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NIGHTJAR MONITORING AT ARNOLD AIR FORCE BASE

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ABSTRACT

Nocturnal surveys for neotropical migrant and other bird populations were conducted at Arnold Air Force Base, TN, from 1994 through 1999. Systematic sampling at thirty pre-determined points was conducted annually in June under specific meteorological and celestial conditions. Results show a predominance of Whip-poor-wills in both frequency and relative abundance on this portion of the Eastern Highland Rim as represented by Arnold Air Force Base. The development and documentation of a universal sampling protocol for nocturnal surveys is recommended.

INTRODUCTION

Recognizing the importance of declines in neotropical migrant bird species, the Department of Defense (DOD) became a partner in the *Partners in Flight* program in 1991 (Leslie et al. 1996). Established in 1990, *Partners in Flight - Aves de las Americas* is an international effort to 1) determine the status and specific causes of population declines, 2) maintain stable populations, and 3) reverse population declines of these birds through habitat management and restoration. In order to determine the status of breeding birds at Arnold Air Force Base (AAFB), both diurnal and nocturnal point call-counts have been conducted annually, in cooperation with *Partners in Flight*, beginning in 1994. Nocturnal surveys have rarely been coupled with diurnal surveys. The lack of this information leaves incomplete knowledge of the bird fauna in an area. This paper presents the results of night call-counts from the period 1994-1999, specifically focusing on two nightjars, the Whip-poor-will (*Caprimulgus vociferus*) and the Chuck-will's-widow (*Caprimulgus carolinensis*).

Study Area. Arnold Air Force Base (AAFB) is located on the Eastern Highland

Rim of Tennessee in Franklin and Coffee counties. The 15,800 hectare base is comprised of the 1,600 ha Wood's Reservoir and 11,750 forested ha, with 9,420 ha of hardwoods (primarily oak-hickory) and 2,330 ha in pine plantations. The remainder of the area (2450 ha) is in developed lands and open areas (Bynum 1998), which include 220 ha of grasslands. This area of the Eastern Highland Rim was historically known as the "barrens," which encompasses a mosaic of habitat types including grass-dominated openings, savanna, woodlands, and low density forests with grass understory (DeSelm 1981).

Materials and Methods. Methodology for this survey was adapted from a combination of methods from diurnal surveys including mini-routes and *Partners in Flight* point call-counts (Hamel et al. 1996). Survey points for nocturnal counts were located near established diurnal survey points, with a minimum distance of 0.8 km between each nocturnal survey point. In 1994 and 1995, 21 survey points were monitored in Coffee County only. One additional survey point in Coffee County was added in 1996 in order to include a native barrens grassland. Eight more points were added in 1998 to include various habitats in Franklin County. All 30 points were mapped in 1998 using a Trimble Pro XR GPS. Each survey point was visited one night per year in June when the following appropriate environmental parameters were met: 1) clear or partly cloudy sky, 2) on or around the night of a full moon, and 3) wind speed less than or equal to Beauford Code 2 (i.e., less than 11 kilometers per hour). Whip-poor-will calling activity has been shown to be significantly higher when the moon phase is full (Cooper 1981), and high winds were avoided to facilitate determining direction and distance of calls.

Call-counts were conducted from roadsides and began no earlier than 1.5 hours after local sunset or no later than 1.5 hours before local sunrise. Time, temperature, and sky conditions were noted and wind speed and direction were estimated at each survey point. The observer noted all species heard within an estimated 0.5 mile radius circle during three minutes of continuous aural monitoring. No tapes or other methods of bird attraction were used. Direction and distance of calling birds from the observer was estimated and noted on a data sheet with compass direction indicated on a circle representing the count circle. Habitat types were designated for each point by assigning the habitat and successional stages of associated diurnal points within the count circle (Table 1). Habitat types and successional stages follow those used for *Partners in Flight* point count surveys (Hamel 1992, Roedel et al. 1996).

RESULTS

Results of nocturnal call-count surveys conducted over the six-year period from 1994 through 1999 indicate twice the frequency of Whip-poor-wills (WPWI) as compared to Chuck-will's-widows (CWWI), 76% versus 36% of stops respectively, on this portion of the Eastern Highland Rim barrens (Table 2). Whip-poor-wills also had the highest relative abundance with an average number per stop equal to three times that of the Chuck-will's-widow (Table 3).

The third local nightjar, the Nighthawk, was also heard and recorded, as were three local species of owls. However, results of the surveys likely under-represent these four species and are not reported herein. Nighthawks were under-represented

Table 1: Habitat types represented within point count circles and the percentage of points on which they occur. (For more detailed description of habitat type and successional stage, see Hamel, 1992.)

General habitat	Specific habitat type	Habitat code and successional stage	Number* of points	Percentage* of points
Oak	Oak, hickory	OKHK2	4	13%
		OKHK3	1	30%
		OKHK4	16	53%
	Red oak, white oak, hickory	RWHI4	2	7%
	Oak, gum, cypress	OGCY4	2	7%
	White oaks predominant	WFOA4	1	3%
	Summary	At least one oak type	22	73%
Pine	Loblolly pine, shortleaf pine	LBSH2	4	13%
		LBSH3	12	40%
		LBSH4	6	20%
	Summary	At least one pine type	14	47%
Grass	Open field or grassland	BUFI1	7	23%
	Corn field	CORN1	1	3%
	Grass, pasture, field or open wetland	OPEN1	1	3%
	Summary	At least one grass type	7	23%

Table 2. Frequency of species encountered during nocturnal point counts expressed as the ratio of number of stops at which they were encountered to total number of stops.

Parameter	1994	1995	1996	1997	1998	1999	Average	CV*
Total stops	21	21	22	22	30	30		
Stops with WPWI	16	17	16	17	24	20		
Stops with CWWI	3	6	11	7	17	10		
Ratio of stops with WPWI	0.76	0.81	0.73	0.77	0.80	0.67	0.76	7%
Ratio of stops with CWWI	0.14	0.29	0.50	0.32	0.57	0.33	0.36	43%

*Coefficient of variation = 100 (standard deviation / average)

Table 3: Relative abundance of species encountered during nocturnal point counts expressed as average number of individuals per stop.

Parameter	1994	1995	1996	1997	1998	1999	Average	CV*
Total stops	21	21	22	22	30	30		
Total WPWI	30	36	39	27	69	36		
Total CWWI	4	7	14	9	32	15		
WPWI per stop	1.4	1.7	1.8	1.2	2.3	1.2	1.6	26%
CWWI per stop	0.2	0.3	0.6	0.4	1.1	0.5	0.5	59%

*Coefficient of variation = 100 (standard deviation / average)

due to habitat sampling bias, i.e., away from the AAFB industrial complex where they commonly occur during June (personal observation). Owls were under-represented due to the timing (in June) of the survey after their most vocal (breeding) periods. Of the habitat types included in the count circles, the oak-related types, which are the most prevalent habitat type in the study area, had the highest proportion (73%) of representation (Table 1). The pine-related types had the second highest proportion (47%). Grass-related types had the lowest proportion (23%).

DISCUSSION

The results of this survey indicate a greater frequency and abundance of Whip-poor-wills in comparison to Chuck-will's-widows in the Eastern Highland Rim

Figure 1: Trend of Whip-poor-wills encountered during nocturnal point counts as (a) the ratio of number of stops at which they were encountered to total number of stops and (b) the average number of individuals per stop.

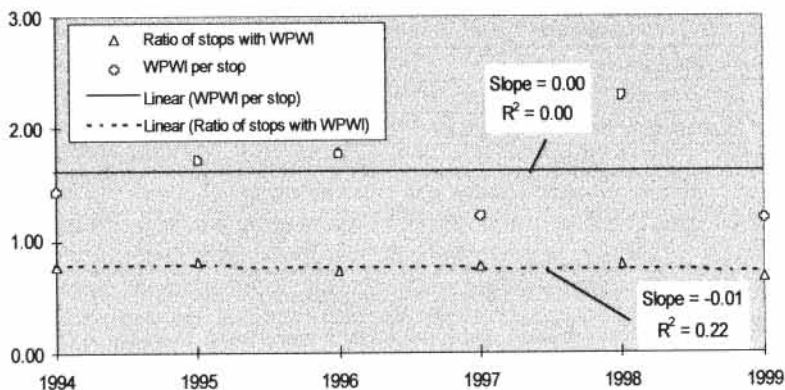
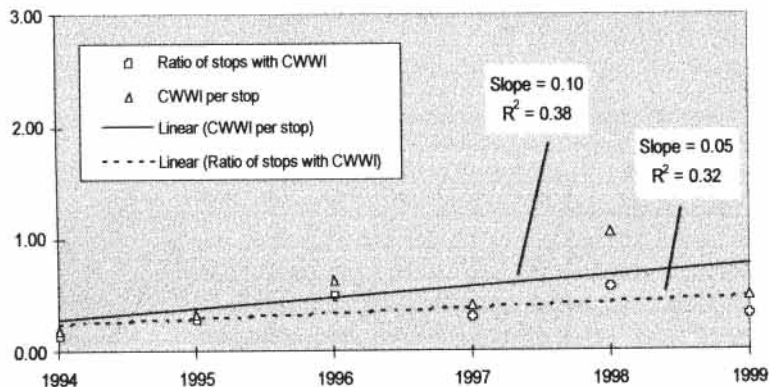


Figure 2: Trend of Chuck-will's-widows encountered during nocturnal point counts as: (a) the ratio of number of stops at which they were encountered to total number of stops and (b) the average number of individuals per stop.



barrens of Tennessee as represented by Arnold Air Force Base. These findings are consistent with those of Cooper (1981) who found Whip-poor-wills to be significantly more abundant than Chuck-will's-widows in forested areas around Athens, Georgia. Nicholson (1997) also identifies the Whip-poor-will as "most numerous in heavily forested areas." As 11,750 ha of the ca. 15,800 ha that comprises AAFB are forested, the relative abundance of Whip-poor-wills would be expected to be higher than that of Chuck-will's-widows. The geographic distribution of Whip-poor-wills within the study area has been stable over the first six years of this study. For example, the data scatter in Whip-poor-will frequency and relative abundance (as denoted by their coefficients of variance) are 7% and 26% of the mean values. However, similar assessment for Chuck-will's-widows shows significantly more variability, with data scatter of 43% and 59% for frequency and relative abundance, respectively.

No cause for this high variability for Chuck-will's-widow has been identified. A possible source could be a combination of habitat preference by the Chuck-will's-widow and habitat succession brought about by forest management practices at Arnold Air Force Base. However, the fragmented nature of the study area precluded survey of a single habitat type when conducting nocturnal call-counts without visually confirming from what habitat type individual birds were calling. Therefore, no conclusions were drawn as to habitat preference. Another potential source of the variability could be changes in annual numbers or range of this neotropical migrant. The limited sample size of this survey precluded any such conclusion. Trend analyses, using linear, least-square fits of both frequency and relative abundance data, indicated only random change in the AAFB Whip-poor-will population between 1994 and 1999 (Figure 1). The same Chuck-will's-widow data showed possible increases in both frequency and relative abundance (Figure 2). However, correlation coefficients (R^2) were too low to provide any reasonable confidence in the apparent trends.

Table 4: Comparison of overall survey results with similar results using only the 21 points from the initial 1994 survey.

Parameter	All survey points	Original survey points only
Stops with WPWI	0.76	0.77
CV*	7%	5%
Trend slope	-0.01	0.00
Trend correlation (R^2)	0.22	0.00
Stops with CWWI	0.36	0.36
CV*	43%	50%
Trend slope	0.05	0.04
Trend correlation (R^2)	0.32	0.20
WPWI per stop	1.6	1.6
CV*	26%	30%
Trend slope	0.00	0.00
Trend correlation (R^2)	0.00	0.00
CWWI per stop	0.5	0.5
CV*	59%	67%
Trend slope	0.10	0.09
Trend correlation (R^2)	0.38	0.23

*Coefficient of variation = 100 (standard deviation/average)

Finally, to insure that the increase in number of survey points between 1994 and 1999 did not bias results, the above analyses was repeated using only the 21 points from the initial 1994 survey. These added analyses showed only insignificant changes in the average frequency or relative occurrence, their related coefficients of variance, or trends versus time for either species (Table 4). In other words, the addition of one survey point in 1996 and eight additional points in 1998 did not impact validity of the overall survey.

Recommendation. The recent increase in interest in the apparent decline of many neotropical migrant bird species has led to the formation of organizations, such as *Partners in Flight*, that are dedicated to monitoring and detecting population trends through standardized methods. Most of these programs, however, focus on methodologies that do not address nocturnal species. Standardized methods should be developed and implemented on a broad scale for monitoring night birds to detect population trends at a landscape level. Absent such a program, an entire ecological niche of neotropical migrant birds will be disregarded.

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We thank the Air Force for its continued support of the *Partners in Flight* program and its interest in conservation of neotropical migrant birds and Department of Defense lands in general. We also thank Geoff Call, AAFB Conservation Biologist, and Bob Ford, Tennessee Conservation League, for extensive review of this document. We are grateful to the following people for their dedication in getting out on those late nights and early mornings to count night birds: Van Colebank, Tiffany Fuller, Brian Carver, Laura Jennings, Ryland Moore, Geoff West, Elizabeth Lamb, Nancy Davidson, and Beth Kunkel.

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LATE GRASSHOPPER SPARROW NEST AT KINGSTON STEAM PLANT

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Seven members of the Knoxville Chapter of TOS (Jean Alexander, David Johnson, June Welch, Beth Schilling, David Trently, Dollyann Myers, and myself) were birding behind TVA's Kingston Steam Plant in Roane County, Tennessee, the morning of 16 August, 1998. At about 1030 EDT, we saw a Grasshopper Sparrow (*Ammodramus savaannarum*) on the side of the road with what looked like food in its mouth. It flew off about 30 feet with the food still in its mouth, into the grass about half way up the side of a fly ash impoundment embankment. Thinking it might be taking food to a nest, we noted where it landed and walked up the embankment to see what we could find.

We found the nest on the ground after only a minute or so of searching. We quickly looked into the nest, just long enough to see at least three young. The young appeared to be at least a few days old, as they were not naked, but they also did not appear ready to fledge. There may have been one or two more young, but we didn't want to disturb the nest area any more in order to get an accurate count.

The impoundment itself is located about a kilometer from the steam plant and is approximately 2-3 kilometers in circumference, with sloping banks entirely covered by grass. There is a flat 3-4 acre field adjacent to the embankment with mostly tall grass and a few shrubs. Although the portion of the embankment containing the nest had been mowed in recent weeks, fortunately, the mowing was high enough to not destroy the nest. The grass around the nest site was about six inches high.

The Grasshopper Sparrow is considered a species in need of management in the state of Tennessee (TWRA, 1994). Grasshopper Sparrows have been seen and heard during the breeding season for the past few years at this site, but I'm not sure if breeding has been confirmed. Bent (1968) describes the nest of this species as extremely difficult to find. It was the first Grasshopper Sparrow nest I've ever found, despite considerable searching during the Tennessee Breeding Bird Atlas Project (1986-1991).

Several references (Byers et al., 1995; Baicich and Harrison, 1997; Nicholson, 1997; and Ehrlich et al., 1988) state that this species is normally double-brooded. Normal egg-laying dates for Tennessee are given as 30 April-13 July (Nicholson, 1997). These references also state that the eggs are incubated for 11-12 days, and that the young typically leave the nest nine days after hatching. Working backwards, we estimate that the eggs in this nest were laid between 30 July-1 August, making this nest considerably later than normal.

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THE NESTING OF THE COMMON RAVEN IN TENNESSEE

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INTRODUCTION

In 1998, there were only three active nests of the Common Raven (*Corvus corax*) known for Tennessee. Two historical nests from Peregrine Ridge (Ganier 1962; Williams 1980) and Roaring Fork (Campbell 1936), both in the Great Smoky Mountains National Park (GSMNP), have also been documented for Tennessee. A historical nest is an area in which ravens once nested, but presently do not, or for which present nesting status is not known. In 1999, I searched for raven nests throughout Carter and Unicoi Counties, and spent a limited time searching for nests in Greene, Johnson, and Washington Counties. In 1999, as a result of this study, there were seven active nests known. This paper is meant to give a brief history of each nest described.

STUDY AREA AND METHODS

Potential cliff nesting sites were located with the help of U.S. Geological Service quadrangle maps, searching by airplane and automobile, and by scanning mountain ranges from overlooks. Known active or historical Peregrine Falcon (*Falco peregrinus*) nest sites from the literature were also searched, since the peregrine nests in similar habitat as ravens (Ratcliffe 1997). Finally, areas where a raven territory was known to occur were extensively searched for cliff and tree nests.

A concentrated effort to find cliff nests was made in Carter and Unicoi counties. These counties were chosen because a large database on raven observations is available, and because several cliffs were accessible in the two counties. Areas intensely searched included Iron Mountain Gap, Nolichucky Gorge, Wilbur and Watauga Reservoirs, Ripshin Lake and Ridge, George's Creek, Laurel Creek Gorge, Buffalo Mountain, Dennis Cove, and Unaka Mountain.

Nests were located on quadrangle maps by using Global Positioning System (GPS) coordinates obtained with a Model Garmin 12 GPS unit. The mean closest distance between nests was calculated. Every nest that was located was visited at least three times. Nesting chronology was estimated from notes taken at the nests.

RESULTS

Table 1 lists the known nests in Tennessee. An annotated list of each nest in the table follows. Table 2 gives estimates on dates for completed clutch, hatching, and fledging at each of these sites for 1998-99. Table 3 gives number of eggs and young per nest.

Table 1. Raven Nests in Tennessee.

Nest-County	Years Known to Have Nested
American Limestone Quarry (ALQ)- Carter Co.	1994, 1996, 1997, 1998
Central Carter County (CCC)	1999
Devil's Looking Glass (DLG)- Unicoi Co.	1996, 1997, 1998, 1999
Doe River Gorge (DRG)- Carter Co.	1982, 1995, 1996, 1999
Great Smoky Mountains (GSM)- Sevier Co.	1999
Northcentral Carter County (NCC)	1999
Northwest Unicoi County (NUC)	1999, 2000
Peregrine Ridge (PER)- Sevier Co.	1960, 1974, 1975, 1976
Roaring Fork (ROF), Sevier Co.	Early 1930s
Southwest Johnson County (SJC)	1999*
Southwest Unicoi County (SUC)	1998, 1999, 2000

* This site is within a raven territory. Though no nesting behavior or nest material was ever observed, a ledge with fecal material and mammal bones below it exists within the territory.

Table 2. Nesting chronology of Tennessee and North Carolina nests in 1998 and 1999 based upon 20 days incubation and 41 day nestling periods or available observational data.

Nest/Year	Completed Full Clutch	1st Egg Hatching	All Fledged
CCC/1999	~21 March	~9 April	After 20 May, ~21 May
DLG/1998	~6 March	~25 March	~5 May
DRG/1999	~3 March	~22 March	Before 3 May, ~1 May
NUC/1999	~12 March	~31 March	Before 18 May, ~10 May
SUC/1999	~7 March	~26 March	After 5 May, ~6 May
AVG. DATE	10 March	29 March	~9 May

Table 3. Number of nestlings at eight sites since 1994. Observers: ^aRichard Knight; ^bBryan Stevens, Reece Jamerson, author; ^cSusan Smith; ^dJamey Donaldson, author; ^eauthor; ^fMichael Welch.

Nest Site	1994	1995	1996	1997	1998	1999	2000
ALQ	3 ^a		4 ^a			>2 ^e	
CCC					1 ^e		
DLG			≥2 ^a		4 ^e		
DRG		≥2 ^a	≥2 ^a			4 ^b	3 ^e
GSM						3 ^c	
NCC						4 ^d	
NUC						4 ^{e,g}	4 ^e
SUC					≥1 ^f	1 ^f	
SUM = 44							

^g Five eggs previously found on 30 March

ALQ. This is an active limestone quarry with daily mining activity and frequent movement of heavy trucks. Wallace Coffey first located this nest in 1994. Rick Knight and others took notes at the nest in 1994, 1996, and 1997. I visited the nest on three days for three hours in 1998 to observe an active nest. Visits of seven days during the breeding season in 1999, and again in April 2000, revealed no nests.

CCC. I located this nest on 13 April 1999. The nest was visited on four days for four hours in 1999.

DLG. Ravens were first observed nesting here on 11 April 1996 (Ford 1996) and nesting continued in 1997 (Rick Knight, pers. comm.), 1998 (pers. obs.), and in 1999 (pers. obs.). The nest was visited on 11 days for 15 hours in 1998, and 13 days for 20 in 1999. An in-depth look at the activities at this nest for 1998 can be found in Trently (1998).

DRG. Peter Range first located this nest on 29 April 1982 (Eller 1982). Rick Knight took notes on a nest in 1995 and 1996. In 1998, I visited DRG on 28 March and 11 May for a total of 10 hours with no success. On 29 March 1999, I saw four nestlings. On 3 May Bryan Stevens and Reece Jamerson found that the nestlings had fledged. When the nest was visited the following year on 15 April 2000, three young were observed in the nest.

GSM. This nest was located within the GSMNP by Susie Smith on 24 April 1999, when an adult bird was observed feeding three nestlings. On 15 May 1999, I found the nestlings no longer in the nest. An empty nest was again observed on 18 March 2000.

NCC. I first located this nest on 19 March 1999 and visited it on four days for five hours during the breeding season. Jamey Donaldson and I rappelled to the nest on 31 March to find and photograph five almost featherless young.

NUC. I located the nest with five eggs on 30 March 1999 and visited it on three subsequent days for a total of two and one-half hours. On 20 April, four nestlings were observed. On 18 May, the nestlings were gone, though both adults were noisily calling in the area. The following year, on 24 March 2000, four nestlings were found.

PER. Information pertaining to this nest site can be found in Ganier (1962), Stupka (1963), and Williams (1980). I have found no records of ravens nesting here in the 1980s or 1990s.

ROR. An exciting account of the locating of this nest can be found in Campbell (1936). I could find no other records for this site.

SJC. I located this site on 10 March 1999. The site was visited on 4 days for approximately 5 hours. Ravens are not known to have nested here.

SUC. Michael Welch positively identified this nest on 23 April 1998. The nest was visited on 11 days for a total of 30 hours in 1998. Welch rappelled to the nest on 9 April 1999 to find only one nestling. The nestling remained in the nest until at least 5 May when it was seen well-feathered and flapping hard at the edge of the nest.

DISCUSSION

A study area of 467.2 km² with a nest density of 0.01 km⁻² was calculated from the five nests. The area matches Hooper's (1977) study area in Virginia, which was 468

km². The similarity in size of both studies made for direct comparisons between the two. Hooper et al. (1975) calculated a nest density of 0.03 km⁻². When compared to the other studies in Table 4, my density value of 0.01 falls outside the standard deviation of the means of these studies. Because a small sample size was achieved within the designated study area, my measurements may be inaccurate. The largest value for mean distances between nests found in the 8 studies I examined was 8.2 km in Washington (Knight et al, and others 1982). My average values are rather large compared to what other studies found (11.9 km, Table 4).

In order to find all or most nests in a study area, at least 2 years of nest searching must be completed. The first year is valuable for getting to know the area and eliminating low potential sites. Because I spent one year searching, and because I did not visit all locations in the study area, it is highly likely that I did not find all nests.

Table 4. Values for Nest Density, Mean Nearest Active Nest Distance From Other Studies

N	Density (km ⁻²)	Mean Neighbor Distance (km)	Citation
11	0.73	1.6	Dunk et al 1994
65	0.21	1.7	Newton et al 1982
97	0.11	2.0	Dare 1986
67	0.06	2.7	Ratcliffe 1962
20	0.04	3.6	Dare 1986
12	0.03	5.1	Hooper et al 1975
12	0.03	4.8	Hooper et al 1975
11	0.02	4.6	Ratcliffe 1962
7	0.01-0.02	8.2	Knight et al 1982
6	0.01	11.9	this study

There are sites within my study area that have high nesting potential. A high potential site is one in which a raven territory is present, or where a potential nesting cliff exists that is at least 3 m tall, has a suitable ledge with an overhang above and a steep rock face below. Active nest sites with these characteristics have been described by many (e.g., Ratcliffe 1962; Hooper 1977). Within my study area, there are at least seven additional potential nesting locations, which, if occupied, would bring the total number of nests to 12. If I included all 12 potential nests into my calculations, the density would have equaled Hooper's (0.03 km⁻²). Until further searching is conducted, a statistical comparison of the two studies should be postponed.

ACKNOWLEDGEMENTS

I want to thank the Tennessee Wildlife Resources Agency for funding the nest-searching project in 1999. I'm also thankful to Rick Knight for sharing his records, to Bryan Stevens and Reece Jamerson for their help with the DRG nest, and to Jason Osbourne for the use of his GPS unit.

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REPORT OF THE TENNESSEE BIRD RECORDS COMMITTEE

KEVIN CALHOON
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This report describes the actions taken by the Tennessee Bird Records Committee of the Tennessee Ornithological Society from the fall of 1998 to the fall of 1999. Committee members and alternates who served during this period were Kevin Calhoon (secretary), Paul Hertzell, Dollyann Myers (alternate), Dick Preston, Chris Sloan, Rick Knight, and Linda Northrop, who resigned during the period and was replaced by Mark Greene. Rick Knight was chosen as the sixth full member to fill the new position created by the committee expansion, as directed by the amended resolution at the 1998 TOS spring meeting.

Acceptance criteria remained the same throughout the year. A species is placed on the confirmed list based upon either (a) extant, verified specimen, photograph, or sound recording, each accompanied by written details, or (b) satisfactory written documentation of three independent sight records, or satisfactory written documentation of three independent observers of the same bird. Without these levels of documentation, a species is placed on the Provisional List based on one or two sight records with satisfactory written documentation. Acceptance to either list requires no more than one dissenting vote of the committee, as directed by the amended resolution at the 1998 TOS spring meeting. This report contains six records of four species accepted and two species which were not.

RECORDS ACCEPTED

Swainson's Hawk (*Buteo swainsoni*): Written documentation of a single bird seen from the Soddy Mountain hawk watch site in Hamilton county, on 11 April 1998 (Hall 1998) was accepted. This becomes the second accepted written documentation by a single observer of Swainson's Hawk, and it will remain on the Provisional List.

McCown's Longspur (*Calcarius mccownii*): Written documentation from two observers of a single bird at Pace Point, Henry County, on 28 November 1998 was accepted. This becomes the first record for the state, and it will be placed on the Provisional List.

Iceland Gull (*Larus glaucooides*): Photographs and written documentation of a first winter bird at Kentucky Lake, Benton county, on 7 March 1998 (Cardiff 1998) was accepted. This becomes the second state record, with the species already on the confirmed list.

Black-chinned Hummingbird (*Archilochus alexandri*): Photographs and written documentation for a single adult female banded at Brentwood, Williamson County on 3 December 1998 (Stedman 1998) was accepted. This becomes the third state record, with the species already on the confirmed list.

RECORDS NOT ACCEPTED

White-winged Dove (*Zenaida asiatica*): Written documentation of a single bird seen in Shelby County, on 25 April 1998 was not accepted (4-2) because of insufficient details to determine specific species.

Northern Gannet (*Morus bassanus*): Written documentation of a single bird seen on Woods Reservoir in Franklin County, on 20 December 1996 was not accepted (0-6) because of insufficient details to determine specific species.

OBSERVERS

This is a list of observers who submitted documentation and/or photographs to the committee: Kevin A. Calhoon, Gilbert A. Foster, Mark A. Greene, William G. Haley, Gerry Papachristou, Chris A. Sloan, Dan N. Williams, and Jeff R. Wilson. The committee wishes to thank everyone who took time to contribute documentation.

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MINUTES OF FALL 1999 TOS BOARD OF DIRECTORS MEETING

November 13, 1999, Columbia, Tennessee

KNOX MARTIN
1176 Dearing Road
Memphis, TN 38117-6148

The Fall Meeting of the Tennessee Ornithological Society (TOS) was held on 12-14 November 1999 in Columbia, Tennessee. Several field trips were scheduled to local birding sites including Williamsport Lakes, Arrow Lake and the Monsanto Ponds areas. The Saturday Paper Session featured papers by David Pitts, John Lamb, George Mayfield, Melinda Welton, and Sue Marden. The evening program was a paper titled "The Perils of Being a Nestling Wood-Warbler" given by Dr. David Haskell. The meeting of the TOS Directors was called to order by TOS President Chris Sloan. Secretary Knox Martin reported a quorum present. Copies of the minutes of the Spring 1999 meeting were available for review. Ron Hoff made a motion to approve the minutes. The motion was seconded by Linda Northrop. The vote to approve was unanimous.

REPORT OF OFFICERS. West Tennessee Vice President Dick Preston was not present. Middle Tennessee Vice President Richard Connors was not present. East Tennessee Vice President Ron Hoff was present but had no report.

DIRECTORS AT LARGE. West Tennessee Director at Large Donna Ward reported that on 10 May 1999 she observed a Wood Thrush carrying nesting material to a tree in her yard in McKenzie, Tennessee. On 13 July 1999, she noted an immature Wood Thrush being fed by an adult. There were no reports from Middle Tennessee or East Tennessee.

SECRETARY'S REPORT. Knox Martin requested that all chapter presidents supply him with a current list of chapter officers, addresses, e-mail addresses, and other information that will help with mailings and state meeting information. Proxy forms are very important in the event of any major voting issues at the state meetings.

TREASURER'S REPORT. Treasurer David Trently reported on the current status of the Massachusetts Investors Trust Fund. It has now been divided into two different funds. Interest from the two funds should yield \$12,000 yearly, which will be used to fund *The Migrant*.

CURATOR'S REPORT. Curator Chuck Nicholson reported that Ron Hoff is the new Assistant Curator. He will be responsible for storage of the old copies of *The Migrant*, a job formally held by Mack McWhirter.

THE MIGRANT. Editor Dev Joslin was not at the meeting, but it was reported that *The Migrant* is now up-to-date thanks to Dev and many other volunteers. An article on Chickadees by Dr. David Pitts will headline the upcoming June 1998 issue.

TENNESSEE WARBLER. Editor Theresa Graham reported that the deadline for the next issue was 29 February 2000. The December issue is back from the printers and should be available at the next meeting. Chris Sloan made a suggestion that the future issues of the *Warbler* be sent to members via e-mail. This would help save on postage. This issue may be discussed at the Spring meeting.

President Sloan spoke on the current status of the various TOS committees. Who are current members? What do they do on these committees? What are term limits? If any member knows of a vacancy on any committee please notify Chris. A new Nominating Committee is needed before the Spring meeting. If you want to serve on this committee see Chris. Members are needed from all parts of the state.

FINANCE COMMITTEE. No report

TENNESSEE BIRD RECORDS COMMITTEE. Mark Greene reported that the committee was currently working on a Checklist of Tennessee Birds. The committee is also working on expanding the review procedure to include not only 1st, 2nd, and 3rd state sightings but also casual or accidental sightings such as Mississippi Kites outside West Tennessee. A more detailed plan will probably be available at the Spring meeting. Also there are currently three openings on the committee, two members and one alternate. If you want to become a member, see Chris Sloan.

COLLATERAL MATERIALS. Carolyn Bullock reported that decals and patches are available for purchase. Since last report three decals and one patch have been sold for a total of \$11.50.

PARTNERS IN FLIGHT. No report.

CONSERVATION AND REINVESTMENT ACT (CARA). Bob Hatcher reported on the current status of CARA. This proposed legislation would take tax revenues from offshore oil drilling and distribute the money to the 50 states to be used for state wildlife programs. The House bill (HR 701) passed the House Resources Committee by a vote of 37 to 12. It will probably be voted on by the entire House in the spring. The bill has 123 House sponsors, including six of the nine Tennessee members. The Senate version of the bill (S 25) is not yet to the mark-up stage. If the bill passes, it could mean that TWRA would get \$6,300,000 per year for conservation easement and species recovery programs. All TOS members should get in touch with their congressmen to show support for the bill. The Senate bill is sponsored by Senator Frist but not Senator Thompson.

KATHERINE GOODPASTURE AWARD. Chairman Bob Hatcher reported that the guidelines for the award are available at the meeting. A grant of \$500 is given each year to the person whose project rated the highest based on the criteria. Bob also asked for members to feel free to make contributions to the committee so there would always be money available for this award. Chris Sloan reported that it had been decided to earmark funds from CRFC to cover the \$500 in the event that contributions do not meet this amount. Bob also reported that there was at least one vacancy on the committee; if any members wish to sit on the committee, see Chris.

INTERNATIONAL MIGRATORY BIRD DAY. Ron Hoff reported that there are still areas of the state that need coverage. The Reelfoot Lake area is in need of help, as is the Kingsport area of East Tennessee. Pickwick Dam is also weak. This is also a Partners in Flight count so it is an important count. It might help to have the IMBD count on the same day as the Spring Count.

CONSERVATION AND RESEARCH FUNDING COMMITTEE. Chris Sloan reported on the current status of the committee, as well as some background on the committee set-up. At the Spring meeting, the membership voted to approve the name of the committee, approved giving the committee a \$5000 initial operating fund, and approved a motion to give the committee 40% of any net surplus each year for operating funding. Chris Sloan and Melinda Welton also worked on a set of guidelines for the committee. These appeared in *The Warbler* and are also available from Chris or Melinda. One change to these guidelines concerned Article 3. It will now read "Each Grand Division of the state shall be represented by at least two members." Melinda Welton asked about the possibility of each chapter making it possible for members to contribute to the CARFC when they pay their dues. Melinda Welton made a motion to approve the guidelines as presented and amended. Susan McWhirter seconded. Discussion centered around the word "surplus," although this had been voted on and approved at the Spring meeting. Members also were interested in learning the types of projects that would be funded. Instead of a few "big ticket" items, funding will usually be for smaller projects. The vote on the motion was unanimous.

WEBSITE. Andy Jones of the Knoxville chapter had the TOS site on his personal web page, but he is now gone and UT has actually pulled web space and the site is now down. There are now three things to discuss. TOS needs a new permanent web site name for TOS. A host is also needed, and the site needs to be expanded and upgraded. Chuck Nicholson reported that there is already a WWW.TOS.ORG, so he proposed WWW.TNBIRDS.ORG. Chuck next proposed setting up a TOS account with a web hosting company. The estimated cost is \$30 per month with no dialing access. There would be a few password accesses available for officers. There is a small set-up fee and a \$70 fee for registration of a name for a two-year period. Once this is set up, TOS can reload the Andy Jones site and improve the site.

Chris Sloan suggested that TOS pay a one time fee to hire a professional web site programmer to design us a site and put the infrastructure in place. It would cost at least \$300, probably more to do this. The design work may cost up to \$1000. The yearly cost after that would be about \$400. Georgia has a good site for comparison. A motion was made by Martha Waldron, and seconded by Dolly Ann Myers, to approve registration of the domain name, including expenditures for registration of the domain name, for the yearly fees to keep it up, and for authorizing expenses for hosting the web site (about \$400 per year). The vote to accept was unanimous. A second motion was made by Virginia Reynolds and seconded by Susan McWhirter to allocate up to \$1000 to design and improve the web site. This vote was also unanimous. Currently only the Curator and the President will have access. More

names may be added at the Spring meeting. If you have ideas for the site see Chuck or Chris. Links to TWRA and other sites will certainly be added after the site is in place.

TOS supports a group called Advocates For The Oak Ridge Reservation (AFORR). They have requested that TOS become an organizational member of their group. A motion was made by Ron Hoff and seconded by Susan McWhirter to become an organizational member of their group. The vote was unanimous.

Chuck Nicholson reported on a TVA review of the residential building on lakefront houses on TVA lakes. One plan concerns Tims Ford Lake. TOS needs to look at this plan and possibly attend the public hearings as much public land is involved. Chuck said he would submit comments and Chris Sloan will do the same for TOS.

Bill Bridgeforth wanted to know if TOS was interested in some type of TOS 2000 hat/tee shirt/logo/lapel pin. It was stated that TOS hats might be good, but not necessarily with the 2000 on it. It might also be time to change the TOS logo. We still have a lot of patches in stock, and it was quite a job to design the current logo. Hats and lapel pins might work. A motion was made by Hadden Wilson, and seconded by Theresa Graham, to approve Bill Bridgeforth's looking into TOS hats and lapel pins and then reporting to the members at the Spring meeting. The vote carried with a vote of 10 yeas and 5 nays.

The Winter meeting is the first weekend in February at Paris Landing State Park. A block of rooms has been made reserved for TOS members.

Virginia Reynolds made a motion, seconded by Melinda Welton, that there be some way of notifying in writing persons who make donations to TOS as memorials. Both the person making the memorial, and the family of the person in whose name the memorial was made, would be notified by the TOS secretary. The vote to approve the motion was unanimous.

The Spring Meeting will be 5-7 May 2000 at Bristol.

Columbia Chapter was thanked for hosting the Fall meeting. Susan McWhirter moved to adjourn the meeting.

THE SEASON

RICHARD L. KNIGHT, Editor



SPRING: 1 MARCH - 31 MAY 1999

For most of the state the spring weather was rather mild and dry. The mildness apparently encouraged some birds to move north slightly ahead of schedule. However, the main thrust of migration arrived as expected. Several rarities added spice to the season.

Standard Abbreviations

* - documentation submitted	lrs - latest reported sighting
ad - adult	m - male
Co - County	max - maximum count
ers - earliest reported sighting	m.ob. - many observers
et al. - and others	Mtn - Mountain
f - female	R - River
fide - reported by	S.P. - State Park
Is. - Island	WMA - Wildlife Management Area
L - Lake	yg - young

WESTERN COASTAL PLAIN REGION — No significant deviation in weather patterns or observer coverage occurred. A lone Cinnamon Teal was seen near Reelfoot Lake and a Western Grebe was found at the TVA steam plant in south Memphis. A Whimbrel was seen at Island 13, the third record for Lake County since 1992. A month earlier, a Marbled Godwit was observed at Mud Lake in Lake County. Sandhill Cranes, recent winter visitors to West Tennessee, made an uncommon appearance in Shelby County. Black-necked Stilts are still nesting at the EARTH Complex, but in diminishing numbers apparently due to the changing habitat. Fourteen species of shorebirds were recorded, a number which is fairly representative of past years. No well-defined wave of warblers was observed, implying that the arrivals may have dispersed quickly. The result was lower numbers for individual species, but a total of 35 warbler species observed over the three-month period. For information on species not listed below please contact the regional compiler.

Loon - Heron: **Common Loon:** 31 Mar (1) Reelfoot L (WGC). **Horned Grebe:** 17 Mar - 2 Apr (1-4) Reelfoot L (WGC). **WESTERN GREBE:** 2 May (1) TVA Steam

Plant, Shelby Co (Helen Dinkelspiel, Jo Levy, Brent Tucker), documentation submitted. **American White Pelican:** 3 Mar - 8 May (400 max) Lake Co (WGC); 7 Mar (500+) Shelby Co (VBR); 12 Mar - 19 Apr (500 max) Dyer Co (WGC). **Double-crested Cormorant:** 4 Mar (1500) Reelfoot L (WGC). **Anhinga:** 8 May (2) Eagle Lake WMA (LVZ, JAZ); 27 May (2) Eagle Lake WMA (Dan Fuqua, LVZ), near the heronry; 8 May (2) Lauderdale Co (David Vandegriff), possible nest; 23 / 27 May (1 m / 1 f) Hwy 104W & Great River Rd, Dyer Co (WGC); 28 May (1) Tigrett WMA, Dyer Co (Carl Wirwa). **American Bittern:** 30 Apr - 3 May (1) Black Bayou WMA (MAG, WRP, TOS); 4 May (1) Whites Lake WMA (WGC); 8 May (2) Eagle Lake WMA (LVZ, JAZ). **Great Blue Heron & Great Egret:** 6 Apr (6 nests / 4 nests) Wolf River WMA (SNM, MGW). **Tri-colored Heron:** 2-6 May (1) Lake Co (TOS). **Black-crowned Night-heron:** 2 May (1 ad) Black Bayou WMA; 4 May (1 ad) Whites Lake WMA (WGC). **Yellow-crowned Night-heron:** 25 Apr (2) Wolf River WMA (CHB, SNM, VBR, MGW).

Goose - Falcon: **Ross' Goose:** 17 Mar - 5 Apr (2) Lake Co; 2-3 Apr (1) Dyer Co (WGC). **CINNAMON TEAL:** 9-18 Mar (1 m) Reelfoot L (WGC). **Greater Scaup:** 23 Mar (1 m) Hwy 79 & Great River Rd., Lake Co; 7 Apr (1 m) Everett L., Dyer Co (WGC); 3 Apr - 27 May (1 m) Black Bayou WMA (WGC, MAG, WRP, VBR). **Red-breasted Merganser:** 1 Apr / 1 May (4 f) Black Bayou WMA (WGC / MAG); 3-16 Apr (2 m) Phillipy, Lake Co (WGC). **Osprey:** 27 Mar (1) Reelfoot L (WGC), ers; 4+ nests at Reelfoot L (WGC); 8 May (1) Herb Parson's L, Fayette Co (Danny & Theresa Graham). **Mississippi Kite:** 11 Apr (1) Lauderdale Co (Jim & Sue Ferguson). **Bald Eagle:** 9 Mar (1 on nest) Lake Isom NWR, Obion Co (WGC); 21 Apr thru May (nest, 1 yg) Shelby Forest S.P. / Eagle Lake WMA (Dan Fuqua, JAZ, LVZ). **Northern Harrier:** 30 May (2) Hardeman Co (VBR), lrs. **Rough-legged Hawk:** 23 Mar / 3 Apr (1 light morph) Hwy 103 & Great River Rd, Dyer Co (WGC). **Golden Eagle:** 3 / 4 Mar (1) Kirby Pocket, Reelfoot L / Long Point, Reelfoot NWR (WGC); 25 Mar (1 ad) Memphis (Knox Martin), released 30 Apr at Reelfoot Lake SP. **Merlin:** 3 Apr (1) Black Bayou WMA; 14 Apr (1) Everett L, Dyer Co; 29 Apr (1) Is. 13 Rd., Lake Co (WGC). **Peregrine Falcon:** 17 Mar (1) midtown Memphis (Martha Heineman); 3 Apr (1) Whites Lake WMA; 16 Apr (1) Wynnburg, Lake Co; 19 Apr (1) Black Bayou WMA (WGC).

Rail - Owl: **King Rail:** 28 Mar - 2 May (7 ad) Black Bayou WMA (WGC, TOS); 6 Apr (3) Wolf River WMA (SNM, MGW). **Virginia Rail:** 18-21 Apr (2) Shelby Farms (Keith & Peggy Kunkel, m.ob.); 30 Apr - 2 May (2) Black Bayou WMA (TOS). **Sora:** 6 Apr (1) Wolf River WMA (SNM, MGW); 14 Apr (1) near Heloise, Dyer Co (WGC); 18-20 Apr (3) Shelby Farms (CHB, Keith & Peggy Kunkel, WRP, VBR, MGW); 19 Apr - 2 May (10 max) Black Bayou WMA (WGC, TOS); 24 Apr (1) TVA Lake, Shelby Co (MAG); 23 May (1) Dyer Co (WGC). **Purple Gallinule:** 6 May (1) Horns Bluff WMA, Crockett Co (Carl Wirwa), 1st Co record. **Sandhill Crane:** 12 Mar (3) Memphis (George & Jeanne Payne). **Black-necked Stilt:** EARTH Complex, Shelby Co. (11 max), Eagle Lake WMA (9 max), Black Bayou (6), & Dyer Co (3 max). **Willet:** 24 Apr (18) Shelby Farms (CHB, VBR); 23-25 Apr (1) Dyer Co (WGC); 23 Apr - 23 May (1) Lake Co (WGC); 8 May (7) Memphis (CHB, Karen Forbes, Martha Heineman, Margaret Jefferson, Ed Thomas). **Marbled Godwit:** 25 Apr (1) Mud L, Lake Co

(WGC), 2nd spring occurrence for West Tenn & an early state date. **Whimbrel:** 23 May (1) Is. 13 Rd., Lake Co (WGC). **Barn Owl:** 26 Mar (1) west Fayette Co (Peggy Gaboury); 1 Apr (nest, 3 yg) Dyer Co & 24 Apr (1) Benton Co (Knox Martin); 25 Apr (2) Wolf River WMA (CHB, SNM, VBR, MGW).

Flycatcher - Bobolink: **Willow Flycatcher:** 30 Apr (1) Eagle Lake WMA (JAZ, LVZ); 10 May (1) Shelby Farms (WRP); 23 May (1) Mud L, Lake Co (WGC). **Least Flycatcher:** 28 Apr (1) Shelby Forest S.P. (DDP, MTOS); 30 Apr (1) Eagle Lake WMA (JAZ, LVZ); 6 May (1) Shelby Co (JAZ, LVZ). **Scissor-tailed Flycatcher:** 8 May (1 m) Eagle Lake WMA (JAZ, LVZ). **Bank Swallow:** 6 May (small colony) Hwy 79W, Lake Co (WGC). **Brown Creeper:** 1 May (nest building) Old Cranetown, Reelfoot L (Robert Ford, Brandon Rutledge). **Bewick's Wren:** 15 May (1, nest building), nest was destroyed, 6-13 June (rebuilding nest) 6 miles southeast of Somerville, Fayette Co (Dick Whittington), 1st confirmed nest in Co. **House Wren:** 11 / 25 Apr (1) Shelby Farms (WRP); 24 Apr (7) Eagle Lake WMA (MAG); 1-31 May (2) Humboldt, Gibson Co (MAG); 25 May (1) Memphis (SNM). **Sedge Wren:** 2 May (1) Black Bayou WMA (WGC); 9 May (2) Lower Hatchie NWR, Lauderdale Co (DDP); 10 May (1) Shelby Farms (WRP). **Marsh Wren:** 8 May (1) Eagle Lake WMA (JAZ, LVZ). **Cape May Warbler:** 30 Apr - 2 May (3) Reelfoot L (TOS); 5 May (2) Shelby Forest S.P. (DDP, MTOS); 8 May (1) Herb Parson's L., Fayette Co (Danny & Theresa Graham). **Black-and-white Warbler:** 29 May (1) Wolf River WMA (CHB, SNM, VBR, MGW). **Worm-eating Warbler:** 29 May (5) Wolf River WMA (CHB, SNM, VBR, MGW). **Swainson's Warbler:** 8 May (10) Shelby Forest S.P. (MTOS), max. **Mourning Warbler:** 18 Apr (1) Overton Park, Memphis (DDP), very early. **Scarlet Tanager:** 29 May (1) Wolf River WMA (CHB, SNM, VBR). **Grasshopper Sparrow:** 30 Apr - 2 May (3) Lake Co (WRP); 8-9 May (2) Eagle Lake WMA (JAZ, LVZ); 9 May (3) Lower Hatchie NWR, Lauderdale Co (DDP). **Bobolink:** 9 May (316) Lauderdale Co (DDP).

Locations: Black Bayou WMA - in Lake Co; Eagle Lake WMA - in Shelby Co; Reelfoot L - in Lake & Obion Cos; Shelby Forest S.P. - in Shelby Co; Shelby Farms - in Shelby Co; Whites Lake WMA - in Dyer Co; Wolf River WMA - in Fayette Co.

MARTHA G. WALDRON, 1626 Yorkshire Drive, Memphis, TN 38119.

HIGHLAND RIM AND BASIN REGION — Weather for the spring was variable. Average temperatures ran the gamut: March had below normal temperatures, April produced the opposite, and May rounded things out by being normal. Rainfall for the quarter was 3 inches below normal, with April being the driest month. The spring months produced some interesting sightings in Middle Tennessee, including Anhinga, Mississippi Kite, Black-billed Cuckoo, Olive-sided and Yellow-bellied flycatchers, Black-throated Blue Warbler, and Harris' Sparrow. In Nashville, a wintering Rufous Hummingbird was present for five months, last seen at the beginning of April. A Baltimore Oriole also spent the winter in the Nashville area, departing in March. Eurasian Collared-Doves were reported at a couple of locations.

The help of Margaret Mann and Phillip Casteel is greatly appreciated.

Loon - Merganser: **Common Loon:** 27 Apr (3) Old Hickory L (CAS), lrs. **ANHINGA:** 9 Apr (1) Sinking Pond, AEDC (MJW). **American Bittern:** 30 Mar - 10 May (1) Shelby Bottoms (ScB, PDC, HKC et al.); 11 Apr (1) Putnam Co (RWS). **Little Blue Heron:** 24 Apr (1) Shelby Bottoms (NTOS). **Green Heron:** 29 Mar (1) Shelby Bottoms (ScB), ers. **Yellow-crowned Night-heron:** 11 Apr (1) Shelby Bottoms (ScB, PDC). **Greater White-fronted Goose:** 27 Mar (1 im) Putnam Co (SJS, m.ob.). **Snow Goose:** 1 Mar - 26 May (1) Putnam Co (SJS, m.ob.), late. **Redhead:** 29 Mar (4) Nash (Thurston & Kathy Lee). **Greater Scaup:** 17 Mar (1) Radnor L (MLM). **Red-breasted Merganser:** 14 Mar (64) Percy Priest L., Davidson Co (Jay DesGrosselier); 17 Mar (25) Radnor L (JKS).

Osprey - Sapsucker: **Osprey:** 10 Apr (1) Radnor L (Joe Francis). **Mississippi Kite:** 29 Apr (1) Franklin Co (Ruth Luckado); 5 May (1) Monsanto Ponds, Maury Co (JKS). **Red-tailed Hawk:** 3 Mar (pair) nesting near Capitol Building in downtown Nash (ScB). **Golden Eagle:** 17 Mar (1) AEDC (MJW). **Black-bellied Plover:** 5 May (1) Old Hickory L (CAS). **Willet:** 27 Apr (120) Cheatham Co (Joe Stone). **Common Tern:** 5 May (1) Old Hickory L (PDC). **Forster's Tern:** 2 Apr (15) Shelby Bottoms (ScB, PDC). **Eurasian Collared-Dove:** 29 Mar (4) Rutherford Co (Terry Witt); 10 Apr (1) Wilson Co (CAS); 27 / 29 May (2) Coffee Co (SJS, Mary Peterson). **Black-billed Cuckoo:** 24 May (1) Radnor L (MLM). **Yellow-billed Cuckoo:** 23 Apr (1) Radnor L (HKC), ers. **Whip-poor-will:** 2 Apr (1) Nash (Jan Alexander), ers. **Rufous Hummingbird:** 4 Apr (1) Nash (Jane Williams fide John Carreau), lrs, had been present 5 months. **Chimney Swift:** 29 Mar (1) Nash (MLB), ers. **Yellow-bellied Sapsucker:** 25 Apr (1) Radnor L (FCF), lrs.

Flycatcher - Waxwing: **Olive-sided Flycatcher:** 4 May (1) Radnor L (PDC); 7 May (1) Putnam Co (SJS), 4th Co record; 29 May (1) Coffee Co (SJS). **Yellow-bellied Flycatcher:** 16 May (1) Radnor L (PDC, DD, CAS). **Least Flycatcher:** 25 May (1) Radnor L (PDC, FCF). **Great Crested Flycatcher:** 17 Apr (1) Cheatham Co (SSH), ers. **White-eyed Vireo:** 2 Apr (1) Shelby Bottoms (PDC), ers. **Yellow-throated Vireo:** 10 Apr (1) Radnor L (Joe Francis), ers. **Warbling Vireo:** 17 Apr (1) Cheatham Co (SSH), ers. **Philadelphia Vireo:** 25 Apr (1), 12 May (4), 20 May (2) Radnor L (PDC, FCF, CAS). **Red-eyed Vireo:** 8 Apr (1) Radnor L (JKS), ers. **Tree Swallow:** 6 May (2) Shelby Bottoms (PDC), nesting in bluebird box. **Northern Rough-winged Swallow:** 19 Mar (4) Radnor L (JKS), ers. **Barn Swallow:** 19 Mar (1) Radnor L (Sharon Monroe fide MLB), ers. **House Wren:** 5 Mar (1) Nash (CAS). **Winter Wren:** 21-24 May (1) Putnam Co (SJS), late. **Golden-crowned Kinglet:** 24 Apr (1) Radnor L (MLM), lrs. **Ruby-crowned Kinglet:** 8 May (1) Radnor L (CAS), lrs. **Veery:** 29 May (1) Pennington Bend (MLM), lrs. **Swainson's Thrush:** 28 May (1) Shelby Bottoms (PDC), lrs. **Wood Thrush:** 7 Apr (1) Cheatham Co (MJW), ers. **Cedar Waxwing:** 27 May (2) Radnor L (FCF).

Warblers: **Blue-winged Warbler:** 1 Apr (1) Pennington Bend (MLM), ers. **Golden-winged Warbler:** 24 / 25 Apr (1) Radnor L (Scott Lovell / PDC). **Tennessee Warbler:** 10 Apr (1) Radnor L (PDC), 2 days earlier than previous Nash. area record. **Orange-crowned Warbler:** 6 Apr (1) Shelby Bottoms (PDC). **Nashville Warbler:** 7 Apr (1) Warner Parks (Sandy Bivens), ers; 2 May (9) Radnor L (ScB, PDC, Mary

Zimmerman), max. **Northern Parula**: 21 Mar (1) Radnor L (Gilbert Foster), ers. **Yellow Warbler**: 20 Apr (1) Nash (MLB), ers. **Magnolia Warbler**: 13 Apr (1) Pennington Bend (MLM), ers. **Cape May Warbler**: 3 May (2) Shelby Park (PDC); 4 May (6) Radnor L (PDC). **Black-throated Blue Warbler**: 8 May (1) Cheatham Co (Sabin Thompson); 8 May (1) Radnor L (Kathy Lee, Joe Francis). **Blackburnian Warbler**: 13 Apr (1) AEDC (MJW), ers; 25 May (1) Radnor L (PDC, FCF), Irs. **Prairie Warbler**: 8 Apr (1) Warner Parks (Sandy Bivens), ers. **Palm Warbler**: 27 Apr (25) Shelby Bottoms (PDC, FCF). **Bay-breasted Warbler**: 21 Apr (1) Pennington Bend (MLM), ers. **Blackpoll Warbler**: 8 Apr (1) Warner Parks (Sandy Bivens), ers. **Cerulean Warbler**: 12 Apr (4) Williamson Co (MJW), ers. **Black-and-white Warbler**: 20 Mar (1) Nash (Jan Alexander), ers. **American Redstart**: 6 Apr (1) Pennington Bend (MLM), ers. **Prothonotary Warbler**: 6 Apr (1) Radnor L (Gail DePolito), ers. **Ovenbird**: 8 Apr (1) Putnam Co (RWS), ers. **Northern Waterthrush**: 8 Apr (2) Radnor L (JKS), ers. **Louisiana Waterthrush**: 19 Mar (1) Williamson Co (MJW), ers. **Kentucky Warbler**: 11 Apr (1) Putnam Co (RWS), ers. **Connecticut Warbler**: 24 Apr (1) Shelby Bottoms (NTOS); 11 May (1) / 16 May (3) Radnor L (PDC, DD, CAS); 19 May (1) Putnam Co (SJS, Ginger Ensor). **Mourning Warbler**: 9 May (1), 11 May (1), 16 May (3), 20 May (1) & 22 May (1) all at Radnor L (PDC, DD, FCF, JKS, CAS, Mary Zimmerman); 27 May (1) Putnam Co (SJS). **Common Yellowthroat**: 1 Apr (1) Pennington Bend (MLM), ers. **Hooded Warbler**: 8 Apr (1) Putnam Co (SJS), ers. **Wilson's Warbler**: 22 Apr (1) Radnor L (MLM), ers. **Canada Warbler**: 23 Apr (1) Radnor L (HKC), ers.

Tanager - Oriole: **Scarlet Tanager**: 13 Apr (1) Radnor L (PDC), ers. **Bachman's Sparrow**: 8 Apr (1) AEDC (Terry Witt). **Lincoln's Sparrow**: 20 Apr (1) Nash (MLB); 27 Apr (2) Shelby Bottoms (PDC, FCF). **White-crowned Sparrow**: 17 May (1) Shelby Bottoms (HKC), Irs. **Harris' Sparrow**: 27 Mar - 5 May (1) Gallatin, Sumner Co (Jim Hiett). **Rose-breasted Grosbeak**: 1 Apr (1) Williamson Co (Rhonda Todd fide John Carreau), ers. **Blue Grosbeak**: 17 Apr (1) Cheatham Co (SSH), ers. **Dickcissel**: 29 May (2) Bedford Co (SJS). **Orchard Oriole**: 13 Apr (3) Radnor L (PDC), ers. **Baltimore Oriole**: 18 Dec - 24 Mar (1) Antioch, Davidson Co (Margie Graham).

Locations: AEDC - Arnold Engineering Development Center, Coffee Co; Nash - Nashville; Old Hickory L - in Davidson & Sumner Cos; Pennington Bend - in Davidson Co; Radnor L - in Davidson Co; Shelby Bottoms / Park - in Davidson Co; Warner Park - in Davidson Co.

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CUMBERLAND PLATEAU / RIDGE & VALLEY REGION — The weather this spring was generally mild and dry. Tree leaves emerged earlier than usual, particularly in the valleys. The number and variety of migrants appeared to be near average or slightly above. Individuals of numerous passerines arrived earlier than usual, but the main flight was pretty much on schedule. Rarities included Eared Grebe, Ross' Goose, Purple Gallinule, and Whimbrel. Also notable were multiple American Bitterns and a returning Scissor-tailed Flycatcher. Breeding reports for Osprey, Bald Eagle, and Peregrine Falcon evidenced their continuing recovery.

Loon - Heron: **Common Loon**: 28 Mar (35 flying over) Soddy Mtn (WGH). **Pied-billed Grebe**: 14 May (1) Fort Loudoun L., Knox Co (KDE), lrs. **Eared Grebe**: 13 Mar (2) Tellico L., Loudon Co (KTOS). **Double-crested Cormorant**: 8 Apr (77 flying over) Soddy Mtn (WGH); 17 Apr (101) Baylor L., Hmlt. Co (DRJ, John Henderson, David Chaffin), max; 13 Apr (10) Greene Co (Jim Holt). **American Bittern**: 8 Apr / 8-16 May (1) Bra Lev (KAC); 18 Apr (1) Cove Lake S.P. (Jimi Moore); 24 Apr (1) Austin Springs (BKS, Reece Jamerson); 8 May (1) Williams Is (DFV); 23 May (1) Ktn. Stm. Pl. (DJT, ARH). **Least Bittern**: 4 May (1) Bra Lev (Jon Dunn); 8 May (1) Williams Is (DFV); 15 / 22 May (1) Sugar Creek, Meigs Co (KAC / KDE, DJT). **Great Blue Heron**: 50+ nests on Looney Is, Knox Co (KTOS). **Great Egret**: 5-11 Apr (1) Knox Co (DJT, KDE); 8-28 May (5) Cherokee Dam (KDE); 23 May (3) Greene Co (DHM, ACL). **Snowy Egret**: 27 Apr (1) Greene Co (Jim Holt); 8 May (1) Hmlt. Co (Jimmy & Cynthia Wilkerson). **Little Blue Heron**: 11 Apr (1 ad) Kyker Bottoms (KDE, DJT); 8 May (2) Williams Is (DFV). **Cattle Egret**: 19 May (1) Greene Co (DHM, ACL). **Black-crowned Night-heron**: 3 Apr (112) Cherokee Dam (KDE); 4 Apr (1) Greene Co (DHM, ACL); 12+ nests on Looney Is., Knox Co (KDE, DJT). **Yellow-crowned Night-heron**: 3 Apr into June (1-7 ad, 3 nests) downtown Knoxville (KDE, m.ob.).

Goose - Grouse: **Snow Goose**: 5-11 May (1) Cove Lake S.P. (NM). **ROSS' GOOSE**: 28 Mar - 1 Apr (1) Hmlt. Co (KAC, James Thompson, m.ob.), 2nd Co record. **North-ern Shoveler**: 14 Mar (100+) Kyker Bottoms (Dan Mooney et al.), max. **Canvas-back**: 17 May (1) Knoxville (KDE), late. **Greater Scaup**: 15 Mar (204) Chickamauga L. (KAC), max. **Surf Scoter**: 17 Apr (1) Tennessee R. gorge, Marion Co (DRJ, John Henderson, David Chaffin). **Hooded Merganser**: 8 May (1 f, 12 yg) Kyker Bottoms (Jean Alexander, David Johnson); 23 May (1) Ktn. Stm. Pl. (DJT, ARH). **Osprey**: 7 Mar (1) Ktn. Stm. Pl. (Andrew Jones, Audrey Mayer), ers; nesting reported at Watts Bar L., Fort Loudoun L., & Douglas L. (fide Pete Wyatt). **Bald Eagle**: 22-25 Mar (active nest) Hiwassee R., Meigs Co (Ken Dubke), new site; 20 Mar (1 egg hatched) nest below Nickajack Dam (Jonnie Sue Lyons); 2 nests on Douglas L., Jefferson Co (fide Pete Wyatt). **Sharp-shinned Hawk**: 18 Apr (1 on nest) Persimmon Ridge Park, Washington Co (Larry McDaniel, Janet Brown). **Golden Eagle**: 20 Mar (1) Soddy Mtn (WGH). **Merlin**: 2 Apr (1) Soddy Mtn (WGH). **Peregrine Falcon**: 3 Mar (1) downtown Knoxville (Pete Wyatt); 20 May (1 yg first seen) Chickamauga Dam nest site (Harold Sharp). **Ruffed Grouse**: 11 Apr (1) Bakewell Mtn, Hmlt. Co (R&DS); 23 May (1 f, 3 yg) Anderson Co (Ron Hoff, Dollyann Myers).

Rail - Tern: **Sora**: 11 Apr (1) Ktn. Stm. Pl. (KDE, DJT); 21 Apr (1) Craven's House, Hmlt. Co (LAW), unusual wooded location; 8 May (1) Kyker Bottoms (Jean Alexander, David Johnson); 8 May (1) Williams Is (DFV); 8 May (1) Bra Lev (KAC). **Purple Gallinule**: 11 / 17 May (1) Bra Lev (KAC et al.); 27 May (1) Kyker Bottoms (Bill Smith). **Common Moorhen**: 8 May (1) Bra Lev (KAC). **Sandhill Crane**: 14 Apr (1) Hmlt. Co (KAC), lrs. **American Golden Plover**: 28 Mar (1) Rankin Bottoms, Cocke Co (KDE); 29 Mar (3) Bra Lev (KAC); 1-6 Apr (6-1) U.T. Plant Science Farm, Knox Co (KDE). **WHIMBREL**: 22 May (3) Ktn. Stm. Pl. (Carolyn Snow, Steve & Stacey Adair). **Semipalmated Sandpiper**: 23 May (100+) Ktn. Stm. Pl. (DJT, ARH),

max. **White-rumped Sandpiper**: 8 May (1) Jefferson Co (KDE); 16 May (1) Bra Lev (KAC, DRJ, LAW, Janice Chadwell); 23 May (4) Greene Co (DHM, ACL). **Pectoral Sandpiper**: 23 Mar (62) Jefferson Co (KDE), max. **Dunlin**: 28 Mar (1) Rankin Bottoms, Cocke Co (KDE); 23 May (4) Ktn. Stm. Pl. (DJT, ARH). **Long-billed Dowitcher**: 8 May (1) Greene Co (DHM, ACL). **American Woodcock**: 4 - 22 Mar (1-4) Greene Co (DHM, ACL); 22 May (1) Jefferson Co (KDE). **Ring-billed Gull**: 28 May (3) Cherokee Dam (KDE), lrs. **Herring Gull**: 8 May (1) Ktn. Stm. Pl. (JDJ), lrs. **Caspian Tern**: 23 Apr (2) / 1-2 May (2) Chickamauga L. (WGH / Jimmy Wilkerson); 3 May (1) Nickajack L. (KAC); 8 May (2) Ktn. Stm. Pl. (JDJ). **Forster's Tern**: 3 / 17 May (8 / 7) Nickajack L. (KAC); 15 May (2) Cherokee L, Jefferson / Hamblen Cos (KDE).

Dove - Pipit: **Eurasian Collared-Dove**: 9 Mar (15) Pikeville, Bledsoe Co (RLK); 12 May (1) Jasper, Marion Co (KAC). **Black-billed Cuckoo**: 29 Apr (1) Greene Co (DHM, ACL); 8 May (1) Hmlt. Co (WGH, Tanya Jordan). **Chimney Swift**: 29 Mar (1) Bra Lev (KAC), ers. **Ruby-throated Hummingbird**: 5 Apr (1) Hmlt. Co (Alice Benton), ers. **Olive-sided Flycatcher**: 4 - 16 May (1) Craven's House, Hmlt. Co (KAC, LAW). **Willow Flycatcher**: 8 May (2) Cove Lake S.P. (NM); 22 May (4) Freel's Bend, Anderson Co (JDJ, Jim Evans); 23 May (1) Ktn. Stm. Pl. (DJT, ARH). **Eastern Kingbird**: 3 Apr (1) Knoxville (ARH), ers. **Scissor-tailed Flycatcher**: 15 May into June (1) Charleston, Bradley Co (Dennis & Gwen Harris, m.ob.), 3rd consecutive year at site; 28 May (1) Clinton, Anderson Co (R.E. Blevins fide J.B. Owen). **Blue-headed Vireo**: 19 Mar (1) Knoxville (Andrew Jones), ers; 20 Apr (32) Big South Fork, Scott Co (SJS), max, on 16 miles of trail. **Yellow-throated Vireo**: 5 Apr (2) Campbell Co (NM), ers. **Warbling Vireo**: 24 Apr thru May (1-5) Greene Co (DHM, ACL). **Philadelphia Vireo**: 4 May (1) Hmlt. Co (Jon Dunn). **Red-eyed Vireo**: 5 Apr (2) Campbell Co (NM), ers. **Horned Lark**: 23 May (1) Limestone, Washington Co (RLK). **Tree Swallow**: 2 nests at Cherokee Dam (KDE). **Bank Swallow**: colonies at East Bridge Industrial Park, Knox Co & ASARCO zinc mine, New Market, Jefferson Co (KDE). **Cliff Swallow**: 17 Mar (2) Chattanooga (WGH), ers. **Marsh Wren**: 21 May (1) Austin Springs (RLK). **American Pipit**: 24 Mar (100+) U.T. Plant Science Farm, Knox Co (DJT).

Warblers: **Blue-winged Warbler**: 16 Apr thru May (7 territorial m) Oak Ridge Reservation, Anderson Co (JDJ et al.). **Golden-winged Warbler**: 9 May (4 m on territory) Windrock Mtn, Anderson Co (DJT, Roger & Christine Tankersley). **Orange-crowned Warbler**: 10-25 Apr (1-3) Knox Co (KTOS). **Magnolia Warbler**: 13 Apr (1) Campbell Co (NM), ers. **Cape May Warbler**: 3 Apr (1) Knoxville (KDE), ers. **Black-throated Green Warbler**: 20 Apr (130) Big South Fork, Scott Co (SJS), on 16 miles of trail, new high count for state. **Blackburnian Warbler**: 10 Apr (1) Roane Co (JDJ, Harriet Joslin), ers. **Prairie Warbler**: 8 Apr (1) Knoxville (KTOS), ers. **Palm Warbler**: 21 May (1) Austin Springs (RLK), lrs. **Cerulean Warbler**: 8 Apr (1) Hmlt. Co (LAW), ers; 11 Apr (1) Knoxville (KDE, DJT). **Prothonotary Warbler**: 7 Apr (1) Roane Co (Nathan Klaus), ers; thru May (1) Cove Lake S.P. (NM); 24 Apr (3) Davy Crockett L, Greene Co (DHM, ACL); 21 May (1) Austin Springs (RLK). **Worm-eating Warbler**: 2 Apr (1) Hmlt. Co (KAC), ers. **Swainson's Warbler**: 25 Apr (1) Emory R., 1-2 miles below Nemo, Morgan Co (SJS); 28 Apr - 8 May (1) Booker T. Washington S.P., Hmlt. Co (LAW); 9 May (1) Windrock Mtn, Anderson Co (DJT, Roger &

Christine Tankersley); 15 May (2) Obed R., 2-3 miles downstream from Daddy's Creek, Morgan Co (SJS). **Ovenbird**: 5 Apr (1) Campbell Co (NM), ers. Connecticut Warbler: 14 May (1) Greene Co (DHM, ACL). **Mourning Warbler**: 8 May (1) Oak Ridge, Anderson Co (Dollyann Myers). **Hooded Warbler**: 4 Apr (1) Hmlt. Co (KAC), ers.

Tanager - Siskin: Scarlet Tanager: 2 Apr (1) Hmlt. Co (KAC), ers. **Grasshopper Sparrow**: 11 Apr (1) Knoxville (KDE), ers. **White-crowned Sparrow**: 20 May (1) Jefferson Co (KDE), lrs. **Dickcissel**: 17 May (5 m) Bledsoe Co (R&DS); 17 / 23 May (1 / 2) Limestone, Washington Co (DHM, ACL / RLK); 23 May (1) Greene Co (DHM, ACL). **Rusty Blackbird**: 2 May (2) Greene Co (DHM, ACL), lrs. **Pine Siskin**: 10 Mar (1) Hmlt. Co (R&DS); 13 / 23 Mar, 15 Apr (1) Campbell Co (NM); only reports.

Locations: Austin Springs - in Washington Co; Bra Lev - Brainerd Levee, Hamilton Co; Cherokee Dam - in Jefferson & Grainger Cos; Chickamauga L. - in Hamilton Co; Cove Lake S.P. - in Campbell Co; Hmlt. Co - Hamilton Co; Ktn. Stm. Pl. - Kingston Steam Plant, Roane Co; Kyker Bottoms - in Blount Co; Nickajack L. - in Marion Co; Oak Ridge - in Anderson Co; Soddy Mtn - in Hamilton Co; Williams Is. - in Hamilton Co.

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EASTERN MOUNTAIN REGION — There were 8 inches of snow on 3 March in Carter County. Otherwise, the weather was mostly mild. A newer technique for verifying difficult identifications was demonstrated with a Rufous Hummingbird at a feeder in Elizabethton. A series of excellent digital photos were e-mailed to Bob Sargent, a hummingbird expert in Alabama. He confirmed that the hummingbird was a Rufous, probably a second-year male.

Grebe - Hummingbird: Horned Grebe: 28 Mar (30) S. Hol. L. (JWC et al.), max. **Eared Grebe**: 7 Mar (1) / 22-28 Mar (3-4) S. Hol. L. (BKS / JWC et al.). **Double-crested Cormorant**: 10 Apr (67) S. Hol. L. (JWC), max. **Black Vulture**: 22 Mar (49) S. Hol. L. (JWC et al.), max. **American Black Duck**: 9 / 27 Mar (2 / 1) Shady Valley (JLS, LAS). **Green-winged Teal**: 24 Mar (3) Watauga R., Carter Co (BKS); 2 Apr (2) Shady Valley (JLS, LAS). **Red-breasted Merganser**: 15 Apr (17) S. Hol. L. (Mary Erwin), max. **Ruddy Duck**: 22 Mar (16) S. Hol. L. (JWC et al.), max. **Osprey**: 22 Apr / 3 May (1) Shady Valley (JLS, LAS). **Peregrine Falcon**: 3 Apr (1) Alum Cave Bluff, GSMNP (AJT, DJT, Eric Jenkins); 26 Apr (1) Devil's Looking Glass, Unicoi Co (AJT). **Sandhill Crane**: from winter thru 2 Apr (1) Shady Valley (JLS, LAS). **Greater Yellowlegs**: 10 Apr (3) Shady Valley (JLS, LAS), first record there. **Lesser Yellowlegs**: 10 Apr (1) Shady Valley (JLS, LAS), first record there. **Spotted Sandpiper**: 18 Apr (1) Shady Valley (JWC), second record there. **Pectoral Sandpiper**: 28 Apr (1) S. Hol. L. (JWC et al.), only report. **Common Snipe**: 10 Apr (15+) Shady Valley (JLS, RPL), max. **American Woodcock**: 27 Mar - 2 Apr (2) Shady Valley (JLS, LAS). **Bonaparte's Gull**: 28 Apr (100) S. Hol. L. (JWC et al.), max. **Barn Owl**: 25 Mar (1) Holston Valley, Sullivan Co (RPL). **Ruby-throated Hummingbird**: 22 Apr (20) Shady Valley (JLS, LAS), max. **Rufous Hummingbird**: 15-19 Apr (1) Elizabethton (BKS, Howard Langridge, JWC), first spring record for NE Tenn., second Carter Co record.

Flycatcher - Siskin: Willow Flycatcher: 6 May (1) Shady Valley (JLS, LAS). **Tree Swallow:** 22 Mar (8) S. Hol. L. (JWC et al.), ers. **Common Raven:** 24 Apr / 15 May (1-2) Viking Mtn (GTOS). **Red-breasted Nuthatch:** 24 Apr / 15 May (1) Viking Mtn (GTOS). **Winter Wren:** 24 Apr / 15 May (2) Viking Mtn (GTOS). **Veery:** 15 May (7) Viking Mtn (GTOS). **American Pipit:** 22 Mar (42) Holston Valley, Sullivan Co (Charles Smith, JWC). **Black-throated Blue Warbler:** 15 May (25) Viking Mtn (GTOS). **Swainson's Warbler:** 15 May (1) Viking Mtn (GTOS). **Blue Grosbeak:** 23 Apr - 10 May (1) Shady Valley (JLS, LAS). **Savannah Sparrow:** 27 May (1) Shady Valley (JLS, LAS). **Fox Sparrow:** 5-7 Mar (2) Shady Valley (JLS, LAS); 8 Mar (3) Hampton, Carter Co (BKS). **Purple Finch:** 24 Mar (1) S. Hol. L. (JWC et al.), only report. **Red Crossbill:** 11 Apr (5+) Clingman's Dome, GSMNP (KDE, DJT). **Pine Siskin:** 3 Apr (10) Alum Cave Trail, GSMNP (AJT, DJT).

Locations: GSMNP - Great Smoky Mountains National Park; Shady Valley - in Johnson Co; S. Hol. L. - South Holston Lake, Sullivan Co; Viking Mtn - in Greene Co.

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