

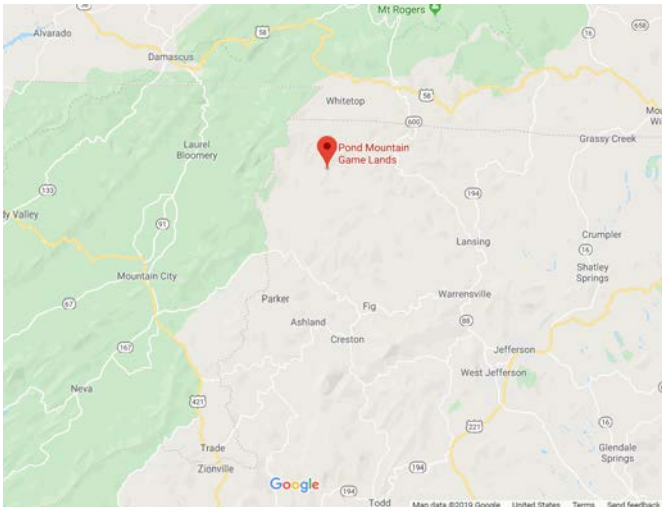
Birds of Pond Mountain Game Land

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Pond Mountain was, until recently, infrequently visited by birders in a county once described as an “ornithologically under-studied” section of the state (LeGrand and Potter 1979). Topping out at 4980 feet (1517 meters) in elevation in the very northwest corner of North Carolina, Pond Mountain has a mix of forest and open areas. Unique features, like natural ponds and rock outcrops, attract a diverse bird community. Following a lengthy lull, documentation of the bird community increased rapidly when the property was transferred from its former landowner, New River Tree Company, through the Blue Ridge Conservancy, to North Carolina Wildlife Resources Commission (hereafter, the

Commission) (Our State 2012). The acquisition process triggered wildlife inventories of the parcels. Most bird surveys were conducted on Pond Mountain proper with additional surveys conducted on recently acquired parcels south to Cut Laurel Gap. We kept a list of all bird species encountered during early visits to the game land (2008 to 2013) and then established permanent breeding bird



*Location of Pond Mountain Game Lands in
northwestern North Carolina*

monitoring points across it. Since 2014 we conducted annual surveys of these points between late May and mid-June. In 2017 we visited the game land monthly and led public bird walks, culminating in publication of a four-season bird checklist with 123 species.

Historically, Pond Mountain was heavily forested with northern hardwoods, high elevation Red Oak, and rich cove forest (Oakley 1999). It was logged for timber, bark extract, and to support iron mining over a span of approximately ten years ending by 1918 when the railroad was abandoned (T. Blevins, pers. comm.). The mountain was burned extensively to remove logging slash, then seeded and converted to grazing land

for sheep, cattle, and horses. Christmas tree production began in 1982. In 1979, LeGrand and Potter described the mountain as having “extensive pastures at its summit”. For the 20 years before acquisition by the state, New River Tree Company managed 297 ha of the property in Christmas tree production (Fraser Fir) with the remainder forested. As Christmas tree production was gradually phased out between 2008 and 2016, the mountain transitioned to a mix of fallow fields and forest. Between 2013 and 2015, this transition accelerated when the company culled most of the remaining fir trees. Trees were cut and left at the stump or piled. The Commission began to manage the game land per the Pond Mountain Game Land Management Plan using prescribed fire, mowing, herbicide, and forestry practices (NCWRC 2015). Open areas are managed as 1/3 grassland, 1/3 shrub-scrub, and 1/3 young forest (e.g., seedlings, saplings) with the remaining acreage in mature forest. The diverse mosaic of habitats that is emerging is home to several priority species listed in the N.C. Wildlife Action Plan (NCWRC 2015). With changing habitats comes a changing bird community.

Here we provide a new baseline of the bird community as Pond Mountain transitions from Christmas tree production into this next phase. We highlight (1) priority species listed in the N.C. Wildlife Action Plan, (2) upland game birds, (3) winter raptors, and (4) birds of seven habitats found on the game land. Differences in survey area and survey time between our effort and the 1979 breeding bird foray are extensive, and the point of this summary is to provide a current baseline, not to make a direct comparison. However, we note that with the addition of our surveys in the nonbreeding season and of multiple years of visitation to the property, we found a total of 123 species, 44 of which were not documented in the 1979 Ashe County breeding season survey. Thirteen of the 44 are possible or confirmed breeders and 31 are passage migrants or wintering birds. We missed 18 species documented in Ashe County in 1979, although only one, Horned Lark (*Eremophila alpestris*), was explicitly noted on Pond Mountain in the 1979 survey. Our four-season bird checklist and map for Pond Mountain Game Land are available as a downloadable PDF from <https://www.ncwildlife.org/Outdoor-Activities/Bird-Watching>.

Priority and listed species

We found 19 species listed in the N.C. Wildlife Action Plan as Species of Greatest Conservation Need (SGCN), 21 as Knowledge Gap, and 14 as Management Priority (Table 1) (NCWRC 2015). Six species found are listed by the N.C. State Legislature (NCWRC 2019; 15A NCAC 10I .0103 - 0105). These included the NC Threatened Northern Saw-whet Owl (*Aegolius acadicus*) and Bald Eagle (*Haliaeetus leucocephalus*), and the NC Special Concern Red Crossbill (*Loxia curvirostra*), Vesper Sparrow (*Poocetes gramineus*), and Golden-winged Warbler (*Vermivora chrysoptera*). The Bald Eagle and Red Crossbill were both flyovers with the nearest suitable breeding habitat at Watauga Lake, Tennessee, and Whitetop Mountain, Virginia, respectively. A fourth Special Concern species, Brown Creeper (*Certhia americana*), sang from a mature White Pine plantation one third of a mile from the game land boundary on Flatwoods School Road across from Cut Laurel Gap Road on June 8, 2018.

Upland game birds

The Ruffed Grouse (*Bonasa umbellus*) was uncommon in the higher elevations. We rarely flushed American Woodcock (*Scolopax minor*) from the former runway and wet grassy paths between Christmas tree plots, and along forest edges at elevations from 4300 to 4800 feet (1310 – 1463 m) in June and September, and Northern Bobwhite (*Colinus virginianus*) from the Christmas trees at 4800 feet (1463 m) in June. Nearly four decades after reintroduction efforts, the Eastern Wild Turkey (*Meleagris gallopavo*) was common on the game land during our surveys.

Winter raptors

Winter surveys added interesting species of raptors more typical of the Grayson Highlands or Burke's Garden, Virginia. Northern Harriers (*Circus hudsonius*), Rough-legged Hawk (*Buteo lagopus*), and Short-eared Owl (*Asio flammeus*) observations were all confined to the upper fields. Northern Harriers were observed hunting in September, October, and November. A Short-eared Owl flushed from the field on November 15, 2017, was a new county record and the only record of this species in the northern mountains. Rough-legged Hawks have been reported at Pond Mountain four times, most recently on November 15, 2017 and February 24, 2018 (G. McGrane) soaring over the upper fields. Unlike the other raptors observed during birding excursions, Golden Eagles (*Aquila chrysaetos*) were documented via a baited camera trap deployed at Pond Mountain in winter 2015 (Kelly and Tomcho 2017).

Christmas tree plots

During Christmas tree production, the Dark-eyed Junco (*Junco hyemalis*) was the most common species among the firs. Vesper Sparrows were seen frequently in the firs, using rocks and the young fir trees as song perches and the dirt lanes between the plots for dust bathing. In 1979, LeGrand and Potter tallied 25 Vesper Sparrows on Pond Mountain. Unfortunately, we did not have a recent census of Vesper Sparrows until after Christmas trees had been culled.

Fallow fields (former Christmas tree plots)

Vegetation structure changed when the fir crop was harvested or culled. Initially, the culled firs were left at the stump or piled. Immediately following harvest or culling, Song Sparrows (*Melospiza melodia*) and Eastern Towhees (*Pipilo erythrophthalmus*) became the most common species in these areas, conspicuously perching on piles of culled firs to sing. Field Sparrows (*Spizella pusilla*) were also found in the fallow fields. Brown Thrashers (*Toxostoma rufum*) were found regularly above 4600 feet (1402 m) during Christmas tree production and in thick vegetation encasing felled trees. Commission staff from the Wilkes Wildlife Depot progressively plowed and groomed the fields, removing rocks and stumps and burning cut fir trees. Following this management, Vesper Sparrows were less frequently observed and became primarily confined to hills and ridges with short, grass-dominated vegetation. They used fence posts, debris piles, remaining rocks, or trees on the forest edge as song perches. Fledglings were seen annually in June along the dirt game land roads. On May 31, 2017, we documented a Vesper Sparrow nest containing one egg at 4930 feet (1502 m) in the upper field which had been plowed and

burned earlier in the spring. A single Savannah Sparrow (*Passerculus sandwichensis*) was seen on this hill on June 4, 2017. Grasshopper Sparrows (*Ammodramus savannarum*) were found (May 31, 2017 and June 6, 2018) at 4900 feet (1493 m) in taller grasses south of the hanger.

Fallow fields that had matured into a mix of grasses, forbs, blackberries (*Rubus* sp.), patchy shrubs, and scattered trees were dominated by Chestnut-sided Warblers (*Setophaga pensylvanica*) and Field Sparrows. On June 6, 2018, we documented the game land's first Golden-winged Warbler at 4374 feet (1332 m) in a field that was seven years fallow, and the first "Brewster's Warbler" (hybrid between Golden-winged and Blue-winged Warblers (*Vermivora cyanoptera*)) on the ridge to the south at 4500 feet (1371 m) in a field that was 10 years fallow. We also documented Black-billed Cuckoos (*Coccyzus erythrophthalmus*) for the first time on June 7 and 18, 2018. In 2019, we tallied seven Black-billed Cuckoos in wet, shrubby thickets between 4130 and 4530 feet (1258 – 1380 m) that had been fallow for 10 years.

Forests

Warbler species associated with forest cover were uncommon to rare and restricted to the forested slopes at mid-elevation and forested ravines. These included Ovenbird (*Seiurus aurocapilla*), Hooded Warbler (*Setophaga citrina*), American Redstart (*Setophaga ruticilla*), Northern Parula (*Setophaga americana*), Blackburnian Warbler (*Setophaga fusca*), Black-throated Blue Warbler (*Setophaga caerulescens*), Black-throated Green Warbler (*Setophaga virens*), and Canada Warbler (*Cardellina canadensis*). Likewise, Wood Thrush (*Hylocichla mustelina*), Scarlet Tanager (*Piranga olivacea*), and Eastern Wood-Pewee (*Contopus virens*) were only found in similar wooded situations.



Black-throated Blue Warbler by Mary Parker Sonis

Notable species found in the forest included regular occurrences in mid-June of Hermit Thrush (*Catharus guttatus*) and Yellow-bellied Sapsucker (*Sphyrapicus varius*), both listed as SGCN. Sapsuckers were detected in spring, summer, and fall along edges of hawthorn, American Beech, and other northern hardwood trees at 4600 to 4910 feet (1402 – 1496 m) and in two Sugar Maple (*Acer saccharum*) stands at 3800 feet (1158 m). Hermit Thrushes were detected in spring and

summer in northern hardwoods at 4155 to 4855 feet (1266 – 1479 m) on Pond Mountain proper and south to Cut Laurel Gap. Unlike Veeries (*Catharus fuscescens*), which were found in northern hardwood stands having thicker understories, Hermit Thrushes were associated with more open understories dominated by ferns and mosses. A single Northern Saw-whet Owl responded to call playback on May 31, 2017 at 4772 feet (1454 m) in northern hardwood forest with an understory of rich herbaceous cover, rocks, and moss. All other nocturnal owl surveys produced only Barred Owls (*Strix varia*) in high elevation Red Oak, Montane Oak, and northern hardwood forests and one Great-horned Owl (*Bubo virginianus*), the 123rd species for the game land.

Ponds and wetlands

Alder Flycatchers (*Empidonax alnorum*) were found during most years near a pond adjacent to a shrubby, wet opening at 4750 feet (1447 m). On June 19, 2018, two were calling at this site. Two male Wood Ducks (*Aix sponsa*) were observed at a pond at 4450 feet (1356 m) on June 15, 2011. In June, Red-winged Blackbirds (*Agelaius phoeniceus*) frequented ponds with cattail (*Typha* spp.) borders, some as high as 4685 feet (1427 m).

Forested riparian zones

Alder Flycatchers and Winter Wrens (*Troglodytes hiemalis*) were regularly detected in forested riparian zones along headwater streams feeding Big Horse Creek near the Virginia border at 4200 feet (1280 m) in early June. An Acadian Flycatcher (*Empidonax virescens*) was found at 3700 feet (1127 m) along Gentry Creek near Cut Laurel Gap.

Rock outcrops

A pair of Common Ravens (*Corvus corax*) nested on a rock outcrop at 4586 feet (1397 m) in 2015, 2016, 2018, 2019, and possibly 2017. Two fledglings, identified by their pink gapes and gray irises, foraged in grass above the rock outcrop on June 6, 2018. Due to infrequent trips to this rock outcrop we can only narrow down the breeding window to between March 1, 2016 and June 1, 2016, during which time the nest changed from unlined and unused to lined with deer hair and moss and the surrounding rock face was splashed with bird droppings. Between 2009 and 2014 we did not observe ravens on the game land.

Edges

Edge habitat is abundant on Pond Mountain Game Land, now as forest and fallow field, formerly as forest and Christmas tree plots. Some species associated with these edges were Least Flycatcher (*Empidonax minimus*), Yellow-bellied Sapsucker, Gray Catbird (*Dumetella carolinensis*), and Indigo Bunting (*Passerina cyanea*). On June 18, 2018, we found a Cedar Waxwing (*Bombycilla cedrorum*) nest in woods on the edge of a shrubby, wet opening.

Table 1. North Carolina state-listed species, Species of Greatest Conservation Need, Knowledge Gap, and Management Priority bird species observed at Pond Mountain Game Land since 2008¹.

Species of Greatest Conservation Need	Knowledge Gap	Management Priority
Acadian Flycatcher	American Pipit	American Woodcock
Alder Flycatcher	American Woodcock	Bald Eagle ^{T,2}
American Kestrel	Bay-breasted Warbler	Canada Goose
Bald Eagle ^{T,2}	Black-billed Cuckoo	Great Blue Heron
Blackburnian Warbler	Brown Creeper ^{SC}	Mourning Dove
Common Raven	Cape May Warbler	Northern Bobwhite
Golden-winged Warbler ^{SC}	Cooper's Hawk	Pine Siskin
Hermit Thrush	Golden-crowned Kinglet	Red Crossbill ^{SC,2}
Lincoln's Sparrow	Golden Eagle	Ruby-throated Hummingbird
Nashville Warbler	Least Flycatcher	Ruffed Grouse
Northern Bobwhite	Philadelphia Vireo	Wilson Snipe
Northern Harrier	Pine Siskin	Wild Turkey
Northern Saw-whet Owl ^T	Red-breasted Nuthatch	Wood Duck
Red Crossbill ^{SC,2}	Rose-breasted Grosbeak	Yellow-bellied Sapsucker
Ruffed Grouse	Short-eared Owl	
Rusty Blackbird	Swainson's Thrush	
Savannah Sparrow	Tennessee Warbler	
Veery	Tree Swallow	
Vesper Sparrow ^{SC}	Winter Wren	
	Yellow-bellied Sapsucker	
	Yellow-rumped Warbler	

^T NC Threatened, ^{SC} NC Special Concern, ¹ residency status can be found in the checklist, ² flyover

Acknowledgments

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Literature Cited

Blue Ridge Conservancy. Pond Mountain Game Lands. Retrieved from:

<https://blueridgeconservancy.org/pond-mountain-game-lands-1>

Kelly, C.A., and J. Tomcho. 2017. A camera-trap survey documents widespread distribution of over-wintering Golden Eagles in western North Carolina. *Chat* 81(3):60-79.

LeGrand, H.E., and E.F. Potter. 1980. Ashe County breeding bird foray- 1979. *Chat* 44(1):1-13.

North Carolina Wildlife Resources Commission (NCWRC). 2018. Birds of Pond Mountain Game Land. Raleigh, North Carolina. Retrieved from:

[https://www.ncwildlife.org/Portals/0/Outdoor-Activities/Documents/Pond Mtn GL Birding checklist 2018.pdf](https://www.ncwildlife.org/Portals/0/Outdoor-Activities/Documents/Pond_Mtn_GL_Birding_checklist_2018.pdf)

North Carolina Wildlife Resources Commission (NCWRC). 2019. Endangered Species Listed. (NC Administrative Code 15A NCAC 10I .0103). Raleigh, North Carolina.

North Carolina Wildlife Resources Commission (NCWRC). 2019. Special Concern Species Listed (NC Administrative Code 15A NCAC 10I .0105). Raleigh, North Carolina.

North Carolina Wildlife Resources Commission (NCWRC). 2019. Threatened Species Listed (NC Administrative Code 15A NCAC 10I .0104). Raleigh, North Carolina.

Oakley, S.C. 1999. An Inventory of the Significant Natural Areas of Ashe County, North Carolina. North Carolina Natural Heritage Program. Raleigh, NC. 205 pp.

Our State. 2012. Pond Mountain: Soaring Legacies. Retrieved from Our State Magazine: <https://www.ourstate.com/pond-mountain/>

