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# BIRD INVENTORY AT STONES RIVER NATIONAL BATTLEFIELD, 2003-2005

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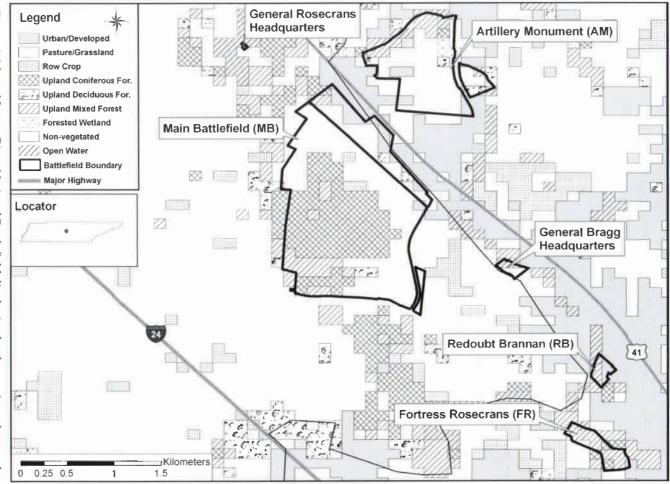
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## ABSTRACT

A bird inventory was conducted at Stones River National Battlefield in Rutherford County, Tennessee, from April 2003 to April 2005. Visits on 34 days were made during all seasons of this two-year period. During these visits, birds were detected using five different survey methods: point counts, migration walks, night surveys, raptor surveys, and general surveys. As a result of the inventory, 152 species of birds were detected in the battlefield. Each species was assigned a status category, including whether or not it was a breeder; in addition, each species' abundance during each season was specified. Specific recommendations to improve habitat in the battlefield for birds are offered, including conversion of cropland to native grassland and long-term maintenance of the latter, maintaining a component of shrubscrub habitat in the battlefield, opening the understory of deciduous woodlands in the battlefield, maintaining snags, planting native berry-producing trees and forbs, converting an old quarry to a wetland, and leaving slashpiles unburned if any forest clearing is deemed necessary.

## INTRODUCTION

Stones River National Battlefield (STRI) is located in northwest Murfreesboro (Figure 1), Rutherford County, in Middle Tennessee. Established in 1927, the battlefield commemorates the Battle of Stones River and is actively managed by the National Park Service as a historic



the unit, located in Murfreesboro, Rutherford County, Tennessee. Figure 1. Map of Stones River National Battlefield displaying land cover in and around

park. Although the Battle of Stones River occurred on nearly 1550 ha (4000 acres), STRI comprises only about 288 ha (712 acres) of mixed hardwood forests, cedar thickets, limestone cedar glades, old fields, mowed grass fields, and agricultural fields. Because a rapidly growing community surrounds the park, STRI potentially serves as a refuge for flora and fauna representative of dwindling middle Tennessee native ecosystems. The purpose of this study was 1) to inventory the bird species that occur at STRI; and 2) to indicate the status and relative seasonal abundance of documented species.

## STUDY SITE

Stones River National Battlefield is located in Rutherford County, Tennessee, approximately 48 km southeast of Nashville. STRI lies within the Inner Central Basin (ICB) ecoregion of the Interior Low Plateau Physiographic Province (Fenneman 1938, Griffith et al. 1997). The ICB is characterized by low relief; elevation seldom exceeds 200 m. The soils and vegetative features of the ICB and STRI have been described elsewhere (Kuchler 1964; Springer and Elder 1980; Hogan and Webber 1999). Permanent and intermittent streams of the ICB have a low to moderate gradient and often have a rock-rubble or limestone bedrock substrate (Etnier and Starnes 1993). The current authorized boundary of STRI encompasses 288 ha (712 acres) and consists of six disjunct units (National Park Service 1998): the Main Battlefield Park (MB), the Artillery Monument (AM), Fortress Rosecrans (FR), Redoubt Brannan (RB), and the headquarters sites for Generals Bragg and Rosecrans.

The MB encompasses 191 ha, making it the largest of the units. With the exception of the Stones River National Cemetery, three agricultural fields that are actively planted and harvested, and six fields dominated by native and non-native grasses, the MB is wooded and undeveloped. Upland hardwood forests dominate the wooded areas; except following rains, these forests are quite dry. The forest type is represented by dry to mesic oak and oak-hickory forests and oak-dominated forests with a strong Eastern Red Cedar (*Juniperus virginiana*) component (Hogan and Weber 1999). Approximately 24 ha of cedar glades and barrens are also found at the MB (National Park Service 1998). The glades are openings in stands of Eastern Red Cedar where the soil over the Ridley Limestone is shallow, precluding permanent invasions by trees (National Park Service 1998). Old-field communities dominate some areas and are primarily composed of weedy herbaceous vegetation with scattered woody species (Hogan and Webber 1999). Several mowed grass fields up to 300 m wide also border the MB, providing habitat for several grassland species. An assortment of rock outcroppings, sinkholes, and sinkhole caves also dot the landscape.

The AM lies east of U.S. HWY 41 and includes a short stretch (c. 0.5 km) of the West Fork of the Stones River. The AM, encompassing 48 ha of STRI (supplemented in 2004 by purchase of additional acreage composed of grassland and riparian woods), is composed largely of open field habitats, including a reintroduced native grass field (2002) and several large fields with weedy and woody herbaceous vegetation. Other habitats found at this unit include floodplain forests, such as those found along the Stones River and The Nature Conservancy tract, that are dominated by hackberry (*Celtis* spp.), green ash (*Fraxinus pennsylvanica*), box elder (*Acer negundo*), sycamore (*Platanus occidentalis*), and cottonwood (*Populus deltoides*) (Hogan and Webber 1999). This unit also hosts a permanent pond community known as King Pond. A large population of greater duckweed (*Spirodela polyrhiza*) dominates the open water of this small (c. 0.4 ha), shallow pond (Hogan and

Webber 1999). The pond attracts an assortment of wildlife, such as the White-tailed Deer (*Odocoileus virginianus*) and several species of birds, including Canada Geese (*Branta canadensis*) and Wood Ducks (*Aix sponsa*). An additional pond and wetland is located in an old quarry at the AM. Also, two agricultural fields and some large weedy fields are located at the AM. Some notably large trees are found in the fencerows of this site.

The FR unit lies on 10 ha and supports the remnants of the original earthworks of Lunette Palmer, Curtain Wall no. 2, and Lunette Thomas. These earthworks are actively managed for native warm season grasses, such as broomsedge (*Andropogon* spp.) and Indian grass (*Sorghastrum nutans*). This site also contains a 0.965-km-long interpretive trail that encircles the earthworks; during 2004-2005 an extensive raised boardwalk was constructed to protect the earthworks. At FR, Lytle Creek flows into an impoundment that overflows into the West Fork of the Stones River. The wooded rock outcroppings host mixed hardwood species, such as oak (*Quercus* spp.), ash (*Fraxinus* spp.), hackberry (*Celtis* spp.), and elm (*Ulimus* spp.), as well as exotic shrub species, such as Chinese privet (*Ligustrum sinense*) and bush honeysuckle (*Lonicera maackii*). The area around the parking lot was landscaped about 2002 with native shrubs and herbaceous plants. Several large mowed grass areas are present in this unit also.

The 2.1-ha RB unit also contains earthworks and an interpretive trail. Boardwalks have been built over the earthworks to protect them; native vegetation has been added to many areas within this site. Below the earthworks, a floodplain forest is adjacent to the West Fork of the Stones River. Rock outcroppings and small rock bluffs are characteristic of the upland area. A small pond is located near the floodplain forest but is not on battlefield property.

General Bragg's and General Rosecran's headquarters units encompass 0.26 and 0.10 ha, respectively. These areas, each well groomed and maintained as lawn by the park staff, were included in this inventory.

## METHODS — BIRD INVENTORY TECHNIQUES

The bird inventory at STRI was conducted using five survey methods, as outlined below. Point counts were the most regimented method of collecting breeding bird data at this NPS unit. On two mornings during late May, 15 point counts were conducted during each breeding season of the inventory. The protocol for these counts entailed standing at the center of a 100-m diameter plot and counting all birds heard and seen for 10 minutes; birds were recorded as occurring at one of four distance intervals (< 25 m; 25-50 m; 50-100 m; and >100 m) or as flyovers; birds were also recorded as occurring within one of three temporal intervals (0-3 min; 3-5 min; 5-10 min) (Hamel 1992; Hamel et al. 1996). Any birds flushed during approach to a plot center were included among the birds recorded at the point. Birds counted at one point were not counted if the same individuals were detected at an adjacent point, and each point was at least 250 m from any other point. Nine points were located in the MB, three at the AM, 2 at FR, and one at RB. All birds seen or heard were recorded on a special point count data form.

A second method used to gather data about the birds of this site was the migration walk. These walks were conducted during all months of each migration season, including one walk in March, two walks in April, and three in May, as well as one walk in August, two walks in September, one in October, and one in November. The walks typically lasted 1-2 hours and covered a distance of about 1.5 km through habitat considered to have high

potential for harboring migrant birds. All species seen or heard were recorded on a standard field card.

A third method used to gather data about the birds of the site was the raptor survey. Undertaken during winter, one raptor survey was conducted during January of the first winter of the inventory and two were conducted during the second, one in December and one in January. Typically, a raptor survey lasted 2-4 hours during late morning. A route was driven by automobile along all the roads of STRI, usually totaling about 15 km. All raptors (and shrikes) detected were included in the resulting data. All species seen or heard were recorded on a standard field card.

A fourth method of gathering bird data at this site was the night survey, a somewhat informal method entailing the use of tape-recorded calls to elicit responses from owls and other nocturnal species during hours of darkness on nearly all visits during all seasons. Night surveys occurred before dawn on 14 dates and after dusk on 13 dates. Besides owls during all seasons, nightjars were also detected by night surveys during summer; woodcocks during all seasons; and Grasshopper Sparrows during late spring and summer. All species seen or heard were recorded on a standard field card, sometimes in conjunction with data obtained using the following method.

The fifth and last method of obtaining bird data at this site was the general inventory, involving less regimented efforts to visit all types of habitat within this NPS unit during the course of a day and to keep track of all species sighted. General inventory work took place during 32 of 34 visits to the battlefield, most frequently in April (7 visits), May (7), January (3), and December (3). In particular the many grasslands of the park were walked in all seasons to prompt birds to flush so they could be identified. During the breeding period for birds, which includes most of the spring and summer, the general inventory included efforts to detect breeding evidence for all species breeding in the unit. All breeding evidence observed and numbers of all species seen or heard were recorded on a standard field card.

## RESULTS

## **Total Species Inventoried**

During the inventory period, Barbara H. Stedman (BHS) made visits to STRI on 34 days during all seasons. During the course of these visits she observed 150 species (Table 1) by one or more of the methods described above. In addition, two species were registered by NPS personnel (Common Goldeneye) or by visitors to the battlefield (Bald Eagle) during the inventory period. Several factors prevented the species total from being higher. Among these factors should certainly be included the fact that the battlefield is surrounded on all sides by roads and railroad tracks carrying a high volume of motorized and rail traffic; collectively, these transportation facilities encroach closely on the battlefield borders, perhaps discouraging use of the battlefield by some species of birds and certainly limiting how well bird vocalizations can be heard from within the battlefield. Urban development also closely approaches the battlefield boundaries in many areas adjacent to the battlefield and probably inhibits the presence of some bird species.

### **Breeding Species Inventoried**

Evidence of breeding by species using the unit was divided into the same three categories used for the Tennessee breeding bird atlas project (Nicholson 1997): possible evidence; probable evidence; and confirmed evidence (Table 1). In all, 80 species were placed in one

of these categories, including 21 (26%) possible breeders, 25 (31%) probable breeders, and 34 (43%) confirmed breeders.

Point counts were conducted during the breeding period of many species. A total of 56 species was registered during point counts conducted during 2003, while 55 species were detected during point counts conducted in 2004. Point count effort led to the collection of data for 66 species of birds.

### **DISCUSSION**

## **Comparative Effectiveness of Survey Techniques**

Each of the five survey techniques used for this inventory was effective for its purpose, but in terms of generating the largest number of species per unit of time expended, the general inventory was probably the most effective, followed by the migration walk and the point count — the latter for breeding species only. Due to their restricted emphasis, night surveys and raptor surveys generated fewer species per unit of time expended than the other survey methods (Table 1), but the quality of species found during night and raptor surveys was high. We identify the survey method(s) that resulted in registrations for each species detected during the inventory as an aid to those who might conduct bird inventories at other sites (Table 1). We stress that the effectiveness of the bird inventory at STRI was enhanced by the use of five different methods to detect birds.

### Influence of Weather on Results

An effort was made to visit STRI during periods when the weather was conducive for registering the maximum number of species during general inventory work, migration walks, point counts, night surveys, and raptor surveys, so the influence of weather on the results of the overall inventory was generally positive. However, the spring and fall seasons occurring during the inventory period were characterized by a general lack of strong frontal passages that oftentimes produce "fall-outs" of migrant species in large numbers and diversity; lack of such fronts during the migration seasons of the inventory period probably somewhat reduced the overall species total achieved by the inventory.

In May and June of each year of the inventory, rainfall was much greater than average, resulting in high water or flooding in the Stones River. In years when such conditions are not present, species such as Wood Duck, Great Blue Heron, Belted Kingfisher, and Louisiana Waterthrush may be present along the river in greater abundance than during the years of the inventory period.

The two winters of the inventory period were fairly mild, causing a few records of lingering migrants and breeders, but neither winter was notable as an irruption winter for boreal species such as Rough-legged Hawk, Red-breasted Nuthatch, American Tree Sparrow, and Evening Grosbeak. When such winters occur in the future, these and perhaps other boreal irruptive species might be found within the battlefield.

## Description of Bird Diversity in Terms of Estimated and Observed Species Richness

As a result of a number of factors — including agricultural use of much of the battlefield's property, the relatively small size of the battlefield, the battlefield's being subdivided into many even smaller parcels, and the encroachment of a growing town around the edges of the battlefield — species richness in the park was initially not estimated to be high. Given these factors, species richness as determined by the results of the inventory is moderately

good, and it might be improved if some changes in the maintenance of the battlefield are instituted.

Species that use grassland and shrub-scrub habitats were well represented in the battlefield. Their populations could be further increased by shifting of all leased fields from soybean cultivation to native grasslands, some of which could be allowed to grow up into early shrub-scrub habitat before being burned or mowed. [Note: This shift in field use began during late spring 2005 following the inventory period.]

## **Unexpected Results**

The relatively dense population of Grasshopper Sparrows in the grasslands of the parks was a somewhat unexpected and desirable result of the inventory. The detection of Bewick's Wren and Lark Sparrow was also somewhat unexpected, given the limited appropriate habitat for each remaining in the unit; the limited detection of these species led to designating their status as uncertain (Table 1). Also somewhat unexpected was the presence of Chuckwill's-widows within the battlefield, as was the presence of two nesting pairs of Red-tailed Hawks and a pair of Cooper's Hawks that was probably breeding. A White-throated Sparrow present during July 2003 was quite unexpected. The field and shrub-scrub habitat within the battlefield units harbored unexpectedly dense breeding populations of some species of songbirds with decreasing populations, including Prairie Warbler, Yellow-breasted Chat, Eastern Towhee, and Field Sparrow (Pardieck and Sauer 2000). During winter this habitat was also used in greater than expected numbers by flocks of robins, pipits, sparrows, and blackbirds.

Few regularly occurring species were entirely absent from the battlefield, but two species — Barred Owl and Pileated Woodpecker — were detected in much lesser density than initially expected. After inventorying the site, we see that suitable habitat for them is marginal in the battlefield and their scarcity understandable. Most likely the park is too small and too close to urban elements to support Barred Owls, which require large tracts of older trees for breeding. As the area of the park along the river near the AM matures (and possibly increases in extent), Pileated Woodpeckers may become more abundant than they were during the inventory.

Warblers were generally present in smaller numbers as breeders than was initially expected to be the case, but habitat for most of them is also limited or absent.

## RECOMMENDATIONS FOR MANAGEMENT AND PROTECTION OF SIGNIFICANT HABITATS

The grassland and cedar glade habitats of the park deserve attention; the continued expansion of the former habitat by conversion of cropland to native grassland and the maintenance of the latter are recommended management strategies in the future. During spring of 2004 the Resource Management Office began the process of transferring lands previously leased to native grass fields; we urge the Resource Management Office to continue this process. The native grass fields should be maintained by annual burning or use of a bushhog during late winter and early spring. Maximum benefit to birds would be obtained if this work were to be accomplished February 1-March 15 or August 15-September 1; it is crucial not to perform this work during the Grasshopper Sparrow's breeding period, which typically begins about mid-April and extends into mid-August.

Special emphasis should be placed on maintaining as much acreage as possible in shrub-scrub habitat, as this habitat is vital to many declining songbird species that breed in it, and it is also vital to the post-fledging success of many songbird species that breed in nearby forested areas (Faaborg 2002). Shrub-scrub vegetation should ideally be maintained in a height range of 1-3 meters; such height maintenance can often be performed at the same time that maintenance of grass fields is performed.

Controlled burns might be employed to open the very dense undergrowth in the deciduous forests of the MB and the AM; opening of the understory would encourage woodpeckers, Wood Thrushes, and some species of warblers although it would undoubtedly affect species foraging and breeding in the understory in a negative manner.

As many standing dead snags as possible should be left in the park, as these encourage the presence of Pileated Woodpeckers and many other cavity-building and cavity-using species. Plantings of American Holly might also encourage Pileated Woodpeckers, as well as migrant thrushes. Pokeberry is a good plant to encourage, as it provides berries to numerous species of birds and other wildlife.

Development of a wetland at the AM within the old quarry area would broaden species diversity at all seasons. Ducks, herons, rails, Sedge Wrens, and Henslow's and LeConte's Sparrows are species that might occur. Breeding warblers that might benefit from such a wetland include Yellow Warbler, Common Yellowthroat, Yellow-breasted Chat, and possibly others, such as American Redstart and Kentucky and Hooded Warblers.

If any woodlands are cleared in the battlefield in the future, consideration should be given to leaving large slash-piles to decompose naturally; these slash-piles may attract breeding Bewick's Wrens, a much diminished species that still retains a small population in Rutherford County. Wood debris piles placed near cannons and grassy areas may be even more encouraging to Bewick's Wrens, which used such areas at Shiloh National Military Park and Chickamauga National Battlefield.

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Table 1. Species, status, and seasonal abundance of birds observed at Stones River National Battlefield, Rutherford County, Tennessee, from 17 April 2003 through 28 April 2005. See footnotes for status and detection method codes.

Common Name	Scientific Name	Status	Spr	Sum	Fall	Wint	Detection Method
Canada Goose	Branta canadensis	PR***	U	U	VU	Ū	PMG
Wood Duck	Aix sponsa	PR***	U	U	VU	U	PMG
Gadwall	Anas strepera	WR	R				G
Mallard	Anas platyrhynchos	PR***	U	U	U	U	G
Common Goldeneye	Bucephalus clangula	TR				R	
Wild Turkey	Meleagris gallopavo	PR***	U	U	U	U	PMG
Northern Bobwhite	Colinus virginianus	PR**	U	U	VU	U	PMG
Pied-billed Grebe	Podilymbus podiceps	VR	VU				G
Great Blue Heron	Ardea herodias	PR*	U	U	U	U	PMG
Green Heron	Butorides virescens	SR*	U	U	VU		PG
Black Vulture	Coragyps atratus	PR*	U	U	U	U	MRG
Turkey Vulture	Cathartes aura	PR*	FC	FC	FC	U	RG
Osprey	Pandion haliaetus	TR	R				G
Bald Eagle	Haliaeetus leucocephalus	VR				R	
Northern Harrier	Circus cyaneus	TR				VU	G
Sharp-shinned Hawk	Accipiter striatus	TR	U		VU	R	MG
Cooper's Hawk	Accipiter cooperii	PR**	U	U	VU	VU	PRG
Red-shouldered Hawk	Buteo lineatus	PR**	U	U	U	U	PMRG
Broad-winged Hawk	Buteo platypterus	SR*	U	U	U		PG
Red-tailed Hawk	Buteo jamaicensis	PR***	U	U	U	U	PMRG
American Kestrel	Falco sparverius	PR**	VU	U	VU	VU	PMRG
Killdeer	Charadrius vociferus	PR***	U	U	U	U	PMNG
Spotted Sandpiper	Actitis macularius	TR	U				G
Wilson's Snipe	Gallinago delicata	WR	R		R	R	G
American Woodcock	Scolopax minor	PR**	U	U	VU	U	MNG
Ring-billed Gull	Larus delawarensis	TR	U			FC	G
Rock Pigeon	Columba livia	PR***	U	U	U	U	PG
Eur. Collared-Dove	Streptopelia decaocto	VR		R	R		G
Mourning Dove	Zenaida macroura	PR**	FC	FC	FC	U	PMG
Yellow-billed Cuckoo	Coccyzus americanus	SR**	U	U	U		PMNG
Eastern Screech-Owl	Megascops asio	PR**	U	U	U	U	MNG
Great Horned Owl	Bubo virginianus	PR**	U	U	U	U	MNG
Barred Owl	Strix varia	UN		R			N
Common Nighthawk	Chordeiles minor	SR***	U	U	U		PMNG
Chuck-will's-widow	Caprimulgus carolinensis	SR**	U	U	VU		PNG
Chimney Swift	Chaetura pelagica	SR**	U	U	U		PMG
Ruby-th. Hummingbird		SR*	VU	VU	VU		MG
Belted Kingfisher	Ceryle alcyon	PR***	U	U	VU	VU	PMG
•	Melanerpes erythrocephalus		R U	T T	VU	VU	G
Red-bellied Woodpecker	Meianerpes carolinus	PR***	U	U	U	U	PMG

Common Name	Scientific Name	Status	Spr	Sum	Fall	Wint	Detection Method
Yellow-bellied Sapsucker	Sphyrapicus varius	WR	R		U	U	MG
Downy Woodpecker	Picoides pubescens	PR***	U	U	FC	FC	PMG
Hairy Woodpecker	Picoides villosus	VR	VU	VU	VU	VU	MG
Northern Flicker	Colaptes auratus	PR*	VU	VU	FC	FC	PMG
Pileated Woodpecker	Dryocopus pileatus	PR				VU	G
Eastern Wood-Pewee	Contopus virens	SR**	U	U	U		PMG
Acadian Flycatcher	Empidonax virescens	SR*	R	VU			G
Eastern Phoebe	Sayornis phoebe	PR***	U	U	U	VU	PMG
Great Crested Flycatcher	Myiarchus crinitus	SR**	U	U	VU		PMG
Eastern Kingbird	Tyrannus tyrannus	SR***	U	U			PMG
Loggerhead Shrike	Lanius ludovicianus	VR				R	R
White-eyed Vireo	Vireo griseus	SR**	U	FC	U		PMG
Yellow-throated Vireo	Vireo flavifrons	SR*	U	U	U		PMG
Blue-headed Vireo	Vireo solitarius	TR	VU				M
Warbling Vireo	Vireo gilvus	TR	R				G
Philadelphia Vireo	Vireo philadelphicus	TR			R		G
Red-eyed Vireo	Vireo olivaceous	SR**	U	U	U		PMG
Blue Jay	Cyanocitta cristata	PR***	FC	FC	FC	FC	PMG
American Crow	Corvus brachyrhynchos	PR*	FC	C	C	C	PMG
Horned Lark	Eremophīla alpestris	VR				R	G
Purple Martin	Progne subis	VR**	U	U			PMNG
Tree Swallow	Tachycineta bicolor	SR*	VU	VU			G
	Stelgidopteryx serripennis	SR**	U	U			PMG
Cliff Swallow	Hirundo pyrrhonota	TR	VU				G
Barn Swallow	Hirundo rustica	SR***	U	FC	U		PMG
Carolina Chickadee	Poecile carolinensis	PR***	FC	FC	FC	FC	PMG
Tufted Titmouse	Baeolophus bicolor	PR***	FC	FC	FC	FC	PMG
White-breast. Nuthatch		PR**	U	U	U	U	PMG
Carolina Wren	Thryothorus ludovicianus		FC	C	FC	FC	PMG
Bewick's Wren	Thryomanes bewickii	UN*		R			G
House Wren	Troglodytes aedon	VR*	VU	VU	R	R	PMG
Winter Wren	Troglodytes troglodytes	WR	R			R	MG
Sedge Wren	Cistothorus platensis	TR	R			R	G
Golden-crowned Kinglet		WR	VU			U	MG
Ruby-crowned Kinglet	Regulus calendula	VR	U		U	R	MG
Blue-gray Gnatcatcher	No. 10	SR***	FC	FC	U		PMG
Eastern Bluebird	Sialis sialis	PR***	C	C	C	U	PMG
	Catharus fuscescens	TR	U		VU		G
	Catharus minimus Catharus ustulatus	TR TR	U		R U		M M
					_		
	Catharus guttatus	WR	VU	37T T	VU	U	MG
	Hylocichla mustelina	SR** PR***	FC	VU	U C	٨	PMG
	Turdus migratorius Dumetella carolinensis	TR	U U	FC	Ü	A	PMG MC
Northern Mockingbird		PR***	U	U	U	R U	MG PMG
. TOT THE THE MIDENING DIFT	ιντιπιασ ρυιμχιστίας	1 1/	U	U	0	U	LMC

Common Name	Scientific Name	Status	Spr	Sum	Fall	Wint	Detection Method
Brown Thrasher	Toxostoma rufum	PR***	U	U	U	U	PMG
European Starling	Sturnus vulgaris	PR***	C	A	A	A	PMG
American Pipit	Anthus rubescens	WR			VU	VU	MG
Cedar Waxwing	Bombycilla cedrorum	TR*	U	VU	U	FC	MG
Blue-winged Warbler	Vermivora pinus	TR			VU		G
Tennessee Warbler	Vermivora peregrina	TR	U		U		MG
Orange-crown. Warbler	Vermivora celata	TR			R		M
Northern Parula	Parula americana	SR*	U	VU	VU		PG
Yellow Warbler	Dendroica petechia	TR	U				MG
Chestnut-sided Warbler	Dendroica pensylvanica	TR	U		U		MG
Magnolīa Warbler	Dendroica magnolia	TR	VU		U		MG
Cape May Warbler	Dendroica tigrina	TR	U				M
Yellow-rumped Warbler		WR	FC		FC	FC	MG
Black-thr, Green Warbler		TR	VU U		VU		MG M
Blackburnian Warbler	Dendroica fusca	TR	U				141
Yellow-throated Warbler		SR	U	VU	VU		MG
Pine Warbler	Dendroica pinus	TR	U	* *	VU U		MG
Prairie Warbler	Dendroica discolor	SR**	FC U	U	U		PMG MG
Palm Warbler	Dendroica palmarum Dendroica castanea	TR TR	U		U		M
Bay-breasted Warbler	Denarotca castanea	1 K			U		IVI
Blackpoll Warbler	Dendroica striata	TR	U				G
Cerulean Warbler	Dendroica cerulea	TR	VU		**		G
Black-and-white Warbler		TR	U U		U		MG MG
American Redstart	Setophaga ruticilla Protonotaria citria	TR SR*	VU	VU	VU		G
Prothonotary Warbler	Protonoturia Citria	SK	**	VO	V 0		G
Worm-eating Warbler	$Helmitheros\ vermivorum$	TR	VU		VU		G
Ovenbird	Seiurus aurocapillus	TR	U		U		MG
Northern Waterthrush		TR	VU				G
Louisiana Waterthrush		TR	R	3.71.7	VÜ		M PMG
Kentucky Warbler	Oporornis formosus	SR*	U	VU	VU		PMG
Common Yellowthroat	31	SR**	FC	FC	U		PMG
Hooded Warbler	Wilsonia citrina	SR*	U	U	U		PMG
Wilson's Warbler	Wilsonia pusilla	TR			VU		G
Canada Warbler	Wilsonia canadensis	TR	FC	FC	VU		G PG
Yellow-breasted Chat	Icteria vīrens	SR**	rC	FC			PG
Summer Tanager	Piranga rubra	SR**	U	U	U		PMG
Scarlet Tanager Eastern Towhee	Piranga olivacea Pipilo erythrophthalmus	TR PR***	U FC	FC	U	U	MG PMG
Chipping Sparrow	Spizella passerina	PR***	U	U	U	VU	PMG
Field Sparrow	Spizella pusilla	PR***	C	FC	U	FC	PMG
Lark Sparrow	Chondestes grammacus	UN*	R	R			MG
Savannah Sparrow	Passerculus sandwichensis		U		VU	U	MG
Grasshopper Sparrow	Ammodramus savannarum	SR***	U	FC	R	_	PMNG
Fox Sparrow	Passerella iliaca	WR	VU			VU	G
Song Sparrow	Melospiza melodia	PR*	U	U	U	FC	MG

Common Name	Scientific Name	Status	Spr	Sum	Fall	Wint	Detection Method
Lincoln's Sparrow	Melospiza lincolnii	TR	R		VU	R	MG
Swamp Sparrow	Melospiza georgiana	WR	U		U	U	MG
White-throated Sparrow	Zonotrichia albicollis	WR	U	R	Ū	A	MG
White-crowned Sparrow	Zonotrichia leucophrys	TR	R		R		MG
Dark-eyed Junco	Junco hyemalis	WR	VU		VU	FC	MG
Northern Cardinal	Cardinalis cardinalis	PR***	Α	Α	Α	Α	PMG
Rose-breasted Grosbeak	Pheucticus ludovicianus	TR	U		U		MG
Blue Grosbeak	Passerina caerulea	SR**	FC	FC	U		PMG
Indigo Bunting	Passerina cyanea	SR***	Α	A	U		PMG
Dickcissel	Spiza americana	SR	R				MG
Red-winged Blackbird	Agelaius phoeniceus	PR***	U	U	U	Α	PMG
Eastern Meadowlark	Sturnella magna	PR*	U	U	U	U	PMG
Rusty Blackbird	Euphagus carolinus	VR	U			VU	MG
Common Grackle	Quiscalus quiscula	PR***	FC	C	Α	Α	PMG
Brown-headed Cowbird	Molothrus ater	PR***	FC	FC	U	Α	PMG
Orchard Oriole	Icterus spurius	SR***	U	U			PG
Baltimore Oriole	Icterus galbula	TR	U				G
Purple Finch	Carpodacus purpureus	WR	R			U	MG
House Finch	Carpodacus mexicanus	PR**	U	U	U	A	MG
Pine Siskin	Carduelis pinus	VR				U	G
American Goldfinch	Carduelis tristis	PR**	FC	C	FC	FC	PMG
House Sparrow	Passer domesticus	UN	Ū			U	MG

Breeding status: \* = possible breeding evidence noted; \*\* = probable breeding evidence noted; \*\*\* = confirmed breeding evidence noted.

Status abbreviations: PR = permanent resident; SR = summer resident; TR = transient; UN = unknown status; VR = visitor; WR = winter resident.

Abundance abbreviations: A = abundant (25+ individuals / day); C = common (10-24 individuals/day); V = common (1-4 individuals/day); V = very uncommon (2-5 records/season); V = very uncommon (2-5 records/season); V = very uncommon (2-5 records/season).

Detection method abbreviations: P = point count; M = migration walk; N = night survey; R = raptor survey; and G = general inventory.

## PACIFIC LOON IN NORTHEAST TENNESSEE

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On 4 December 2005, at about 14:30 EST, I observed a Pacific Loon (*Gavia pacifica*) at South Holston Lake, Sullivan County, Tennessee. The Pacific Loon was with a flock of 78 Common Loons (*G. immer*) and was seen just inches away from some of them, providing an excellent comparison. The Pacific was one quarter to one third smaller than the Common Loons. The bill was much smaller and slimmer than that of the Common Loons and was held horizontally, unlike the upturned bill posture of the Red-throated Loon (*G. stellata*). The head was evenly rounded, differing from the flatter-crowned appearance of the Common Loons. The crown and nape were a solid dark brownish-gray. This dark cap extended down to and included the eye. The dark coloration on the back side of the neck formed a straight line at the border of the white foreneck and this edge lacked the prominent white notch seen on Common Loons. A chin-strap was never seen clearly, but when the loon was viewed head-on there appeared to be a thin one. Also, this bird lacked any white flank patches as normally shown on Arctic Loon (*G. arctica*).

The observation was made from Musick's Lakeside Campground, which overlooks a large expanse of open water on the main channel of the lake near the mouth of Spring Creek. The border with Virginia crosses the lake just to the north of the campground, with most of the lake being in Tennessee. The loon flock with the Pacific Loon moved into Virginia waters briefly. This sighting represents the first for East Tennessee (see below) and for western Virginia (Rottenborn and Brinkley 2007; S. Heath pers. comm.).

At the time of initial observation, the temperature was about  $45^{\circ}$  F (7 C) and the sky was overcast. There was essentially no wind, thus the water surface had only a slight ripple, which made viewing easier. Observations were made through a Kowa TSN-822 spotting scope with 20-60x zoom eyepiece at a distance of 250+ m. Two references were consulted during the observation (Dunn 1999; Sibley 2003); both confirmed the field marks used to distinguish Pacific Loon from other loons. Previously I had seen numerous Pacific Loons along the California coast and in Alaska.

As soon as I was confident of the identification I telephoned Wallace Coffey, who proceeded to spread the word. Soon other local birders began to arrive and by sunset at least 16 had gathered and seen the bird. It could not be relocated the next day.

The first Tennessee record of Pacific Loon was on 6-20 March 1988 at Percy-Priest Lake, in Davidson County (Table 1). Nearly annual sightings have occurred in the Pace Point to Paris Landing section of Kentucky Lake since the initial one on 11-13 November 1994 (*Audubon Field Notes* 49:56, 1995; Knight 1996). There are only seven records of Pacific Loon in Tennessee away from Kentucky Lake (Table 1). Interestingly, six of the eight Kentucky records are on that state's portion of Kentucky Lake, mainly near the dam (Palmer-Ball 2003).

The Pacific Loon breeds from eastern Siberia, through much of Alaska, and across northern Canada east to northern Ontario and northwestern Quebec; it winters primarily along the Pacific coast of North America (sparingly in the interior western U.S.); and it is casual in central and eastern North America (A.O.U. 1998).

I thank Susan Heath, of the Virginia Avian Records Committee, for information on the status of this species in the western portion of that state. Comments from the editor and anonymous reviewers that improved this note are appreciated.

Table 1. Records of Pacific Loon in Tennessee away from Kentucky Lake.

Date	Location	Reference*
6-20 Mar 1988	Percy-Priest Lake, Davidson Co.	AB 42:445, 1988; Knight 1993
26 Dec 1994	Woods Reservoir, Franklin Co.	Knight 1996
13 / 19 Nov 1996	Reelfoot Lake, Obion Co.	FN 51:68, 1997
23 Feb 2003	Pickwick Landing, Hardin Co.	Migrant 74:52, 2003; NAB 57:209, 2003
29 Jun 2003	Lauderdale Co.**	Migrant 74:129, 2003; NAB 57:500, 2004
9 Mar 2005	Center Hill Lake, DeKalb Co.	Mīgrant 76:97, 2005; NAB 59:444, 2005; Edwards 2006
4 Dec 2005	South Holston Lake, Sullivan Co.	Migrant 77:62, 2006; NAB 60:241, 2006

<sup>\*</sup> AB - American Birds; FN - Field Notes; NAB - North American Birds.

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<sup>\*\*</sup> This individual was discovered dead.

## THE 2006 TENNESSEE CHRISTMAS BIRD COUNT SUMMARY

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The 2006 Tennessee Christmas Bird Count (CBC) season was the 76<sup>th</sup> compilation of CBC's in Tennessee. This year's results produced 150 species, plus three more found during the count week (three days before and three days after the actual count date, but not on count day). This season, a record 508 observers put in a record 1566 party hours and located 421,466 individuals (Table 1). This produces a ratio of just over 269 birds/party hour. Nine species were represented by a lone individual. The weather throughout the state was reasonably mild. Many counts had some wind, some had light rain, and a couple of counts experienced high winds and heavy rain. The temperature range was 27-71° F. A new CBC in Crossville brought the total number of CBC's in Tennessee this year to 31.

A Tennessee Warbler, found on the Memphis CBC, represented a new species for the Tennessee CBC. This brings the all-time species total for the Tennessee CBC to 259 (plus 6 count week species). A few notable species for this count season included White-winged Scoter, American Bittern, Dunlin, Short-eared Owl, Tree Swallow (first record in 14 years), Blue-gray Gnatcatcher (first record in 11 years), and Baltimore Oriole.

The following species were recorded in record high numbers for the Tennessee CBC: Ring-necked Duck (highest since 1965), Bufflehead, Common Loon, American Bittern (2<sup>nd</sup> highest), Red-shouldered Hawk, Virginia Rail, American Woodcock, Bonaparte's Gull, Forster's Tern, Barred Owl, Red-bellied Woodpecker, Downy Woodpecker, Hairy Woodpecker, Pileated Woodpecker, Eastern Phoebe, Blue Jay, Carolina Chickadee, White-breasted Nuthatch, Carolina Wren, Winter Wren, Marsh Wren, Eastern Bluebird, Brown Thrasher, Eastern Towhee, White-throated Sparrow, and Baltimore Oriole (ties record).

The following species were recorded in unusually low numbers for the Tennessee CBC: American Black Duck (lowest total since 1956), Blue-winged Teal (first miss in 10 years), European Starling (lowest total since 1992), American Tree Sparrow (lowest total since 1987), and Brown-headed Cowbird (lowest total since 1951).

### **COUNT SUMMARIES**

BRISTOL (36° 35' N, 82° 06' W) – 31 Dec. 2006; 0700-1730. Weather: cloudy all day, with rain later in the day and wind 10-30 mph; 45-65° F. This count was first held in 1931. Unusual species found included Mute and Tundra swans, Redbreasted Merganser, Eared Grebe, Northern Saw-whet Owl, Loggerhead Shrike, and House Wren. Observers: Rob Biller, Wallace Coffey, Carol and Rack Cross, Diane Draper, Ron Harrington, Don Holt, Andy Jones, David Kirschke, Richard

Lewis (compiler: 407 V.I. Ranch Rd., Bristol, TN 37620; mountainbirds@email.com), Fred and Janice Martin, Larry McDaniel, Joe McGuiness, Tom McNeil, Rudy Morales, John Moyle, Chris O'Bryan, Randy Smith and Kim Stroud.

BUFFALO RIVER (35° 18' N, 87° 28' W) – 28 Dec. 2006; 0630-1700. Weather: clear all day with winds S, 0-15 mph; 27-56° F. The 75 species tallied was about average for this count. Notable species included Merlin, American Woodcock, Barn Owl, 12 Loggerhead Shrikes, Horned Lark, Pine Warbler, Lincoln's Sparrow, and Purple Finch. Species found in record high numbers included Black and Turkey vultures, Red-headed and Red-bellied woodpeckers, Yellow-bellied Sapsucker, and American Crow. Notable misses included Pied-billed Grebe, most waterfowl, Wilson's Snipe, Vesper Sparrow, Brewer's Blackbird, and Pine Siskin. Observers: Michael Beuerline, Danna Dodd, Dwight Cooley, Francis and Gary Markine, Royce Neidert, Bill Pulliam, Andrew Salhaney, Damien Simbeck, Don Simbeck (compiler: 424 Riddle Ln., Loretto, TN 38469; dnks@lorettotel.net), Morris Williams, Buford Worn, Jane Worm, and Becky Yannayon.

CADE'S COVE (35° 36' N, 83° 50' W) – 31 Dec. 2006; 0715-1530. Weather: unseasonably warm and very windy in the morning with rain beginning about 1 p.m.; 45-68° F. Most participants stopped counting about 2 p.m. due to the winds. This resulted in low numbers for many species. Common Loon and Great Egret were new species for this count, bringing the all-time species total for this CBC to 92. Record high numbers were tallied for Bufflehead. Count highlights included Great Egret, Ruffed Grouse, Wilson's Snipe, Common Raven, American Pipit, and Pine Siskin. Species appearing in record low numbers included Northern Flicker, White-breasted Nuthatch, Brown Creeper, Golden-crowned Kinglet, Song Sparrow, Swamp Sparrow, and American Goldfinch. Species missed this year included Wild Turkey, American Coot, Killdeer, Cedar Waxwing, Yellow-rumped Warbler, Eastern Meadowlark, and Red Crossbill. Observers: Mark Armstrong, Lyn Bales, Warren Bielenberg, Paul Hartigan, Susan Hoyle (compiler: P. O. Box 11752, Knoxville, TN 37939; hoyle@cs.utk.edu), Jim Human, Evan James, Kristine Johnson, Denise King, Tony King, Cindy Nowlin, Martha Rudolph, and David Trently.

CHATTANOOGA (35° 06' N, 85° 14' W) – 16 Dec. 2006; 0530-1800. Weather: clear all day: 35-70° F. The all-time species total for this CBC is 168. Highlights this year included Redhead, American Bittern (only 3rd record for the count, but 2 consecutive years now), 13 Virginia Rails, Herring Gull, Sedge and Marsh wrens, American Pipit, 5 species of warblers including Orange-crowned and Common Yellowthroat. Species recorded in record high numbers were Wood Duck, Greenwinged Teal, Red-headed Woodpecker, Marsh Wren, Palm Warbler, Rusty Blackbird. Notable misses included Great Horned Owl, Greater Scaup, and Sandhill Crane. Observers: David Aborn, Tim Baker, Nelson Bennett, Patricia Dover-Bedwell, Clyde Blum, Katherine Boyles, Gary Brunvoll, Kevin Calhoon (compiler: 934 Craven's Terrace, Lookout Mtn., TN 37409; kac@tennis.org), Janice Chadwell, David Chaffin, Christian Eaves, Danny Gaddy, Bill Haley, Dennis Harris, John

Table 1. Results of the 2006 Tennessee Christmas bird counts.

Species	Bris	BuffR	Cades	Chatt	Clarks	Clay	Colum	Cook	Cross	CrsCrk	DeKalb	Eliz	Fay	Frnk/Coff
Gr. White-fr. Goose	_		_	_	4	_	21		_	=		_	_	
Snow Goose	1		_	_	*	_	-		_	20	_	_	_	
Ross's Goose	-	-	_	_	-	_	-		_		_	_	_	
	-	-	_	_					-	-	_	_		_
Cackling Goose				-	270	161	96	212	196	2878	29	202	38	265
Canada Goose	388	225	39	534	270	161	90	212	190	20/0	29	202	30	203
Mute Swan	4	-	-	-	-	-	-	-	-	-		-	-	2
Tundra Swan	1	-	-	-	-	-	-	-	-	-		-	-	•
Wood Duck	-	-	2	65	2	11	10	9	6	25		-	2	5
Gadwall	16	13	-	196	16	1	22	59	33	6215		-	8	4
American Wigeon	53	-	-	5	-	-	-	-	6	1979	**	-	-	1
American Black Duck	4	-	_	3	_	2	6	_	-	73	-	4		23
Mallard	379	1	57	453	38	48	12	100	65	13872	49	119	3	388
Northern Shoveler	-	-	_	26	-	-	_	17	-	_	-	2	-	12
Northern Pintail		_	-	6	_	_	_	_	_	1219	_	_	_	-
Green-winged Teal	17	7	-	103	_	11	2	_	_	=	_	_		
Green-winged rear	17	,	-	100		11	4							
Canvasback	-	¥5	-	-	90	-	-	-	1	-	-	1	-	
Redhead	_	-	-	1	57	-	2	-	-	-	-	-	-	-
Ring-necked Duck	71	2	cw	16	191	4	71	27	259	9352	-	3	200	9
Greater Scaup	-	-	III-	-	140	-	-	-	_	-	-	-	-	35
Lesser Scaup	-	-	-	8	21	-	9	-	cw	11	3	1	-	-
P. (flahaad	247	2	58	64	_	41	_	13	121	_	4	205	_	74
Bufflehead				203	-	41	-	-	-	-	-	-	_	5
Common Goldeneye		5.	1				1	64	32	21	6	-	4	265
Hooded Merganser	77	*	1	8	3	20	1			3	6		4	203
Common Merganser		*	-	-	-	-	-	-	-	3	-	-		5
Red-breast. Merganser	1		7.5	-		4	-	-	-	~	-	•	-	3
Ruddy Duck	1	9	-	40	-	-	2	4	3	-	*	-		2
Duck sp.	-	-	-	-	-	-	-	-	-	-	-	-		-
Ruffed Grouse	-	-	1	-	-	-	-	-	2	-	-	cw		-
Wild Turkey	8	76	-	10	351	16	300	10	1	251	7	8		43
Northern Bobwhite	-	7	5	2	CW	6	2	6	cw	4		2		*
Common Loon	_	-	1	124		57	140	2	2	-	40	1		183
Pied-billed Grebe	55		8	67	2	31	120	9	31	25	10	7		83
Horned Grebe	6	-	-	67	_	86		-	-	_	96	26		322
Red-necked Grebe		2	_	_	_	120		_	-	_	_	_		_
Eared Grebe	7	8	-	-	-	-	50	-	-	100	-	-	23	-
A TAIL OF TRANSPORT				_	-		_	-	_	_	_	_		-
Amer. White Pelican	. 4	-	-	7	-	-	1	-	-	-	-		-	17
Dbl-crested Cormoran					-		_	-	-	_	-	-	_	-
American Bittern	1/	1.0	-	1						78		22	10	33
Great Blue Heron	16	16	3	151	25	8	18	26	11		22.		10	-
Great Egret	-	-	1	-		-	-	-	-	-	-	-	-	-
Blk-cr, Night-Heron	cw	-	-	-	-	-	-	-	-	-	-	-	-	-
Black Vulture	12	207	42	51	334	93	100	394	-	10	81	-	24	86
Turkey Vulture	37	326	41	109	225	148	12	173	2	40	128	3	95	61
Osprey	-	-	-	-	-	-	-	-	-	-	-	-	-	150
Bald Eagle	1	-	-	2	2	4	1	100	1	11	1	2	-	(2)

GSN	MNP	Green	Hk-Pr	Hiwas	Jack	Knox	Leb	Mem	Nash	Nick	Norr	Reel	Roan	Savh	ShVl	Warr	White	Totals
	-	-	-	-	-	-	-	1050	-	-	-	2157	-	- 1	-	-	1	2161
	-	191	-	-	-	-	-	1253	-	-	-	3167 3	-	1	-	-	1	4443
	-	-	-	-	-	-	-	14	-	-	-	2	-	-	-	-	-	3
	-	138	232	301	31	803	39	352	185				-				165	16
		130	232	301	31	803	37	332	163	29	205	585	-	150	140	41	165	8929
	3.5	-	Α.	-	-	-	-	1	-	-	-	-	-	-	$\approx$	-	12	5
	• 0	-	-	-	-	4.0	-	-	-	-	-	-	-	-	-	-	-	1
		13	10	2	4	10	-	8	-	9	-	33	1	2	*	1	20	250
		2	4	38	-	53	13	224	240	28	4	167	~	8		9	5	7378
	47.	-	-	-	-	4	-	1	6	13	-	61	-	-	=	-	-	2123
	-	11	-	47	-	2	-	2	6	25	-	12	9	4	-	3	13	249
1	8	25	278	647	26	389	49	333	49	52	44	11031	1	121	50	19	90	28806
	-	-	1	9	-	2		50	-	-	-	254	-	78	-	-	-	451
	-	-	-	18	-	-	-	-	CW	-	9	274	-	9	-	-	-	1526
-	-	15	2	300	-	1	-	-	-	6	-	61	-	22	-	11	-	558
2		20	2	-	_	-	-	4	_	47	ě	1	_	2	2	2	_	58
5		12	-	-	-	1	-	2	-	-	-	cw	-	10	**	-	_	16
- 8	-		9	7	26	35	40	74	92	771	28	30	-	20	23	43	3	11192
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3		5	-	-	-	1	-	1076	cw	323	8	1726	-	5	*	-	-	3162
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		16	98	135	11	124	21	53	21	69	20	57	-	20	5	6	27	1122
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C		1	-	-	42	1	_	-	-	-	-	-	-	-	-	9	-	1762 2
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Species	Bris	BuffR	Cades	Chatt	Clarks	Clay	Colum	Cook	Cross	CrsCrk	DeKalb	Eliz	Fay	Frnk/Coff
Northern Harrier	_	15	cw		1	2		2	3	3	1	_	6	4
		2		3	1	-	1	1	3	4	2	3	-	5
Sharp-shinned Hawk			2											
Cooper's Hawk	5	1	3	10	5	2	1	6	3	-	3	4	-	2
Accipiter sp.	-	-	-		-	-	-	-	-	-	-	-	-	-
Red-shouldered Hawk	-	3	4	14	9	7	2	13	12	14	2	-	9	8
Red-tailed Hawk	17	36	2	33	38	22	18	38	12	31	30	4	18	30
Buteo sp.	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Golden Eagle	-	-	-	-	-	-	-	-	-	-	-	-	-	-
American Kestrel	12	42	2	6	8	39	6	64	14	1	32	9	8	24
Merlin	-	1	-	-	-	-	-	-	-	=	-	-	-	-
Peregrine Falcon	_	2	(22)	2	_	_	2		_	-	-	6	_	-
Virginia Rail	_	-		13	_	_	9	-	_	-	-	_	-	-
Sora	_			-	_	_		_	_	_	_	_		-
American Coot	41	2	2	604	_	101	2	11	279	24	184	-	2000	114
Sandhill Crane	-	5	*	-	553	-	9	cw	57	1	2	-	-	153
V:11 4	40	20		07	2.4	10	1	E4	109	49	54	7	70	39
Killdeer	40	38	-	87	34	10	1	54					70	
Greater Yellowlegs	-	-	-	-	-	-	-	-	-	-	-	-		-
Lesser Yellowlegs	-	-	-	-	-	-	-	-	-	-	-		-	-
Least Sandpiper	-	-	-	-		-	-	-	-	-	-		-	-
Wilson's Snipe	4	-	2	6	3	6	3	1	12	45	-	1	-	22
American Woodcock	-	3	-	-	-	5	3	2	6	-	-	-	-	-
Bonaparte's Gull	1	-	-	1782	-	17	-	-	-	31	39	2	-	23
Ring-billed Gull	546	-	-	2800	8	118	1	-	-	265	197	177	-	507
Herring Gull	-	-	-	1		CW	-	-	-	1	1	-	-	1
Lesser Blk-back. Gull	-	-	-	-	-	-	37.1	-	-	-	-	-	$\mathcal{F}^{\bullet}$	-
Gull sp.	_	_	_		9	_	_	_	_	-	_	_	_	-
Forster's Tern	_	_	_	-	-	-	-	_	-	_	-	_	_	-
Rock Pigeon	425	122	2	1164	210	215	53	145	43	_	111	290	_	104
Eur. Collared-Dove	-	8	_	36	-	2	4	1		-	5	_	6	
Mourning Dove	339	262	72	386	203	141	18	485	105	150	113	118	141	103
Barn Owl	_	3	1-		-	_	1	_	_		_	_	_	5
	10	4		4	1	11	7	10	5		1	6		2
E. Screech-Owl		2	_	-	_	8	8	9	8		-	3		2
Great Horned Owl	6	1		1	4	6	3	5	2	-	3	-	1	2
Barred Owl Short-eared Owl	-	-	1	-	-	-	-	-	-	-	-	÷	1	-
N. Saw-whet Owl	1	-	-	-	2	*		-		1 10	*	-		(a)
Owl sp.	-	-	-	-	7.		-	-	-	-		-		30
Hummingbird sp.	-	-		1	-	*		-				-	*	*
Rufous Hummingbird	-	-		-	*	*		-	-	-	100	-	-	-
Selasphorus sp.	-	-	-	-	*	22		-	7.5	-		2	2	100
Belted Kingfisher	19	12	4	29	12	9	7	15	6	22	8	11	8	14
Red-head. Woodpecke	r -	28	-	26	1	2	-	19	25	34	-	-	21	2
Red-bell. Woodpecker		107	11	66	66	39	15	93	67	51	50	19	68	33
Ylw-bellied Sapsucker		21	7	31	12	15	5	22	3	5	32	13	20	7
Downy Woodpecker		29	29	63	49	41	28	56	46	36	43	32	35	28
Hairy Woodpecker	10	7	4	7	10	9	5	12	23	12	11	8	6	4
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GSMNP	Green	Hk-Pr	Hiwas	Jack	Knox	Leb	Mem	Nash	Nick	Norr	Reel	Roan	Savh	ShVl	Warr	White	Totals
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94	368	196	174	98	579	23	442	304	171	97	312	3	186	136	119	377	6315
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6	57	18	53	25	124	10	116	120	57	56	82	3	74	4	27	113	1670
11	11	15	22	2	40	1	33	37	33	32	23	-	20	2	4	9	497
34	45	27	47	19	116	7	75	109	39	48	95	4	37	12	11	46	1322
13	11	4	5	2	13		10	21	5	13	18	3	7	4	1	10	268
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Species	Bris	BuffR	Cades	Chatt	Clarks	Clay	Colum	Cook	Cross	CrsCrk	DeKalb	Eliz	Fay	Frnk/Coi
Pileated Woodpecker	15	22	25	11	20	20	4	24	43	35	22	28	16	8
Eastern Phoebe	11	16	4	15	9	10	3	26	15	10	23	11	12	6
Loggerhead Shrike	2	12	-	-	-	-	-	-	-	-	CW	11	1	2
Loggerneau Siirike	2	14	-	-	-	-	-	-	-	-	CW	-	1	2
, , ,	171	352	22	280	121	66	56	415	165	234	80	94	319	134
	823	962	147	454	254	394	519	692	387	224	461	400	182	799
Fish Crow	- 7	-	-	-	-	-	-	-	-	-	-	4	-	-
Common Raven Horned Lark	-	3	6	-	6	2	2	3	11	-	25	1	-	32
Horned Lark		3			0	_	2	3	11	-	23	1	-	32
	147	95	118	184	215	166	51	215	214	129	185	121	71	56
Black-cap. Chickadee	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chickadee sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tufted Titmouse	72	126	76	122	116	106	41	242	174	118	153	73	62	68
Red-breasted Nuthatch	-	75	4	-	-	-	-	-	-	-	•	2	-	-
White-breast.Nuthatch	37	52	33	34	33	75	19	98	115	31	88	36	14	15
Brown-head.Nuthatch	_	-	-	18	-	-	-	2	-	-	-	-	-	-
Brown Creeper	5	15	1	10	2	2	1	3	2	4	1	6	4	2
A.	131	76	32	146	124	113	54	214	133	103	100	80	82	57
House Wren	2	1	=	2	-	cw	-	$\subseteq$	-	-	-	-	-	-
Winter Wren	6	3	9	12	_	12	2	5	10	3	7	4	9	
Sedge Wren	-	-	-	1	_	-	-	-	-	-	-		_	-
Marsh Wren	_	_	_	9	-	_	_	1		_	_	_	1	_
Golden-crown. Kinglet		9	33	99	17	36	13	29	44	8	18	18	25	20
Ruby-crowned Kinglet		13	5	91	2	2	3	4	-	4	25	10	9	13
Fastone Blackford	93	371	40	156	191	300	47	530	212	83	280	119	214	150
Eastern Bluebird Hermit Thrush	4	15	7	22	191	21	3	19	6	2	38	7	4	5
American Robin	34	527	40	492	306	124	2050	237	327	13	11648	148	179	507
Gray Catbird	-	-	-	474	500	124	2030	-	327	-	-	1	-	-
N. Mockingbird	83	127	8	158	139	66	21	190	60	21	54	54	67	108
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Brown Thrasher	-	4	2	35	5	5	5	7	3	12	-	-	16	9
1	2622	5200	148	1665	1418	851	5180	2203	677	927	3115	685	277	3383
American Pipit	-	68	1	1	-	cw	-	40	2	-	50	150	-	1
Cedar Waxwing	90	60	-	105	98	52	-	63	2	36	162	178	217	35
Tennessee Warbler	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orange-crown.Warbler	-	-	12	1	-	-	-	4	-	-	-	-	-	200
Yellow-rump. Warbler	47	23	-	138	7	43	32	45	9	61	247	134	34	24
Pine Warbler	-	1	-	7	1	-	-	1	-	1	-	-	12	2
Palm Warbler	-	1911	-	16	-	-	2	-	5	-	17	-	77	1
Common Yellowthroat	-	-	-	1	-		-	-	-	-	-	-	-	100
Eastern Towhee	40	103	6	171	66	55	17	103	41	21	39	21	56	33
Amer. Tree Sparrow	-	120	-	-	1	-	-	-	-	-	-	-	-	-
Chipping Sparrow	-	8		20	10	21	-	14	1	18	60	2	7	1
Field Sparrow	2	268	19	150	90	199	24	243	57	51	324	19	99	33
Vesper Sparrow	-	*	-	-	-	-	-	-	-	-	80	~	~	2
Savannah Sparrow	1	56	-1	6	6	2	5	2	1	3	-	-	72	26
LeConte's Sparrow	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fox Sparrow	6	8	-	5	5	3	2	7	-	1	1	-	8	-
Song Sparrow	109	199	35	314	139	247	27	343	187	72	137	172	338	72
Lincoln's Sparrow													000	

GSMNP	Green	Hk-Pr	Hiwas	Jack	Knox	Leb	Mem	Nash	Nick	Norr	Reel	Roan	Savh	ShVl	Warr	White	Totals
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15	22	3	14	10	9	-	20	23	20	27	24	Ī	6	4	3	23	517
21	13	1	28	6	15	1	9	12	9	15	16	-	14	10	4	20	365
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13	218	69	241	123	441	33	129	410	240	187	113	7	175	18	121	413	5460
101	194	252	369	184	657	57	38	596	389	257	57	192	401	689	271	509	11911
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90	193	140	77	32	368	19	126	600	172	176	154	36	171	73	38	151	4583
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45	112	70	60	21	225	8	59	289	139	137	64	9	122	13	24	126	3072
71	25	1	-	1	-	-	-	-	-	1	2	22	3	8	-	1	116
28	25	2	15	7	49	3	=11	74	50	74	27	6	10	12		40	1105
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81	-	733	341	484	939	95	683	1620	465	143	52	33	86	6	230	332	22955
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101	1403	8005	577	4007	1503	5270	1231	1155	471	298	4900	65	271	393	1441	4610	64052
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-	12	23	-	40	518	10	138	21	86	23	7	*	32	65	156	170	2399
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-	24	12	- 116		1	-	- 12	- 17	42	16	1	-	10	-	-	- 7	2
						14		17		16	-	Š	12	45	7	7	428
3	41	176	146	19 -	249 1	14	55 -	117	184	185	44	2	115 8	<b>4</b> 5 -	48	294	3315
-	-	-	-	-	1	-	-	-	-	-	-	-	0	-	-	-	11
-	8	2	62	3	6	15	25	9	28	9	33	-	206	-	5	6	597
-	-	į.	-	-	-	-	-	-	-	-	cw	-	6	-	-	-	6
3	1	5	17	11	4	- 11	9	9	5	2	23	3	29	- 221	3	2	172
76	210	129	482	77	420	11	133	230	202	277	100	45	332	231	86	291	5723
-	-	-	-5	-	-	-	-	-	-	-	-	-	-	-	-	-	5

Species	Bris	BuffR	Cades	Chatt	Clarks	Clay	Colum	Cook	Cross	CrsCrk	DeKalb	Eliz	Fay	Frnk/Coff
Swamp Sparrow	3	78	3	106	27	26	27	56	91	36	10	9	166	8
White-throat. Sparrow	200	314	64	416	301	301	93	358	142	182	463	141	624	90
White-crown. Sparrow		55	-	-	78	31	23	12	11	15	14	8	22	47
Sparrow sp.	_	45	-	-	_	_	-	-	_	420	-		_	-
Dark-eyed Junco	128	508	65	139	350	133	34	227	251	269	377	212	463	68
Lapland Longspur	_	-	-	-	-	-		-	-	-	9	-		-
Northern Cardinal	181	324	56	292	344	278	69	343	189	234	269	98	292	135
Red-winged Blackbird	20	283	-	318	53	56	10	17	10	1121	1086	-	356	285
Eastern Meadowlark	7	295	-	55	56	124	19	153	107	57	43	14	113	89
Western Meadowlark	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rusty Blackbird	-	-		261	5.	-	-	-	95	50	-		155	-
Brewer's Blackbird	-	-	22	-	-	-	-	-	-		-	-	-	-
Common Grackle	1	2040	22	1715	90	9	5012	120	1	3821	6	-	734	552
Blackbird sp.	$\subseteq$	3000	-	-	535	-	-	~	-		-	-	-	-
Brown-head. Cowbird	cw	698		17	3	1	17	2	-	13	30	-	43	14
Cowbird sp.	-	12	-	-	-	-		-	-	-	-	-	-	550
Baltimore Oriole	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purple Finch	-	8	-	-	-	2	-	-	-	7	1	-	-	-
House Finch	45	23	3	125	55	32	29	119	33	4	65	55	42	6
Red Crossbill	-	-	-	-	9	-	-	-	-	-	-	-	-	-
Pine Siskin	-	-	1	-	3-	-	-	-	2	1	-	-	-	. ×
American Goldfinch	63	164	18	194	87	131	27	128	92	83	223	88	67	52
Evening Grosbeak	-	-	-	-	-	-	-	-	-	-	-	-	-	1
House Sparrow	70	92	-	136	53	138	15	187	38	21	220	20	40	18
Total individuals	8439	18375	1431	18231	7431	5877	14418	9995	5611	45062	21583	4415	6370	10148
Total Species	81	78	57	100	71	83	77	83	78	81	75	71	67	90
Count Week species	2	-	2	-	1	3	-	1	2	-	1	1	-	-
Effort:														
Observers	20	14	13	32	19	8	7	19	20	15	10	17	11	23
Parties	6	6	6	11	6	6	4	8-10	7-8	8	7	5	4	8
Party Hours	46.5	57.5	29	94	51.5	43.5	30	79.25	67.75	64	62.25	47	31.75	41
Hours by car	23.5	35.5	6.75	34.5	30.75	32.5	12	65.25	31	50	50.75	20	20.25	39
Hours by foot	23	22	22.25	54.5	20.75	8.5	18	14	36.75	14	11.5	27	11.5	2
Hours by boat / other	-	-	-	5		2.5	-	-	-	-	-	-	-	-
•	467.4	400	51.8	357	263.5	322	170	490.25	318.5	400	431	290	235	327
Miles on foot	13	13.3	24,6	41	16	8	42	9.25	34,5	8.5	11	8	10	3
Miles by boat/other	-	-	-	20	-	10	-	-	-00	-	-	-	-	-
Hours Owling	6	3	5	4.5		4	7	7	9	-	2.5	3	-	1
Miles Owling	40	8.8	6	35	-	35.5	46	56	83	-	25	15	-	1
Feeder Watchers	-	-	-	-	3	-	1	3	1	3	2	2	-	-
Feeder Hours	-	-	-	-	2.5	-	4	4.25	7	-	8.3	-	-	-
Count date	12/31	12/28	12/31	12/16	12/16	12 /14	12 /16	12/16	12 /23	12/18	12/26	12/16	12/19	12/14

Area codes: Buff Riv = Buffalo River, CadeCv = Cades Cove, Chatt = Chattanooga, Clarksvl = Clarksville, Columb = Columbia, Crssvlle = Crossville, CrsCrk = Cross Creek, Eliz = Elizabethton, Frnk/Coff = Franklin/Coffee Co., GSMNP = Great Smoky Mountain National Park, Green = Greenville, Hk-Pr = Hickory Priest, Hiwase = Hiwassee, Jack = Jackson, Knox = Knoxville, Leb = Lebanon, Mem = Memphis, Nash = Nashville, Nick = Nickajack Lake, Norr = Norris, Reel = Reelfoot, Savh = Savannah, ShVl = Shady Valley, Warr = Warren Co.

						_											
GSMNP	Green	Hk-Pr	Hiwa	s Jack	Knox	Leb	Mem	Nash	Nick	Norr	Reel	Roan	Savh	ShVl	Warr	White	Totals
	19	20	351	36	40	_	19	36	27	2	144	4	234	17	4	49	1648
33	232	214	388	99	777	138	631	676	299	431	378	33	407	76	74	384	8959
-	28	19	5	7	11	3	44	27	5	7	32	-	8	6	5	35	667
_	_	-	-	-	-	-	-	-	-	-	_	_	-	-	-	-	45
118	46	199	189	213	182	21	210	187	153	125	305	110	535	198	48	277	6340
-	-	#	-	-	-	-	24	-	-	-	202	-	42	(8)	-	-	268
48	226	114	251	155	515	49	194	531	210	186	265	10	373	59	122	494	6906
-	178	62	838	440	1	59	249	130	43	-	10962		405	-	102	218	17302
4	96	17	104	57	74	5	65	31	83	14	41	-	210	1	46	116	2096
-	-		-	-	-	-	-	-	-	-	1	-	3	7	-	-	1
_	54	-	_	5	14	90	356	cw	128	17	52	-	65	(*)	_	3	1345
-	-	-	-	-	-	_	-	_	14	-	25	100			_	_	25
-	132	113	5	9291	6	-	10491	154	636	4	11203	_	3762		575	5051	55524
-	-	-	-	ē	-	-	384	-	-	-	-	-	2250	000	_	-	6169
-	1	5	51	16	cw		-	13	-	-	420		84	2/	46	3	1477
-	3	2"	-	6	1.0	-	-	*	-	-	-	-	-	-	-	1	1
-	1	-	-	-	-	-	1	cw	-	-	-	-	-	-	-	-	2
-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	19
-	81	75	28	15	251	3	24	128	13	26	132	12	22	7	20	94	1567
17	-	-	-	•	-	-	-	-	-	-	-	1	v	-	-	-	18
-	-	-	-	-	-	-	-	-	-	-	-	42	Ē.	-	-	-	46
86	158	57	69	26	341	11	97	222	110	162	86	12	87	120	49	158	3268
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
7	11	30	42	8	48	20	79	52	10	5	56	7	99	51	30	121	1724
1524	5530	17174	19723	3 16538	14724	7373	21828	10285	15911	5103	63843	755	17348	2656	4461	17143	421466
52	75	85	85	74	92	56	95	70	94	73	117	44	111	54	72	83	150
-	2	-	-	2	2	-	-	4	-	-	7	1	-	-	-	-	3
15	15	18	19	4	34	10	30	40	18	9	20	9	11	12	4	12	508
6-7	10	5	7	3	18	6	7	10	7	6	6	2	5	4	3	7	183
45.5	53	53	48	25	97.14	16.5	48.25	75.75	60.25	45.5	65.5	18	53.25	29.5	30.5	56.5	1566.14
6.5	34.5	25	19	19	29.47	8.5	26.5	42.25	21.5	14.75	49	5	32.5	17.5	-	50.25	852.97
39	15.5	28	24.5	6	67.67	8	21.75	33.5	38.75	30.75	16.5	13	20.75	12	-	2.75	664.17
-	3	-	4.5	-	-	-	-	-	-	~	-	-	-		-	3.5	18.5
107.5	349.5	288	216	157	468.8	114	205	327		222.7	482	92	277.3	225.5	-		8834.35
36.2	9	19	16.5	6	38.15	5	26	29	24.75	18.5	16	8	15.5	6	-	2.5	518.25
-	1	-	40	-	-	-	-	-	-	-	-	-	=	-	-	55	126
-	1.25	3	-	0.5	3.5	-	-	2.5	6.25	4.2	2.75	1.5	4	1	-	4.25	86.7
-	21	16	-	13	49		-	5	54	3	37	3	32.5	0	-	47	631.8
-	-	2	-	-	4	1	-	3	-	1	-	-	-	-	~	-	23
10/	7.5	24		10/00	12.25	1	-	2.25	-	1	-	-	===	- /-	- /=	-	74.05
12/17	12/18	1/1	1/1	12/30	12/30	12/28	12/17	12/16	12/30	12/16	12/16	12/17	1/2	1/1	1/5	12/21	

Henderson, Daniel Jacobson, Starr Klein, Jonnie Sue Lyons, Barbara and Mike McMahan, David Patterson, William Powell, Mark Siniard, David Spicer, Drew Stinnett, Carl Swofford, David Vogt, Kyle Waggener, Diane Whitman, Cynthia and Jimmy Wilkerson, and Dan Williams.

CLARKSVILLE (36° 30' N, 87° 22' W) – 16 Dec. 2006; 0730-1700. Weather: clear in the morning, turning cloudy in the afternoon; 41-70° F. Species highlights included Greater White-fronted Goose (third year in a row), Bald Eagle, Redheaded Woodpecker, Pine Warbler, and American Tree Sparrow. Observers: Suva Bastin, Alan Bottomlee, Mike Filson, Kevin Fitch, Elaine Foust, Allan Frank, Amy Gorman, Katherine Guy, Deborah Hamilton (compiler: 290 Ardmoor Dr., Clarksville, TN 37043; ammonite@charter.net), Steve Hamilton, Gloria and William Milliken, Jr., Daniel Moss, Dianne Nance, Polly Rooker, Betsy and Scott Rothermel, Joe Schiller, and Barbara Wilbur.

CLAY COUNTY (36° 30' N, 85° 22' W) – 14 Dec. 2006; 0415-1700. Weather: Very foggy early turning clear in the afternoon; 34-63° F. This was the eighth consecutive year for this CBC. Red-breasted Merganser and Eurasian Collared-Dove appeared on this count for the first time, bringing the all-time count species total to 104. Notable species found this year included Red-breasted Merganser, American Woodcock, Eurasian Collared-Dove, Horned Lark, Fox Sparrow, and Purple Finch. Observers: Terry M. Campbell (compiler: 1886 New Hope Rd., Celina, TN 38551; Terry\_Campbell@fws.gov), Roseanna Denton, Arlene Morton, Michael P. O'Rourke, Tom Saya, Barbara H. and Stephen J. Stedman, and Winston Walden.

COLUMBIA (Mayfield-Gray chapter) (35° 59' N, 87° 16' W) – 16 Dec. 2006; 0600-2300. Weather: clear; 35-69° F. Highlights for this count included 300 Wild Turkeys (!), American Woodcock, Horned Lark, and Palm Warbler. Observers: Phyllis Coble, Tommy Edwards (compiler: 896 Iron Bridge Rd., Columbia, TN 38401; Tommy.Edwards@state.tn.us), William Jernigan, Allyn Lay, Anne and Bedford Lochridge, and Cleo Mayfield.

COOKEVILLE (36° 09' N, 85° 28' W) – 16 Dec. 2006; 0400-1700. Weather: clear all day with winds S, 0-10 mph; 36-70° F. This was the 45th Cookeville CBC. Marsh Wren and Lincoln's Sparrow were new species for this count, bringing the all-time species total for this CBC to 132. Totals for Common Loon, Great Blue Heron, Great Horned Owl, Belted Kingfisher, Eastern Phoebe, White-breasted Nuthatch, and Carolina Wren were record high numbers for this count. Totals for Gadwall, Black Vulture, Red-bellied Woodpecker, Blue Jay, Carolina Chickadee, Tufted Titmouse, Eastern Bluebird, Northern Mockingbird, and Field Sparrow represented record high counts for this count *and* Putnam County. Observers: Kris Bolin, Sharon and Wally Brines, Terry M. Campbell, Daniel L. Combs, Douglas A. Downs, Betty Doyle, Ginger K. Ensor, Janie C. Finch, Michael J. Hawkins, Mary Hays, Jane E. B. Herrin, Nancy S. Layzer, Joseph E. Mast, Michael P. O'Rourke, Susan E. Pirolo, Michael Ramsey, Richard W. Simmers, Jr., Barbara H. Stedman, Stephen J. Stedman

(compiler: 2675 Lakeland Dr., Cookeville, TN 38506; sstedman@tntech.ed), Winston A. Walden, and Carol D. Williams.

CROSSVILLE (38° 86' N, 85° 02' W) – 23 Dec. 2006; 0200-1700. Weather: partly cloudy in the morning turning clear in the afternoon; wind was WNW 0-9 mph; 37-52° F. This is the first ever Crossville CBC. Highlights for the count included Canvasback, Ruffed Grouse, Sandhill Crane, American Woodcock, Red-headed Woopecker, Horned Lark (115!), White-breasted Nuthatches, American Pipit, Rusty Blackbird, and Pine Siskin. A notable miss was Black Vulture. Observers: Cindy Aric, Nan E. Beesley, Margery Buxbaum, Douglas A. Downs, Bruce Gardner, Martha K. Hale, Michael E. Hodge, Edmund K. Legrand (compiler: 537 Cokesbury Rd., Annandale, NJ, 08801; elegrand@earthlink.net), Chris and Susan Looney, Anita F. and Joseph E. Mast, Marty and Ted McKnight, Allen R. Nabors, Michael P. O'Rourke, Stephen J. Stedman, David J. Trently, Kathryn Uziel, Winston A. Walden, and Patricia J. Westerfield.

CROSS CREEKS N. W. R. (36° 28' N, 87° 45' W) – 18 Dec. 2006; 0630-1430. Weather: clear in the morning turning cloudy in the afternoon; 35-65° F. Highlights for the count were good numbers of waterfowl, Common Merganser, Herring Gull, Pine Warbler, Lincoln's Sparrow, Purple Finch, and Pine Siskin. Observers: Margarette Blanton, Joe Casey, Richard Graves, Blake Hunt, George Jackey, Jeff Snider, Amy Krzton-Presson, Madge Lawrence, Graves Marion, Joyce and William North, Gary T. and Susan Rice, Sarah Welker (compiler: USFWS, Cross Creeks NWR, 643 Wildlife Road, Dover, TN° 37058; sarah\_welker@fws.gov), and Andrew West.

**DeKALB COUNTY** (36° 00' N, 85° 49' W) – 26 Dec. 2006; 0500-1730. Weather: cloudy and overcast in the morning with drizzle and some sleet in the afternoon; winds were NW 5-15 mph; 35-40° F. Highlights included Bald Eagle, Sandhill Crane, Herring Gull, American Pipit, and Purple Finch. Observers: Richard Conners, Tommy and Virginia Curtis, Douglas A. Downs, Judy Fuson, Gregg Garrison, Michael Hawkins, Mary Hays, Susan Pirolo, Stephen J. Stedman, Winston Walden, and Carole D. Williams (compiler: 3909 Cookeville Highway, Smithville, TN 37166; cdenson@dtccom.net).

ELIZABETHTON (36° 20' N, 82° 08' W) = 16 Dec. 2006; 0600-1730. Weather: clear with light and variable winds; 28-70° F. This was the 64th consecutive Elizabethton CBC. The total of 71 species was about average for the previous 25 years (70.9). The all-time high count for this CBC was 79 (1995 & 2001). Notable finds for the count included Northern Shoveler (3<sup>rd</sup> count record), Canvasback (4<sup>th</sup> count record), Northern Bobwhite (found only twice in the last 12 years), Bald Eagle (10 of last 13 years but only once before 1994), *Selasphorus* hummingbird (4<sup>th</sup> straight year), Horned Lark (first record since 1984), Gray Catbird (3 of last 4 years, but only other record was in 1949), Brown Thrasher (found 6 times in last 20 years), and Chipping Sparrow (6 of last 9 years). Unusual misses included Ruffed Grouse (4<sup>th</sup> straight year missed but found in count week), Black Vulture

(missed 4 of last 5 years), Loggerhead Shrike (found only 3 times since 1990), Purple Finch (found only 5 of last 15 years), and Evening Grosbeak (none since 1999 and only 5 times since 1986-1999). Observers: Fred Alsop, Darla and Jim Anderson, Rob Biller, Gilbert Derouen, Dianne Draper, Don Holt, Barney Keffer, Rick Knight (compiler: 804 N. Hills Dr., Johnson City, TN 37604: rknights@earthlink.net), Dale Ledford, Joe McGuiness, Tom McNeil, Billie Merritt, Betty Murray, Brookie and Jean Potter, Bryan Stevens, Kim Stroud, and Gary Wallace.

FAYETTE (35° 06' N, 90° 35' W) – 19 Dec. 2006; 0600-1600. Weather: partly cloudy all day, with light rain in the afternoon; 43-57° F. Highlights included Short-eared Owl, Loggerhead Shrike, Marsh Wren, and 12 Pine Warblers. Observers: Charles Askew, Lillian Durand, Kate Gooch (compiler: 2900 Garden Ln., Memphis, TN 38111; goochpb@att.net), Van Harris, Kathy Holder, Kay Lait, Susan McWhirter, Dick Preston, Agnes Stark, Martha Waldron, and Jay Walko.

FRANKLIN/COFFEE COUNTIES (Highland Rim) (35° 18' N, 86° 3' W ) – 14 Dec. 2006; 0830-1630. Weather: clear in the morning and cloudy in the afternoon; 49-68° F. Count highlights included Greater Scaup, Red-breasted Merganser, Herring Gull, Loggerhead Shrike, American Pipit, Vesper Sparrow, and Evening Grosbeak. Observers: Dwain Adams, Larry Bowers, Cecil Bronnenberg, John Bruner (compiler: 2752 Old Salem Lexie Rd., Belvedere, TN 37306; jjjbruner@peoplepc.com), Tom Burleson, Don Davidson, John Lamb, Ruth Luckadoo, Laura McCall, LouAnn Partington, Chloe and Howie Peebles, Jim and Sasha Peters, Jim Pierce, Vida Sherwood, Dale and Jeanie Swant, Lisa Trail, Kevin Willis, George Wycoff, and Harry and Jean Yeatman.

GREAT SMOKY MOUNTAINS N. P. (35° 43' N, 83° 29' W) – 17 Dec. 2006; 0730-1715. Weather: clear all day; 29-62° F. Notable species found included Wilson's Snipe, Common Raven, Fox Sparrow, and Red Crossbill. Record high numbers were recorded for Wild Turkey, Eastern Phoebe, and Red-breasted Nuthatch. Observers: Warren Bielenberg, Deedee Blane, Bob Braid, Jerry Hadder, Susan Hoyle, Kristine Johnson, Tony King, Jon Mathson, Bridget McNew, Mike Nelson, Marie Oakes, Sharon Sheliga, Allan Trently, David Trently (compiler: 1029 Morrow Dr., Knoxville, TN 37923; dtrently@utk.edu), and Keith Watson.

GREENEVILLE (36° 10' N, 82° 51' W) – 18 Dec. 2006; 0600-1830. Weather: clear with light and variable winds in the morning, becoming partly cloudy with winds SW 0-5 mph in the afternoon; 34-70° F. Count highlights included American Bittern, Osprey, American Woodcock, Barn Owl, Loggerhead Shrike, Horned Lark, and Baltimore Oriole. Observers: Ben, Orland, and Phine Britton, King and Margaret Gaut, Don Holt, Henrietta Holt, Jim Holt (compiler: 311 Colonial Circle, Greeneville, TN 37745; jimbouh@adelphia.net), Richard Knight, Don Miller, Mary Neese, Richard Nevius, Jo Anne and Larry Routledge, and Virginia Williams.

**HICKORY-PRIEST** (36° 12' N, 86° 40' W) – 1 Jan. 2007; 0500-1700. Weather: cloudy all day; 34-48° F. Species found in record high numbers included Golden-

crowned Kinglet and Chipping Sparrow. Notable finds for the count included Great Egret, Bald Eagle, Merlin, American Woodcock, and Pine Warbler. Observers: Phillip Casteel, Ralph Cazort, Richard Connors, Jerry Drewry, Richard and Tarcila Fox, Clay Gascoigne, Mark Hackney, Mary Beth Hovies, Ethel and Kazuhiko Kawamura, Bill Riner, Sarah Scott, Wanda Shotwell, Chris Sloan (compiler: 512 Old Hickory Blvd., Apt. 1203, Nashville, TN 37209; chris.sloan@comcast.net), Joe Stone, Sabin Thompson, and Robin Young.

HIWASSEE (35° 22' N, 84° 54' W) - 1 Jan. 2007; 0530-1800. Weather: cloudy all day; 40-52° F. The 85 species found this year were far below the normal average of 99 for this count. Highlights included 22 Bald Eagles, Great Egret, Loggerhead Shrike, Pine Warbler, Palm Warbler, and 17 Fox Sparrows. Downsides for this count were very low waterfowl numbers, especially American Black Ducks with 47 (usually there are hundreds). Sandhill Crane numbers were down for this count, but that may be somewhat due to most of the food at the refuge being gone, possibly resulting in their spreading out in the area and not being inside the count circle on count day. Least Sandpipers, Dunlin, Barred Owls and Cedar Waxwings were missed. Species occurring in record high numbers included Red-headed Woodpecker and Fox Sparrow. Common Grackles were found in record low numbers. Observers: David Aborn, Patricia Dover-Bedwell, Harold Birch, Clyde Blum, Kevin Calhoon (compiler: 1185 Mountain Creek Rd., Apt. 715, Chattanooga, TN 37045; kac@tennis.org), Danny Gaddy, William Haley, Starr Klein, Jack and Vickie Leather, Laura Mitchell, Judy Newsome, Susan Schott, Allan Trently, David Trently, Cynthia and Jimmy Wilkerson, Hayden Wilson, and Larry Young.

JACKSON (35.6167° N, 88.8167° W) – 30 Dec. 2006; no times given. Weather: cloudy all day, with light rain in the afternoon; 33-54° F. American Woodcock and Pileated Woodpecker were found in record high numbers. Notable species for the count included Merlin, Loggerhead Shrike, Red-breasted Nuthatch, Pine Warbler, and Rusty Blackbird. Observers: Elizabeth Barnett, Bob Ford, Mark Greene (compiler: 194 Mount Orange Road, Trenton, TN 38382; magreene@usit.net), and Mike Todd.

KNOXVILLE (35° 55' N, 84° 05' W) – 30 Dec. 2006; 0600-1800. Weather: partly cloudy all day with no rain and winds NNE 5-10 mph; 34-59° F. Notable species included Redhead, Great Egret, Osprey, Sandhill Crane, Loggerhead Shrike, Fish Crow, House Wren, American Pipit, Orange-crowned Warbler, Vesper Sparrow, and Rusty Blackbird. Record high numbers were tallied for Belted Kingfisher, Downy Woodpecker, Eastern Phoebe, Brown-headed Nuthatch, Carolina Wren, and Eastern Towhee. Observers: Lyn Bales, Warren Bielenberg, Mark Campen, Juanita Carpenter, Mary Carpenter, Steven Carpenter, Edward Clebsch, Gail and Steve Clendenen, K. Dean Edwards (compiler: 1615 Meadow Chase Lane, Knoxville, TN 37931; kde@angst.engr.utk.edu), Jim Evans, Chris Foell, Reid Gerhardt, Carole Gobert, Rikki Hall, Paul Hartigan, Ron Hoff, Tom Howe, David Howell, Susan Hoyle, Jim Human, Tony King, Audrey Little-Crawford, Ed

Manous, Janet McKnight, Dollyann Myers, Charles P. Nicholson, Kelly Roy, Martha Rudolph, Boyd Sharp, Allan Trently, David Trently, Chris Welsh, and Corwin Witt.

LEBANON (36° 25' N, 86° 36' W) – 28 Dec. 2006; 0700-1700. Weather: mostly clear and sunny, with breezes later; 31-58° F. Boxwell Reserve was open this year, but only added the kinglet. Notable sightings included Great Egret, Black-crowned Night-Heron, Herring Gull, and Rusty Blackbird. Notable misses included Killdeer, owls, Chipping Sparrow, Common Grackle, Brown-headed Cowbird, and Purple Finch. Observers: Kay Brinkhurst, Ralph Brinkhurst (compiler: 3570 Cainsville Rd., Lebanon, TN 37090; oligobird@charter.net), Mary Calhoun, Ann Holladay, Bernie Holladay, Mary-Beth Hovies, Earl Stoffel, Roy Turrentine, Dean Walker, and Jerry Walker.

MEMPHIS (35° 09' N, 89° 56' W) – 17 Dec. 2006; 00-00. Weather: cloudy all day with no rain; 52-72° F. Unusual species for this count included Cackling Goose, Mute Swan, Sedge Wren, Tennessee and Orange-crowned warblers, Lapland Longspur, and Baltimore Oriole. Observers: Jim Armacost, Betty and David Blaylock, Chad Brown, Carolyn Bullock, Jennifer Couch, Jim and Sue Ferguson, Van Harris, Anne Hooper, Robert Ilardi, Margaret Jefferson (compiler: 349 Hawthorne Ave., Memphis, TN 38112; mjefferson100@hotmail.com), Lisa Jorgensen, Pam Key, Keith Kunkel, Mike Newman, Gerald Papachristou, George and Jeanne Payne, Andrew Phifer, Dick Preston, Ernest Restivo, Virginia Reynolds, Allen and Elizabeth Sparks, Edwin Thomas, Steve Veltman, Martha Waldron, Jay Walko, and Barbara Wilson.

NASHVILLE (36° 03' N, 86° 56' W) – 16 Dec. 2006; 0430-1700. Weather: mostly cloudy in the morning turning clear to partly cloudy in the afternoon; winds were SE at 4-7 mph; 40-71° F. This was the lowest species total for this count since 1996. Record high totals were tallied for Cooper's Hawk, Northern Flicker, Eastern Phoebe, Blue Jay, Carolina Chickadee, Eastern Bluebird, Eastern Towhee, and Chipping Sparrow. Observers: Sandy Bivens, Susan and Trae Bradfield, Pat Bridges, Jean Buchanan, Marilyn Burgess, Ed Byrne, Eileen Cartwright, Richard Connors, Jeff Cowell, Francis Fekel, Tarcila Fox, John Froeschauer, Heather Gallager, Ed Gleaves, Shelley Harwell, Jim and Sharon Hiett, Susan Hollyday, Linda Kelly, Robert Lane, Pam Lasley, Tim Lorsch, Jon Mann, Diana McLusky, Bob Meyer, Donna Michaels, Amy Potter, Jonathon and Rebecca Reveal, Sarah Scott, Jan Shaw (compiler: 5019 Timberhill Dr., Nashville, TN 37211; JanKShaw@aol.com), Kathy Shaw, Sheila Shay, Danny Shelton, Dee Thompson, Rita Venable, Denise Weyer, Terry Witt, and Mary Zimmerman.

NICKAJACK LAKE (35° 04' N, 85° 31' W) – 30 Dec. 2006; 0530-1730. Weather: cloudy all day with light rain in the afternoon; 43-62° F. Notable species included Canvasback, Greater Scaup, Herring Gull, Forster's Tern, 5 species of owls, Sedge Wren, and Orange-crowned Warbler. Observers: Preston Beets, Harold Birch, Gary Brunvoll, Mathew Catlett, Janice Chadwell, Danny Gaddy, William Haley, John Henderson, Jeffrey Hunter, Daniel Jacobson, Star Klein, Rebecca and Robin Rudd,

David Spicer (compiler: 9446 Cheri Beth Circle, Ooltewah, TN 37363; dspicer@chattanooga.net), Carl Swafford, David Vogt, and Cynthia and Jimmy Wilkerson.

NORRIS (36° 13' N, 84° 05' W) – 16 Dec. 2006; 0630-1800. Weather: foggy in the morning, then clear all day; 34-66° F. Count highlights included Ruddy Duck, Rufous Hummingbird, Red-breasted Nuthatch, Palm Warbler, and Rusty Blackbird. New high totals for this count were recorded for Wild Turkey, Piedbilled Grebe, Black Vulture, Bonaparte's Gull, Hermit Thrush, and Brown Thrasher. Record low totals for this count were recorded for Golden-crowned Kinglet, Cedar Waxwing, Yellow-rumped Warbler, and Swamp Sparrow. Observers: Mark Armstrong, K. Dean Edwards, Susan Hoyle, Tony King, Ed Manous, Charles Nicholson (compiler: P. O. Box 402, Norris, TN 37828; cpnichol@bellsouth.net), Martha Rudolph, Allan Trently, and David Trently.

**REELFOOT LAKE** (36.4167° N, 89.3833° W) – 16 Dec. 2006; no times given. Weather: foggy until 10 a.m., then clear; 29-43° F. The 117 species ties the all-time record total for this count for the third time. Lesser Black-backed Gull was a new species for this CBC. Other notable species included 22 species of waterfowl, including 5 species of geese, Red-necked Grebe (3rd count day record), American White Pelican, Sandhill Crane (2nd count day record), Forster's Tern (2nd count day record), 5 species of owls, Fish Crow, Red-breasted Nuthatch, 4 species of wrens, 5 species of warblers, American Tree Sparrow, Western Meadowlark, and Brewer's Blackbird. Record high totals were tallied for Greater White-fronted Goose, Snow Goose, Downy Woodpecker, Hairy Woodpecker, Northern Flicker, Eastern Phoebe, Brown Creeper, House Wren, and Eastern Towhee. Observers: Charles and Elizabeth Barnett, Cecil Brown, Pamela Brown, Jerry Drewry, Bob Foehring, Mark Greene (compiler: 194 Mt. Orange Rd., Trenton, TN 38382; magreene@usit.net), Kathie Holder, Gail King, Ken Leggett, Nancy Moore, John Noel, Brainerd Palmer-Ball, Chris Sloan, Joe Stone, Sabin Thompson, Michael Todd, Donna Ward, Melinda Welton, and Jeff Wilson.

**ROAN MOUNTAIN** (36° 06' N, 82° 07' W) – 17 Dec. 2006; 0600-1600. Weather: clear with winds SW, 5-10 mph; 27-64° F. This was the 54th time in 57 years this count was conducted. The total species count of 44 was slightly higher than the 25 year average of 43.2. The all-time high species total for this CBC is 55 (in 1987). Notable finds included Wood Duck (3<sup>rd</sup> record since 1987), Fox Sparrow, Red Crossbill, and Pine Siskin. Observers: Rob Biller, Diane Draper, Bill Grigsby, Don Holt, David Kirschke, Rick Knight (compiler: 804 N. Hills Dr., Johnson City, TN 37604; rknight8@earthlink.net), Tom McNeil, and Brookie and Jean Potter.

**SAVANNAH** (35° 08' N, 88° 09' W) – 2 Jan. 2007; 0630-1715. Weather: clear all day with winds N, 0-10 mph; 27-53° F. This year's total of 111 species was an all-time record for this CBC. Forster's Tern and Common Yellowthroat were new species for this CBC. Notable species included American White Pelican ( $2^{nd}$  count record), Snow Goose, Merlin, Virginia Rail ( $2^{nd}$  count record), Sora ( $2^{nd}$  count

record), Sandhill Crane (3rd count record), Short-eared Owl, Red-breasted Nuthatch, Marsh Wren, 5 species of warblers, Vesper Sparrow, and LeConte's Sparrow. Record high totals were noted for Common Loon, American Coot, and Eurasian Collared-Dove. Notable misses included American Wigeon, mergansers, Ruddy Duck, Loggerhead Shrike, Sedge Wren, Brewer's Blackbird, Purple Finch, and Pine Siskin. Observers: Kay and Ralph Brinkhurst, Dwight Cooley, Jeff Garner, R. J. Moore, Jack Paul, Bill Pulliam, John Ross, Floyd Sherrod, Damien Simbeck (compiler: 4905 County Rd. 33, Killen, AL 35645; tnbarredowl@aol.com), and Shirley Wayland.

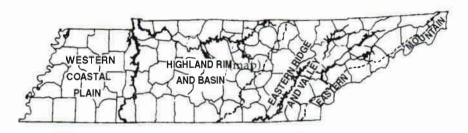
SHADY VALLEY – MOUNTAIN CITY (36° 30' N, 81° 51' W) – 1 Jan. 2007; 0600-1630. Weather: partly cloudy with light rain in the morning turning cloudy in the afternoon; very high NE wind gusts estimated at 10-35 mph; 40-55° F. The high winds probably helped keep the total count species to a record low of 54. The previous low was 58 in 2002. Pied-billed Grebe was a new species for this CBC, bringing the all-time species total for this CBC to 86. The only notable species for the count were Ruffed Grouse and Common Raven. In spite of the winds Belted Kingfisher, Northern Mockingbird, Field Sparrow, and Song Sparrow were all observed in all-time highest numbers for this count. Observers: Robert Biller (compiler: 1500 Bell Ridge Rd., Apt. 5, Johnson City, TN 37601; rbiller@charter.net), Wallace Coffey, Rack Cross, Diane Draper, Don Holt, Andrew W. Jones, Richard Lewis, Joe McGuiness, Thomas McNeil, John Moyle, Chris O'Bryan, and Kim Stroud.

WARREN COUNTY (35° 40' N, 85° 46' W) – 5 Jan. 2007; 000-. Weather: cloudy with light rain in the morning, turning clear the rest of the day; 61-65° F. Count highlights included Northern Bobwhite, American Woodcock, Loggerhead Shrike, and Fox Sparrow. Observers: Gregg Garrison (compiler: ggarrison@mscc.edu), Michael O'Rourke, Stephen J. Stedman, and Winston Walden.

WHITE COUNTY (35° 91′ N, 85° 60′ W) – 21 Dec. 2006; 0400-1645. Weather: cloudy all day; 52-61° F. This is the third year for this count. The all-time total species for this CBC is now 96. Notable species this year included Snow Goose, American Woodcock, Eurasian Collared-Dove, Loggerhead Shrike, Red-breasted Nuthatch, Sedge Wren, Pine Warbler, and Rusty Blackbird. Observers: Douglas Downs (compiler: 403 Gillen Dr., Sparta, TN 38583; douglas\_downs@hotmail.com), Judy C. Fuson, Nancy S. Layzer, Anita F. and Joseph C. Mast, Michael P. O'Rourke, John C. Owens, Barbara H. and Stephen J. Stedman, Winston A. Walden, and Carol D. Williams.

## THE WINTER SEASON

RICHARD L. KNIGHT, Editor



### 1 DECEMBER 2006 - 28 FEBRUARY 2007

Much of this winter was quite mild, with cold temperatures returning in late January through most of February. Precipitation was well below average for most of the state. Little snow fell outside the mountainous areas and, even there, snowfall was below average.

Among waterfowl, numbers of northern geese were good; most areas seemed to have low numbers of ducks, although a few scoters and a single Long-tailed Duck were found. Lingering species were prominent again this winter, including some not generally regarded among the "half-hardy" types. Notable lingerers were Common Nighthawk, Blue-gray Gnatcatcher, Tennessee and Nashville warblers, Summer Tanager (three in one region), Indigo Bunting (two regions), and Baltimore Oriole (three regions). Boreal irruptives were generally scarce; however, single Common Redpolls were reported from two sites (one well publicized). A few early migrants arrived in late February. Rarities this season included Great White Heron, White-faced Ibis, Western Grebe, Iceland and Thayer's gulls, Inca Dove, and a Painted Bunting.

### Standard Abbreviations

ad - adult L - Lake

CBC - Christmas Bird Count max - maximum count co- County m.ob. - many observers

Cr - Creek Mtn - Mountain

ers - earliest reported sighting NWR - National Wildlife Refuge

et al. - and others R - River im - immature SP - State Park

Is - Island WMA - Wildlife Management Area

WESTERN COASTAL PLAIN REGION — This winter was dry and mild in the region. Several species were reported that are not normal for this time of year, such as a Tennessee Warbler and a Baltimore Oriole from the Memphis CBC and an Indigo

Bunting in February from Tipton County. A White-faced Ibis, first reported in the autumn, lingered into early December in Lake County. Other notable sightings include two Western Grebes and an Iceland Gull at Pace Point plus a Thayer's Gull in Lake County. A Common Redpoll in Tipton County was this region's first. Otherwise, winter finches were quite scarce; there were no reports of Purple Finch and only two reports of Pine Siskin.

Waterfowl: Greater White-fronted Goose: 16 Dec (2157) Reelfoot CBC, max. Ross's Goose: 6 / 16 Dec (3) Reelfoot L. (MAG et al.); 23 Dec (1) EARTH Complex (JRW); 13 Jan (17) Eagle Lake WMA, Shelby Co (JRW); 31 Jan (1) Hatchie NWR (WMP); 23 / 25 Feb (1) Shelby Farms (JRW). Cackling Goose: 9 Dec - 24 Feb (31) Shelby Farms (JRW et al.); 16 Dec (2) Reelfoot CBC. Canvasback: 12 Feb (1500+) Britton Ford, Henry Co (WMP), max. Greater Scaup: 13 Jan (100) EARTH Complex (JRW), max. White-winged Scoter: 3 Dec / 15 Feb (1) Pace Point (MCT). Common Goldeneye: 15 Feb (1000+) Pace Point (MCT), max. Common Merganser: 7 / 15 Feb (2 / 9) Pace Point (MCT); 17 / 27 Feb (5 / 3) Mud Is., Shelby Co (JRW). Red-breasted Merganser: 15 Feb (1000+) Pace Point (MCT), max.

Loon - Falcon: Pacific Loon: 15 Feb (1) Pace Point (MCT). Red-necked Grebe: 16 Dec (2) Reelfoot CBC; 15 Feb (1) Pace Point (MCT). WESTERN GREBE: 15 Feb (2) Pace Point (MCT). American White Pelican: 25 Feb (250) Haywood Co (Joe Guinn), max. Great Egret: 6 / 28 Jan (23 / 9) Robco L. (JRW); 25 Feb (2) Hatchie NWR (JRW). WHITE-FACED IBIS: thru 9 Dec (1) Lake Co (NaM, m.ob.). Rough-legged Hawk: 7 Dec (1) Gibson Co (MAG). Golden Eagle: 3 Dec (1) Pace Point (MCT). Merlin: 30 Dec (1) Jackson CBC; 2 Jan (2) Savannah CBC. Peregrine Falcon: 6 Jan (2) EARTH Complex (JRW); 8 Jan (2) downtown Memphis (Kemper Durand); 15 Feb (2) Paris Landing SP, Henry Co (MCT).

Rail - Tern: Virginia Rail: 2 Jan (3) Savannah CBC. Sora: 2 Jan (1) Savannah CBC. Sandhill Crane: 2 Jan (36) Savannah CBC; 9 Jan (218) Obion Co (MAG); 13 Jan (3) Eagle Lake WMA, Shelby Co (JRW). Greater Yellowlegs: 7 Dec (1) Black Bayou, Lake Co (MAG); 9 Dec (1) EARTH Complex (MTOS). Bonaparte's Gull: 16 Dec (4100) Reelfoot CBC, max. THAYER'S GULL: 2-9 Dec / 11 Feb (1) Lake Co (TJW, MAG, MCT, NaM). ICELAND GULL: 7 Feb (1) Pace Point (MCT). Lesser Black-backed Gull: 6-16 Dec (1-2) Lake Co (MAG, MCT, NaM, m.ob.); 7 / 12 Feb (1) Pace Point (MCT / WMP). Forster's Tern: 3 Dec (50) Lick Cr. WMA, Benton Co (MCT); 16 Dec (1) Reelfoot CBC; 2 Jan (5) Savannah CBC; 13 Feb (3) Pace Point (WMP); 24 Feb (2) Robco L. (JRW).

Dove - Wren: Eurasian Collared-Dove: 17 Dec (243) Memphis CBC, max. Shorteared Owl: 16 Dec (2) Reelfoot CBC; 19 Dec (1) Fayette Co. CBC; 2 Jan (2) Savannah CBC. Blue-headed Vireo: 25 Jan (1) Bartlett, Shelby Co (Robert Ilardi). Fish Crow: 6 / 16 Dec (2) Reelfoot L. (MAG et al.); 16-17 Dec (3) Memphis (Margaret Jefferson). Purple Martin: 24 Feb (10) Robco L. (JRW), ers. Tree Swallow: 25 Feb (1) Hatchie NWR (JRW), ers. Red-breasted Nuthatch: reported on the Reelfoot, Jackson, and Savannah CBCs; only reports. Brown-headed Nuthatch: 2 Jan (10) Savannah CBC. House Wren: 16 Dec (9) Reelfoot CBC; 2 Jan (1) Savannah CBC. Sedge Wren: 16 Dec

(4) Reelfoot CBC; 17 Dec (1) Shelby Farms (MTOS). Marsh Wren: 19 Dec (1) Fayette Co. CBC; 2 Jan (2) Savannah CBC; 6 Jan (1) EARTH Complex (JRW).

Warbler - Siskin: Tennessee Warbler: 17 Dec (1) President's Is., Shelby Co (Ernest Restivo), on Memphis CBC, documentation submitted. Orange-crowned Warbler: 2 / 16 Dec (1 / 2) Reelfoot L. (TJW / on CBC); 17 Dec (2) Memphis CBC; 2 Jan (1) Savannah CBC. Palm Warbler: 16 Dec (2) Reelfoot CBC; 2 Jan (3) Savannah CBC. Common Yellowthroat: 16 Dec (2) Reelfoot CBC; 2 Jan (1) Savannah CBC. LeConte's Sparrow: 2 Jan (6) Savannah CBC. Indigo Bunting: 26 Feb (1) Munford (DDP). Western Meadowlark: 16 Dec (1) Reelfoot CBC. Rusty Blackbird: 17 Dec (356) Memphis CBC, max. Brewer's Blackbird: 16 Dec (25) Reelfoot CBC; 23 Dec (1) EARTH Complex (JRW). Baltimore Oriole: 17 Dec (1 male) President's Is., Shelby Co (Ernest Restivo), on Memphis CBC, documentation submitted. COMMON REDPOLL: 9 Jan - 16 Feb (1) Munford (DDP, Jim & Sue Ferguson), at feeder. Pine Siskin: 19 Dec (1) Munford (DDP); 31 Jan (1) Covington, Tipton Co (WMP); only reports.

Locations: EARTH Complex - in Shelby Co; Hatchie NWR - in Haywood Co; Munford - in Tipton Co; Pace Point - in Henry Co; Reelfoot L. - in Lake & Obion Cos; Robco L. - in Shelby Co; Shelby Farms - in Shelby Co.

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HIGHLAND RIM AND BASIN REGION — Winter did not arrive in central Tennessee until the middle of January. In Nashville the average monthly temperature for December was an impressive six degrees above normal. The very warm weather continued through the first half of January, resulting in an average of five degrees above normal for that month. However, more typical winter temperatures prevailed for nearly all of February, making the mean temperature four degrees below average. In Nashville it was a dry winter with all three months below the expected precipitation levels. February was the worst with Nashville receiving only 50% of the expected total. Farther north in the Clarksville area precipitation totals were close to the usual amounts.

Goose - Merganser: Greater White-fronted Goose: 19 Feb (3) Lawrence Co (Andrew Salhany); 22 Feb (1) Obey R. campground, Pickett Co (Robbie Hassler). Snow Goose: 8 Feb (26) Lawrence Co (Damien Simbeck); 16 Feb (3 blue, 2 white) near Woods Reservoir, Franklin Co (Jerry Ingles). Ross's Goose: 22 Jan (2) DeKalb Co (Carol Williams, Judy Fuson, Michael Hawkins); 8 Feb (2) Lawrence Co (Damien Simbeck); 17 Feb (1) Sumner Co (KO); 26 Feb (1) Old Hickory L., Sumner Co (Clay Gascoigne). Mute Swan: 10 Dec (1) Bell's Bend, Davidson Co (TJW, Jeff Cowell); 17 Feb (8) Portland L., Sumner Co (KO); 21-25 Feb (12) Jackson Co (Danny Stone, SJS - photo, Nancy Layzer). Canvasback: 17 Feb (2) Livingston Reservoir, Overton Co (SJS), first Co record. Redhead: 17 Feb (5) Sumner Co (KO). Surf Scoter: 27 Dec (1) Cane Cr. Park, Putnam Co (SJS). White-winged Scoter: 23 Feb (1) Arrow L., Maury Co (Tommy

Edwards). Common Goldeneye: 23 Feb (6) Arrow L., Maury Co (Tommy Edwards). Red-breasted Merganser: 14 Dec (4) Dale Hollow L., Clay Co (SJS), first Co record.

Grebe - Hummingbird: Horned Grebe: 17 Dec (320) Center Hill L., DeKalb Co (Michael Hawkins), max. American White Pelican: 2 Dec (20) Fort Donelson, Stewart Co (Catherine Kubo). Great Egret: 4 Dec (1) City L., Putnam Co (Barbara Stedman); 1 Feb (1) Drake's Cr., Sumner Co (Mark Hackney). Bald Eagle: 8 Dec (1 ad) Smithville, DeKalb Co (Tommy & Virginia Curtis); 7 Jan (1 im) Percy-Priest L., Rutherford Co portion (Jeff Cowell); 18 Feb (1 ad) Williamson Co (RHC); 19 Feb (2 ad) Montgomery Co (Daniel Moss). Sandhill Crane: 25 Feb (60) Davidson Co (RHC). American Woodcock: 17 Dec (3) Marshall Co (Daniel Moss). Eurasian Collared-Dove: 26 Dec (2) Clay Co (Barbara Stedman), first Co record. Northern Saw-whet Owl: 19 Dec (1) Pickett SP, Pickett Co (John Froeschauer). Selasphorus sp.: 1-11 Dec (1) DeKalb Co (Tommy & Virginia Curtis).

Swallow - Siskin: Tree Swallow: 25 Feb (1) Cane Cr. Park, Putnam Co (SJS), ers; 28 Feb (9) Shelby Bottoms, Davidson Co (Phillip Casteel). Sedge Wren: 21 Dec (1) Heritage Marsh, White Co (SJS, WAW). Marsh Wren: 16 Dec (1) White Co (Wally Brines). Gray Catbird: 14 Feb (1) White Co (Douglas Downs). Orange-crowned Warbler: 9 Dec (1) Old Hickory Dam, Davidson Co (RHC, NTOS). American Tree Sparrow: 2 Feb (1) Nashville (Margaret Mann). Lincoln's Sparrow: 16 Dec (1) Putnam Co (Kris Bolin, Daniel Combs). Indigo Bunting: 22 Jan (1) Williamson Co (Jean Buchanan). Rusty Blackbird: 27 Jan (15) Smith Co (SJS, WAW), first Co record. Brewer's Blackbird: 5 Feb (30) White Co (Douglas Downs). Baltimore Oriole: 5-13 Dec (1 im. male) Williamson Co (Jean Buchanan). Purple Finch: 9 Dec (1) Davidson Co (RHC, NTOS), ers. COMMON REDPOLL: 18 Feb into Mar (1) Hohenwald, Lewis Co (WMP, m.ob., photos), at feeder. Pine Siskin: 16-18 Feb (2) White Co (Wally Brines).

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CUMBERLAND PLATEAU / RIDGE & VALLEY REGION — Following a brief cold snap in early December, the rest of that month and much of January were quite mild. From the last week of January through the third week of February the region experienced cold temperatures. Mild conditions returned for the last week of February, inviting a few early-arriving migrants. Precipitation was below normal for each month of the period and nearly 50% below normal for the season as a whole. It was the driest winter on record in Knoxville and one of the driest region-wide. Only one measurable snowfall occurred in the Tri-Cities area, that of a measly inch and a half on the night of 17-18 February.

Four species of Arctic-nesting geese were present in good numbers, especially northeastward from the Knoxville area. Ducks generally were in low numbers, particularly American Black Ducks. A Blue-winged Teal overwintered in Washington

County. Two scoter species were found near Chattanooga, while a Long-tailed Duck visited Bristol. Common Mergansers were reported from four sites.

Several unexpected species lingered or overwintered, most notably Common Nighthawk, Blue-gray Gnatcatcher, Nashville Warbler, three Summer Tanagers, and two Baltimore Orioles. Loggerhead Shrikes remained scarce. Common Ravens were observed in three contiguous counties in the northeastern corner of the region, continuing a trend. Regional rarities included an Eared Grebe, a lingering Inca Dove, a remarkable Painted Bunting (just the region's second), and a small flock of Red Crossbills.

Waterfowl: Greater White-fronted Goose: 16 Jan / 27 Feb (1 / 4) Blount Co (WB); 26 Jan into Mar (1, sporadically) Steele Cr. Park (LCM, m.ob.); 4 / 24 Feb (4 / 2) separate Greene Co sites (DHM); 6 Feb - 10 Mar (1) Limestone (RLK, m.ob.); 11 Feb (3) John Sevier L. (SHu); 12-17 Feb (9) Limestone - separate site (DAH, m.ob.). Snow Goose: 10 Dec / 11 Jan - 25 Feb (8 / 1-3) separate Greene Co sites (DHM); 17 Dec (1 blue) Blount Co (Tom Howe); 6 Jan (1 white) Kingsport (Bill Grigsby); 20 Jan - 17 Feb (up to 2 blue, 1 white) Limestone (DAH, m.ob.), 1 white lingered thru 10 Mar; 20 / 24-25 Jan (1 / 2) separate Hamilton Co sites (Danny Gaddy, Nelson Bennett / Janice Chadwell, Judy Newsome); 31 Jan (1 white) Johnson City (JWC); 5 Feb (2) Hiwassee Refuge (KAC). Ross's Goose: 9-13 Jan (1) Cove Lake SP, Campbell Co (NeM); 20 Jan (1) Washington Co (DAH et al.); 31 Jan - 10 Feb (1) Johnson City (JWC, m.ob.); 5-10 Feb (1) Greene Co (DAH); 16 Feb (1) Knox Co (SHo); 19-20 Feb (5) near Bristol (JWC, RLK et al.). Cackling Goose: 27 Jan (5) Blount Co (Tom Howe, Jean Alexander, David Johnson); 20 Feb (1) Steele Cr. Park (LCM). Tundra Swan: 13 Dec - 2 Mar (1 im) Middlebrook L. (RLK, m.ob.). Blue-winged Teal: 8 Dec thru period (1) Washington Co (RLK, DAH et al.), probably same individual that summered this past year. Northern Shoveler: 6 Jan (24) Greene Co (DHM). Canvasback: 30 Dec (47) Nickajack CBC, max; 15-25 Feb (2-5) near Bristol (JWC, m.ob.); 16-23 Feb (2-4) Middlebrook L. (Rob Biller, m.ob.). Greater Scaup: thru period (max 8) Chickamauga L. (KAC); 6 Feb (4) Steele Cr. Park (LCM); 19-25 Feb (3) near Bristol (JWC, m.ob.). Surf Scoter: 18 Feb (1) Chickamauga L. (KAC, DRJ). White-winged Scoter: 4 Feb (2) Hiwassee Refuge (Max Medley); 16 / 27 Feb (3 / 4) Tennessee R., Hamilton Co (Rick Waldrop / Libby Wolfe, Carol Fegarido); 17-18 Feb (4-5) Chickamauga L (DRJ, KAC). Long-tailed Duck: 15 Feb (1 male) Middlebrook L. (FRC, m.ob.). Hooded Merganser: 13 Dec (252) Middlebrook L. (RLK), max. Common Merganser: 27 Jan - 12 Feb (1 male, 1 female) Middlebrook L. (FRC, m.ob.); 13 Feb (2 females) Phipps Bend, Hawkins Co (JWC); 17 Feb (3 males, 1 female) John Sevier L. (SHu); 24-27 Feb (1 male) Cove Lake SP, Campbell Co (NeM).

*Grebe - Nighthawk*: Eared Grebe: 26-27 Feb (1) Tennessee R., Hamilton Co (KAC, m.ob.), first Co record. Double-crested Cormorant: 30 Dec (180) Nickajack CBC, most ever on this count. American Bittern: 22 Nov / 16 Dec (1) Brainerd Levee (Richard Schier / Kyle Waggener), second ever on Chattanooga CBC; 18 Dec (1) Greene Co (DHM), on CBC. Great Egret: 3 Dec - 24 Feb (1) Greene Co (DHM); 20 Dec - 24 Feb (1) Fort Loudoun L., Blount Co. portion (WB); 29 Dec (1) Kingsport (RAP); 1 Jan (3) Hiwassee CBC, most ever on this count. Osprey: 30 Dec (1) Knoxville

CBC (Carole Gobert); 1 Feb (1) John Sevier L. (SHu); 24 Feb (1) Tennessee R., Hamilton Co (Charles Dean); 27 Feb (1) Fort Loudoun L., Knox Co portion (SHo); 28 Feb (1) Greene Co (DHM); latter three undoubtedly early migrants. Bald Eagle: 28 Feb (1 im) Greene Co (DHM). Golden Eagle: 24 Jan (1 ad) Steele Cr. Park (LCM, Jeremy Stout). Merlin: 24 Dec / 11 Jan (1) Greene Co (DHM); 12 Jan into Mar (1-2) Kingsport (RAP, m.ob.); 16 Jan (1) Blount Co (WB); 18 Jan (1) Greene Co (Ben Britton); 15 Feb (1) Knox Co (SHo); 19 Feb (1) Cocke Co (Michael Sledjeski). Peregrine Falcon: thru period (2, seen copulating 4 Feb) below Chickamauga Dam (m.ob.); 6 Feb (1 ad) Limestone (RLK), have wintered here for 3-4 years. Virginia Rail: thru period (max 13 on 16 Dec) Standifer Gap Marsh (David Patterson). Sora: 26 Feb (1) Standifer Gap Marsh (Jack & Vickie Leather). Sandhill Crane: 20 Dec - 27 Feb (8-16) Fort Loudoun L., Blount Co portion (WB); 24 Jan - 6 Feb (2) Washington Co (FRC, m.ob.); both east of usual corridor. Whooping Crane: 13 Dec (3) Hiwassee Refuge (Doug Geren), with one seen thru most of season. Spotted Sandpiper: 27 Jan into Mar (1-2) Kingsport (RAP, m.ob.), wintering for second straight year. Greater Yellowlegs: 26 Feb (1) Rankin Bottoms, Cocke Co (Michael Sledjeski), ers. Least Sandpiper: 18 Jan (3) Candies Cr., Meigs Co (Allan Trently). American Woodcock: 3 Dec - 27 Feb (1-3 each at 3 sites) Greene Co (DHM). Ring-billed Gull: 27 Jan - 20 Feb (800-1,000 +) Middlebrook L. (FRC, JWC, m.ob.), large number in NE Tenn. Forster's Tern: 30 Dec (2) Nickajack CBC. Mourning Dove: 5 Feb (broken eggshell) Chattanooga (David Patterson), early nesting. Eurasian Collared-Dove: 10 Dec / thru season (1 / 1-4) separate Greene Co sites (DHM); 28 Dec (23 at 2 sites) Bledsoe Co (SJS, WAW); 20 Jan - 10 Feb (1-2) Limestone (DAH, m.ob.), second Washington Co. record. INCA DOVE: from last period thru 14 Dec (1) Morristown (Ben Britton). Barn Owl: 10 / 17 Dec (1) Greene Co (DHM); 30 Dec (1) Nickajack CBC. Short-eared Owl: 30 Dec (1) Prentice Cooper State Forest, Marion Co (DRJ et al.), on Nickajack CBC. Northern Saw-whet Owl: 31 Dec (1, calling) Steele Cr. Park (Joe McGuiness, Kim Stroud), on Bristol CBC. Common Nighthawk: 14 Nov / 12 Feb (1) Hamilton Co (Jimmy Wilkerson), seen & heard.

Shrike - Waxwing: Loggerhead Shrike: only 4 reports in Washington Co (DAH, RLK et al.) & 3 reports in Greene Co (DHM). Blue-headed Vireo: 2 Dec (1) Knox Co (Carole Gobert). Fish Crow: 30 Dec (2) Knoxville CBC (SHo). Common Raven: 10 Dec (1) Conklin, Washington Co (RLK); 30 Dec / 13 Feb (1) Phipps Bend, Hawkins Co (RAP / JWC); 30 Jan (2) Leesburg, Washington Co (RLK); 3 / 21 Feb (1) Bristol (RLK / LCM); 11 Feb (2) Kingsport (Andy Jones). Purple Martin: 28 Feb (2) Hamilton Co (David Stone), ers. Tree Swallow: 18 Feb (3) Hamilton Co (DRJ); 20 Feb (5) Blount Co (WB); 22 Feb (1) Anderson Co (NeM); 24 Feb (8) Hawkins Co (SHu); 25 Feb (22) Washington Co (RLK); 28 Feb (5) Greene Co (DHM); flurry of early reports. House Wren: 18 Dec (2) Greene Co (DHM / RLK), on CBC; 16 Feb (1) Washington Co (RLK). Sedge Wren: 16 Dec (1) Brainerd Levee, on Chattanooga CBC; 30 Dec (1) Nickajack CBC. Marsh Wren: 16 Dec (9) Standifer Gap Marsh (David Patterson), most ever on Chattanooga CBC; 28 Dec (1) Bledsoe Co (SJS, WAW). Blue-gray Gnatcatcher: 12 Nov / 10 Dec / 17 Jan (1) Knox Co (SHo, Marcia Davis). Gray Catbird: 3 Dec (1) Knoxville (Boyd Sharp); 17-23 Feb (1) Anderson Co (Sandy Perry). Cedar Waxwing:

absent after Christmas in the Tri-Cities area, so a flock of 300 on 20 Feb in Johnson City (RLK) was surprising.

Warbler - Crossbill: Orange-crowned Warbler: 16 Dec (1) Chattanooga CBC; 30 Dec (1) Nickajack CBC. Nashville Warbler: 9-10 Dec (1) Knox Co (SHo), documentation submitted, first winter record in state. Palm Warbler: 16 Dec (16) Chattanooga CBC, most ever on this count; 18 Jan (1) Bristol (LCM); 10 Feb (1) Greene Co (DHM); 11 Feb (1) Hawkins Co (DHM); 24 Feb (1) Blount Co (Dean Edwards). Common Yellowthroat: 16 Dec (1) Brainerd Levee (Kyle Waggener), on Chattanooga CBC. Summer Tanager: 19 Nov - 11 Dec / 7 Feb (1 female, at feeder) Chattanooga (Mary Lynn Buttram); 9-17 Dec (1 ad. male, at feeder) Knoxville (Shelley Przewrocki, photo); early Jan - 21 Jan (1 ad. male, at feeder) Knoxville (fide Marcia Davis); latter two reports on opposite sides of Knox Co., apparently different individuals. Chipping Sparrow: 1 Jan (19) Greene Co (DHM); 20 Jan (10) Washington Co (DAH et al.); 23 Jan (50) Kingsport (John Moyle); max in Northeast Tenn. Savannah Sparrow: 18 Dec - 18 Feb (1-14) Greene Co (DHM). Lincoln's Sparrow: 16 Dec (1) Chattanooga CBC. Lapland Longspur: 1 Dec (1) Greene Co (DHM). PAINTED BUNTING: 13 Jan (1 ad. male, at feeder) Knox Co (Carolyn Skremsky, photo), second regional record. Brewer's Blackbird: 14 Jan (2) Greene Co (DHM). Baltimore Oriole: 18 Dec (1) Greene Co (DHM), on CBC; 7 Jan (1 im) Monroe Co (Ron Hoff, Dollyann Myers, Frank Bills, Sharon Bostick). Red Crossbill: 23 Dec (6) Greene Co (DHM).

Locations: Brainerd Levee - in Hamilton Co; Chickamauga L - in Hamilton Co; Hiwassee Refuge - in Meigs Co; John Sevier L - in Hawkins Co; Limestone - in Washington Co; Middlebrook L - in Sullivan Co; Nickajack - in Marion Co; Standifer Gap Marsh - in Hamilton Co; Steele Cr. Park - in Sullivan Co.

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**EASTERN MOUNTAIN REGION** — Temperatures were much warmer than normal for December and January, while February had near average temperatures. Precipitation was about 4.5 inches below normal for the period.

Waterfowl: Cackling Goose: 20 Feb - 2 Mar (4) Holston Valley, Sullivan Co (RLK, m.ob.). American Wigeon: numbers down this winter. Northern Shoveler: 5 Dec (6) Erwin, Unicoi Co (Joe McGuiness); 8 Dec (7) S. Holston R. weir (RLK); 16 Dec (2) Elizabethton CBC (Fred Alsop et al.). Canvasback: 10-18 Dec (1) Watauga R. / Wilbur L, Carter Co (Harry Farthing, m.ob.). Redhead: 9-25 Feb (4-25) S. Holston R. weir (Don Carrier, m.ob.); 19 Feb (2) Erwin, Unicoi Co (BKS). Bufflehead: 12 Dec (210) Wilbur L, Carter Co (RLK); 13 Dec (246) S. Holston R. weir (RLK), max; 3 Feb (63) Cades Cove, Great Smoky Mtns. National Park (SHo, Karen Petry), max there. Common Goldeneye: 6 Feb (4) S. Holston R. weir (RLK), max. Common Merganser: 19 Dec / 23 Feb (1 female / 3 males & 3 females) S. Holston L (RLK / DAH). Redbreasted Merganser: 20 Feb (2) S. Holston L (RLK).

Grebe - Gull: Horned Grebe: 16 Dec / 14 Jan (26 / 28) Watauga L, Johnson Co portion (RLK). Eared Grebe: thru period (4-8) S. Holston L (JWC, m.ob.), sporadic in Jan - Feb. GREAT WHITE HERON: 5 Dec - 11 Jan (1) Little R., near Townsend, Blount Co (WB, photo). Red-shouldered Hawk: 11 Feb (1) Carter Co (Rob Biller). Golden Eagle: 3 Dec (1 ad) Roan Mtn (RLK); 16 Jan (1 im) Hampton Cr. Cove, Carter Co (Nora Schubert). Greater Yellowlegs: 24 Nov - 13 Dec (1) Cades Cove, Great Smoky Mtns. National Park (WB). American Woodcock: 12 Feb (2) S. Holston R. weir (FRC); 27 Feb (2) Shady Valley, Johnson Co (RLK). Herring Gull: 13 Feb (2) S. Holston L (BKS, Reece Jamerson).

Dove - Siskin: Eurasian Collared-Dove: 25 Feb (3) Blue Springs, Carter Co (Tom McNeil), first for Co and apparently for Mtn. Region. Northern Saw-whet Owl: 24 Feb (1, calling) Roan Mtn (FRC). Rufous Hummingbird: thru mid Jan (2) Elizabethton (BKS). Horned Lark: 16 Dec (1) Hampton, Carter Co (Gary Wallace, BKS et al.), first on Elizabethton CBC since 1984. Tree Swallow: 24 Feb (1) Unicoi Co (fide BKS), ers. Gray Catbird: 16 Dec (1) Elizabethton (Tom McNeil), on CBC. Palm Warbler: 10 Dec (1) Elizabethton (BKS). Rusty Blackbird: 27 Feb (2) Shady Valley, Johnson Co (RLK). Purple Finch: rather scarce. Red Crossbill: 17 Dec (1) Roan Mtn CBC (RLK et al.); 17 Dec (17) Great Smoky Mtns. National Park CBC. Pine Siskin: only reports from Roan Mtn, max 42 on CBC there 17 Dec (RLK et al.).

Locations: Roan Mtn - in Carter Co; S. Holston L - in Sullivan Co; S. Holston R. weir - in Sullivan Co.

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