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# THE MIGRANT

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## RED CROSSBILLS BREED AT HIGHLANDS, NORTH CAROLINA

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I have conducted monthly trips to the southern Blue Ridge Mountains since the fall of 1983 and have detected Red Crossbills (*Loxia curvirostra*) only from June through January. I saw a family of Red Crossbills within the town of Highlands (1160 m), North Carolina, on 9 September 1986. Both parents were adults (see Phillips 1977) and the four young were juveniles, i.e., with uncrossed bills, indicating the family was within or near their breeding territory (Newton 1972, Nethersole-Thompson 1975). The male called frequently as he maintained contact with other family members and warned them of intruders. The female accompanied all young though the male sometimes accompanied one or two young. All six crossbills, especially the male, licked salts with their tongues from gravel on the ground. When not licking salts, the family spent its time perched, and they fed occasionally in nearby deciduous and coniferous trees. The habitat was open white pine (*Pinus strobus*) and Canadian hemlock (*Tsuga canadensis*) forest. I watched the family for 30 min.

H. Parker (in litt.) saw a pair of Red Crossbills copulate, and watched the female build a nest, accompanied by the male, on 24 July at a site 2 km from the area where I saw the family of crossbills on 9 September. The nest was incomplete on 24 July but apparently complete on 8 August when I first saw it in a tuft of pine needles at the end of a branch about 5 m long. The nest was 4 m below the top of a 25-m white pine and placed on the southeast side of the tree which was located along a paved road beside the Highlands Nature Center. An adult male was on territory, singing frequently from the top of the nest tree and adjacent white pines, which agrees with earlier observations of H. Parker. I watched the nest through September even though the pair of crossbills had abandoned the nest by 8 August for unknown reasons.

At another location, I saw a female gathering Usnea lichen on 23 July. She was attended by her mate (adult plumage), but I was unable to locate the nest. The habitat was white pine woods surrounding the golf greens of Highlands Country Club, located about 3 km west of Highlands.

About 16–18 other adult males established territories in the southern Blue Ridge Mountains from Highlands to Sapphire at elevations ranging from 946 m to 1220 m during 1986. Males, alone or in groups, sang from the tops of trees, usually white pines (cf., Nethersole-Thompson 1975). They also chased females frequently, performed display flights, courtship-fed females, and defended their small territories from other males. Singing behavior reached a peak from the latter half of July through the first half of September and declined rapidly thereafter. Habitat was open mature white pine forest as well as white pine and hemlock forest. The most favorable sites were High Hampton Inn at Cashiers and Highlands Country Club. Nesting behavior, nest-site, and nest-habitat information cited herein is typical of Red Crossbill (Newton 1972, Nethersole-Thompson 1975).

A numerous non-breeding population of Red Crossbills existed in the southern Blue Ridge Mountains of North Carolina in 1986. I first detected crossbills on 24 June and saw only adults until 29 July, though I could have overlooked immatures. Many, if not most, crossbills did not establish territories and were nomadic, staying at sites for only a few days. These small groups usually consisted of males, with smaller numbers of females. On 29 July, one immature in a family group was fed by a female after it begged from her but these crossbills were post-breeding birds that had dispersed or migrated an unknown distance away from their natal or breeding localities. I detected more immatures in small groups of crossbills after 29 July and have no evidence that these small groups nested locally.

Thus, breeding and non-breeding crossbills overlapped each other in their timing of occurrence and distribution in these habitats. Population turnover was high at many sites and I can only conjecture what percentage of crossbills in the southern Blue Ridge Mountains were non-breeding birds in the summer and early fall of 1986. Certainly, the percentage was very high.

I also visited Linville Falls, Avery County, in northwestern North Carolina, on 11–12 August 1986 and found about 15 Red Crossbills in forests consisting of white pine and mixtures of white pine and hemlock at 946 m to 988 m. Many males were apparently on territory singing and 3 males performed display flights. I also saw a small group of crossbills which contained several immatures. The white pine and hemlock cone-crop was excellent.

Cone-crop production of all species, both natural and introduced, was excellent in 1986 in the southern Blue Ridge Mountains from Highlands to Sapphire. White pine and hemlock cones were green in June and July. All species' cones began to mature by mid-August. All cones were brown and at least half open by mid-September. Crossbills rarely fed on white pine cones until they began turning brown in mid-August. Thereafter, crossbills preferred feeding on white pine cones but frequently fed on hemlock cones also. Until mid-August, crossbills preferred to feed on green and brown hemlock cones as well as on cones of less common ornamental larches. When crossbills did feed on white pine cones during this period, they spent an extraordinary amount of time bill-wiping to remove pitch from their bills, much more so than when feeding on the cones of hemlock. The aversion of crossbills to feeding on green resinous pine cones was also demonstrated on 29 July when a group of 6 fed for 45+ min on prematurely open brown cones of a single white pine that had been recently killed by lightning. Cones on all other white pines were green.

D. Johnston (1963) saw a pair of crossbills and watched the female gather Usnea lichen in a forest of white pine and hemlock near Highlands of 27 July 1963, but he did not locate the nest. Unfortunately, Johnston did not give cone-crop information. Until 1986, his observation was the only evidence of probable or confirmed breeding for the Highlands area.

In the fall of 1983, I made my first trip to the southern Blue Ridge Mountains on 26 September and crossbills were numerous in Highlands from then to 21 November, peaking on 30 October (100 crossbills). I saw my last crossbills of that season on 8 January 1984. Many immatures in family groups were present on 26 September. Several of the immatures begged unsuccessfully from older birds. Unfortunately, I did not visit earlier and do not know if crossbills nested locally. J. Groth and I banded 53 crossbills of all age and sex classes from 30 October to 21 November. The adults and second-year birds had nearly completed their molt, their feathers sheathed to a varying degree, especially on the upper- and under-tail coverts. All birds had new remiges with the exception of one old primary number nine on one adult male. Most birds had little or no fat.

Cone-crop production of all species was superb in 1983 at Highlands and excellent at Cashiers. All cones were brown and open by my first visit on 26 September. The majority of cones had fallen to the ground by mid-November. Crossbills fed almost exclusively on white pine seeds, despite the ready availability of seeds from hemlocks and ornamental conifers such as spruces (*Picea* spp.) and larches (*Larix* spp.). Occasionally, crossbills, particularly the immatures, fed on buds of young white pine and deciduous trees. Crossbills also fed upon unidentified items on twigs and oak (*Quercus* spp.) leaves. Crossbills of all sexes and age licked salts.

In 1984, I only saw three crossbills on 21 October in Highlands and Cashiers. Crossbills were present from 11 September to 27 October in 1985, with a maximum of 15 seen on any one day. In 1987, crossbills were present from 25–29 June with a maximum of 16 in Highlands on 29 June, and from 3 September to 1 December, with a maximum of 10 on 3 September.

Cone-crop production of all species was poor in 1984, non-existent in 1985, and poor in 1987 at Highlands and Cashiers. I saw no crossbills feeding on any cone seeds except in 1987 when a small flock fed on open hemlock cones. The crossbills I saw usually fed on buds, twigs, and leaves of red maples (*Acer rubrum*), tulip poplars (*Liriodendron tulipifera*), and other similar foods.

Overall, the limited data on Red Crossbills in the southern Blue Ridge Mountains from Highlands to Sapphire indicate that breeding is probably timed so that hatching coincides with the opening of white pine cones in August and September, which facilitates feeding of the young. Hemlock cones are the other major seed source of Red Crossbills during, and especially preceding, the breeding season. Pulliainen (1972) demonstrated that Red Crossbills in Finland selected green and brown spruce cones, both on the trees and ground, and did not feed on green pine cones, richer in nutrients, which were then available. Nethersole-Thompson (1975) found that crossbills in some years persistently fed on larch cones, before switching to the pines just before nesting. In New York, Messineo (1985) found that at least several pairs of Red Crossbills bred and suspected that many more nested. These crossbills favored feeding on spruce cones, also fed heavily on hemlock cones, and occasionally fed upon white pine cones, but only when their cones were open. At a different locality in New York the same season, crossbills fed heavily on hemlock seeds when its cone-crop was superb and the white pine cone-crop was non-existent (Yunick 1985). Breeding was strongly suspected but unproven. Benkman (1987) demonstrated that Red Crossbills switched from foraging on other conifers to White Pines when the latter species cones began to open in early autumn in Northeast USA and adjacent Canada. Thus, it appears that Red Crossbills do not favor feeding at many species of pines until their cones have begun to open, despite having seeds richer in nutrients than other conifer seeds upon which crossbills also feed. Red Crossbills are probably not able to extract pine seeds from green cones efficiently, perhaps because of the considerable difficulty of removing pitch from their bills.

Acknowledgments. I thank H. Parker for sending me information on Red Crossbills at Highlands in 1986 and J. Groth, G. A. Hall and R. P. Yunick for reviewing this note.

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## IN MEMORIAM

The Migrant, 59(2):48, 1988

#### IN MEMORIAM: JOHN SCUDDAY HERBERT

## KATHERINE A. GOODPASTURE 3407 Hopkins Lane, Nashville, TN 37215

Members of the Nashville Chapter of the Tennessee Ornithological Society were saddened to learn that Mr. John S. Herbert died 19 November 1987. Mr. Herbert had been an active member of TOS for many years and had served as president of the Nashville Chapter. John helped his wife, Martha, establish a bluebird trail that radiated from their farm, Rabbit Hill, in Cheatham County. Upwards of 50 nest boxes became favorite nesting sites for many Eastern Bluebirds. In addition to keeping the Herbert boxes in good repair, John distributed bluebird boxes to many bird club members.

After graduating from Vanderbilt University, John devoted himself to the family business of firing brick and making other building materials. He was a member of the Down Town Presbyterian Church. He expressed his interest in conservation of natural resources by serving as Chairman of the Board of Directors of the Cumberland Museum and Science Center.

John Herbert was a good friend whom we will all miss.

## BREEDING ATTEMPT OF PINE SISKIN ON MT. MITCHELL, NORTH CAROLINA

#### DOUGLAS B. MCNAIR

#### 303 Robinson Street, Rockingham, North Carolina 28379

Pine Siskins (*Carduelis pinus*) have been recorded in the Black Mountains of North Carolina since Brewster (1886) first found them rather numerous and singing on 2 June 1885. Cairns (1889) stated that siskins were resident and common but cited no actual breeding evidence. Purported breeding-season reports have occurred since the 1880s (see Simpson 1972), but no evidence of breeding has been cited, other than possible breeding suggested by the presence of singing males or of birds flying overhead and calling over a period of at least a week.

I discovered a female Pine Siskin building a nest on a horizontal limb of a 15-m high Fraser fir (*Abies fraseri*) on the northeast slope of Mt. Mitchell 75 m below the summit on 2 June 1986. The breeding habitat was open Fraser fir forest. Windfall was widespread because many fir trees were felled by disease and harsh climate. From 0708 to 0730, the female siskin made eight trips to the large flat nest hidden among thick foliage at the end of the fir limb which was 6.7 m above ground. On all her trips to the nest, the female added *Usnea* lichen, which she had pulled off the bark of firs at mid-height no more than 30 m away from the nest. She spent a maximum of 20 sec at the nest on each visit, calling fairly often, and the male perched nearby and occasionally sang. I did not see the female siskin continue to build the nest after 0730 despite except for some flimsy construction for one-quarter length of the nest circumference.

I returned to Mt. Mitchell on 8 June. The nest was bulkier, with the circumference and rim apparently complete. However, I saw no nest-building on this day or on any subsequent visits. The pair of Pine Siskins abandoned the nest for unknown reasons. Nest-site characteristics are typical of Pine Siskin nests (Palmer 1968 and others).

The breeding pair associated with 8–14 other Pine Siskins which ranged as far away as 4 km from the summit of Mt. Mitchell. Pine Siskin numbers declined during June; only four remained by 26 June and I saw none later in August. On an earlier visit to Mt. Mitchell on 2 April, I had detected no Pine Siskins. I saw no other Pine Siskins in fir and red spruce (*Picea rubens*) forest of the Black Mountains from May through July nor did I see any in similar habitat of the nearby Great Balsam Mountains during the same period. Marcus Simpson, Jr. and Glen Eller (in litt.) saw small numbers of Pine Siskins in early June at Shining Rock Wilderness and Roan Mountain, respectively, but neither individual detected any breeding evidence.

At Mt. Mitchell during June, the breeding pair or other pairs or threesomes showed other evidence of breeding, aside from the abandoned nest. Males sang and chased frequently. Males courtship-fed females several times, once by the breeding male during the nest-building period. During June, display flights by males between treetops and across or within clearings on mountainsides over known or suspected breeding areas were fairly frequent. Significantly, the breeding male never defended his small nesting territory around the nest-site. Pine Siskins are Cardueline finches which do not establish territories until after the nest-site has been chosen (Newton 1972).

The siskins' preferred food was the unripe seeds of dandelion (Taraxacum spp.)

heads upon which siskins fed heavily along the roadside verges (cf. Stupka 1963, Stevens in Palmer 1968, Newton 1972, Hall 1983). I also saw Siskins feed on insects, their larvae and eggs, on developing fir and spruce buds and leaves, on buds and tender leaves of other species, and on seeds at a single bird feeder. Siskins also frequented a salt and mineral lick where they pecked at powdery crusts of pulverized gravel (cf. Bennetts and Hutto 1985). Perhaps significantly, Pine Siskins did not attempt to feed on conifer seeds, which is their preferred food (Palmer 1968, Newton 1972, Widrlechner and Dragula 1984), because seeds were not available. Cone-crop production was non-existent until early June, when sisking were unable to extract seeds from the few immature cones of Fraser fir.

Acknowledgments. I thank J. Groth, G. A. Hall and R. P. Yunick for their constructive reviews.

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## ROUND TABLE NOTES

The Migrant, 59(2):51-52, 1988

NORTHERN ROUGH-WINGED SWALLOWS BUILD NESTS IN SEMI-TRAILERS-On 25 May 1986 at about 1000 (CDT) in Celina, Clay County, Tennessee, we noticed an adult Northern Rough-winged Swallow (*Stelgidopteryx serripennis*) pick up a twig from the ground and fly with it to the underside of a parked semi-trailer. The bird flew to the front end of this 12 m-long container vehicle and entered a hole in the undercarriage. It flew out a few moments later, picked up another piece of nesting material, and returned to the same hole. This behavior was repeated 6-8 times. Although a second N. Rough-winged Swallow was nearby, we did not observe it carrying nesting material or entering this cavity.

Approximately one-half hour later in another area of Celina about 1 km from the first site, we noticed a pair on N. Rough-winged Swallows perched near a second parked semi-trailer, also unattached to a cab. A few minutes after we first noticed the birds, one flew to the front underside of the trailer and entered a cavity located in about the same position in this semi-trailer as the location of the cavity used by the birds in the other semi-trailer. A few minutes later a bird carried nesting material into the hole. We then inspected the nest site closely, and although it was difficult to see into the cavity where the birds had entered, we determined that a mass of material composed of twigs and similar items had been deposited near the cavity entrance. The entrance hole was approximately 15–20 cm square, while the cavity itself was about 15 cm from top to bottom and perhaps a square meter in extent and was constructed of wood. The nest was 15–20 cm across and 1–2 cm high. The trailer in which this nest was placed was parked at a loading dock.

Later in the day we passed by a third semi-trailer, also unattached to a cab, parked on the outskirts of Celina at least 4 km from either of the other two sites. We stopped and immediately noted a pair of N. Rough-winged Swallows perched nearby. A few minutes later both birds flew to the front underside of the trailer and entered a hole. In this case no nesting material was observed being carried into the cavity, and it is possible that the birds were merely inspecting a potential nest site. However, since the birds remained in the hole for several minutes, we felt it more likely that they were intending to nest there, or actually had a nest. The trailer was parked in a private driveway, which prevented our inspecting it, and it appeared to have been so parked for some time.

This site was less than 100 m from an abandoned rock quarry which appeared capable of supplying ample nesting substrate for the swallows. However, we saw no swallows in the quarry during the 10 minutes we were present, possibly indicating that the swallows had deliberately selected the semi-trailer site in preference to the more natural one available nearby in the quarry. Lunk (1962) also noted what appeared to be preferential selection of artificial nesting sites over more usual sites by this species.

As followup visits to these sites were not possible during the remainder of the 1986 nesting season, we do not know the results of these nesting efforts. However, Simbeck recorded the following data about a similar nesting attempt by this species a year later at a site more than 200 km from Clay County. At 0915 (CDT) on 18 May 1987 in Loretto, Lawrence County, Tennessee, he noticed an adult N. Roughwinged Swallow carrying nesting material into a hole in the underside of a parked semi-trailer. At 1500 he checked the hole and found a partial nest. The trailer was removed, presumably to a distant location, on 19 May 1987, but two swallows remained in the vicinity through 20 May 1987, after which they were not seen again.

Northern Rough-winged Swallows are well-known for the variety of cavities in which they nest and in particular for the extensive use they make of man-made structures (Dingle 1942). However, vehicles of any sort have seldom been reported as nesting sites. Hoxie (1901) described a nest of this species which was built on a tugboat in Port Royal, Virginia; Howell (1924) described a nest placed "on a buttress beneath the deck of a transfer steamboat which made daily trips on the Tennessee River" in Alabama; and Skutch (1960) also noted nests of this species built on traveling river steamers in Central America. Neither Harrison (1975) nor Lunk mention nesting by this species in semi-trailers or in any other land vehicles. The current observation adds to the list of substrates in which this very opportunistic species will nest.

We thank J. R. Hill, III, C. R. Blem, E. H. Burtt, W. A. Lunk, R. R. Cohen, and B. J. Stutchbury for helpful comments on early drafts of the manuscript.

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## THE 1988 SPRING FIELD DAYS

#### DAMIEN J. SIMBECK

A total of 209 species was found on six Tennessee counts in 1988. Most notable were all three species of scoters at Nashville, a Northern Goshawk at Elizabethton, and a Sharp-tailed Sparrow at Nashville. Most counts reported fair weather, which was typical throughout the spring. The period prior to the counts was relatively warm and dry throughout the state. Migration seemed to be later this year, with earlier counts missing some regularly occurring species.

As usual, the counts are tabulated from west to east.

#### INFORMATION ON THE COUNTS

MEMPHIS-8 May; 0730-2000; partly cloudly to overcast; wind S 15-25 mph; temp. 63-82°F. Shelby Forest S.P. in AM, Penal Farm, Ensley and Robco Lake in PM. Party leaders: Ben B. Coffey, Jr. (compiler-672 N. Belvedere, Memphis, 38107), Lula C. Coffey, Dianne Bean, Carolyn Bullock, George R. Payne, Jr., Jeff R. Wilson. 84 of the Mississippi Kites were in a single kettle.

COLUMBIA-6-7 May; clear; wind NW 10-20 mph; temp. 48-85°F. 9 observers; Kenneth Anderson, Brad Hammond, Wm. Jernigan, Allyn Lay, Cleo George R. (compiler-999 Sunnyside Dr., Columbia, 38401) and Mark Mayfield, Jane Oakes, Allen Pressnell.

NASHVILLE-29 April-1 May; fair; temp. 45-70°F. 13 parties (TOS spring meeting); Ann Tarbell (compiler-6033 Sherwood Dr., Nashville, 37215). Scoters by Jerry Drewry 4/29; Sharp-tailed Sparrow by John Robinson 5/1.

HIGHLAND RIM-29-30 April; cloudy and warm; 27 observers.

KNOXVILLE-24 April; clear; wind light and var.; temp. 56-70°F. 33 observers in 16 parties. Frank Bills, Sharon Bostick, Jim and Betty Reid Campbell, Howard Chitwood, Andrew Core, Bill Cowart, Drew Cowherd, Marcia Davis, Barry Fleming, Lou Fuller, Brice Gilmer, Paul Hartigan, Ron (compiler-4523 McCloud Rd., Knoxville, 37938) and Audrey Hoff, Joe Howell, Susan Hoyle, Tony and Nellie Koella, Beth Lacy, Chuck Nicholson, Holly Overton, Paul Pardue, Truett Patterson, Don Powers, Mark Reeves, Ken and Mable Sanders, Boyd Sharp, Jim Tanner, Elaine Tjoelker, Craig Walker, Ralph Zaenglein. Also reported: one cuckoo sp.

ELIZABETHTON-8 May; 0330-2130; clear to partly cloudy; wind 3-8 mph; temp. 46-82°F. 20 observers in 7 parties; Rick Knight (compiler-804 N. Hills Dr., Johnson City, 37604). Good details for Northern Goshawk and Dickcissel.

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	MEMP	COLU	NASH	HIGH	KNOX	ELI
Common Loon	277	1 <del></del> 6	8 <del>- 1</del> -	-	1	-
Pied-billed Grebe	—	17	7	_	1	
Double-cr. Cormorant	6	1	8	-	15	3
American Bittern		_	4	1	—	
Great Blue Heron	30	4	8	13	24	1
Great Egret	1	9 <b>1</b> 9	1	—	1	-
Little Blue Heron	1	-	-		—	
Cattle Egret	$\rightarrow$	-	-	$\rightarrow$	1	
Green-backed Heron	4	13	15	4	13	9
Blcr. Night-Heron	1	2	10	<u> </u>	1	-
Yecr. Night-Heron	3	—	3	2	-	_
Snow Goose	_	2		—	-	_
Canada Goose	-	121	40	40	21	91
Wood Duck	19	24	75	4	46	48
Am. Black Duck		_	1		<u> </u>	_
Mallard	43	9	19	7	13	63
Northern Pintail	-	1	_	-	_	_
Blue-winged Teal	37 <u>—</u> 33	20	23	_	13	
Northern Shoveler	1		1	_	-	_
Ring-necked Duck	_	1	2	_		
Lesser Scaup	_	1	ĩ	—	<u></u>	2
Black Scoter	-		3*	_		-
Surf Scoter	_	_	3*			
White-winged Scoter	-	_	3*	_	<u> </u>	
Bufflehead	-	_	ĩ			
Red-br. Merganser	_		-		-2	11
Ruddy Duck	6	-	2		2	
Black Vulture	1	159	62	7	32	6
Turkey Vulture		26	79	28	80	35
Osprey		1	2	20	6	3
Mississippi Kite	94	1	2	-	0	3
Bald Eagle	74	1.00	1	_		
Sharp-shinned Hawk	2	-	6		-	1
Cooper's Hawk	2	2	2	_	î	
Northern Goshawk	-	2	4	_	1	1 1*
Red-shouldered Hawk	1	3	7	<u> </u>	3	2
Broad-winged Hawk	1	2	4		4	
Red-tailed Hawk	25	19	19	1		11
American Kestrel	2	20	21		16	2
Ruffed Grouse	2	20	21	-	7	11
	_	7	_	200	1	2
Wild Turkey	2 8	1.11.52	-			1
Northern Bobwhite	8	44	22	12	33	15
Sora	2	8	11	_	100	1
American Coot	2	6	16	37	-	-
Black-bellied Plover	1	_	_	-		
Semipalmated Plover	6	1	1			
Killdeer	36	60	39	13	29	39
Black-necked Stilt	2	-	_			$\rightarrow$
Greater Yellowlegs	1	-	8	2	1	
Lesser Yellowlegs	16	6	28	2	16	2 29
Solitary Sandpiper	5	10	33	1	46	29
Willet	1	1				_
Spotted Sandniner	7	16	10		10	20

10

7

Spotted Sandpiper

16

TABLE 1. 1988 Spring counts.

## TABLE I. Continued.

	MEMP	COLU	NASH	HIGH	KNOX	ELI
Upland Sandpiper	-	-	1	-	-	
Semipalm. Sandpiper	14	1	_	_		5
Least Sandpiper	54	25	9		-	5
Pectoral Sandpiper	65	7	1		2	-
Common Snipe	<u> </u>	2	2	_	6	-
American Woodcock		1	2			1
Bonaparte's Gull		-	2	-	1	-
Ring-billed Gull	8	_	15	_	45	25
Herring Gull	—	-			1	-
Caspian Tern	1	-	-	-	-	-
Common Tern	11	-	_	_		
Forster's Tern	6	-	1	-	-	-
Least Tern	4	-	_	-		
Black Tern	8		—	_		<u></u>
Rock Dove	111	55	68	37	1879	228
Mourning Dove	41	70	87	110	542	152
Black-billed Cuckoo	1	$\sim$	2	_		2
Yellow-billed Cuckoo	10	20	3	_	-	14
Common Barn-Owl	—	-	-	_		3
Eastern Screech-Owl	2	9	3		3	9
Great Horned Owl		4	2	1	3	4
Barred Owl	2	8	15	_	1	3
Common Nighthawk	7	10	1	1		11
Chuck-will's-widow	_	14	2	3	1	8
Whip-poor-will	_	8	2	1	2	2
Chimney Swift	34	75	455	97	272	419
Rthr. Hummingbird	12	9	9	6	3	9
Belted Kingfisher	3	10	6	1	16	12
Red-headed Woodpecker	17	6	12	2	-	
Red-bel. Woodpecker	44	29	45	10	105	26
Yelbel. Sapsucker	1	1	-	2		-
Downy Woodpecker	19	35	23	9	33	32
Hairy Woodpecker	3	12	4		7	9
Northern Flicker	6	5	-	10	37	29
Pileated Woodpecker	12	18	14	3	22	24
Olive-sd. Flycatcher	_	_	1	_	_	
Eastern Wood-Pewee	59	19	17	4	4	20
Acadian Flycatcher	86	18	5	2	2	16
Willow Flycatcher	_	1	_	_		1
Least Flycatcher	_	_	4	—	_	15
Eastern Phoebe	3	21	11	4	23	27
Great Cr. Flycatcher	40	11	23	_	20	12
Eastern Kingbird	27	59	80	21	24	19
Horned Lark	13	_	_	<u> </u>	_	
Purple Martin	81	39	52	59	22	340
Tree Swallow	11	4	24	10		5
N. Rough-wg. Swallow	39	64	106	4	43	97
Bank Swallow	1	-	26			<u> </u>
Cliff Swallow	<u> </u>	_	1204	5	)	
Barn Swallow	184	73	81	262	235	249
Blue Jay	18	54	80	75	331	517
American Crow	14	40	68	78	241	175
Fish Crow	12	40		-	271	115

TABLE 1. Continued.

	MEMP	COLU	NASH	HIGH	KNOX	ELI
Northern Raven	-	$\rightarrow$	-	_	-	7
Carolina Chickadee	42	31	75	16	155	75
Tufted Titmouse	102	47	62	32	134	116
Red-br. Nuthatch		$\rightarrow$		1	2	4
White-br. Nuthatch	2	16	6	11	13	10
Brown Creeper	_	-	-	-	-	1
Carolina Wren	70	38	43	8	157	82
Bewick's Wren	- 21	6	_	-	-	1999-1999 1999-1999
House Wren	-	1	4	-	16	50
Winter Wren		_	-	-	1	7
Marsh Wren		1	2	-	-	
Golden-cr. Kinglet	_	_	_	-	_	3
Ruby-cr. Kinglet	2	1	6	1	33	6
Blue-gr. Gnatcatcher	109	40	182	5	82	45
Eastern Bluebird	7	71	64	56	90	29
Veery	2	8	3	_	1	24
Gray-cheeked Thrush	5	6	ĩ	4	2	1
Swainson's Thrush	31	8	29	i	7	î
Hermit Thrush	-	3	—	_	-	-
Wood Thrush	27	34	29	4	42	50
American Robin	35	110	111	260	488	517
Gray Catbird	2	17	11	12	20	65
Northern Mockingbird	22	32	49	55	158	82
Brown Thrasher	9	47	18	25	57	35
Water Pipit	_	_	ĩ	_	6	12
Cedar Waxwing		16	58	2	109	78
Loggerhead Shrike	6	4	13	_	2	1
Eurasian Starling	125	75	194	190	708	712
White-eyed Vireo	41	46	13	-	41	28
Solitary Vireo	2	-	1		6	29
Yellow-thr. Vireo	8	4	9	1	11	ĩi
Warbling Vireo	8	16	16		1	5
Philadelphia Vireo	-	1	-	_	2	_
Red-eyed Vireo	46	30	55	11	165	147
Blue-winged Warbler	1	11	25	1	103	14/
Golden-winged Warbler	-		23	_	12	3
Tennessee Warbler	103	12	45	6	26	8
Orange-cr. Warbler	.05	_	-	_	20	0
Nashville Warbler	3	1	8		14	1
Northern Parula	61	6	12	1	13	14
Yellow Warbler	3	17	37	4	15	47
Chestnut-sd. Warbler	6	4	4	3	9	47
Magnolia Warbler	1	1	-	5	3	47
Cape May Warbler	2	i	1	20	2	15
Blthr. Bl. Warbler	4	1	1	17.00	22	43
Yellow-rumped Warbler		10	171	12	213	43
Blthr. Gr. Warbler	8	2	16	2	41	32
Blackburnian Warbler	5	1		2		1 - TO 1 - TO
Yellow-thr. Warbler	3	15	2 2	-	13	1
Pine Warbler	3			1	3	7
Prairie Warbler		2 13	1	-	4	2
Palm Warbler	5		19	1	18	1
	5	41	30	1	8	5
Bay-breasted Warbler	0	3	1	1	1	1

## TABLE 1. Continued.

	MEMP	COLU	NASH	HIGH	KNOX	ELI
Blackpoll Warbler	11	4	3	-	1	1
Cerulean Warbler	9	11	9	-	47	1
Black & White Warbler	3	13	7		26	37
American Redstart	29	11	1	1	3	8
Prothonotary Warbler	36	12	32	2	3	_
Worm-eating Warbler	_	6	3	- 20	29	9
Swainson's Warbler	11	_	1	-		_
Ovenbird	3	14	4	-	32	90
Northern Waterthrush	1	6	10	1	2	6
La. Waterthrush	5	8	8		6	11
Kentucky Warbler	44	29	29	1	14	20
Common Yellowthroat	15	52	77	12	52	44
Hooded Warbler	5	10	7	1	36	55
Wilson's Warbler	1	_		_	_	2
Canada Warbler	1	-	- <u></u>	<u></u>	<u></u>	18
Yellow-breasted Chat	5	29	24	2	13	26
Summer Tanager	58	25	15	2	13	4
Scarlet Tanager	8	27	31	<u></u>	53	48
Northern Cardinal	86	120	151	99	379	190
Rose-br. Grosbeak	11	15	21	3	35	19
Blue Grosbeak	4	6	7	2	3	4
Indigo Bunting	148	69	101	19	31	117
Painted Bunting	2	_	-	<u> </u>	51	
Dickcissel	64	7	_	1		1*
Rufous-sided Towhee	9	66	81	10	140	95
Chipping Sparrow	4	27	27	15	67	84
Field Sparrow	_	25	43	10	94	26
Savannah Sparrow	4	2	20	12	24	5
Grasshopper Sparrow		-	3	1	10	10
Sharp-tailed Sparrow		_	1*	<u>_</u>	-	_
Song Sparrow	-	1	7	8	163	264
Lincoln's Sparrow	1	ī	i	_	-	
Swamp Sparrow	_	5	30	<u></u>	7	1
White-thr. Sparrow	1	16	56	14	157	5
White-cr. Sparrow	2	6	4	1	4	2
Dark-eyed Junco	_			<u>_</u>	_	21
Bobolink	12	250	_	15	1	3
Red-winged Blackbird	287	171	250	168	213	219
Eastern Meadowlark	49	81	89	64	128	141
Rusty Blackbird	-	_	_	2	6	
Common Grackle	146	180	198	230	400	486
Brown-headed Cowbird	148	90	134	176	213	65
Orchard Oriole	24	82	48	7	-13	20
Northern Oriole	25	_	1	_	2	13
Purple Finch	_	1	<u>.</u>		3	
House Finch	6	9	2	18	72	70
Pine Sisken	_	32	2	27	190	246
American Goldfinch	5	98	88	162	253	180
Evening Grosbeak	_	_	-			18
			D.2497			10
House Sparrow	37	68	42	118	152	168
House Sparrow Total species	37 144	68 150	42 164	118	152 148	168 150

\* See Information on the Counts.

#### IN MEMORIAM: EVELYN ELLIS AND JOHN ELLIS

#### MILBREY DUGGER AND ANNELLA CREECH 2835 Kenway Road, Nashville, Tennessee 37215

The Tennessee Ornithological Society lost two of its longtime members with the sudden deaths of John and Evelyn Ellis. They were drowned when trapped in their truck by the overflowing Harpeth River before daylight on 26 December 1987 as they began their annual Christmas Count. John and Evelyn will be missed by many but especially by members of the Nashville Chapter where they had been active members since 1960.

Both had many interests in the Nashville community. At First Baptist Church Evelyn had headed the church's college ministry for more than thirty years. John, a life deacon of the church, had also served as trustee for the Southern Baptist Foundation and as president of the Tennessee Baptist Association. Before her retirement Evelyn was office manager at Guaranty Mortgage Company. She had served as recording secretary of the Centennial Club and as a member of their Board of Directors.

In 1986 John received the Arthur Crownover Outstanding Citizen of Nashville Award, presented by the area Civitan Club, a group he had been active in for twenty-five years. He was a member of the Nashville Bar Association and worked thirty-three years in the Trust Department of Third National Bank. At the time of his retirement he was executive vice-president and head of the department.

The Ellises were dedicated supporters of the Nashville Symphony. The concerts on 22 and 23 January 1988 were dedicated to their memory as expressions of appreciation for the volunteer hours they had spent in helping the Symphony develop and grow into its present cultural asset for Nashville.

John, with much help from Evelyn, had served as president of the Nashville Chapter of TOS. At the time of his death he was TOS Vice-President for Middle Tennessee. John and Ev worked diligently in the field, fed birds consistently, and gave much of their time to TOS. Countless school children and members of garden clubs and gatherings in Middle Tennessee will remember them for their fascinating slide talks and movies about birds. John and Evelyn spent many patient hours in photography and preparation and gave their programs generously.

It is difficult for us to lose two dear friends at one time. They will be greatly missed.

## MINUTES OF THE 1988 TOS ANNUAL BOARD OF DIRECTORS AND BUSINESS MEETINGS

The 73rd Annual Meeting of the Tennessee Ornithological Society was held 29 April-1 May 1988 at the Tennessee Baptist Convention Center in Brentwood, Tennessee. President Stephen J. Stedman called the Board of Directors meeting to order at 1519 on 30 April. A quorum was present. The minutes of the 13-15 November 1987 meeting of the Board of Directors held in Lawrenceburg were approved as printed.

The VICE PRESIDENTS for East and West Tennessee had no reports.

The DIRECTORS-AT-LARGE for East and Middle Tennessee had no reports. West Tennessee DIRECTOR-AT-LARGE Donna Ward submitted a report on birdlife in west Tennessee.

The SECRETARY had no report.

TREASURER George Payne reported that from 12 November 1987–15 April 1988, the Society had income of \$10,123.67, estimated liabilities of \$9,600 and capital reserve of \$35,498.50.

CURATOR James Tanner reported that during the November 1987–April 1988 period income from sales of back copies of *The Migrant* totalled \$138 and that expenses during the same period totalled \$12.07. This resulted in a net gain of \$125.93.

EDITOR Charles Nicholson reported that the June and September 1987 issues of *The Migrant* had been mailed and that the December issue is to be mailed in about two weeks. The March 1988 issue is presently being typeset. All manuscripts recently received have been turned over to Editor-elect David Pitts.

NOMINATING Committee Chairperson Ronald Hoff nominated Barbara Finney for the position of President-elect and Dan Gray for the position of Middle Tennessee Vice President. Additional nominations were requested, but none was forthcoming.

FINANCE Committee Chairperson Richard Taylor discussed the TOS's MIT fund and speculated that possibly it could be better used if placed in another fund. He stated that, once the fund accumulates enough income to cover the cost of printing *The Migrant*, we should consider placing part of it into a Guaranteed Income Fund or a Bond Fund. A discussion then ensued as to when the value of the fund would be high enough to cover the costs of printing *The Migrant*. Treasurer George Payne stated the value of the fund would need to reach \$60,000 or \$70,000 before that could be accomplished.

BREEDING BIRD ATLAS Chairperson Charles Nicholson reported that the Committee met twice during the past year, and that some of the Regional Coordinator positions are changing. He stated that there is currently \$1,300 in the Atlas Fund, and that a grant had been approved by the U.S. Forest Service for Atlas participants to do work in the Cherokee National Forest. A Bird Seed Sale is to be held in the major cities across Tennessee for the purpose of raising money for the Atlas project; Mr. Nicholson requested that the TOS Chapters should also become involved in this endeavor. In addition, The Atlas Committee unanimously endorsed the mid-level version of the proposed dues increase as it was published recently in the March 1988 issue of *The Tennessee Warbler*.

CERTIFICATION Committee Chairperson Charles Nicholson reported that the Committee had recently circulated and voted on documentations for a few species and that the March 1988 issue of *The Migrant* will have an article which will serve as an addendum to the official state list. CONSERVATION/EDUCATION Chairperson Kenneth Dubke reported that seven phone calls have thus far been received as a result of the Common Barn-Owl posters distributed last fall. He also stated that he had submitted comments on behalf of the TOS in response to the Natchez Trace State Forest Management Plan. Another management plan is presently being considered for the Prentice Cooper State Forest. Comments were also recently sent by Mr. Dubke to the Corps of Engineers concerning the issue of river channelization.

The Tennessee Warbler EDITOR was absent.

FALL SYMPOSIUM DIRECTOR David Snyder reported that the Fall meeting and symposium will be held at the Land-Between-the-Lakes' Brandon Springs Group Camp in Stewart County on 18–20 November 1988. Lisa J. Petit, Ph.D. candidate in Zoology at the University of Arkansas, will be the guest speaker. Dr. Snyder also requested those interested in presenting papers at the fall meeting to contact him.

MEMBERSHIP DRIVE Chairperson Audrey Hoff reported that printing costs for the TOS flyers, remittance envelopes, mailing envelopes and invitation letters totalled \$286.65; and that mailing costs totalled \$31.79. The mailing was sent to former TOS members and Tennessee members of the Cornell Laboratory of Ornithology who are not already members of the TOS.

PATCHES AND DECALS Chairperson Susan Watson was absent and sent no report.

PUBLICITY Committee Chairperson Lil Dubke reported that the Committee is composed of representatives from each TOS chapter. A summary of the Membership/Publicity workshop held last fall was provided. Methods to improve publicity were proposed and included contacting the mass media (use of public service announcements); distributing a TOS brochure to libraries, museums, Chamber of Commerce offices, etc.; having each chapter prepare an exhibit that can be be displayed at various events; and having chapters create their own events to publicize the TOS (e.g., bird walks).

RARE BIRD ALERT Committee Chairperson David Chaffin reported that the purpose of the Rare Bird Alert (RBA) is not to solely serve those who like to chase and "list" rare birds; rather, it was designed to be available to all those who wish to use it and would incorporate topics of an educational nature (e.g., migration, behavior, breeding, peak numbers, and rare bird data). The Committee recommends that start-up costs of the RBA be shared equally between the TOS and RBA users so that once donations from RBA users have reached 50% of the start-up costs, then the TOS would match these donations with an equal amount. After the initial year, all costs would be borne by RBA users, who would donate to a special fund to cover the costs of the service. Everyone generally agreed that there should be an assessment of how many members would want to use the service before attempting to initiate it.

TENNESSEE ENVIRONMENTAL COUNCIL Representative Kenneth Dubke reported that Barbara Stedman attended the last meeting of the TEC in his absence and that more information on the proceedings of the TEC would be presented at the Fall meeting of the TOS.

Under Old Business, the matter of a dues increase began with a motion to bring this issue off the table. This motion was seconded and approved, but did not carry unanimously. The dues increase being proposed included the following increases in dues for the specified categories:

Membership Category	Proposed Dues	Current Dues
Student	\$5.00	\$3.00
Active	\$10.00	\$6.00
Family	\$12.00	\$7.00
Library	\$15.00	\$6.00
Sustaining	\$20.00	\$10.00
Life	\$200.00	\$150.00

It was estimated that this proposed dues increase would result in a surplus of \$4,300 per year over current expenses. A discussion began, with arguments favoring a dues increase alternating with arguments opposing a dues increase. Charles Nicholson stated that additional money would be needed to fund the Atlas Project and that a dues increase would also help to cover the cost of publishing The Migrant. Jim Ferguson identified certain groups (e.g., low income families and "luke warm" members) who currently belong to the TOS but would be heavily impacted by a dues increase. He also stated that a dues increase would not be necessary if the cost of publishing The Migrant were reduced. Damien Simbeck stated that since the purpose of the TOS is to study the bird life of the state, then there should be some money readily available to fund the Atlas project as well as other special projects. George Mayfield cautioned that we should not approve anything which would cause a decrease in membership or the number of TOS Chapters. Audrey Hoff stated that the Atlas book will not be published solely from TOS funds; rather, the TOS will put up a certain amount of money to solicit matching funds from corporations. Lil Dubke said that senior citizens would be affected by a due increase; that 1989 should be the effective year for higher rates for new members; and that the Board should limit the amount that the TOS allocates to the Atlas project and seek matching funds from outside the TOS. After additional discussion, Dick Newton proposed an amendment to the dues increase motion which stipulated that a budget be created which specifies how the funds resulting from the dues increase would be allocated. This amendment was seconded and approved, and President Stedman directed that a budget be prepared for the Fall Meeting. A motion to postpone the orginial dues increase motion until a budget is prepared failed by a vote of 18 against and 15 for. The question for a vote on the dues increase was then moved, and this motion carried after which the original motion carried by a vote of 30 for and 12 against.

Under New Business, a motion to officially recognize a new TOS Chapter (to be called the Cumberland County Chapter and currently having 25 memberships) was seconded and approved. President Stedman then stated that Greg D. Jackson, President of the Alabama Ornithological Society, had asked about holding a joint meeting with the TOS at our fall meeting in Stewart County. A motion to invite the AOS to our Fall meeting was seconded and approved.

James Tanner, Chairperson of the Editorial Search Committee, nominated David Pitts to be Editor of the journal. A motion to accept, by acclamation, the nominees for President-elect, Middle Tennessee Vice President and *Migrant* editor (Barbara Finney, Dan Gray and David Pitts, respectively) was seconded and approved. A motion to recognize officially the fine job that Jim Ferguson did as President from 1985–1987 also carried.

Ruth Luckado reported that the National Guard had attempted to establish a tank training facility within the AEDC WMA and stated that the TOS should find out exactly what was happening there. A motion to endorse the bird seed sale (to raise money for the Atlas project) was seconded and carried.

The dates of the Fall 1988 meeting in Stewart County and the Spring 1989 meeting in Chattanooga were announced. President Stedman then stated that a new member was needed to serve on the Certification Committee by the Fall of 1988. After these announcements the meeting was adjourned.

#### ANNUAL MEETING

The 73rd Annual Meeting of the TOS was opened by Nashville Chapter President Kin Cosner at the banquet on 30 April. The evening of fellowship was dedicated to the memory of John Herbert, Evelyn Ellis, John Ellis, and Carol Knauth. Following the banquet, TOS President Stephen J. Stedman presided over the Business Meeting. Dr. Lawrence Walkinshaw was introduced as a special guest. Chapter recognition included the newly approved Cumberland County Chapter represented by its first president, Rodger Doxsey. Charles Nicholson presented the award for Mystery Species Identification (under the Breeding Bird Atlas Project) to Katherine Goodpasture. Ben B. Coffey, Jr. made a motion to raise the dues of the TOS effective for 1989; the motion was seconded and carried unanimously. Ronald D. Hoff made a motion to elect Barbara Finney as President-Elect, Dan Gray as Vice-President Middle Tennessee to replace John Ellis (deceased), and David Pitts as Editor of The Migrant to replace Charles Nicholson: the motion was seconded and carried unanimously. James Ferguson offered a resolution thanking Charles Nicholson for his work as editor of the journal; it was approved unanimously. Announcements included: (1) the Fall 1988 meeting on 18-20 November at Land-Between-the Lakes; (2) the Spring 1988 meeting at Chattanooga. Following the presentation of door prizes, the meeting was adjourned to the chapel where Dr. Jerome A. Jackson, Professor of Biological Sciences at Mississippi State University and TOS Life Member, presented a program entitled, "Cuba: Bird Conservation in a Forbidden Land.'

JOHN C. ROBINSON, Secretary

## THE SEASON

JOHN C. ROBINSON, Editor



#### WINTER: 1 DECEMBER 1987-29 FEBRUARY 1988

The weather during this winter was uneventful across the state. Temperatures were near or slightly above normal at most localities, and most areas reported below normal amounts of precipitation.

Winter finches were well represented by Pine Siskins and by local populations of Evening Grosbeaks throughout middle and east Tennessee. Purple Finches appeared in lower than normal numbers. Several large concentrations of waterfowl and coots were noted in west and east Tennessee. A Northern Goshawk was reported from Shelby Co. and Red-necked Grebes were found again on Chickamauga Lake. Several species of passerines not usually observed in the winter were reported from across the state. The second and third state records of the Ross' Goose were reported from middle and west Tennessee, respectively.

Table 1 lists the results of the annual midwinter Bald Eagle survey. An unusually high number of eagles was found on the Watts Bar Lake count. This information was gathered by various agency personnel and TOS members between 4 and 14 January.

I wish to take this opportunity to encourage all Tennessee observers to submit ornithological field data to the appropriate regional compiler. A recent review of guidelines governing the submission of field records is provided by Stedman and Robinson (*Migrant* 58:65–79, 1987). The number of birds as well as the county in which those birds were seen should always be specified, especially for peak or maximum totals. When a very rare bird has been found, a Round Table Note should be prepared by the initial observer for timely publication in *The Migrant*. The initial observer should at least be willing to coauthor a Round Table Note on the sighting within a 3-year period following the date of the observation.— JOHN C. ROBINSON.

The following abbreviations are used: ad-adult; im-immature; EOP-end of period; max-maximum 1-day count during period; m. ob.-many observers; in.-inch; NWR-National Wildlife Refuge; WMA-Wildlife Management Area; CBC-Christmas Bird Count; WRRS-Winter Roadside Raptor Survey; RBRF-Rare Bird Reporting Form.

WESTERN COASTAL PLAIN REGION—The winter season produced some interesting and unusual species for west Tennessee, including Surf Scoter, Northern Goshawk and Long-eared Owl. Temperatures were seasonally moderate and precipitation was below normal. Common winter residents were down in numbers, signalling a depressed winter population count.

	Adult	Imm.	Total	Golden Eagle
West Tennessee				
Reelfoot Lake	31	9	40	—
Open Lake	1	1	2	-
Pickwick Reservoir	-	3	3	-
Pickwick Tailwater	2	_	2 3 2 65	—
Kentucky Lake	25	40	65	2 ad, 2 im
Kentucky Lake (LBL)	10	8	18	1 unknown
Totals:	69	61	130	5
Middle Tennessee				
Cross Creeks NWR	3	-	3	_
Cheatham Res.	3 2 2	_	2	_
Cordell Hull Res.	2	1	3 2 3 45	_
Dale Hollow Res.	29	16	45	-
Cannon Co.		-		1 im
Totals:	36	17	53	1
East Tennessee				
Tansi Lake	2	_	2	-
Norris Res.	2 7	2	9	_
Cherokee Res.	-	1	1	-
Douglas Res.	2	1	3	—
Fort Loudon Res.	-	1	1	_
Watts Barr Res.	23	8	31	-
Chickamauga Res.	10	1	11	-
Nickajack Res.	2	1	3	_
Totals:	46	15	61	-
Grand totals:	151	93	244	6

TABLE 1. 1988 Midwinter eagle survey.

Grebe-Gull: Pied-billed Grebe: 15 Jan (68) PAP (JCR), max. Horned Grebe: 21 Dec (65) PLS (JCR), max; 22 Dec (16) Savannah CBC (DJS); 24 Jan (46) PLS (DWB). Double-crested Cormorant: 21 Feb (27) Robco Lake, Shelby Co. (CHB, VBR). Greater White-fronted Goose: 25 Feb (10) BRF (JCR). Snow Goose: 25 Feb (335) BRF (JCR). ROSS' GOOSE: 25 Feb (3 ad) BRF (JCR), third state record, highest number in TN, first Henry Co, record, Canvasback: 10 Jan (233) PLS (DWB); 15 Jan (2002) PAP (JCR), max. SURF SCOTER: 18 Feb (1) Pickwick Dam, HDC (DJS). Common Goldeneye: 24 Jan (1204) PLS (JCR), second largest number recorded in state (3000 were reported on the 28 Dec 1964 Dversburg CBC, Migrant 35:111). Bufflehead: 10 Jan (83) PLS (DWB). Osprey: 3 Dec (1) ESL (Dwight Miller, Jo L. Levy). Sharp-shinned Hawk: 22/28 Dec (1/1) HDC (SJS/DJS). Cooper's Hawk: 22 Dec (2) Savannah CBC (SJS, DJS). NORTHERN GOSHAWK: 18 Dec (1) PRI (VBR, MGW). "Harlan's" Red-tailed Hawk: 30 Jan (1) MNC (DJS). Golden Eagle: 28 Dec (1) BSU (JCR, RLK). Peregrine Falcon: 1-2/15 Dec (1/1) MEM (Patrick Casey, RPC/JRW). American Coot: 10 Jan (2544) PLS (DWB). Spotted Sandpiper: 22 Dec (1) REL (B. F. McCamey); 31 Jan-2 Feb (1) ESL (JRW). Least Sandpiper: 13, 22 Dec (9) BRF (JCR). Pectoral Sandpiper: 25 Feb (7) BRF (JCR), early. American Woodcock: 1 Mar (5) MEM (GRP).

Bonaparte's Gull: 6 Jan (120) PLS (DWB). Ring-billed Gull: 10 Jan (1300+) PLS (DWB). Herring Gull: 6 Jan (37) PLS (DWB).

Owl-Finch: LONG-EARED OWL: 13 Dec-24 Jan (1) West Sandy WMA, HNC (JCR, m. ob.). Common Nighthawk: 22 Dec (1) Forked Deer River Bottoms. MDC (RPF). American Crow: 16 Feb (500) Ashport, LDC, with 20,000 in roost across the MS River in MO (BBC, LCC). Fish Crow: 21 Dec (360) W and S of Fort Pillow State Farm, and (600) Ashport area (BBC, LCC, B. F. McCamey, H. R. Elphingstone); 16 Feb (175) E of Ashport, LDC (BBC, LCC). BLUE-GRAY GNATCATCHER: 22 Dec (1) Bruton Branch Recreational Area, HDC (DJS), second record for Savannah CBC and fifth CBC record for TN. Loggerhead Shrike: 31 Dec (16) OBC (JCR). Solitary Vireo: 20 Dec (1) MEM CBC (Diane P. Bean, DAD, MGW); 20 Jan (1) PEF (MGW, VBR). Orange-crowned Warbler: 11 Feb-EOP (1) MEM (VBR). Dickcissel: 27 Jan-1 Feb (1) MEM (Ray Wilson): 22 Feb (1 male) MEM (MGW). American Tree Sparrow: 16 Jan (1) W Tipton Co. (MGW). Vesper Sparrow: 22 Dec (1) S of Savannah, HDC, 30 Jan (approx. 30) S of Adamsville, MNC (DJS). Le Conte's Sparrow: 22 Dec (1) Pittsburgh Landing, HDC, 30 Jan (1) MNC (DJS). Lapland Longspur: 31 Dec (30) OBC (JCR). Brewer's Blackbird: 31 Dec (6) N of Gooch WMA, OBC (JCR). Purple Finch: Dec-Feb (rare to uncommon) MEM (BBC). House Finch: 22 Dec (1) N of Pickwick Dam, HDC (DJS); Dec-Feb (316 banded during 70% of the period) MEM (BBC). Pine Siskin: Dec-Feb (low numbers) MEM (BBC).

Locations: BRF-Britton Ford, Tennessee NWR, Henry Co.; BSU-Big Sandy Unit, Tennessee NWR, Henry Co.; ESL-Ensley Sewage Lagoons, Shelby Co.; HDC-Hardin Co.; HNC-Henry Co.; LDC-Lauderdale Co.; MDC-Madison Co.; MEM-Memphis; MNC-McNairy Co.; OBC-Obion Co.; PAP-Pace Point, Henry Co.; PEF-Shelby Co. Penal Farm; PLS-Paris Landing State Park, Henry Co.; PRI-President's Island, Shelby Co.; REL-Reelfoot Lake, Obion/Lake Co.

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HIGHLAND RIM AND BASIN REGION—The season's weather was close to normal. Two intense cold snaps occurred, in mid-December and early February; several inches of snow accompanied the latter. Rainfall at Nashville was 0.75 in. above normal during December (leaving a yearly shortfall of 18 in.), 0.65 in. below normal during January, and 2.01 in. below normal during February. Rainfall at Cross Creeks NWR was much more plentiful, as is generally the case along the Tennessee River, with 18+ in. falling during the period.

Christmas Bird Count (CBC) data again dominate the picture of birdlife generated by the information submitted, though fewer than the expected number of rarities occurred on the 11 regional CBCs. CBC data reveal the pattern of boreal invaders quite well this winter. Rough-legged Hawks, Red-breasted Nuthatches and American Tree Sparrows did not occur in invasion numbers, while finches came south in varying abundance. Purple Finches were below normal; House Finches were more abundant than ever before; Pine Siskins were above normal, as were American Goldfinches; Evening Grosbeaks were local, but present in moderately good numbers where reported.

CBC data also offer a means of following the population levels of birds of prey, as do the Winter Roadside Raptor Surveys (WRRS) conducted in the region. These two census methods, however, did not agree entirely about changes in abundance which occurred between this winter and the previous one; see the accounts of the diurnal raptors below for details.

The outstanding find of the season was the second Ross' Goose in Tennessee,

located, like the first bird, at Cross Creeks NWR (see Western Coastal Plain report for 3rd state record). This bird was more accomodating than the one seen at the refuge in November 1986, staying a month and allowing many to observe it, usually with Snow Geese present for good comparison.

The compiler thanks Ruth V. McMillan and Elizabeth C. O'Connor for assistance in analyzing the CBC data presented below, and all the cited and uncited, as well as excited, observers who submitted data, directly or indirectly, for the report.

Loon-Night-Heron: Common Loon: 2 Jan (38) Hickory-Priest CBC (fide CGD), max. Horned Grebe: 21 Feb (53) WDR (MDH, RWL), max. Double-crested Cormorant: 12/20 Dec (3) CCNWR-CBC on latter date (JCR/BHS, SJS); 19 Dec (1) Lebanon CBC (fide RVM); 19/26 Dec (1) WDR-CBC latter date (MDH, RWL/fide DJS); 18 Jan (1) CCNWR (JCR); only reports, but about the usual number. Black-crowned Night-Heron: 2 Jan (8) Hickory-Priest CBC (fide CGD), only report; however, on 30 Jan JPC and DTC counted 237 nests of this species on an island in Old Hickory Lake near GSP.

Swan-Goose: Tundra Swan: 16-29 Jan (1 im) CCNWR (JCR, DWB), only report. MUTE SWAN: 22-24 Jan/7 Feb (2 ad, 2 im) BAR (JCR/DWB); JCR raises the usual question about origin of these birds, when he points out that this family group, like other Mute Swans reported in the state, occurred during the likely migratory period of wild birds of this species; the TOS Certification Committee needs to reinvestigate the status of this species in Tennessee. Greater White-fronted Goose: 7 Feb (2) BAR (DWB), only acceptable report. Snow Goose: 19 Dec (1) WLC (*fide* RVM); 19 Dec (1) FKC (MDH, RWL); 20 Dec (6) BAR (DWB); 24 Dec (7) CCNWR (JCR, m. ob.); 24 Dec (1) PUC (SJS); this widespread minor incursion correlates well with the arrival of the next species listed below; 1 Jan (63) LWC (DJS, Michael A. Beuerlein); 1 Jan (75) CCNWR (JCR), max. ROSS' GOOSE: 23 Dec-24 Jan (1 ad) CCNWR (JCR, m. ob.), second state, regional, county and local record; excellent documentation (RBRF).

*Teal–Merganser:* Green-winged Teal: 1 Jan–EOP (5) ROB (DJS, m. ob.), rare winter species in LWC. Northern Pintail: 27 Feb (1 male) ROB (DJS, David C. Chaffin), rare anytime in LWC. Mallard × Northern Pintail (1, probably male) ROB (DJS). EURASIAN WIGEON: 2, 27, 30 Dec (1 male) CCNWR (JCR, DWB), continues a Fall 87 report. Canvasback: 24 Dec (250) CCNWR (JCR, DWB), max. Redhead: 26 Dec (13) Columbia CBC (*fide* DJS); 10–29 Jan (1–3) PUC (SJS); 16 Jan (9) CCNWR (DWB); 10, 17, 25 Feb (6) CCNWR (JCR); 29 Feb (6) PUC (SJS); only reports; all records of this species and the former should be submitted. Ring-necked Duck: 5 Jan (2000) CCNWR (JCR), max. Common Merganser: 7/10 Feb (1/10) near Granville, JAC (SJS, JWW/JWW); 14/28 Feb (2/20) CCNWR (JCR, DWB); only report.

Diurnal Raptors: Black Vulture: 11 Dec (240) GSP (DTC, JPC), max; down slightly from previous year on CBCs, but up 50% on WRRSs. Turkey Vulture: up greatly on CBCs, but up only slightly on WRRSs. Bald Eagle: Midwinter Eagle Survey data (Table 1) offer the best measurement of this species' status in the region; other reports earlier or later than this survey came in from the following counties: Bedford, Cheatham, Clay, DVC, DKC, Dickson, FKC, Houston, JAC, PIC, SMC, and Williamson. Northern Harrier: down about 30% on both CBCs and WRRSs; few reports not from these sources. Sharp-shinned Hawk: 7 non-CBC or -WRRS reports; down slightly from previous winter on CBCs, though still in good shape. Cooper's Hawk: 12 non-CBC or -WRRS reports; also down slightly from previous winter on CBCs, but still in good numbers. Red-shouldered Hawk: dwon by 40% from previous year on CBCs; up slightly from previous year on WRRSs. Red-tailed Hawk: down 20% from previous winter on CBCs; down 10% on WRRSs. Rough-legged Hawk: present in normal (i.e., non-invasion) numbers; reported from LWC, MTC, PIC, RUC and WLC. Golden Eagle: 12 Dec, 6 Feb (1 im) CCNWR (JCR, Randall Grimsley, m. ob.); 4 Jan, 7 Feb (1 im) JAC (MCD, Candy Swan); 7 Feb (1 ad) BAR (DWB); 13 Feb (1 im) FKC (Jerry Ingles); only reports; see *Addenda*. Peregrine Falcon: 2 Jan (1) LWC CBC (DJS); 20 Feb (1) Brentwood, WMC (Christopher A. Sloan, Ann T. Tarbell); only convincing reports. Merlin: 30 Dec (1) SMC (RVM, Melissa A. Tucker); 2 Jan (1) LWC CBC (DJS); 16 Jan-EOP (1) PPL, DVC (F. Joseph McLaughlin, Robert Brayden, m. ob.); only reports. American Kestrel: down 35% on CBCs from very high level of previous winter but down only slightly on WRRSs.

*Coot–Dunlin:* American Coot: 10 Jan (1035) on Kentucky L., SWC, S of Rt. 79 bridge (DWB), max; low numbers on CBCs, continuing the trend begun in the early 1980's. Sandhill Crane: 6 Dec (56) PIC (RCH, JDH); 6 Dec (25) DKC (LB); 11 Dec (3) DRU (*fide* EB); 13 Dec (8) Coffee Co. (Lee W. Medley); 17 Dec (147) Cookeville, PUC, CBC (*fide* RWS); 20 Dec (8) CCNWR CBC (DWB); 21 Dec (5) RUC (TJW); 23 Dec (69) DKC (Michael Hawkins); obviously, an excellent late fall migration occurred, and 2 wintering records were submitted: 7 Jan (4) DRU (*fide* EB); 23 Jan (1) LWC (DJS, EC); only one spring record: 17 Feb (55) near Rickman, Overton Co. (RCH, JDH). Dunlin: 14 Dec (15) SWC (Annie H. Heilman, Ellen J. Walker), only report.

Barn-Owl-Nuthatch: Common Barn-Owl: 12 Dec (1) Clarksville, MTC (JCR); 2 Jan (2) LWC CBC (DJS, EC); only reports. Common Nighthawk: 12 Dec (1) WLC (LB), only report. Eastern Phoebe: 17 Dec (16) Cookeville, PUC, CBC (fide RWS), max; a total of 15 individuals of this species was seen on the remaining 10 regional CBCs. Horned Lark: good numbers reported from LWC, MTC, RUC, and SWC; fairly good numbers on CBCs. Red-breasted Nuthatch: low numbers on CBCs; few other reports.

Shrike-Warbler: Loggerhead Shrike: down 40% from high level of previous winter on CBCs and WRRSs. Orange-crowned Warbler: 2 Jan (1) LWC CBC (EC); only report; good details. Yellow-rumped Warbler: back up to normal numbers on CBCs after very low numbers of previous winter. Palm Warbler: 7 Dec-6 Jan (1) CCNWR-seen on CBC (JCR, m. ob.), rarely reported in winter.

Dickcissel-Blackbird: DICKCISSEL: 4 Jan (1) Gallatin, Sumner Co. (DTC, JPC), only report. American Tree Sparrow: 17/20 Dec (2/1) BAR/CCNWR CBC (DWB/BHS); 2 Jan (1) Hickory-Priest CBC (C. Kinian Cosner, Jr.); 24 Jan (2) SWC (DWB); 7 Feb (4) MTC (DWB); only reports; not an invasion winter. Chipping Sparrow: 9 Dec (1) LBL (DWB), only report. Vesper Sparrow: entire winter (up to 13) LWC (DJS, m. ob.), becoming more regular in LWC in winter; 12 Dec (1) CCNWR (JCR), only other report. Le Conte's Sparrow: entire winter (2) Center, LWC (DJS), continues a Fall 87 record. Lincoln's Sparrow: 2 Jan (2) LWC CBC (DJS, EC), only report. HARRIS' SPARROW: 2-6 Dec (1) Bear Creek Waterfowl Management Area, SWC (TJW, m. ob.), only report; very good documentation (RBRF). Lapland Longspur: 5 Dec (1) CCNWR (JCR); 24 Jan/7 Feb (1/2) BAR (JCR/ DWB), only reports. Dark-eyed Junco: two reports of "pink-sided" forms, from LWC and PUC. Brewer's Blackbird: entire winter (up to 107) LWC (DJS, m. ob.), becoming more and more regular in winter in LWC; rumors of this species elsewhere were not substantiated by convincing-or in some cases ANY-documentation.

Cardueline Finches: Purple Finch: less common than normal; was recorded in

lower numbers of birds/100 party hr than in 16 of previous 21 winters on CBCs. House Finch: continues expansion; seen in greater numbers of birds/100 party hr on CBCs than ever before. Pine Siskin: more common than normal; reported in greater numbers of birds/100 party hr than on all but 6 of previous 21 CBCs (see *Addenda*). American Goldfinch: more common than normal; seen in greater numbers of birds/100 party hr than on all but 6 of previous 21 CBCs. Evening Grosbeak: very localized, but seemingly in higher than normal numbers where present.

Addenda—Golden Eagle: 8 Jan 1983 (1 im) JAC (MCD, Donald Norris); 4 Dec 1986 (1 im) JAC/Macon Co. line near Wartrace Creek (MCD). Pine Siskin: one banded (band # 1700-65555) 18 Jan 1986 in Williamsport, Maury Co., by Katherine A. Goodpasture was recovered on 19 May 1986 at Clarksburg, Quebec; few recoveries of this species are reported.

Locations: BAR-Barkley WMA, Stewart Co.; CCNWR-Cross Creeks NWR, Stewart Co.; DKC-DeKalb Co.; DRU-Duck River Unit, Tennessee NWR, Humphreys Co.; DVC-Davidson Co.; FKC-Franklin Co.; GSP-Gallatin Steam Plant, Sumner Co.; JAC-Jackson Co.; LBL-Land-Between-the Lakes, Stewart Co.; LWC-Lawrence Co.; MTC-Montgomery Co.; PIC-Pickett Co.; PPL-Percy Priest Lake, Davidson, Rutherford and Wilson Cos.; PUC-Putnam Co.; ROB-Robertson Pond, Lawrence Co.; RUC-Rutherford Co.; SMC-Smith Co.; SWC-Stewart Co.; WDR-Woods Reservoir, Coffee and Franklin Cos.; WLC-Wilson Co.

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EASTERN RIDGE AND VALLEY REGION-For the most part this was a mild winter. Temperatures during December and February were slightly above average, while January was somewhat colder than normal. Precipitation totals were 15-20% below normal for the season at most places. A TVA press release in March stated that, "Since the drought began in 1984, average rainfall in the Tennessee Valley is about 55 in. below normal-representing more than a normal year of rain that did not fall." The only significant snowfall of the season occurred in unusual fashion on 7-8 January: twice as much snow accumulated in Chattanooga as in Johnson City, completely opposite the usual pattern. Chattanooga received 8-10 in. (the most since 11 in. in 1927), Knoxville got 6 in., and Johnson City saw 4-5 in. Several days of very cold temperatures permitted the snow cover to remain longer than normal. No adverse effects of this were reported. In the Chattanooga area, "Particular attention was paid for any losses to the bluebird population: however, they seemed to have survived in good shape." In the Johnson City/Greeneville area the bluebird population remained low, not having recovered from the crippling blow dealt by the snowstorm of April 1987; but no further losses were detected.

The highlight of the season was the major invasion of Pine Siskins. However, they were not accompanied in numbers by the other boreal visitors—only a few scattered Red-breasted Nuthatches and Evening Grosbeaks were present (Purple Finches are more regular). A few "half-hardy" species lingered or wintered, most notably Sandhill Crane, Orange-crowned and Cape May Warblers. Although much of this winter was mild, a cold late fall was not conducive to lingering. Most unexpected were the Red-necked Grebes (up to 6) on Chickamauga Lake; but then again maybe not, considering the number of records from that location. Other interesting observations are included in the text of this report. Loon-Heron: Common Loon: 14 Feb (8) Tellico Lake, Monroe Co. (JAK); thru 1 Jan (2) BOL (RLK); 13 Dec (10) CHL (KHD, LHD), max. Horned Grebe: 16 Jan (130) CHL (KHD, LHD), max. RED-NECKED GREBE: 12–27 Feb (1–6) CHL (RLK, LHD, then m. ob.), about 14th state record, 5th CHL record and highest number ever recorded in the state. Double-crested Cormorant: 5, 13 Dec (5, 2) CHL (KHD, LHD); 6 Dec (5) FLL (JAK); 29 Dec (1) BOL (RLK). Greenbacked Heron: 19 Dec (1) NOR CBC (Boyd Sharp). Black-crowned Night-Heron: small numbers present at FLL, DOL and KPT (m. ob.).

Waterfowl: Greater White-fronted Goose: 17 Feb (4) HRA (TJW). Snow Goose: 13/27 Jan (4 white/1 wh, 3 blue) HRA, 13 Jan/17 Feb (2 wh) WBL, 28 Jan (1 wh) CRL, 25 Feb (1 wh) UHR-all by TWRA; Dec into Feb (3 wh) Tusculum. GNC (Margaret and King Gaut); 13 Jan (2 wh) Nolichuckey River, GNC (PHB); above average number of reports. Canada Goose: 5 Jan (1376) UHR, 27 Jan (1156) HRA (TWRA), max. Green-winged Teal: 28 Jan (75) DOL (TWRA), max. American Black Duck: 17 Feb (878) HRA, 5 Jan (625) UHR (TWRA), max. Mallard: 16 Jan (3000) HRA (KHD, LHD), max. Northern Pintail: 16 Jan (10) HRA (KHD, LHD), max. Northern Shoveler: 13 Jan (23) HRA (TWRA), max; 20-27 Jan (1) JNC (BC, et al.), seldom seen there in midwinter. Gadwall: 13 Dec (300) CHL (KHD, LHD), max. American Wigeon: 28 Jan (75) DOL (TWRA), max. Canvasback: 12/13 Dec (1/2) HRA/CHL (KHD, LHD). Redhead: 20-27 Jan (4-1) JNC (BC, et al.), Ring-necked Duck: 5 Jan (350) UHR (TWRA), max. Greater Scaup: 16 Jan (285) CHL (KHD, LHD, et al.), max. Scaup sp.: 11 Dec (432) UHR (TWRA), max. White-winged Scoter: 20 Feb-EOP (1-2) CHL (KHD, LHD, et al.). Common Goldeneye: 28 Jan (281) CRL (TWRA), max. Hooded Merganser: 11 Dec (57) CRL (TWRA), max. Common Merganser: 20-29 Jan (10) BOL (BC, RLK, et al.); 28 Jan (3) CRL (TWRA); only reports. Ruddy Duck: 24 Jan (202) CHL (KHD, LHD), max.

*Eagle-Crane:* Bald Eagle: 28 Jan (1 ad) UHR (TWRA); 7 Feb (1 ad, 1 im) Raccoon Mountain Pumped Storage Station, Marion Co. (RJH); none in the JNC area (*fide* RLK); no other reports. Northern Harrier: none in JNC area (*fide* GDE); no other reports. Sharp-shinned/Cooper's Hawks: 5/4 reports in JNC area (*fide* GDE); 1/3 reports in GNC (PHB, DJN); only reports. Red-shouldered Hawk: 1-16 Jan (1) JNC (JWB, et al.), seldom seen there in midwinter. Rough-legged Hawk: 29 Jan (1 dark phase) Stockton, Fentress Co. (RCH), only report. Golden Eagle: 6 Feb (1 im) HRA (William H. Chipley); hacking projects in Georgia and North Carolina may account for some of the recent CHA area reports (*fide* KHD). Merlin: 17 Dec (1) McMinn Co. Airport (Paul G. Mascuch); 28 Feb (1) Soddy, HLC (AMJ). Peregrine Falcon: 13 Dec (1 ad) CHL (KHD, LHD). American Coot: 13 Dec (3000) CHL (KHD, LHD), max. Sandhill Crane: last southward migrants were 8 Dec (16) Crossville, Cumberland Co. (Bruce F. Anderson) and 2-12 Dec (60) HRA (J. Craig Watson, Carl W. Campbell, KHD); about 15 wintered at HRA (*fide* KHD); first northward spring migrants appeared 16 Feb at SAB (LHD).

Killdeer-Woodpecker: Killdeer: 2 Jan (525) HRA (KHD, LHD), max. Least Sandpiper: 2-10/5-9 wintered at HRA/SAB (KHD, LHD). Dunlin: up to 100 wintered at HRA (KHD). Common Snipe: 21 Feb (52) SAB (KHD, LHD), max. American Woodcock: 31 Dec (1 flushed) Kinser Park, GNC (PHB, Orland R. Britton); 21 Feb-EOP (1 heard) SAB (KHD); 25 Feb-EOP (2 heard) GNC (Richard & Willie Ruth Nevius); 29 Feb (3 heard) Austin Springs, WGC (RLK). Bonaparte's Gull: up to 105 regular on CHL (KHD, LHD, et. al.), above average number; 1-3 Jan (2-3) BOL (RLK, JWB). Ring-billed Gull: wintering populations of 600 on lower CRL, 400 on DOL, and 1000+ on FLL (JAK, CPN, et. al.); during heavy rains in late Dec several flocks of up to 235 reported from grassy fields in Knox Co. (JBO, ARH), presumably foraging on earthworms (CPN); 27 Jan (360) BOL (RLK), about 3 times average wintering number there. Herring Gull: 27 Jan (1) BOL (RLK), only report there. Common Barn-Owl: 21 Feb (1) Rader, GNC (DJN). Red-headed Woodpecker: 19 Dec (2) NOR CBC (ARH); 20 Dec (1) KNX CBC (*fide* CPN); 6 Jan (1) SPW (GWM); only reports.

Lark-Shrike: Horned Lark: 10 Jan (200/50) GNC/ Hamblen Co. (JAK); 26 Jan (2 flocks of 30 and 50 birds) JNB (RLK). Purple Martin: 29 Feb (1) Anderson Co. (*fide* JBO), first arrival. Red-breasted Nuthatch: NOR CBC (4); HRA CBC (2, only CHA area report) (*fide* KHD); KPT CBC (6) (RLK); scarce. House Wren: 18 Dec (1) CHA (RJH). Marsh Wren: 11 Dec (1) CHA (RJH). American Robin: 1 Jan (3000+) SPW (GWM), max. Gray Catbird: 11 Dec (1) CHA (RJH). Brown Thrasher: no reports in the JNC area (*fide* GDE). Water Pipit: present in lower than average numbers in KNX and CHA areas (*fide* CPN, KHD); 15 Jan (40) JNB (RLK), only report there. Cedar Waxwing: present in above average numbers in KNX, GNC, and JNC areas (*fide* CPN, PHB, GDE); 23 Dec (350) NOR (CPN), max. Loggerhead Shrike: 2 reports from GNC (DJN); 18 Dec (7) WGC WRRS, a high count for that area, but only 1 on same route on 16 Jan (RLK).

Warbler-Grosbeak: Orange-crowned Warbler: 15 Jan-27 Feb (1) KNX (Louise F. Fuller), third consecutive winter at feeder. Cape May Warbler: 7 Jan (1) Hixson, HLC (AMJ), at feeder during snowstorm, first CHA area winter record. Pine Warbler: 3 Feb (4 singing) NOR (CPN). Palm Warbler: 1 Feb (1) Blount Co. (JAK). Vesper Sparrow: 18 Jan (1) SPW (GWM), only report. Fox Sparrow: 19 Dec (6) NOR CBC, high count there, but none on KNX CBC (fide CPN); 21 Jan (10) Conklin, WGC (RLK, BC), a high number for JNC area. White-crowned Sparrow: above average numbers in JNC area (fide RLK). Rusty Blackbird: more reports than normal in KNX area: 19 Dec (151) NOR CBC (fide CPN), max; but only 1 report in JNC area (fide GDE). Purple Finch: small numbers in CHA area (fide KHD); moderate to good numbers in KNX area; 19 Dec (159) NOR CBC (fide CPN), max; small numbers in GNC area (fide PHB); moderate numbers in JNC area (fide GDE). House Finch: widespread and numerous. Pine Siskin: a major invasion-many reports of flocks of 100-300 birds from all parts of the region throughout the period (m. ob.). Evening Grosbeak: a few small flocks (1-10 birds) at Signal Mountain, HLC (Jonnie Sue Lyons), Sewanee, Franklin Co. (Jerry Ingles), and KNX area (fide JBO); none in GNC and JNC (fide PHB, GDE).

Locations: BOL-Boone Lake, Sullivan and Washington Cos.; CHA-Chattanooga; CHL-Chickamauga Lake, Hamilton Co. portion; CRL-Cherokee Lake, Grainger, Hamblen and Hawkins Cos.; DOL-Douglas Lake, primarily Jefferson Co.; FLL-Fort Loudon Lake, Blount, Knox and Loudon Cos.; GNC-Greene Co.; HLC-Hamilton Co.; HRA-Hiwassee River Area, primarily Meigs Co., but also Bradley, McMinn, and Rhea Cos.; JNB-Jonesborough, Washington Co.; JNC-Johnson City; KNX-Knoxville; KPT-Kingsport; NOR-Norris, Anderson Co.; SAB-Savannah Bay, Hamilton Co.; SPW-Speedwell, Claiborne Co.; UHR-Upper Holston River, Hawkins Co.; WBL-Watts Bar Lake, Meigs, Rhea and Roane Cos.; WGC-Washington Co.

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EASTERN MOUNTAIN REGION—The weather picture continues the dry conditions our area has seen for the past three years. Below average precipitation totals were recorded for December, January and February. December ended up 1987 with a yearly deficit of almost 6 in. January and February were both below average, starting out seemingly another dry year. The only snowfall of any significance came on the 7th of January when we recorded a total of 6 in. Overall, however, our winter period was one of the mildest we have seen in many years.

The birding observations were about as mild as the weather. Unusual sightings included Blue-winged Teal and Gray Catbird on the Roan Mountain CBC. The Eastern Bluebird population remains noticeably low following the snowstorm mortality of April 1987 (*Migrant* 58:106). The Pine Siskin was widespread, occurring in large flocks throughout the region beginning in early November; most feeder operators are calling it one of the biggest nuisance birds that has dominated their feeders in a long time.

Loon-Hawk: Common Loon: 19 Dec-6 Jan (1-2) WTL (RLK). RED-THROATED LOON: 19 Dec (1) WTL (FJA, CS). Horned Grebe: 19 Dec (2) WTL (GDE, HHF); 6 Jan (1) WTL (RLK). Canada Goose: thru EOP (35-40) Watauga River, Carter Co. (LHTOS). Wood Duck: 20 Dec (6) Ripshin Lake (FJA, CS); 20 Feb (2) RZF (CFW). BLUE-WINGED TEAL: 20 Dec (6) Ripshin Lake (FJA, CS), extremely rare in winter in our area. Hooded Merganser: 6 Dec-28 Feb (3-6) Ripshin Lake (LHTOS). Red-breasted Merganser: 4 Dec (4) WIL (JWB). Ruddy Duck: 2 Jan (3) SHL (JWC, Bert Hale). BALD EAGLE: 23 Jan (1 ad) RNC (EHS); 19 Feb (1 im) SHL (JWC). Sharp-shinned and Cooper's Hawks: number of submitted reports lower than usual. Red-shouldered Hawk: 19 Dec (1) RNC (SG, GWS, RPL).

*Gull–Shrike:* Herring Gull: 4 Dec (1) WTL (BC), only report. Great Horned Owl: 19 Dec (4) ELI CBC (LHTOS); 2 Jan (2) SHL (RPL). Barred Owl: 19 Dec (1) Holston Mountain (RLK). Red-headed Woodpecker: 19 Dec (1) RZF (GDE, HHF), only report. Red-breasted Nuthatch: numerous on RNM at high elevations all period. Eastern Bluebird: still very low overall numbers (see introductory comments). Hermit Thrush: more than the average number of reports were submitted. GRAY CATBIRD: 20 Dec (1) Roan Mountain Village, Carter Co. (FJA, CS), rare in winter. Cedar Waxwing: heavy influx into the region noted in Jan and Feb, with several flocks numbering 50–100 birds. Loggerhead Shrike: 19 Dec (2) Siam Valley, Carter Co. (GOW, CFW).

Sparrow-Grosbeak: Fox Sparrow: no reports submitted?? Rusty Blackbird: 25 Jan (4) ELI (Barbara Walsh). Purple Finch: lower than average numbers this period. House Finch: populations continue to increase each season. Red Crossbill: 19 Dec (25) Dennis Cove, Carter Co. (FJA, CS); 19 Dec (8) Cove Ridge, Johnson Co. (SG, GWS, RPL). Pine Siskin: most definitely the bird of the winter; from late fall thru EOP these birds dominated all feeders in the area with several flocks of 300-400 birds reported. Evening Grosbeak: 19 Dec-7 Feb (7-25) at high elevations only on RNM (LHTOS).

Locations: ELI-Elizabethton; RNC-Roans Creek, Johnson Co.; RNM-Roan Mountain; RZF-Razor Farm, Carter Co.; SHL-South Holston Lake area, Sullivan Co.; WTL-Watauga Lake; WIL-Wilbur Lake, Carter Co.

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## INSTRUCTIONS TO AUTHORS

The Migrant records observations and studies of birds in Tennessee and adjacent areas. Most articles are written by members of the Tennessee Ornithological Society.

SUBMISSIONS: The original and, if feasible, two copies of the manuscript should be sent to the Editor: T. David Pitts, Biology Department, University of Tennessee at Martin, Martin, TN 38238. Manuscripts that have been published in other journals should not be submitted.

MATERIAL: The subject matter should relate to some phase of Tennessee ornithology. It should be original, factual, concise, and scientifically accurate.

STYLE: Both articles and short notes are solicited; recent issues of The Migrant should be used as a guide in the preparation of manuscripts. Where more detail is needed, reference should be made to the *Style Manual for Biological Journals*, this book is available at many public libraries and from the American Institute of Biological Sciences, 1401 Wilson Boulevard, Arlington, VA 22209.

COPY: Manuscripts should be typed *double spaced* on  $8.5 \times 11''$  paper with adequate margins for editorial notations. Tables should be prepared on separate sheets with appropriate title and column headings. Photographs intended for reproduction should be sharp with good contrast on glossy white paper; black and white photographs will usually reproduce better than color photographs. Weights, measurements, and distances should be in metric units. Dates should be in "continental" form (e.g., 16 March 1968). Use the 24-hour clock (e.g., 0500 or 1900).

NOMENCLATURE: The common and scientific names of a species should be given the first time it is mentioned. The scientific name should be underlined. Names should follow the A.O.U. Check-list of North American Birds (1983 edition or subsequent supplements).

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LITERATURE CITED: List all literature citations in a Literature Cited section at the end of the text. Text citations should include the author and year.

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