Black-billed Cuckoo	2
Whip-poor-will	1
Ruby-throated Hummingbird	1
Table 1. Continued.	
Belted Kingfisher	3

Pileated Woodpecker	2
Yellow-shafted Flicker	2
Red-bellied Woodpecker	3
Downy Woodpecker	3
Hairy Woodpecker	1
Great-crested Flycatcher	3
Eastern Phoebe	3
Eastern Wood Pewee	2
Acadian Flycatcher	10
Tree Swallow	2
Northern Rough-winged Swallow	2
Chimney Swift	2
American Crow	9
Northern Raven	1
Blue Jay	3
Carolina Chickadee	3
Tufted Titmouse	4
White-breasted Nuthatch	3
Carolina Wren	5
Blue-gray Gnatcatcher	6
Brown Thrasher	1
Gray Catbird	2
American Robin	3
Wood Thrush	7
Veery	2

Table 1. Continued.

Cedar Waxwing	4
Red-eyed Vireo	15
Warbling Vireo	2
Yellow-throated Vireo	2
Blue-headed Vireo	3

White-eyed Vireo	1
Northern Parula	3
Yellow-throated Warbler	3
Black-throated Green Warbler	2
Black-and-White Warbler	7
Black-throated Blue Warbler	2
Cerulean Warbler	4
American Redstart	6
Blue-winged Warbler	1
Yellow Warbler	2
Worm-eating Warbler	5
Hooded Warbler	6
Kentucky Warbler	2
Common Yellowthroat	1
Louisiana Waterthrush	3
Ovenbird	7
Red-winged Blackbird	2
Brown-headed Cowbird	1
Common Grackle	5
Orchard Oriole	1
Baltimore Oriole	3

Table 1. Continued.

Scarlet Tanager	7
Northern Cardinal	4
American Goldfinch	3
Indigo Bunting	5
Rose-breasted Grosbeak	2
Eastern Towhee	5
Chipping Sparrow	1
Song Sparrow	4

Table 2. Bird species observed and total number per 12 line transect surveys in GRNRA. Data collected from August - October 2000.

Species	#
Wild Turkey	3
Ruffed Grouse	5
Sharp-shinned Hawk	4
Cooper's Hawk	2
Red-shouldered Hawk	1
Turkey Vulture	9
Black Vulture	5
Mourning Dove	4
Yellow-billed Cuckoo	2
Ruby-throated Hummingbird	5
Belted Kingfisher	5
Pileated Woodpecker	4
Yellow-shafted Flicker	4
Red-bellied Woodpecker	8
Downy Woodpecker	6
Hairy Woodpecker	2
Great-crested Flycatcher	1
Eastern Phoebe	3
Eastern Wood Pewee	5
Least Flycatcher	3
American Crow	22
Northern Raven	3
Blue Jay	13
Carolina Chickadee	6

Table 2. Continued.

Tufted Titmouse	7
White-breasted Nuthatch	4

Carolina Wren	8
Winter Wren	2
Ruby-crowned Kinglet	9
Blue-gray Gnatcatcher	3
Gray Catbird	7
American Robin	14
Swainson's Thrush	3
Veery	1
Wood Thrush	4
Cedar Waxwing	20
Red-eyed Vireo	6
Yellow-throated Vireo	3
Blue-headed Vireo	6
Northern Parula	1
Yellow-throated Warbler	1
Black-throated Green Warbler	10
Black-and-White Warbler	2
Black-throated Blue Warbler	13
Magnolia Warbler	5
Blackburnian Warbler	3
American Redstart	8
Pine Warbler	4
Palm Warbler	5
Tennessee Warbler	1
Table 2. Continued.	
Hooded Warbler	3
Northern Waterthrush	2
Ovenbird	4
Red-winged Blackbird	16
Common Grackle	45
Baltimore Oriole	2

Scarlet Tanager	1
Dark-eyed Junco	6
Northern Cardinal	2
American Goldfinch	23
Indigo Bunting	9
Rose-breasted Grosbeak	1
Eastern Towhee	9
White-throated Sparrow	15
White-crowned Sparrow	2
Chipping Sparrow	4
Swamp Sparrow	4
Song Sparrow	1
Lincoln's Sparrow	1

Table 3. Bird species observed and total number per 12 point counts during surveys in GRNRA. Data collected from November 2000 - February 2001.

Species	#
Canada Goose	11
Mallard	5
Green Heron	1
Cooper's Hawk	1
Red-shouldered Hawk	1
Great-horned Owl	3
Mourning Dove	2
Belted Kingfisher	1
Red-headed Woodpecker	1
Pileated Woodpecker	1
Red-bellied Woodpecker	4
Yellow-bellied Sapsucker	1
Downy Woodpecker	2

Eastern Phoebe	2
Eastern Wood Pewee	2
American Crow	33
Blue Jay	8
Black-capped Chickadee	2
Carolina Chickadee	6
Tufted Titmouse	3
White-breasted Nuthatch	1
Brown Creeper	2
Carolina Wren	2
Winter Wren	1

Table 3. Continued.

Golden-crowned Kinglet	4
American Robin	8
Hermit Thrush	3
Blue-headed Vireo	1
Yellow-rumped Warbler	5
Dark-eyed Junco	9
Northern Cardinal	2
American Goldfinch	7
Eastern Towhee	1
White-throated Sparrow	5
Swamp Sparrow	2
Song Sparrow	2

Table 4. Waterfowl and other bird species observed during surveys in GRNRA. Data collected from November 2000 - February 2001.

Species	#
Common Loon	2
Pied-billed Grebe	3

Red-necked Grebe	2
Canada Goose	73
American Black Duck	6
Mallard	31
Gadwall	1
Wood Duck	3
Redhead	2
Lesser Scaup	10
Bufflehead	7
Hooded Merganser	5
American Coot	20
Ring-billed Gull	8
Great Blue Heron	5
Bald Eagle	1
Belted Kingfisher	2

Table 5. Mammal species observed during reconnaissance surveys in GRNRA. Data collected from June - December 2000.

Species	Method
Opossum	Individuals seen + tracks
Shorttail Shrew	Pitfalls
Little Brown Bat	Individuals seen
Small-footed Myotis	Individuals seen (in tunnel)
Raccoon	Individuals seen + tracks
Longtail Weasel	Individuals seen
Red Fox	Individuals seen + scant
Gray Fox	Individuals seen + scant
Eastern Chipmunk	Individuals seen
Eastern Gray Squirrel	Individuals seen
Eastern Fox Squirrel	Individuals seen
Red Squirrel	Individuals seen

Deer and/or White-footed Mouse	Pitfalls
Woodland Jumping Mouse	Pitfalls
Eastern Cottontail	Individuals seen + tracks + scant
Whitetail Deer	Individuals seen + tracks + scant
Bobcat	Individuals seen + tracks + scant
Black Bear	Individuals seen + tracks + scant
