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A Camera-trap Survey Documents Widespread Distribution of Over-wintering Golden Eagles in Western North Carolina

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Abstract

We studied the incidence of Golden Eagles (*Aquila chrysaetos*) in western North Carolina over the course of three winters. We established camera trap stations consisting of deer carcasses staked in front of trail cameras in forest openings. We documented Golden Eagles visiting bait at 17 of 26 (65%) camera trap stations in 16 of the 20 (80%) counties surveyed. With respect to the winter season, these represent eight new county records. We then examined one camera station's (Unaka Mountain) data at a finer scale. Here, we noted eagles on 14, 54, and 15 calendar days in 2013, 2014, and 2015 respectively. Using plumage characteristics, we identified 5 individuals at Unaka in 2013, 14 in 2014, and 7 in 2015. Over the course of the study, half of the eagles at Unaka Mountain were adults, 42% were sub-adults, and 8% were juveniles. Finally, to assess the prevalence of incidental winter sightings, we examined peer-reviewed records of Golden Eagles spotted in western North Carolina during the winter months ($n = 29$). Over half of these incidental sightings hailed from the northern mountains. Our camera trap study demonstrates that wintering Golden Eagles are more widespread in the mountains than previously thought, but remain difficult to detect. Western North Carolina may be an important over-wintering area for Golden Eagles. *Keywords:* *Aquila chrysaetos*, camera trapping, Golden Eagle, Southern Appalachians, winter

Introduction

Eight decades after biologists noted an apparent migratory eastern population of Golden Eagles (*Aquila chrysaetos*) passing a hawk watch station in Pennsylvania, this population's winter ecology, distribution, and numbers in eastern North America are still poorly known. Recent research by the Eastern Golden Eagle Working Group is improving our understanding of this population in the East. Compared to its western counterpart, the eastern Golden Eagle population is smaller with an estimated size of $5,000 \pm 2,000$ individuals (Dennhardt et al. 2015, EGEWG 2015, Morneau et al. 2015). Between 1970 and 2004, Golden Eagle numbers at hawk watch stations increased, but this trend has ceased in recent years (Dennhardt et al. 2015). The primary threats to Golden Eagles are lead poisoning, accidental capture in foothold traps, electrocution, and collisions with structures such as wind turbines (Fitzgerald et al. 2015, Katzner et al. 2012).

Eastern Golden Eagles nest in Labrador, Quebec, and Ontario (Katzner et al. 2012, Morneau et al. 2015) and migrate through the Great Lakes and Appalachians to over-winter in the Appalachians (Katzner et al. 2012) and other regions of the eastern USA. The highest density of wintering Golden Eagles in the East occurs in the north-central Appalachians, particularly in Pennsylvania, West Virginia, and Virginia (Katzner et al. 2012). Southeastern states have only recently been systematically surveyed to assess the prevalence of overwintering Golden Eagles in the region (Katzner, Pers. Comm., Vukovich et al. 2015).

The status of the Golden Eagle in western North Carolina has been the topic of previous debate. Claims that the species historically nested in the North Carolina mountains were challenged by Lee and Spofford (1990) on the grounds that the evidence was anecdotal and inconclusive. Ganier (1933) described it as a "very rare resident in the mountains" and "very rare transient" in east Tennessee. It is considered a rare fall migrant and winter visitor to western North Carolina (LeGrand

et al. 2016) with a few sightings each winter and occasional records across the state, throughout the year.

Use of bait and trail cameras to document Golden Eagles greatly improved the understanding of the species' winter distribution in the central Appalachians (Jachowski et al. 2015). This technique exploits the species' readiness to scavenge. The success of the project prompted the Eastern Golden Eagle Working Group to extend the study southward. With 74% of tracking data points in the West Virginia mountains occurring in large blocks of forest (Katzner et al. 2012), the heavily forested mountains of western North Carolina were deemed a priority for investigation. The North Carolina Wildlife Resources Commission (the Commission) participated in a winter camera trapping study in 2013, 2014, and 2015 to assess and update the incidence of wintering Golden Eagles in the North Carolina mountains. Our objective was to determine the distribution of wintering Golden Eagles and assess the importance of western North Carolina to these birds by using a standardized camera trap protocol. Here we report updated distribution information obtained from camera trap stations in 20 counties. In addition, we report demographic information and behavioral observations from a station with high eagle visitation.

Methods

Field Site Description. Western North Carolina falls within Bird Conservation Region 28-Appalachian Mountains (U.S. NABCI Committee 2000). The heavily forested Appalachian Mountains are dominated by oak-hickory and other hardwood and mixed forests with spruce-fir at the highest elevations. Approximately 30% of BCR 28 in North Carolina consists of public lands (e.g., national and state forests and parks, and state game lands), land trust holdings, and conservation easements. We assigned camera trap locations to five geographic sub-region categories: southwestern mountains ($n = 6$), central mountains ($n = 8$), northern mountains ($n = 8$), foothills ($n = 3$), or piedmont ($n = 1$).

For survey sites, we selected fields, wildlife openings, or edges of balds in a forested landscape at elevations ranging from ~579 to 1,676 m and where human disturbance was minimal. These openings ranged from less than 0.4 Ha to 4.8 Ha in size and the majority (75%) were less than 2.0 Ha. Annual survey effort varied with respect to availability of staff and volunteers. We conducted surveys November 2012 to March 2013 and January to March in 2014 and 2015. Initially we operated camera trap stations where staff was available in 2013 ($n = 9$ stations). We subsequently expanded the effort more broadly across western North Carolina in 2014 ($n = 13$ stations) and 2015 ($n = 15$ stations). Three of the survey stations straddled county lines; thus, a detection at these stations was noted as a record for both counties. We surveyed five stations all three years, allowing us to examine annual observed occupancy.

Camera Traps. We baited camera trap stations with road kill White-tailed Deer (*Odocoileus virginianus*) staked to the ground near the edge of an opening and within 2 m of the camera. To reduce risk of exposure to lead shot, we collected deer after the close of gun season. In a few instances, a road kill Elk (*Cervus canadensis*) and beavers (*Castor canadensis*) served as bait. Great Smoky Mountains National Park staff baited their station with feral hogs (*Sus scrofa*) taken with non-lead shot. We used Bushnell Trophy, Bushnell Trophy HD, and Reconyx PC900 Hyperfire Pro IR cameras. All cameras ran 24 hours per day and took a picture when motion triggered, and then paused for 60 seconds before the motion sensor could be triggered again. To minimize disturbance to eagles, we refreshed bait, memory cards, and batteries only as often as needed, usually every ~5 to 10 days. We reviewed images and noted the presence of Golden Eagles at each station and the time lag from initial deployment of bait to first detection.

We then examined one camera station's (Unaka Mountain, Mitchell County) data in finer detail. Here we noted time of day when an eagle visited the station based on each image's time stamp, age class based on plumage (Bloom and Clark 2001,

Ellis 2004, Liguori 2004), and identity of individuals based on distinguishing plumage characteristics. Age class nomenclature followed Liguori (2004) with juveniles having all juvenal flight feathers, sub-adults having a mix of juvenal and adult flight feathers, and adults (>4 years old) having replaced all juvenal flight feathers. We calculated average length of stay (\pm standard deviation). Three independent reviewers scrutinized images to identify individual eagles.

Finally, to assess the prevalence of incidental winter sightings by birders, we examined records of Golden Eagles spotted in western North Carolina during the winter months. We compiled peer-reviewed records published in *The Chat, Briefs for the Files* between 1974 and 2015. Records from the Great Balsams in the 1980s were considered but with the caveat of the potential confounding effect of an effort at that time to establish a breeding Golden Eagle population from eagles released in the North Carolina mountains. Due to the potential to confuse juvenile bald eagles (*Haliaeetus leucocephalus*) and adult Golden Eagles, we elected not to compile sightings that had not undergone peer-review, such as those reported on birding listservs. With few exceptions, records in eBird.org also appear in *Briefs for the Files*.

Results

All Camera Stations. One purpose of our study was to better understand the winter distribution of eagles. We documented Golden Eagles at 17 of 26 (65%) stations in 16 of 20 (80%) counties surveyed (Figure 1, Table 1). With respect to the winter season, eight of these represented new county records (Buncombe, Caldwell, Cherokee, Clay, Graham, Surry, Swain, and Yancey). We documented eagles at camera stations in all sub-regions: southwestern mountains, central mountains, northern mountains, foothills, and piedmont. The highest elevation camera trap station with Golden Eagles was at 1,660 m; the lowest was at 603 m. In winter 2013, we detected eagles at five of nine (56%) camera trap stations. In 2014, we detected

eagles at eight of 13 (62%) camera trap stations. In 2015, we detected eagles at nine of 15 (60%) camera trap stations.

We determined how quickly eagles located deer carcasses by examining date stamps on each image. Average time elapsed from deployment of cameras and deer carcasses to first detection of a Golden Eagle was 13 days in 2013, 19.7 days in 2014, and 10.6 days in 2015. However, eagles were documented within two hours of initial baiting at Mitchell River Game Land and Nolton Ridge (Graham County) and within two days at Catpen (Madison County).

Of the five sites surveyed for >1 year, we detected eagles all three years at Unaka Mountain and Thurmond Chatham Game Land (Wilkes County). We detected eagles at Mitchell River Game Land (Surry County) in 2014 and 2015 but only in 2014 at Buffalo Cove Game Land (Caldwell County). We never detected eagles on Joanna Road (Transylvania County).

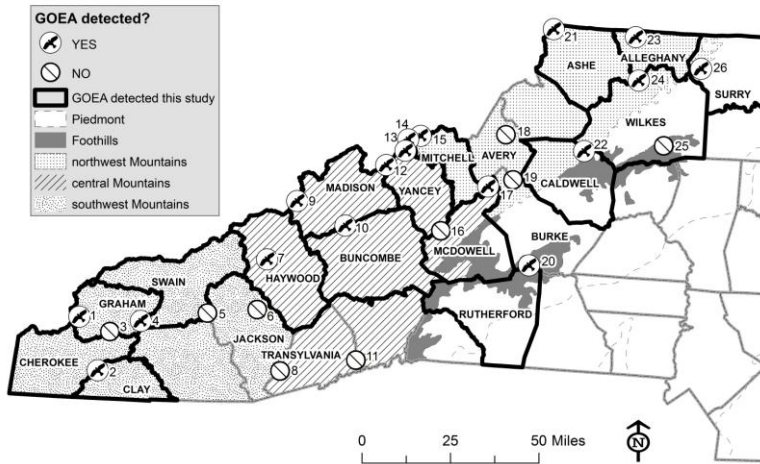


Figure 1. Locations of 26 camera trap stations surveyed for at least one winter season (2013, 2014, and/or 2015) and summary of Golden Eagle detections in western North Carolina.

Unaka Mountain Camera Trap Station. Another purpose of our study was to estimate numbers, summarize age classes, and determine length of stay of eagles visiting Unaka Mountain. The first winter we detected eagles on 14 of 48 (29%) calendar days surveyed between December 28, 2012 and February 13, 2013. We identified five individuals consisting of three adults and two sub-adults and we noted unknown individuals on two days. Two adult eagles pictured at Unaka Mountain also visited the Flat Top camera trap station located 9.7 km away. The second winter we detected eagles on 54 of 80 (68%) calendar days surveyed between December 23, 2013 and March 23, 2014. We identified 14 individuals consisting of five adults, seven sub-adults, and two juveniles (Figure 2) and we noted unknown individuals on seven days. The two juveniles arrived on February 21 and 23, 2014. The third winter we detected eagles on 15 of 29 (52%) calendar days surveyed between

January 8 and February 13, 2015. We identified seven individuals consisting of five adults and two sub-adults. We also trapped eagles at this camera station for a related GPS telemetry study. Thus, we knew that at least two individuals were returning birds: An adult male captured in 2013 again visited Unaka Mountain in 2015. In one image, he fed simultaneously with an adult female that was captured on February 11, 2015 and previously observed with this male in 2013. Disturbance associated with trapping may have affected visitation in the days following trapping. Despite this, eagle visitation remained high overall at Unaka Mountain.



Figure 2. Adult Golden Eagle pictured at Unaka Mountain on February 22, 2014.



Figure 3. Juvenile Golden Eagle pictured at Unaka Mountain on February 22, 2014.



Figure 4. Sub-adult Golden Eagle pictured at Unaka Mountain on February 22, 2014.

Over the course of the three winters at Unaka Mountain we captured 1,157 images of Golden Eagles and documented them on a total of 83 calendar days. We noted a single eagle on 46 calendar days and >1 individual on 37 calendar days (Figure 3).

The highest number of individual eagles visiting the site in a single day was five on February 23, 2014. Despite the presence of multiple individuals per day, Golden Eagles fed together on just three occasions: two adults on February 7, 2013, an adult and sub-adult on January 31, 2014, and two adults on February 6, 2015. In all other visits an individual fed alone. However, additional video footage and observations from a blind documented more instances of two eagles feeding together than the still cameras documented. Length of stay of adult eagles ($n = 13$) averaged 4.7 days (± 4.4 days). The longest lengths of stay for three adults were 12, 11, and 10 days. Length of stay of sub-adult eagles ($n = 11$) averaged 3.5 days (± 1.9 days) and the longest length of stay was six days for two individuals. One juvenile was documented on 20 days and a second juvenile on nine days. Eagles visited bait throughout the day, but never between sunset and sunrise.

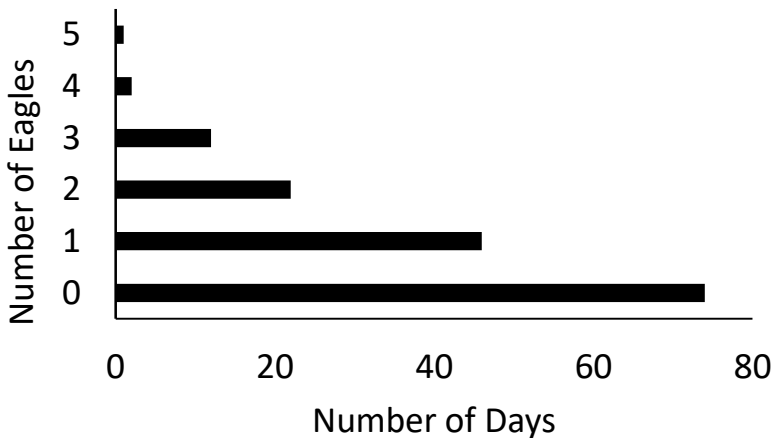


Figure 5. Number of Golden Eagles detected per day over the course of three winters (2013, 2014, and 2015) at Unaka Mountain camera station.

Records from *The Chat*. We found 114 reports of Golden Eagles in western North Carolina published in *The Chat Briefs for the Files* between 1974 and 2015 with records spanning

every month of the year. Of these we examined 29 reports falling between early January and late March to coincide with the timeframe of the bulk of our camera trapping effort. Seventeen records (58%) originated from the northern mountains. The remaining twelve records originated from the piedmont (1), foothills (2), central mountains (8), and southwestern mountains (1) and in total represent 13 counties. Ninety percent of winter records reported a single bird and only three reported multiple individuals. Adult eagles represented 48% of these sightings, immatures 32%, and 19% were of undetermined age. For most records of immatures, it was unclear if the bird was a juvenile or sub-adult. Published winter records outside of the January to March timeframe of our study included 15 for the month of December. For the southwestern mountains, we found published accounts of Golden Eagles limited to two summer records (Graham County), one autumn record (Swain County), and no winter or spring records. We found two other sources of winter Golden Eagle records. a U.S. Forest Service file noted 12 observations of Golden Eagles in the Shining Rock area (Haywood County) of the Pisgah Ranger District during surveys conducted by staff in winter 1974 and 1975 (Sanders 1976). The Commission's peregrine falcon monitoring data noted Golden Eagles invading falcon territories in Macon (February 2014) and Madison Counties (March 2004).

Table 1. Annual survey effort and detections of Golden Eagles at camera trap stations ($n = 26$) in western North Carolina in winters 2013, 2014, and 2015.

Site #	Site	County	Region ¹	Golden Eagle detected?		
				2013	2014	2015
1	Oak Knob	Graham	SW	-	-	Yes
2	Leatherwood	Clay/Cherokee	SW	-	Yes	-
3	Walker Fields	Graham	SW	-	No	-

4	Nolton Ridge	Swain/Graham	SW	-	-	Yes
5	Pigpen Flats	Swain	SW	-	No	-
6	Balsam Mountain Preserve	Jackson	SW	No	-	-
7	Purchase Knob	Haywood	C	-	-	Yes
8	Toxaway Mountain	Transylvania	C	-	No	-
9	Catpen	Madison	C	-	-	Yes
10	Sandy Mush Game Land	Madison/Buncombe	C	-	Yes	-
11	Joanna Road	Transylvania	C	No	No	No
12	Big Bald	Yancey	C	Yes	-	-
13	Flat Top	Yancey	C	Yes	-	-
14	Shinbone	Mitchell	N	-	-	Yes
15	Unaka Mountain	Mitchell	N	Yes	Yes	Yes
16	Curtis Creek	McDowell	C	-	-	No
17	Humpback Mountain	McDowell	N	-	Yes	-
18	Sugar/Bald Mountain	Avery	N	-	No	-
19	Ripshin	Burke	N	-	-	No
20	South Mountains Game Land	Rutherford	F	-	Yes	No
21	Pond Mountain Game Land	Ashe	N	-	-	Yes
22	Buffalo Cove Game Land	Caldwell	F	No	Yes	No
23	Turkey Knob	Alleghany	N	Yes	-	-
24	Thurmond-Chatham Game Land	Wilkes	N	Yes	Yes	Yes
25	Brushy Mountains	Wilkes	F	-	-	No
26	Mitchell River Game Land	Surry	P	No	Yes	Yes

¹ C = central mountains. F = foothills. N = northern mountains. P = piedmont. SW = southwestern mountains. A dash (-) indicates no survey conducted.

Discussion

Our camera trapping survey resulted in new county records for the winter season, thus increasing distribution knowledge of

Golden Eagles. Our data are especially important in light of a recent change in trends of Golden Eagles at hawk watch stations that indicates the increasing population trend stabilized in 2004 (Dennhardt et al. 2015). Concurrently, eagle biologists are concerned about rapid wind energy development in the Central Appalachians and unresolved threats posed by lead poisoning and accidental capture in foothold traps.

Perhaps the most significant new records were those that filled in distribution gaps in the southwestern mountains. We have first county records for the Cheoah, Unicoi, and Valley River Mountains in that corner of the state. Prior to our study, sightings from the southwestern mountains were scant and most sightings were from the High Country of northwestern North Carolina. Furthermore, we documented wintering Golden Eagles broadly across the region- in North Carolina's southwestern, central, and northern mountains and in the foothills and western piedmont.

The number of golden eagles visiting the Unaka Mountain camera trap station was remarkably high, with as many as 14 individuals in the 2014 season. In comparison, the highest number reported on the coastal plain in the Carolinas was eight individuals identified from seven camera trap stations (Vukovich et al. 2015). The presence of more than one individual per day was not unusual at our Unaka Mountain camera trap, occurring on 37 days of surveys. Our data of eagles scavenging at a deer carcass diverge from most North Carolina winter records from birders, which typically note a single eagle in flight that is often not relocated. A notable exception in the published records were reports of three adults and one "immature" eagle at Bakers Mountain Park (Catawba County) in December 2003 (Davis 2004, D. Martin, Pers. Comm.). This observation bears greater similarity to our camera trap observations than other winter reports. Furthermore, these December sightings at Bakers Mountain followed three other sightings of adult and immature eagles at Bakers Mountain in May, June, and October, 2003.

In addition to being numerous, Golden Eagles visited Unaka Mountain fairly frequently, on 52% of total survey days. Not surprisingly given the presence of bait, sixty-two percent ($n = 26$) of identifiable individuals visited on multiple dates. The longest number of days we detected individuals at the Unaka Mountain station was lower than the 30 and 31 days reported for two adult Golden Eagles in South Carolina (Vukovich et al. 2015). However, the results of that study represent a compilation of data from seven camera trap stations spread across the Savannah River Site, whereas ours represented a single camera trap station. Movement of one of our transmittered birds between Unaka Mountain and Flat Top was similar to the short-distance movements documented in South Carolina. Thus, we suspect that the number of days individuals were detected would have been higher had we included data from our additional camera trap stations situated in the vicinity of Unaka Mountain at distances comparable to the spacing of stations across the South Carolina study area.

Golden Eagles in our study exhibited winter site-fidelity, much like Golden Eagles in the West (Kochert et al. 2002). At Unaka Mountain we observed apparent site-fidelity to the wintering grounds across years in at least five adult eagles (three females, two males) identified and tracked with cameras and/or telemetry, even when bait was not supplied in winter 2016 (C. Kelly, unpublished data). In other studies, eagles exhibited winter site fidelity in Alabama and South Carolina (Soehren, Pers. Comm., Vukovich et al. 2015). Quick return to mid-season replacement of bait, a phenomenon observed in our study and in South Carolina, suggests that eagles had remained in the area. Frequent and/or repeat visitation to baited camera traps may be higher where topography favors development of updrafts, which may in turn facilitate detection of carcasses (Jachowski et al. 2015). Or the site may be situated closer to roost sites or hunting/scavenging grounds or further from human disturbance. Further analysis of winter home range, habitats, and distribution of GPS-tracked Golden Eagles in

North Carolina is needed and currently in progress to better understand wintering behavior.

The Eastern Golden Eagle Working Group's approach of using baited camera traps allowed us to rapidly gather distribution information for Golden Eagles wintering in North Carolina. Golden Eagles arrived quickly at some camera trap sites at the start of the survey season, suggesting their presence in the area prior to baiting, a phenomenon observed in South Carolina as well (Vukovich et al. 2015). Using a baited camera station could potentially introduce bias to the distribution of Golden Eagles by luring them to a site (Jachowski et al. 2015). However, we contend that this bias is minimal, in light of the distances between camera stations, concurrent presence of eagles at these sites, and apparent site fidelity even in the absence of bait.

Wintering Golden Eagles are likely much more widespread than previously thought but remain generally undetected due to low birder visitation to remote, often inaccessible forest tracts in winter. In fact, the remoteness of the North Carolina mountains suits the Golden Eagle's apparent aversion to human disturbance. Researchers in South Carolina attribute high detections of Golden Eagles at their study site to the fact that visitor access to the Savannah River Site is tightly restricted (Vukovich et al.2015).

Management Implications

Our findings should inform management of Golden Eagles, especially with respect to threats posed by foothold traps, lead ammunition used in feral hog eradication and game hunting, and wind energy development. To reduce accidental capture of eagles in foothold traps, biologists in Quebec recommend bait be buried in containers and positioned at least 30 m from a trap in case it becomes uncovered (Fitzgerald et al. 2015). In West Virginia, bait must be concealed if it is within 15 m of a trap (WVDNR 2016). Even with restrictions on bait placement, it is possible that Golden Eagles and other raptors may still be accidentally captured in foothold traps due to their ability to

walk long distances searching for the bait. Implementing and enforcing requirements on solidly anchoring traps and daily trap attendance, as well as trapper education on how they should respond if they capture a raptor, will decrease injuries and mortalities (Olfenbuttel, pers. comm.). Golden Eagles in our study scavenged deer and feral hog carcasses. Vukovich et al (2015) recommended that managers of feral hog control programs should incorporate measures to minimize exposure of Golden Eagles to lead ammunition. These recommendations are especially relevant for Mitchell County, an area with both abundant eagles and abundant feral hogs as well as an active hog eradication program (M. Crockett, Pers. Comm.). Although the North Carolina Administrative Code (15A NCAC 10B .0106) specifies that the non-edible portions of a deer carcass should be buried or disposed of in a safe and sanitary manner, the potential for eagles to ingest lead when scavenging carcasses of deer taken with lead shot remains a concern (NCWRC 2016). Lastly, distributional records for wintering Golden Eagles are increasingly needed due to interests in wind energy development in the mountains (Raichle and Carson 2009, Graeter et al. 2015).

Our results contribute to information needed by the Commission, by the Eastern Golden Eagle Working Group, and by birders. Midway through our study, the Golden Eagle was listed as a species with a significant knowledge gap in the North Carolina Wildlife Action Plan (NCWRC 2015). Likewise, as a result of this regional camera trapping effort, 12 eastern states now list the Golden Eagle in their State Wildlife Action Plans, up from just five states in 2012 (Katzner et al. 2012). Despite declines at fall migration hawk watch stations, winter sightings of Golden Eagles are on the rise. This is a direct consequence of this increased survey effort and awareness (EGEWG 2015). Birders wishing to check the Golden Eagle off their list should investigate small openings situated in large forest blocks at prominent topographic positions, especially places with expansive views of the valleys below, and search for soaring birds riding the thermals.

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Status of the Gray Kingbird in South Carolina and Neighboring Regions

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In South Carolina, the Gray Kingbird (*Tyrannus dominicensis*) was once a casual breeder in Charleston County. Apparently it no longer breeds and is now a rare, irregular transient on the immediate coast, and a casual visitor on the coastal plain outside the tidal zone. This kingbird breeds from northern Colombia and Venezuela, through the Caribbean Basin and the Bahamas, and in North America from Mississippi to southeastern North Carolina. North of Florida, it has been found nesting only near the coast (Post 2013).

Breeding

South Carolina has six confirmed nesting records, all made before 1894. In spring 1832, the son of Paul Lee showed Rev. John Bachman a pair of Gray Kingbirds that were nesting on the College of Charleston campus. The kingbirds' first nest was destroyed, but they nested again that year, and continued doing so at least three more years, rearing two broods each season (Audubon 1831). A. T. Wayne (1894) found the next nest on 27 March 1885, on Sullivan's Island. The nest, which contained one egg, was in a White Poplar (*Populus alba*) within a meter of a residence. Wayne collected the female and egg. On 30 May 1893, Wayne collected two adults and a clutch of two eggs, also on Sullivan's Island, in the vicinity of Ft. Moultrie. Upon dissection, he found the female was about to lay a third egg. The nest, also in a private yard, was 6 m above ground near the top of a Southern Live Oak (*Quercus virginiana*). Based on Wayne's data, SC egg dates are 27-30 May.

In May 1927 Wayne and A. Sprunt, Jr. saw a Gray Kingbird in Mt. Pleasant and suspected it of breeding; Wayne searched "every suitable locality", but found no nest (Wayne 1927).

E.v.S. Dingle saw four Gray Kingbirds together on the western end of Sullivan's Island on 11 August 1942. Two to four Gray Kingbirds were seen together on Lighthouse (Cape) Island, Cape Romain, in three breeding seasons (1945 to 1947; J. Shuler, A. Sprunt, Jr.), and it is possible nesting occurred. T. Patterson saw a pair on 11-13 May 1984 in appropriate nesting habitat on Fripp Island. On 13 July 1993, at Debidue Beach (Georgetown Co.), Lex Glover saw a pair accompanied by a juvenile, but the nesting locality could not be determined.

Nonbreeding

Excluding possible breeding individuals, from 1909 to 1955, Gray Kingbirds were reported in SC in only six years. After the 1950s, the Kingbirds were noted more regularly: in 30 of the 55 years (from 1961 to 2015).

Coast Through 2016, at least 53 reports have been published. The extreme dates are 9 April (1964, Edisto Island) to 28 October (2000, James Island). The kingbirds have occurred in two peaks: mid-April to late May: (64% of reports), and late July to early September (31%). Gray Kingbirds found in spring north of their breeding range may represent cases of overshooting (Armistead and Illiff 2002). Veit and Petersen (1993) believe that overshooting may lead to northward range expansion, and extralimital birds should be classified as pioneers rather than vagrants.

Coastal Plain Through 2016, seven reports were made, all in the fall: (1) Savannah River Site, in Aiken Co. on 19 November 1956 (Odum and Norris 1957), (2) Lake Moultrie on 7 August 1976 (Crutchfields), (3) Santee NWR on 25 October 1980 (Beatty *et al.*), (4) Greeleyville, (Williamsburg Co.), 27-28 October 1989 (Lex Glover *et al.*, photo), (5) Columbia, 6-12 September 2004 (Mike Turner, photo in *North American Birds* 59:60; verified by SC Bird Records Committee, no. 2015-020), (6) Richland Co., 27-29 August 2006 (R. Carter *et al.*, photo; verified, SCBRC no. 2015-019), (7) Santee NWR, 29 October 2016 (C. Donnelly, N. Dias, photo).

Neighboring regions

North Carolina has at least 70 reports through 2015, spanning the period 12 March (1957) –2 November (2002). Unlike South Carolina, where all inland reports have been from the Coastal Plain, birds have been seen in the NC Piedmont on at least three occasions. At Raleigh, two were seen on 16 April 1959 and one appeared on 3 October 2015. At North Wilkesboro, one showed up on 5 August 1966. These sightings are unusual because of their distances from the ocean (Raleigh, 190 km; North Wilkesboro, 350 km).

Breeding may have occurred at Southport Village, NC, in 1957 (B.R Chamberlain 1975; Audubon Field Notes 11:398). For several weeks, starting 28 June, a “group” of the kingbirds was present (Waters Thompson) and on 21 August, Cecil Appleberry watched four, one of which he “suspected might be a bird of the year”. During 1-21 June 1996, two Gray Kingbirds were associating at Ft. Caswell, Brunswick County. Nesting was confirmed the next year at the same site, where, on 21 June, Wayne Irwin photographed a nest that contained two eggs (Chat 62:45, 1998). Ft. Caswell is the Gray Kingbird's northernmost nesting location in North America.

In Georgia, the first nest was found in July 1938 on Cockspur Island (Eyels 1938). Another nest was found on the same island on 24 June 1939 (Eyels 1941). The Gray Kingbird has nested at other Georgia localities: Sea Island (1983), Jekyll Island (1991), and Savannah (2005). On Jekyll Island on 9 October 1994, M.W. Oberle saw adult Gray Kingbirds feeding young cowbirds (species unknown: Brown-headed Cowbirds, *Molothrus ater*, as well as Shiny Cowbirds, *M. bonariensis*, were in the area). In Georgia, 30 of 48 occurrences were in April-May. Due to the presence of breeding birds, a relatively large proportion of Georgia reports (32%) have been in summer. In fall, a peak occurred in August (21% of sightings). Several winter reports have been made, but none verified. The range of Georgia dates is 16 April to 2 November.

Documentation

Specimen Study skins (male; Charleston Museum 30.147.514), collected by A.T. Wayne on Sullivan's Isl., 30 May 1893. A female (Am. Museum of Natural History 306308), collected 30 April 1840 by Audubon, was probably from the College of Charleston population.

Photograph Fort Moultrie, Sullivan's Island, SC 10 October 2015 (Pam Ford; Carolina Bird Club Photo Gallery)
<https://www.carolinabirdclub.org/gallery/Ford/grak.html>

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BRIEFS FOR THE FILES

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(All dates Spring 2017, unless otherwise noted)

Briefs for the Files is a seasonal collection of uncommon-to-rare or unusual North and South Carolina bird sightings and events which do not necessarily require a more detailed Field Note or article. Reports of your sightings are due the 20th of the month after the end of the previous season.

Winter	December 1–February 28	due March 20
Spring	March 1–May 31	due June 20
Summer	June 1–July 31	due August 20
Fall	August 1–November 30	due December 20

Reports may be submitted in any format, but I prefer that you use email, list multiple sightings in taxonomic order (rather than by date or location), and type your report directly into the body of the email. If your sightings are in a file, please copy-and-paste the text into the body of the email, rather than sending an attachment.

Suitable reports for the Briefs include any sightings you feel are unusual, rare, noteworthy, or just plain interesting to you in any way! It is my responsibility to decide which reports merit inclusion in the Briefs.

Please be sure to include details of any rare or hard-to-identify birds.

I rely in part on sightings reported in Carolinabirds. Please don't, however, rely on me to pick up your sightings from Carolinabirds. Instead, please also send your sightings directly to me as described above.

If I feel that your sighting warrants a Field Note, I will contact either you or the appropriate state Field Notes editor. You may, of course, submit your Field Note directly to the editor without going through me.

Abbreviations: **BRC** – Bird Records Committee, **Co** – County, **et al.** – and others, **Ft** – Fort, **Ln** – Lane, **m. obs.** – multiple observers, **NC** – North Carolina, **NWR** – National Wildlife Refuge, **Rd** – Road, **SC** – South Carolina, **SP** – State Park, **WTP** – Water Treatment Plant

Black-bellied Whistling-Duck: One seen around ponds in the Mill Pointe subdivision in Elon, Alamance Co, NC 16-22 Apr (Steve Dingeldein, m. obs.) was unusual for the Piedmont region. 12 photographed in Oriental, Pamlico Co, NC, 8 May (Greg Perry) was an impressive count for NC. An individual was also photographed near Palmetto-Peartree Preserve, Tyrrell Co, NC, 30 May and 2 Jun (Ben Decker, Alicia Jackson).

Greater White-fronted Goose: One seen and photographed at Mulligan's Pond in Caldwell Co, NC, 15 Apr (Walt Kent) through 30 Apr (Ken Kneidel) was somewhat late.

"Eurasian (Common) Teal": A drake of the Eurasian race of Green-winged Teal was seen and photographed at the Ocean Isle Beach WTP, Brunswick Co, NC, 6-13 Mar (Taylor Piephoff, m. obs.).

Redhead: Two lingered at the WTP along NC-191 in Henderson Co, NC, until 14 May (Aaron Steed, et al.).

Ring-necked Duck: A drake lingered on a small pond along US-1 in southern Lee Co, NC, 21 May and 10 Jun (Jeff Beane, Stephanie Horton).

Common Eider: Late to depart was a drake photographed on the north side of Masonboro Inlet, New Hanover Co, NC, 16 May (Robert Snowden) and three, one drake and two hens, at Murrells Inlet, Georgetown Co, SC, until 30 May (Ellen & Jerry Horak).

Harlequin Duck: Two, a drake and a hen, seen off the coquina rock outcrop at Ft Fisher, New Hanover Co, NC, 18 Mar (Thomas Gray, m. obs.) were probably the same two ducks seen at that site in February. Also in New Hanover County were three hens off Johnnie Mercer's Pier, 27 Mar (Sam Cooper).

Surf Scoter: An adult male photographed at Archie Elledge WTP (limited access), Forsyth Co, NC, 30 Mar (David Disher, et al.) was noteworthy for an inland site.

Bufflehead: A hen photographed on Smyrna Creek, Carteret Co, NC, 19 May (Martin Wall) was late to depart.

Hooded Merganser: Breeding was confirmed at three sites—at the Little Creek Waterfowl Impoundment, Durham Co, NC, where a hen was seen with nine immature ducks, 8 May (Mark Kosiewski, Matt Spangler); at Kathwood Lakes, Silver Bluff Audubon Center, Aiken Co, SC, where a hen was seen with ten immature ducks, 12 May (Drew Grainger); and in the Beaverdam Creek arm of Lake Hartwell, Anderson Co, SC, where a hen was seen with seven immature ducks, 26 May (Scott Davis).

Common Merganser: Breeding in western NC was confirmed again this year when a total of 26, including one hen with ten juvenile ducks and a second hen with seven juvenile ducks, were seen and photographed

along the Dan River in Stokes Co, NC, 15 Apr (Jesse & Shannon Anderson, Nathan & Sarah Gatto). Suggestive of possible breeding were two, a drake and a hen, on the Ararat River near where it meets the Yadkin River in Surry Co, NC, 4 May (Anderson) and six, one drake and five hens, on the South Toe River near Celso, Yancey Co, NC, 13 May (Travis Knowles, et al.).

Horned Grebe: One lingered on North Pond, Pea Island NWR, Dare Co, NC, until 30 May (David Williams).

White-winged Dove: One photographed on Oak Island, Brunswick Co, NC, 12 May (Cathy & Thomas McNeil) was the only one reported this spring.

Eastern Whip-poor-will: One recorded singing along Faulkner Rd in York Co, SC, 8 Mar (Steven Biggers) was quite early.

Black-chinned Hummingbird: An immature male was seen and photographed at a feeder in Beaufort, Carteret Co, NC, 31 Mar through 14 Apr (Martin Wall, m. obs.).

Black Rail: Black Rails were heard calling along NC-12 at Cedar Island NWR, Carteret Co, NC, on multiple dates this spring, 16 Apr (John Fussell, et al.) into summer, with a high count of seven heard there 9 May (Jelmer Poelstra).

Clapper Rail: One photographed at a farm in Harnett Co, NC, 23 Apr (Susan Campbell) must have been forced down by inclement weather while migrating.

Virginia Rail: Three at Walnut Cove WTP (limited access) in Stokes Co, NC, 21 Apr (Jesse Anderson) was a good count for a site in the Piedmont.

Sora: Five at Walnut Cove WTP (limited access) in Stokes Co, NC, 21 Apr (Jesse Anderson) and nine at Harris Lake, Wake Co, NC, 22 Apr (Lucas Bobay, et al.) were good counts for the Piedmont.

Purple Gallinule: One photographed at Horseshoe Lake in Bladen Co, NC, 7 May (Mark Shields) was NC's first sighting in three years. Individuals photographed at Brick Pond Park in Aiken Co, SC, 8 May (Lois Stacey) and at the "Old Gravel Quarry" (restricted access) in Marlboro Co, SC, 10 May (Irvin Pitts, Mac Williams) were unusual for those sites away from the coast.

Common Gallinule: Breeding was confirmed at the "Old Gravel Quarry" (restricted access) in Marlboro Co, SC, when four juveniles were seen amongst 20 adults, 10 May (Irvin Pitts, Mac Williams).

Limpkin: Individuals photographed at the north end of Lake Robinson, Greenville Co, SC, 2 May (Barb Hennessy) and along Poplar Creek at Santee SP, Orangeburg Co, SC, 12 May (Ann Wilson) were great finds for the Carolinas.

Sandhill Crane: Spring sightings included one in a corn field along Deerfield Rd in Watauga Co, NC, 18 Mar (Audrey Wilcox) and 19 Mar (Richard Gray); one over Max Patch Bald, 10 Apr (Jamie Adams); two at Murray's Mill in Catawba Co, NC, 26 Apr (Lori Owenby, m. obs.); one at the Simpson Research Station, Anderson Co, SC, 1-2 May (Imtiaz Haque); two in a wheat field along the Mitchell River in Surry Co, NC, 2 May (Joe Mickey); one in Mills River, Henderson Co, NC, 4-5 May (Ron Selvey, m. obs.); one in the Sandy Mush Game Land, Buncombe Co, NC, 5 May (Chris Henline, David Stewart); one in south Burlington, Alamance Co, NC, 9-13 May (Rebecca Dellinger-Johnston, m. obs.); one over Bulls Island, Cape Romain NWR, Charleston Co, SC, 15 May (David McLean, Julie Mobley); and one in Kannapolis, Cabarrus Co, NC, 21-23 May (Mandy Crivello, m. obs.)

Black-necked Stilt: One photographed along Muddy Creek in Forsyth Co, NC, 7 Apr (Donald Kautz, m. obs.) was a great find for an inland site and likely the same individual seen the next day at the nearby Archie Elledge WTP, Forsyth Co, NC, 8 Apr (John Haire). One seen at the upper end of Lake Wheeler, Wake Co, NC, 14 May (Phil Doerr, Clyde Sorenson) was also a great find for an inland site.

American Avocet: One photographed at Mason Inlet, New Hanover Co, NC, 26 May (Sam Cooper) was unusual for that area.

Black-bellied Plover: Five along Hooper Lane in Henderson Co, NC, 14 May (David Williams, et al.) were noteworthy for the mountain region in spring.

American Golden-Plover: Atypically, all sightings this spring were made at sites along the coast. Individuals were seen at Savannah NWR, Jasper Co, SC, 23 Mar (Dave Spangenburg) and 25 Mar (Cindy Groff); at Tom Yawkey Wildlife Center (restricted access), Georgetown Co, SC, 25 Mar through 29 Apr (Jamie Dozier); on the spit at Ft Fisher, New Hanover Co, NC, 7 Apr (Greg Massey) and 23 Apr (Jamie Adams); at the Rachel Carson Reserve, Carteret Co, NC, 11 Apr (John Fussell, et al.) and 17 Apr (Martin Wall); and at the KOA Campground in Waves, Dare Co, NC, 24-28 May (Jesse Anderson, m. obs.).

Wilson's Plover: One seen at the north end of Pea Island NWR, Dare Co, NC, 29 Apr (Jeff Lewis) through 27 May (Dan Belter, et al.) was unusual for that area.

Upland Sandpiper: Up to three were seen at Dobbins Farm, Anderson Co, SC, 3-7 Apr (m. obs.). Individuals at Rocky Mount-Wilson Regional Airport, Nash Co, NC, 18 Apr (Ricky Davis) and along Hooper Ln in Henderson Co, NC, 13 May (Denise Hargrove) were also good finds for the spring season.

Whimbrel: A few of the higher counts were 161 on Bird Shoal, Rachel Carson Reserve, Carteret Co, NC, 27 Apr (John Fussell); 320 on Seabrook Island, Charleston Co, SC, 28 Apr (Carl Miller); and 215 at Sunset Beach, Brunswick Co, NC, 20 May (Ricky Davis).

Dunlin: Two photographed at Dobbins Farm, Anderson Co, SC, 10 Apr (Gary Harbour, Michael Robertson), as well as two photographed along Short Dog Drive in Iredell Co, NC, 23 Apr (Ron Underwood, et al.), were good finds for inland sites in spring.

Purple Sandpiper: Individuals photographed on the beach near the Cedar Island Ferry Terminal, Carteret Co, NC, 5 Apr (Martin Wall) and near the ferry terminal at the east end of Ocracoke Island, Hyde Co, NC, 8 Apr (Greg Hudson) were unusual for those sites.

White-rumped Sandpiper: A few of the higher counts were 28 at Prater Farm, Anderson Co, SC, 25 May (George McHenry, m. obs.); 17 at Dobbins Farm, Anderson Co, SC, 26 May (Kevin Kubach); and 15 along Hooper Ln in Henderson Co, NC, 28 May (Simon Thompson).

Semipalmated Sandpiper: 70+ along Hooper Ln in Henderson Co, NC, 28 May (Simon Thompson) and 150 along NC-191 in Mills River, Henderson Co, NC, 28 May (Aaron Steed) were noteworthy counts for the mountain region.

Short-billed Dowitcher: Two photographed at Charles D. Owen Park, Buncombe Co, NC, 11 May (Al Hooks) were good finds for the mountain region.

Solitary Sandpiper: One photographed at Lake Conestee Nature Park, Greenville Co, SC, 2 Mar (Jo Anne Keasler, m. obs.) was early.

Willet: Five photographed at Lake Robinson, Greenville Co, SC, 11 May (Jo Anne Keasler) was a noteworthy count for an inland site. Also at inland sites were individuals photographed at Lake Crabtree, Wake Co, NC, 24 Apr (Stacy Barbour, m. obs.) and at Lake Townsend, Guilford Co, NC, 5 May (Mike Conway, m. obs.).

Wilson's Phalarope: An adult female photographed on private property in northeast Beaufort Co, SC, 7 Apr (Chris Marsh, et al.) was a great find for spring and somewhat early.

Red-necked Phalarope: Sightings included one on North Pond, Pea Island NWR, Dare Co, NC, 5-7 May (Alan MacEachren, m. obs.); two on North Pond, 6 May (Lucas Bobay, et al.); one at a pond along Ossi Court in Guilford Co, NC, 21-22 May (Brenda Hiles-Hurt, m. obs.); one at Lake Crabtree, Wake Co, NC, 22 May (Eddie Owens); and two at Lake Crabtree, 23-34 May (m. obs.).

South Polar Skua: Individuals were seen on only two of the 15 pelagic trips out of Hatteras, Dare Co, NC, this spring, on 22 May and 10 Jun (Brian Patteson, et al.).

Pomarine Jaeger: 19-20 on a pelagic trip out of Hatteras, Dare Co, NC, 22 May (Brian Patteson, et al.), when winds were out of the southeast, was a good one-day count. One off Coquina Beach, Dare Co, NC, 3 May (Lucas Bobay, Neil Skoog) was a notable sighting from shore. A sick or injured individual was seen on the spit at Ft Fisher, New Hanover Co, NC, 25 May (Greg Massey).

Parasitic Jaeger: Five off New River Inlet, Onslow Co, NC, 4 Apr (Andrew Rapp) was a good from-shore count.

Razorbill: One off the Cedar Island Ferry Terminal, Carteret Co, NC, 9 Mar (Martin Wall), and two there 11 Mar (Travis Marceron), were unusual for a site away from the ocean. One at Masonboro Inlet, New Hanover Co, NC, 1 Apr (Sam Cooper) was late.

Black-headed Gull: An adult was seen and photographed at Mason Inlet, New Hanover Co, NC, 24 Mar (Sam Cooper) and 25 Mar (Jamie Adams).

Laughing Gull: Two adults at Lake Julian, Buncombe Co, NC, 30 Apr (Simon Thompson) were unusual for the mountain region, probably the same two adults seen at Lake Junaluska, Haywood Co, NC, the next day, 1 May (Kirk Gardner, m. obs.).

Glaucous Gull: An immature bird was seen and photographed at Mason Inlet, New Hanover Co, NC, 3-4 Mar (Matt Spangler, m. obs.).

Brown Noddy: One was well-seen and photographed during a pelagic trip out of Hatteras, Dare Co, NC, 31 May (Brian Patteson, et al.). Patteson notes that this sighting was “our first good look with photos aboard the Stormy Petrel II (or, since 2003).”

Bridled Tern: Bridled Terns were seen on nine of the 15 pelagic trips out of Hatteras, Dare Co, NC, 20 May through 10 Jun, with a total of 32+ seen (Brian Patteson, et al.).

Roseate Tern: Rarely seen on pelagic trips out of Hatteras, Dare Co, NC, a Roseate Tern was seen and photographed 22 May (Brian Patteson, et al.).

Arctic Tern: Pending review by the NC BRC was the report of an Arctic Tern on Falls Lake off Sandling Beach, Wake Co, NC, during its Spring Bird Count, 25 May (Brian Bockhahn, m. obs.) and continuing 26 May (Ed Corey). Nine on a pelagic trip out of Hatteras, Dare Co, NC, 22 May (Brian Patteson, et al.) was a good one-day total.

Red-billed Tropicbird: An adult was seen and photographed at the Salt Pond at Cape Point, Dare Co, NC, 2 Apr (Michael Gosselin, Andrew Thornton). Interestingly, this typically pelagic species has now been seen at Cape Point during the spring season for five of the past nine years. An immature bird was well-seen on a pelagic trip out of Hatteras, Dare Co, NC, 1 Jun (Brian Patteson, et al.).

Red-throated Loon: One on Lake Townsend, Guilford Co, NC, 30 Mar through 1 Apr (Henry Link, m. obs.) was noteworthy for an inland lake.

Pacific Loon: One was seen off Johnnie Mercer's Pier, New Hanover Co, NC, 27 Mar (Sam Cooper).

Black-capped Petrel: 200+ on a pelagic trip out of Hatteras, Dare Co, NC, 21 May (Brian Patteson, et al.) was a nice total for May.

Fea's Petrel: Individuals were seen on two of the 15 pelagic trips in late May and early June, on 22 May and 2 Jun (Brian Patteson, et al.).

Cory's Shearwater: Three in flight off Cape Point, Dare Co, NC, 22 May (Michael Gosselin) were good finds from shore.

Sooty Shearwater: 18 off Cape Point, Dare Co, NC, 22 May (Michael Gosselin) was the highest count made from shore this spring.

Great Shearwater: 170 on a pelagic trip out of Hatteras, Dare Co, NC, 9 Jun (Brian Patteson, et al.) was a noteworthy total.

Audubon's Shearwater: Between 400 and 600, most of which were feeding in the Sargassum on the edge of the Gulf Stream, seen on a pelagic trip out of Hatteras, Dare Co, NC, 30 May (Brian Patteson, et al.) was an amazing total.

European Storm-Petrel: One was well-seen and photographed on a pelagic trip out of Hatteras, Dare Co, NC, 21 May (Brian Patteson, et al.).

Swinhoe's Storm-Petrel: One was well-seen and photographed as it visited a chum slick intermittently for over an hour during a pelagic trip out of Hatteras, Dare Co, NC, 9 Jun (Brian Patteson, et al.), providing NC with its fourth documented record, and first since June 2009.

Magnificent Frigatebird: An immature bird was photographed over Seabrook Island, Charleston Co, SC, 27 May (Jake Zadik).

Masked Booby: One was seen on a pelagic trip out of Hatteras, Dare Co, NC, 9 Jun (Brian Patteson, et al.).

Brown Booby: A first-year individual was photographed at Cape Point, Dare Co, NC, 22 May (Michael Gosselin). An adult was seen on a pelagic trip out of Hatteras, Dare Co, NC, 3 Jun (Brian Patteson, et al.).

Northern Gannet: Up to six over the Neuse River near Minnesott Beach, Pamlico Co, NC, 12-24 Mar (Pauline Sterin) were unusual for an area so far from the ocean.

American White Pelican: The spring's high count was 87 over Awendaw, Charleston Co, SC, 13 Apr (Charles Donnelly). Locally unusual were three at Jordan Lake, Chatham Co, NC, 1 Apr (Mark Kosiewski) and nine in the Davis Impoundment, Carteret Co, NC, 3 Mar (Martin Wall). 18 at Mattamuskeet NWR, Hyde Co, NC, 26 May (Susan Campbell) were somewhat late for that area.

“Great White Heron”: A white morph Great Blue Heron was seen and photographed in the Horsepen Creek arm of Lake Brandt, Guilford Co, NC, 25-29 May (Henry Link, m. obs.).

Snowy Egret: Individuals photographed at Lake Julian, Buncombe Co, NC, 1-2 May (David Palmer, m. obs.) and along the Johns River in Burke Co, NC, 7 May (Al Hooks) were good finds for sites in the western part of our region.

Little Blue Heron: An immature bird photographed along the New River at Brookshire Park, Watauga Co, NC, 24 Apr (Guy McGrane) was very unusual for the northern mountains.

Reddish Egret: An adult bird photographed on the east end of Shackleford Banks, Carteret Co, NC, 29 Apr (Lisa Tucci) was a good find.

Cattle Egret: One seen near the dam on W. Kerr Scott Reservoir in Wilkes Co, NC, 24 May (Guy McGrane) was very unusual for the northwestern part of our region.

Yellow-bellied Flycatcher: One seen and heard calling at The Park at Flat Rock, Henderson Co, NC, 22 May (Ron Selvey) was a good find for spring.

Alder Flycatcher: One audio recorded along the Moss Creek Nature Trail in Cabarrus Co, NC, 14 May (Ken Kneidel) was a great find for a site outside the mountains.

Ash-throated Flycatcher: One photographed at the Savannah Spoil Site (restricted access), Jasper Co, SC, 16 Mar (Steve Calver) provided the eighth documented record for the state and was relatively late compared most sightings made in the Carolinas.

Scissor-tailed Flycatcher: An adult male had returned to the traditional nesting site along Gunter Rd in Greenville Co, SC, by 7 May (Miles Groff). An individual photographed along Vienna Dozier Rd in Forsyth Co, NC, 15 May (Nathan & Sarah Gatto) was a first for that county.

Fork-tailed Flycatcher: Pending review by the SC BRC was the report with photographs of an apparent immature Fork-tailed Flycatcher at Dobbins Farm in Anderson Co, SC, 21 May (Imitaz Haque). If accepted, this report would provide SC with its third documented record.

Warbling Vireo: Individuals seen and heard on a Breeding Bird Survey route in Martin Co, NC, 28 May (Merrill Lynch) and in Waterlily, Currituck Co, NC, 28 May (Jeff Lewis) were unusual for the eastern part of our region and also somewhat late.

Common Raven: One at Clemmons Educational State Forest, Johnston Co, NC, 25 Mar (David Williams) was the eastern-most sighting made this spring.

Cliff Swallow: One seen around the end of the Bogue Inlet Pier, Carteret Co, NC, 12 Mar (Martin Wall) was very early. Ten around a bridge along US-74 in Andrews, Cherokee Co, NC, 22 Apr (Simon Thompson) were unusual for that area, probably nesting there. Nesting was noted for the first time on the NC-210 bridge over the Northeast Cape Fear River in Pender Co, NC, where two were first seen 28 Apr (David Weesner) and eight active nests were seen there 27 May (Sam Cooper).

Barn Swallow: Individuals at River Park North, Pitt Co, NC, 4 Mar (Aaron Steed) and along Wendell Falls Parkway in Wake Co, NC, 9 Mar (David Williams) were somewhat early.

Red-breasted Nuthatch: Individuals lingered until late May at two sites along the coast—at Cape Lookout, Carteret Co, NC, until 21 May (Martin Wall, et al.) and at Pea Island NWR, Dare Co, NC, until 26 May (Audrey Whitlock).

Wood Thrush: One heard singing at Durant Nature Preserve, Wake Co, NC, 23 Mar (Dennis Parslow) was somewhat early to return.

American Pipit: 1000 in agricultural fields at the intersection of NC-205 and New Salem Rd in Union Co, NC, 18 Mar (Chris Hill) was a noteworthy count.

Evening Grosbeak: A female seen and photographed at a feeder near Mayodan, Rockingham Co, NC, 24-29 Apr (Cara & Tony Woods) was our region's first sighting since the minor irruption that occurred during the winter of 2012/2013.

Snow Bunting: One was photographed on a small island in the Pamlico Sound just southeast of Oregon Inlet, Dare Co, NC, 22 Mar (Edye Kornegay, et al.).

Louisiana Waterthrush: One seen in the Holly Shelter Game Land, Pender Co, NC, 22 Apr (David Weesner) may have been attempting to breed in the area, as it was rather late for a migrant. This species does not typically breed at sites so near the coast.

Connecticut Warbler: An adult male was heard singing and briefly seen at Lake Conestee Nature Park, Greenville Co, SC, 14 May (Jeff Click, et al.). Another adult male was seen and recorded singing at the Hospital Fields in Brevard, Transylvania Co, NC, 22 May (Mike Judd, Michale Plauché).

Mourning Warbler: An adult male was seen, photographed, and heard singing at Reynolda Gardens, Forsyth Co, NC, 10 May (Travis Marceron). Another individual was heard singing on a farm in the northern tip of Watauga Co, NC, 13 May (Merrill Lynch). Most exciting though was the discovery of an adult male singing on territory along the Blue Ridge Parkway near the Linn Cove Viaduct in Avery Co, NC, 20 May (Lynch, et al.), where it was seen and photographed by many

through 21 Jun (Steve Coggin). As expected, the warbler never found a mate despite its near-constant singing.

Cape May Warbler: Ten at Latta Park, Mecklenburg Co, NC, 30 Apr (Taylor Piephoff, et al.) was a great count for a site outside of the mountains.

Cerulean Warbler: One recorded singing at Mayo River SP, Rockingham Co, NC, 14 May (Martin Wall) was locally unusual.

Northern Parula: One photographed at Ft Macon SP, Carteret Co, NC, 6 Mar (Martin Wall) was somewhat early for a site in NC.

Blackpoll Warbler: An adult male photographed at the Hospital Fields in Brevard, Transylvania Co, NC, 21 Apr (Michael Plauché) was somewhat early.

Black-throated Blue Warbler: An adult male photographed at Ray's Mill Park in Aberdeen, Moore Co, NC, 4 Mar (Jeff Beane, Stephanie Horton) must have been over-wintering in that area, as it was much too early for a returning spring migrant.

Black-throated Green Warbler: An adult male seen and recorded singing at Silver Bluff Audubon Center, Aiken Co, SC, 18 Mar (Meghan Oberkircher) was early.

Bachman's Sparrow: One seen in a thinned Longleaf Pine forest along the Cross City Trail in Wilmington, New Hanover Co, NC, 1 Apr (Sam Cooper) was locally unusual.

Vesper Sparrow: One seen at Pondberry Bay Preserve in northern Sampson Co, NC, 4 Mar (David Williams) was locally unusual.

Lark Sparrow: Sightings were made at three sites in the NC Sandhills—one in the Sandhills Game Land in Richmond Co, 9 Apr (Jeff Beane, Stephanie Horton); four on Ft Bragg Military Reservation in Hoke Co, 7 May (Rex Badgett, et al); one in the Sandhills Game Land in Scotland Co, 21 May (Beane, Horton); and three in that same area 27 May (Beane, Horton).

Savannah Sparrow: A singing male lingered along Hooper Ln in Henderson Co, NC, until 28 May (Simon Thompson), but was not seen thereafter.

Le Conte's Sparrow: One was seen in the Pine Island Unit of Santee NWR, Clarendon Co, SC, 26 Mar (Harold Donnelly).

Nelson's Sparrow: Individual migrants on the campus of Western Carolina University, Jackson Co, NC, 12 May (Jeremy Hyman) and at the Prairie Restoration Site at McDowell Nature Preserve, Mecklenburg Co, NC, 14 May (Kevin Metcalf) were good finds for those inland sites.

Seaside Sparrow: 150 along NC-12 at Cedar Island NWR, Carteret Co, NC, 16 Apr (Martin Wall, et al.) was a noteworthy count.

White-crowned Sparrow: Four at Ft Fisher, New Hanover Co, NC, 29 Apr (Sam Cooper) were unusual for that site in spring. One in the

agricultural fields around Warren Wilson College, Buncombe Co, NC, 20 May (Simon Thompson) and 30 May (Kirk Gardner) was late.

Western Tanager: An adult male was briefly seen at Airlie Gardens, New Hanover Co, NC, 25 Mar (Jamie Adams).

Painted Bunting: An adult male photographed at a feeder just northeast of New Bern, Craven Co, NC, 9 Mar (Dana Miller) probably over-wintered in the area. One, either a female or first-year male, photographed at a feeder on Cherry Ln in Alamance Co, NC, 8-9 May (Susan Miller) was unusual for the NC Piedmont.

Dickcissel: Singing males were on territory along Old Mountain Rd in western Iredell Co, NC, 29 Apr into summer (Monroe Pannell); at North River Preserve (limited access), Carteret Co, NC, by 7 May (John Fussell, et al.); at Dobbins Farm in Anderson Co, SC, 12 May (Hunter Kome) into summer, with a high count of 13 there 20 May (George McHenry); along Blue Banks Loop Rd in Brunswick Co, NC, 13 May (Mark Whitaker) through 17 Jun (Sam Cooper), with a high count of four there 18 May (David Weesner); along Baldwin Rd in Guilford Co, NC, 15 May (Martin Wall) into summer, with a high count of seven there 29 May (Andrew Thornton); along Howerton Rd in Guilford Co, NC, 15 May (Wall) into summer, with a high count of six there 20 May (Thornton); and in the Bluff Unit of Santee NWR, Clarendon Co, SC, 20 May (Irvin Pitts) into summer (m. obs.).

Bobolink: Two males seen at Cowan's Ford Wildlife Refuge, Mecklenburg Co, NC, 8 Apr (Ron Clark) were somewhat early. Up to eight were seen at a traditional breeding site in central Watauga Co, NC, in late May (m. obs.). A male in Mills River, Henderson Co, NC, 29 May (Simon Thompson) was late, possibly attempting to breed in that area.

Shiny Cowbird: An adult male visited the feeders behind the museum at Ft Macon SP, Carteret Co, NC, 25 May into summer (Martin Wall, m. obs.). Though dozens of sightings were made in the Carolinas in the 1990s and 2000s, it had been eight years since the previous sighting of this tropical species in our region.

Corrigenda: The location given for the Little Blue Heron sighting included in the Fall 2016 "Briefs for the Files" was misleading. Though the sighting was made at Trout Lake in Watauga County, it was made at the Trout Lake on Powder Horn Mountain at 1800 feet above sea level, not at the more well-known Trout Lake at Moses H. Cone Memorial Park at 3800 feet above sea level.

Fifty Years Ago in The Chat

Steve Shultz

1967. The Summer of Love. Sgt. Pepper's Lonely Hearts Club Band by the Beatles ruled the airwaves. U.S. involvement in Vietnam increased so that by year's end, 475,000 troops were in Southeast Asia. The average price of a new home was \$14,250 and gasoline cost just 33 cents a gallon; but of course the average annual wage was lower as well, as \$7,300. The Carolina Bird Club offered annual dues at \$2 per year. With dues now at \$30 for individuals, dues paid annually have increased 1,400%. And while that might seem like a large increase, consider that in 1967 a Life Membership cost \$100. Today that membership costs \$500, an increase of only 400%. Considering the relative value of a Life Membership, does it make sense to convert your annual membership to a Life Membership? See <https://www.carolinabirdclub.org/dues/> for details.

The Summer 1967 issue of The Chat included results of a study on the dive times of common waterbirds including Horned Grebe (mean dive time of 46.1 seconds) and Bufflehead (mean dive times of 20.3 and 25.6 seconds on separate study days) based on observations in South Carolina by Joseph and Elaine Fatora.

General Field Notes documented the increase in House Finch records in the Carolinas, with the species first noted by Eloise Potter in November 1962 at Zebulon, NC. By 1967 the species was still quite uncommon, with four records from NC and two from SC during the winter of 1966-1967. This included the first SC record, a sighting made at Greenville.

Briefs for the Files noted 17 Ring-billed Gulls found in Winston-Salem on 25 February 1967 as being uncommon for an inland location. One might expect many inland fast food restaurants could equal or exceed that figure today on any given winter afternoon! A harbinger of future wintering hummingbird records, a Ruby-throated Hummingbird was noted from Beaufort, NC on 31 January 1967. A young birder by the name of Derb Carter, Jr. found a Glossy Ibis in Fayetteville, NC on 24 September 1966, while another frequent future contributor to Carolinas birding knowledge, Harry LeGrand, spotted what was then known as an American Merganser near Raleigh, NC on 12 February 1967.

CAROLINA BIRD CLUB

www.carolinabirdclub.org

The Carolina Bird Club is a non-profit organization which represents and supports the birding community in the Carolinas through its official website, publications, meetings, workshops, trips, and partnerships, whose mission is

- To promote the observation, enjoyment, and study of birds.
- To provide opportunities for birders to become acquainted, and to share information and experience.
- To maintain well-documented records of birds in the Carolinas.
- To support the protection and conservation of birds and their habitats and foster an appreciation and respect of natural resources.
- To promote educational opportunities in bird and nature study.
- To support research on birds of the Carolinas and their habitats.

Membership is open to all persons interested in the conservation, natural history, and study of wildlife with particular emphasis on birds. Dues, contributions, and bequests to the Club may be deductible from state and federal income and estate taxes to the extent allowable. Pay dues or make donations at <https://carolinabirdclub.org/dues>. Make change of address at <https://www.carolinabirdclub.org/members/profile>. Send correspondence regarding membership matters to the Headquarters Secretary. Answers to questions about the club might be found at <https://carolinabirdclub.org/about.html>.

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Life Membership (payable in four consecutive \$100 installments)	\$500.00
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