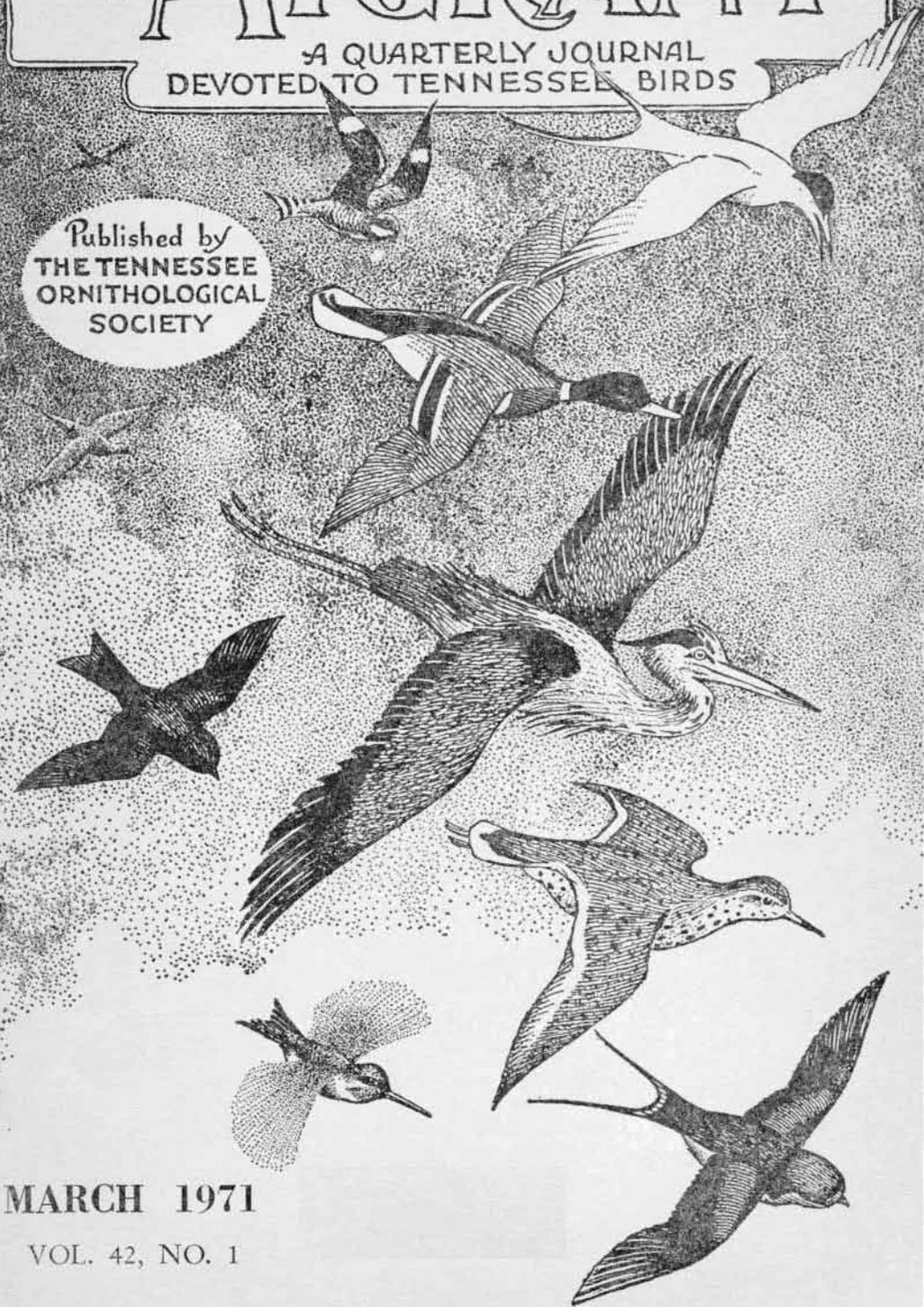


# THE MIGRANT

A QUARTERLY JOURNAL  
DEVOTED TO TENNESSEE BIRDS

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## ANNUAL AUTUMN HAWK COUNT

By THOMAS W. FINUCANE

The 1970 count totaled 16,839, about 8000 lower than in 1968 and 1000 higher than in 1965, our two highest earlier compilations. Broad-winged Hawks were 98.6% of the total. The Sharp-shinned Hawk count was 81, three times our 1959-68 average. On the same basis Cooper's Hawk was down 50%, Red-tailed and Marsh Hawks were average, and Sparrow Hawks were off 60%.

In six days, 21 to 26 Sept., 95% of the 1970 migration was recorded. The six daily totals at Mendota ranged from 609 to 2202 and added to 7888. On 25 Sept. Lee Shafer counted 3850 Broad-wings in 25 minutes near Fall Creek Falls State Park, the largest concentration ever reported in the T.O.S. hawk study. Later he saw 400 more, and 505 next day at the State Park Fire Tower. David Hassler had 1943 hawks in Pickett County, 24 and 25 Sept., when a heavy rain interrupted the flight at noon. Chattanooga observers counted 743 on 26 Sept. at the Dunlap Fire Tower, and on the same day Tom Odom had 292 at the Kyle's Ford Fire Tower, including eight species.

Besides these data, the only counts exceeding 75 were Tom Odom's 275 at Kyle's Ford, 13 Sept. and Valerie Dulemba's 211, which she counted from her apartment balcony, in Chattanooga, in the rain, Sunday, 27 Sept. Fall Creek Falls State Park and Pickett County are 40 miles and 100 miles due north of Chattanooga.

Jim Tanner recorded 18 Sharp-shinned Hawks in less than two hours, 11 Oct., on the Rockwood Fire Tower. As already mentioned, our Sharp-shinned count was outstanding this year, but it might have been sensational if we had spent more time in the field in October. Our hours of observation were below normal, particularly in the late part of the season.

There were more south winds than ever before in the T.O.S. hawk-migration data. Of 32 reports on which wind was recorded, 26 had SE, S, or SW, two had E, three had N, and one had 0. In 1969 wind data were given in 45 reports, but only 15 had winds between SE and SW.

The role of wind in hawk migration is not yet thoroughly understood. More hawks sail past the Mendota Fire Tower lookout on days with south wind than when other winds blow, but this could mean only that other winds are

worse than the south wind, for the Broad-wing count; however, under some conditions (early in the morning, for example, when the Clinch is still cold) a south wind may be an asset.

Conditions beneficial to hawk migration do not always give good counts. Many hawkwatchers believe that there is a "noon lull" in the count, because then the thermals are so strong that the birds are too high to see. Furthermore, sometimes when we have the wrong wind at the Mendota Fire Tower, we see the hawks sailing southwest, diagonally away from the south side of the ridge. By our unfavorable wind, the hawks are taking a more direct route. For high counts at any station on the ridge the hawks should fly parallel to the ridge. Also, as suggested in 1959 (*The Migrant*, 31:2), updrafts in atmospheric frontal systems are sufficient to keep the hawks aloft without help from ridges where lookout stations have been established.

On the other hand, good counts are sometimes made during adverse weather, in the rain or in stable air, for example; the hawks are usually migrating at low altitude, under such conditions.

Hawk migration along the north shores of Lake Ontario and Lake Erie revived in 1970 after several years of poor counts. At Holiday Beach, 34,700 were counted in two hours, and at Hawk Cliff, Ont., 29,000 on the same day, 16 Sept. The two streams were described as "additive," to 63,700 Broad-winged Hawks. (*Am. Birds* 25:51). In 1962 the total of all counts from Ontario on 16 Sept. was 124,000, of which 71,000 was the day's count at Hawk Cliff. Fluctuations in that area should be given consideration before we decide how much the steady increase in the T.O.S. counts can be attributed to increase in the Broad-winged Hawk population.

In most other areas record counts were made in 1970. In the western Great Lakes region (Duluth) 24,000 Broad-wings were counted on 22 Sept. and 63,000 between 10 and 29 Sept. Hawk Mt., Pa., had its second highest count, 14,000 Broad-winged Hawks, and Montclair, N. J. where the count averages a little below the Mendota Fire Tower's, had 9917 on 19 Sept. Many stations had exceptionally high counts of Sharp-shinned Hawks, low counts of Cooper's Hawks, and increasing flights of Ospreys, 600 at Hawk Mt., similar to trends in our data. Jon DeVore identified a Pigeon Hawk, at the Dunlap Fire Tower. The Rough-legged Hawk was observed by T. Finucane.

The 1970 season's weather included several north-south oriented cold fronts that moved rapidly across the continent, west to east. One crossed Tennessee on 27 Sept. and brought clouds and rain and the end of our big week of hawk migration.

#### KEY TO REPORTERS

A—Dr. and Mrs. James Tanner, Knoxville; B—Fred Behrend, Elizabethton; C—Lee and Lois Herndon, John Martin, Elizabethton; Mrs. Harold Dillenbeck and Mrs. George Dove, Johnson City; D—Ken Dubke, Chattanooga; E—Lee Shafer, Whitwell; F—Tom Finucane, Kingsport; G—Barney and Gracie Finucane; H—Lee Herndon; J—John David Hassler, Byrdstown; K—Barney and Marion Finucane; L—Lil Dubke; M—Melanie Odom, Kingsport; O—Tom Odom; P—Cub Pack 88, Den 2, Kingsport; Q—Bob Quillen, Mr. and Mrs.

## ANNUAL AUTUMN HAWK COUNT 1970

No.	Date	Obs.	Hrs.	Area	Wind	Sky	T.	Shn	Cpr	Rdt	Reh	Bwing	Msh	Osp	SpH	Others
1	6/10	B	-	H	-	-	-	-	1	1	-	-	-	-	-	1u
2	12	B	-	R	-	-	-	-	-	-	-	1	-	-	-	-
3	12	TO	8½	K	SE-5	1 70	4	-	1	2	46	1	-	-	-	4u
4	12	FR	8½	M	S-4	2 65	-	1	2	-	57	-	-	-	-	-
5	13	B	-	O	-	-	-	-	2	-	4	1	-	-	-	3u
6	13	TCM	9	K	SE-S-2	2 75	4	-	2	1	262	-	1	-	-	5u
7	14	D	5	D	SE-2	1 78	-	-	-	-	1	-	-	-	-	-
8	16	B	-	J	-	-	-	-	-	-	1	1	-	-	-	1u
9	17	CFX	7	M	SW-2	3 78	1	2	3	-	63	-	1	2	-	-
10	18	L	3½	D	S-4	1 72	-	-	1	-	14	-	-	-	-	1b
11	18	F	7½	B	O	1 79	1	-	1	-	9	-	-	1	-	-
12	19	O	9	K	E-1	1 68	-	2	-	-	22	-	1	-	-	2u
13	19	B	-	Q	-	-	-	-	-	-	-	-	-	-	-	-
14	20	J	2	Y	SW-2	3 81	-	-	-	-	41	-	-	-	-	-
15	20	TO	7	K	E-4	5 63	-	-	1	-	29	-	-	-	-	2a 5u
16	20	FG	2	M	E-S-5	5 75	-	-	-	-	6	-	-	-	-	-
17	21	DL	5	D	SW-S-3	1 76	-	-	-	-	38	-	-	-	-	-
18	21	B	-	U	-	-	-	-	1	1	-	-	-	-	-	1u
19	21	FS	8	M	SW-4	2 77	1	2	2	-	1531	-	3	-	-	-
20	22	DL	7	D	WSW-S-3	1 75	-	-	2	-	63	1	1	-	-	3b
21	22	H	-	G	-	-	-	-	-	-	22	-	-	-	-	-
22	22	SPZ	7	M	SE-3	4 78	1	-	1	-	875	-	4	-	-	-
23	23	Y	2	D	S-2	1 79	-	-	-	-	25	-	-	-	-	-
24	23	B	-	Ru	-	-	-	2	-	4	1	-	-	-	-	-
25	23	FS	9	M	SE-2	1 75	2	-	3	-	600	1	1	-	-	-
26	24	Y	½	S	S-3	1 80	-	-	-	-	19	-	1	-	-	-
27	24	J	6½	P	S-4	2 82	12	-	-	-	1178	-	-	-	-	5u
28	24	SF#	7	M	SE-3	2 75	3	1	1	2	1284	-	-	-	-	-
29	25	E	1	E	S-4	2 75	-	-	-	-	4246	-	-	-	-	-
30	25	J	5½	P	S-SW-4	5 80	-	-	-	-	754	-	-	-	-	-
31	25	FQZ	7½	M	SSE-3	3 78	1	2	1	1	2192	-	1	1	-	3u
32	26	E	6½	F	S-3	2 75	1	-	2	-	498	3	1	1	-	-
33	26	LI	10	D	S-3	0 70	9	-	4	-	724	2	-	3	-	Merlin
34	26	B	-	Ru	-	-	-	4	-	-	2	-	-	-	-	1u
35	26	O	8½	K	SE-2	3 68	7	2	2	1	272	2	2	1	-	3u
36	26	FPZ	6½	M	S-3	3 72	2	2	2	-	1461	-	-	-	-	Rufleg
37	27	V	3	C	N-3	5 70	-	-	-	-	211	-	-	-	-	-
38	28	B	-	O	-	-	-	-	4	-	22	-	-	-	-	1u
39	28	D	5	D	N-5	0 66	-	-	-	-	9	-	-	1	-	-
40	28	F	4	M	N-3	3 55	8	-	3	-	9	-	2	-	-	4u
41	10/1	B	-	Ru	-	-	-	-	-	-	2	-	-	-	-	-
42	3	FKN	2½	M	SW-3	1 62	5	3	1	-	-	-	-	-	-	2a 1u
43	11	A	2	W	SW-2	2	-	18	-	1	-	4	-	1	-	-
TOTALS			180				61	16	47	7	16598	10	23	7	50	

Hood and Becky, Bristol; R—Mr. and Mrs. Roy Allen, Kingsport; S—E. E. Scott, Nickelsville, Va.; T—Tom Odom III; V—Valerie Dulemba, Chattanooga; W—Fred Behrend and Bob Quillen; X—Maxie Swindell, Roan Mt.; Y—Mary Shafer, Whitwell; Z—Charlotte Finucane and Peggy Ferrel, Kingsport; I—Hank and Valerie Dulemba, Jon DeVore, Mary Tunsberg, Daniel Jacobson, Mary Lou and Art Jones, Mrs. R. D. Barton, Chattanooga.

#### KEY TO OBSERVATION STATIONS

B—Bay's Mt. Radio Tower, 2300 ft.; C—Chattanooga, 800 ft.; D—Dunlap Fire Tower, 2637 ft.; E—Eight miles east of Fall Creek Falls State Park, 1800 ft.; F—Fall Creek Park Fire Tower, 2000 ft.; G—Elizabethton Golf Course, 1550 ft.; H—Holston High Knob, 4150 ft.; J—Buck Ridge Fire Tower, 4298 ft.; K—Rogersville Kyle's Ford Fire Tower, Clinch Mt., 2401 ft.; M—Mendota Fire Tower, Clinch Mt., 3018 ft.; O—Hump Mt., 5587 ft.; P—Stepp Gap, Pickett County, 1617 ft.; Q—McQueen's Knob Fire Tower, Holston Mt., 3385 ft.; R—Roan Mt., 4500 ft.; Ru—Roan High Bluff, 6250 ft.; S—Daus, Squatchie Valley, 740 ft.; W—Rockwood Fire Tower; Y—Byrdstown, 964 ft.

1434 Watauga Street, Kingsport, 37664.

#### ROUND TABLE NOTES

LEAST TERN IN MIDDLE TENNESSEE—On Saturday, 3 June, 1970, the observers encountered a Least Tern (*Sterna albifrons*) in the Buena Vista area of Nashville, Tennessee. The tern was spotted at approximately 09:00 on a clear, sunny day and was observed for about an hour. The tern was white with a black cap, yellow bill, square tail and with a white patch barely visible on the forehead. A Killdeer flew near this bird, and we could observe that the tern was generally the same size.

Comparison with *Robbins' Field Guide* confirmed the identification. Subsequently H. E. Parmer and M. L. Bierly were contacted and also observed the bird. This is the third Nashville area record, the eighth Mid-Tennessee record, and the only June record for Mid-Tennessee.

JOHN AND HEATHER RIGGINS, 5615 Brookwood Place, Nashville, Tennessee 37205.

CROSS-BEAK ANOMALY IN THE MOCKINGBIRD—A Mockingbird (*Mimus polyglottos*) with a cross-beak was collected 21 February 1970, by the junior author in the city of Paragould, Greene County, Arkansas. A study skin was prepared and placed in the Arkansas State University Museum (ASUM #410). Bill measurement (cord of culmen from base) was 1.5 cm.

Two genera of birds showing crossing of the upper and lower beak as a normal trait are crossbills of the genus (*Loxia*) and a Hawaiian genus (*Loxops*). Members of the genus (*Loxia*) are widely distributed fringillids. Bill anomalies occur in wide and diverse groups of native birds including the American Bittern (Batts, *Wilson Bulletin*, 66:142, 1954), Little Blue Heron

(Hanebrink and Beadles, *Southwestern Naturalist*, in press, 1970) Brown Thrasher (Goertz and Mowbray, *Southwestern Naturalist* 14: 254-255, 1969), House Sparrow, Red-winged Blackbird, Starling and Downy Woodpecker (Dow, *Wilson Bulletin*, 77: 86-88, 1965) and others.

In domesticated chickens and pigeons several papers have been published on bill deformities (Linder, *Orn. Mschr.*, 27: 59-62, 1902; Duerst, *Naturf. Ges. Bern*, pp. 281-303, 1909; Landauer, *J. of Genetics*, 37: 51-68, 1938; Parona, *Atti. Soc. ital. Sci. nat.*, 23: 127-133, 1880; Hanebrink, *Natl. Pigeon Review*, p. 2, Dec. 1969). Studies in domesticated chickens (Mercier and Poisson, *Bull. France and Belg.*, 61: 326-332, 1927; Landauer, *J. of Genetics*, 37: 51-68, 1938) have shown this condition to be hereditary and recessive to the normal with no Mendelian ratios reported.

EARL L. HANEBRINK AND BOB R. SINGLETON, Department of Biology, Arkansas State University, State University, Arkansas 72467.

SNOW BUNTINGS, OLDSQUAW, AND WHITE-WINGED SCOTER IN EAST TENNESSEE—On the morning of 28 December 1969 Robert A. Stiles and I were duck hunting on the lower end of Stump Island on lower Cherokee Reservoir. At about 09:00 several small groups of song birds began to move across the island. Their call seemed unfamiliar, and a more critical look revealed that the closest birds were Snow Buntings (*Plectrophenax nivalis*). There were six or seven individuals in the group nearest our blind, one of which landed about ten feet behind the blind. I assume that the several adjacent small groups of birds were also Snow Buntings. If this were the case, the total number in the loose flock would have approached 15 individuals. Stump Island is the first large island above Cherokee Dam. The Snow Buntings were observed on the lower point of the island, which was about 2½ miles northwest of the dam at that date's lake elevation of approximately 1000 ft. above mean sea level. Air temperature was slightly below freezing, and Stump Island was sparsely covered with snow. Water levels sufficiently low to expose Stump Island reveal an extremely bleak landscape, virtually free of vegetation, with occasional stumps and pieces of driftwood breaking the monotony of the gently rolling hills of red clay and gravel.

Bill Allen, Tennessee Game and Fish Commission, killed an Oldsquaw (*Clangula hyemalis*) on 26 December 1969. An additional specimen, identified by both the author and Mr. Allen, was taken two days later by Mr. Stiles, and two additional specimens were taken by the author and Mr. Stiles on 3 January 1970. All four were juveniles that were taken in the lower portion of Cherokee Reservoir. Bill Allen (personal communication) reported bag-checking a White-winged Scoter (*Melanitta deglandi*) from John Sevier Reservoir during December, 1969, and seeing an additional specimen, along with two pairs of Oldsquaw, on 30 March 1970. The annual presence of a few small flocks of these two species of ducks on Cherokee and John Sevier Reservoirs has been noted by local duck hunters for some time, but very few of these reports have reached the ornithological literature.

DAVID A. ETNIER, Department of Zoology, University of Tennessee, Knoxville, 37916.

SONG SPARROW NESTS IN NASHVILLE—In June 1969, this writer heard a song which sounded like a Song Sparrow, *Melospiza melodia*. The song was not repeated during an ensuing five-minute listening period and since there was no record of Song Sparrows in the vicinity of Nashville at this time of year, this incident was disregarded as being either a mistake or an itinerant migrant.

Events which have occurred this year, however, are evidence that the above was very likely a Song Sparrow nesting or attempting to nest here.

On 14 June 1970, in the same vicinity, which is in the Crieve Hall subdivision, near Ellington Agricultural Center, an unmistakable Song Sparrow song was heard repeatedly, and the bird was sighted in a willow tree, beside a small stream, in an extremely well-tended yard.

On 16 June, Dr. Katherine Goodpasture visited the area, confirmed the identification, and together we observed a pair of Song Sparrows for an hour and a half, during which time two inactive nests were located. The first nest found contained one egg and was obviously abandoned for reasons unknown to us. This was in one of a group of seven clipped cedar trees, approximately six feet tall. The second nest found, contained four eggs and was in the next cedar tree, about the same height as the first one. This nest had obviously been tampered with by human hands, as a small piece of plastic covered the nest, and we were advised by the property owner that her husband had discovered this nest, and fearing that he had uncovered it, he placed the plastic there thinking to protect the nest. We did not see a bird on this nest and did not determine on this day whether or not it was abandoned. It was later proven to be abandoned.

On 19 June, Mike Bierly observed the birds and discovered a nest containing four eggs with the female Song Sparrow sitting on it. This was in another of the same row of cedar trees. However, on 21 June, this nest was blown out of the tree and destroyed by a violent windstorm and rainstorm.

On succeeding days the birds were observed in the same location and were singing as if maintaining their territory.

On 1 July, Mike Bierly discovered the fourth nest, this one active and containing four eggs, in yet another of the same row of cedar trees. This also approximately six feet high. This was carefully watched and on 11 July, there were three young birds and one egg in the nest. On the 13th and 15th of July the same condition existed.

On 16 July, Mike banded three young birds and removed the unhatched egg.

On 20 July, Mike observed one young bird in the nest and one in a hedge approximately 30 feet away from the nest.

On 21 July, the writer observed the last young bird leave the nest and the nest remained empty and intact.

This is the first recorded Song Sparrow nesting this far west in Tennessee.

LOUISE JACKSON, 5037 Montclair Dr., Nashville 37211.

## THE 1970 CHRISTMAS SEASON BIRD COUNTS

JON E. DEVORE, *Editor*

The Fortieth\* annual Christmas Season Bird Count listed a total of 126 species for the state. Only one previous count exceeded this number, 1965 with 130 species with nineteen participating groups within the state. The current count with fifteen participating groups ties the 1969 count, which was composed of counts from seventeen locations.

Thirteen species were represented by only one individual. The Turkey, Short-eared Owl, Short-billed Marsh Wren and Western Meadowlark from Memphis; Osprey, Catbird and Lapland Longspur from Reelfoot Lake; Little Blue Heron and Rose-breasted Grosbeak from Lebanon; Double-crested Cormorant, Palm Warbler and Blue Grosbeak from Knoxville and Evening Grosbeak from Great Smoky Mountains National Park. Eight additional species were reported from only one location. Twenty-six species were reported from all areas. All of these, with the exceptions of Yellow-bellied Sapsucker, Slate-colored Junco, White-throated Sparrow and Song Sparrow, could be considered permanent state-wide residents.

Favorable weather conditions during the count period contributed to the high count. Sky conditions ranged from clear to overcast, with only one mention of intermittent showers. In some of the higher elevation areas, the ground was covered with snow. The temperature during the count period ranged from 10° to 63° F, while the wind velocity was estimated at 15 mph or less at the time of the counts on all but three, the maximum estimated at 35 mph.

Special mention is made of some of the unusual observations in the text under "Information on the Counts" for the appropriate location.

The counts are listed progressively across the state from west to east, both in the text and tabulated data.

## INFORMATION ON THE COUNTS

MEMPHIS—35° 09' N, 89° 56' W. 27 December; 06:00 to 17:00; cloudy; temp. 28° to 46° F; wind 0-3 m.p.h.; total party-hours 60; total party-miles 151.

The House Wren, Short-billed Marsh Wren, and Le Conte's Sparrow were seen by Ben Coffey.

David Brogdon, Fred T. Carney, Mr. and Mrs. Ben B. Coffey (compilers), Fred Dickson, Mr. and Mrs. Henry Dinkelspiel, Mr. and Mrs. Quentin B. Dowdy, Billy C. Grimm, George Harvey, Mr. and Mrs. Robert T. Highgate, Edward M. King, Nelle Moore, John Morrow, George Payne, Ernest Restivo, Joe Y. Sammons, Alice Smith, Dr. W. L. Whittemore.

\* The 1964 Christmas Season Bird Count was recorded as the 35th. It should have been the 34th. This error has been carried forward annually until this issue, in which the error is corrected.

## THE 1970 CHRISTMAS SEASON BIRD COUNTS

	Mamp- bis	Reel- foot	Hender- son	Savan- nah	Colu- bia	Mash- ville	Hick- ory P.	Leba- non	Cook- ville	Chatt- anooga	Knex- ville	OSWRP	Greene- ville	Kings- port	Eliza- bethton
Common Loon	--	--	--	3	--	--	2	--	--	1	1	--	--	1	4
Horned Grebe	--	--	--	16	--	--	27	--	--	4	4	--	--	8	2
Pied-billed Grebe	2	7	--	12	9	8	54	--	--	4	10	--	--	51	9
Dbl.-cr. Cormorant	--	--	--	--	--	--	--	5	--	--	2	--	2	--	--
Great Blue Heron	1	4	--	--	14	--	32	--	--	--	2	--	--	--	--
Green Heron	--	--	--	--	--	1	--	2	--	--	1	--	--	--	--
Little Blue Heron	--	--	--	--	--	--	--	1	--	--	45	--	--	--	--
Canada Goose	20050	--	--	--	11	--	124	209	--	--	--	--	--	--	--
Snow Goose	--	4	--	--	--	--	--	--	--	--	--	--	--	--	--
Blue Goose	--	2	--	--	--	--	1	--	--	--	--	--	--	--	--
Mallard	49	21000	10	3	96	12	316	1305	--	--	45	--	86	89	30
Black Duck	--	12000	--	--	67	--	51	220	--	45	30	--	--	630	8
Gadwall	--	90	--	--	28	--	--	30	--	--	29	--	--	--	--
Pintail	--	--	--	--	2	--	--	130	--	--	--	--	2	--	--
Gr.-winged Teal	--	130	--	--	21	--	1	40	--	--	--	--	--	--	5
Bl.-winged Teal	--	--	--	--	--	--	--	30	--	--	--	--	--	--	2
Sharp-shinned Woodpecker	--	85	--	--	40	--	34	15	--	--	1	--	--	10	2
Shorelarks	--	115	--	--	3	--	--	10	--	--	1	--	--	3	--
Hood Duck	13	65	--	--	2	15	--	64	--	2	--	--	--	2	2
Redhead	--	3	--	--	2	--	2	15	--	--	--	--	--	--	--
R.-necked Duck	3	1250	2	30	84	19	--	60	--	--	4	--	--	112	60
Canvasback	--	8	--	--	1	2	17	42	--	--	1	--	--	--	--
Greater Scaup	--	110	--	25	12	56	49	35	--	135	4	--	--	58	4
Lesser Scaup	5	7	--	10	1	44	110	10	--	9	27	--	--	2	--
Common Goldeneye	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bufflehead	--	6	--	25	9	25	5	10	--	--	--	--	--	4	10
Oldsquaw	--	45	--	--	3	1	12	6	--	--	--	--	--	--	--
Ruddy Duck	1	6	--	3	7	2	4	5	--	--	2	--	--	--	--
Hooded Merganser	--	3	--	--	--	--	1	12	--	--	--	--	--	--	--
Common Noddy	--	3	--	--	--	--	--	--	--	--	--	--	--	--	--
Turkey Vulture	--	--	3	9	132	4	11	35	2	--	--	2	1	--	--
Black Vulture	3	3	--	3	1	10	--	65	--	1	1	1	3	--	2
Sh.-shinned Hawk	--	--	--	--	1	--	--	2	--	--	8	--	--	1	--
Coppers Hawk	--	--	--	3	6	25	4	5	3	15	8	4	--	--	--
Red-tailed Hawk	18	22	3	3	6	25	4	5	3	15	8	4	--	--	--
Red-shld. Hawk	1	8	--	--	2	2	2	--	--	2	--	--	--	--	--
Golden Eagle	--	3	--	--	--	--	--	--	--	--	--	--	--	--	--
Bald Eagle	--	45	--	3	--	--	--	--	--	1	1	--	--	--	--
Marsh Hawk	1	1	--	3	3	4	1	--	1	1	1	--	--	--	--
Osprey	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--

	Man- bit	Reel- foot	Henders- son	Sav- nah	Colum- bia	Nash- ville	Black- ey P.	Leba- nan	Cooke- ville	Chatt- anooga	Tom- sville	OSMF	Greene- ville	Kings- port	Ellis- bethan
Sparrow Hawk	7	20	2	2	8	36	43	12	7	5	13	9	1	2	2
Ruffed Grouse															
Bobwhite	63	13		6	42	38	37	95	32	36	36	11	55	3	19
Turkey	5													2	2
American Coot		1,350		190	514	85	315	9		15	9				
Killdeer	67	18	7	8	2	60	57	4	2	36	130	62	15	13	29
American Woodcock					1			5		1					
Common Snipe	5	27	2	8	7	5	4	3		15					1
Herring Gull		27					23			1	3				6
Ring-billed Gull	60	93		35			237			60	265			35	
Nonparula's Owl				2											
Horned Owl	60	179	27	65	26	251	181	34	59	244	290	108	233	55	21
Screech Owl				1	1			1				1	1	1	
Great Horned Owl		1		1	2	3		3	2			1			
Barred Owl	2	2			1										
Short-eared Owl	1														
Belted Kingfisher	2	4		6	4	9	14	16	2	6	6	10	1	4	9
Yl-shafted Plover	166	74	7	13	7	57	22	8	8	25	13	18	5	2	13
Pileated Woodpecker	12	28	5	3	7	34	7	5	8	3	3	20	7	3	20
Red-bellied Woodpecker	68	74	4	6	14	100	19	12	13	25	25	21	14	5	5
Red-headed Woodpecker	9	9	1	8	2	4		5	7	6			2	2	2
Yl-bellied Sapsucker	11	9	1	2	5	23	11	4	2	4	6	12	2	2	3
Hairy Woodpecker	21	12		3	6	23	2	10	5	2	3	14	19	4	23
Dowry Woodpecker	53	21	3	8	30	128	23	20	21	13	21	64	19	11	26
Eastern Phoebe		1		1					3						3
Horned Lark	171	235		58	15	141	25		2	2	11	8			1
Blue Jay	356	71	34	72	12	266	132	51	92	127	140	106	34	40	84
Common Raven															
Common Crow	52	271	30	6	85	730	138	55	68	58	375	311	152	15	148
Fish Crow	12	3													
Bl-capped Chickadee															
Carolina Chickadee	197	150	14	15	50	299	15	127	58	83	127	259	57	13	106
Tufted Titmouse	60	36	15	2	56	241	34	81	12	51	85	194	32	37	71
White-eye, Nuthatch		6		3		23		6	4	7		56	4	8	26
Red-br. Nuthatch	2	4													
Brown Creeper	14	13		3	1	11	1			1	2	5		2	3
House Wren	2														
Winter Wren	15	7	1	2	1	1		20		2	5	17	1	12	
Swainson's Wren					1	4		1		2			6		
Carolina Wren	136	54	2	5	16	93	18	4	13	22	53	73	14	10	39
Bl-capped Marsh Wren															
Mockingbird	221	11	7	7	26	191	109	93	21	119	202	39	40	26	69
Catbird															
Brown Thrasher	15	7	2		1	3		4	1	4	5	2	1		

	Memp- his	Bool- foot	Hender- son	Savan- nah	Colum- bia	Nash- ville	Hick- ory P.	Leba- non	Cooke- ville	Grati- anoona	Ynox- ville	OSMHP	Orsano- ville	Klams- port	Eliza- abethton
Robin	1385	8	9	100	30	7	35	3	13	101	74	141	12	5	78
Hermit Thrush	34	7	1	2	1	2	--	--	--	1	19	--	--	6	1
Eastern Bluebird	--	6	8	11	8	166	31	15	14	89	42	40	4	6	24
Golden-cr. Kinglet	64	19	5	25	1	6	--	--	2	13	29	99	--	34	16
Ruby-cr. Kinglet	35	1	4	4	4	3	--	2	--	3	5	18	--	--	1
Water Pipit	--	--	--	--	--	--	--	2	--	--	--	--	--	--	--
Cedar Waxwing	20	--	--	1	--	--	56	5	2	536	6	27	17	14	--
Cop.-ind. Shrike	12	13	8	9	1	43	10	6	7	2	11	5	2	3	4
Starling	4590	2680	6	9	905	2389	2655	757	416	1804	6100	375	2133	783	1130
Myrtle Warbler	105	6	2	14	5	27	6	4	--	17	11	53	10	--	37
Pine Warbler	--	--	--	1	--	--	--	--	--	1	2	--	--	--	--
Palm Warbler	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--
House Sparrow	240	375	35	150	101	270	611	141	49	241	157	176	81	35	149
Eastern Meadowlark	227	179	11	85	82	352	284	16	80	175	207	261	275	60	33
Western Woodcock	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Redwing Blackbird	630	8600	75	1200	2235	10	77	--	--	1680	177	21	50	--	--
Rusty Blackbird	8	--	--	15	1156	--	71	--	4	43	38	--	--	--	--
Brewer's Blackbird	--	--	50	--	--	--	--	--	--	--	--	--	--	--	--
Common Grackle	912	1100	16	300	3035	25	84	31	199	3	69	10	--	50	--
Br.-headed Cowbird	407	3012	--	25	606	1	4	2	158	57	301	--	--	--	--
Cardinal	612	266	59	68	207	735	317	230	126	199	305	317	143	118	145
Rose-br. Grosbeak	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--
Blue Grosbeak	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--
Evening Grosbeak	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--
Purple Finch	1	--	3	--	--	10	--	18	4	2	7	3	2	--	1
Pine Siskin	--	--	--	--	--	--	--	6	--	1	--	--	--	--	--
American Goldfinch	234	154	14	34	34	279	97	24	55	84	102	273	30	60	47
Rufous-sided Towhee	66	1	6	6	30	138	12	26	38	71	82	20	10	23	14
Savannah Sparrow	96	7	--	7	3	9	--	--	--	9	19	23	--	--	1
LeConte's Sparrow	1	--	--	--	--	--	--	--	--	--	1	--	--	--	--
Vesper Sparrow	1	--	--	--	--	--	--	--	--	--	--	--	--	2	--
Sl.-colored Junco	453	293	125	55	37	869	137	50	46	184	130	463	31	105	287
Tree Sparrow	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
Chipping Sparrow	--	2	--	--	--	--	--	6	--	15	2	--	1	--	--
Field Sparrow	111	229	10	66	26	355	82	15	45	401	208	162	344	18	45
White-cr. Sparrow	3	42	18	1	16	87	1	31	--	--	18	2	24	--	7
White-thr. Sparrow	221	152	50	110	165	381	72	27	39	202	785	500	68	64	71
Fox Sparrow	115	11	--	4	13	29	--	1	--	2	24	--	1	--	2
Swamp Sparrow	290	69	24	6	27	10	2	--	--	15	40	30	--	--	--
Song Sparrow	366	148	9	32	67	332	92	7	14	60	262	221	32	10	113
Lapland Larkspar	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Individuals	13990	66447	731	3030	10294	9499	7092	4561	1827	7232	11213	5011	3872	2775	3419
TOTAL SPECIES	70	88	45	70	77	69	67	80	45	70	80	58	50	56	59

REELFOOT—36° 25' N, 89° 23' W. 31 December; 07:00 to 16:30; cloudy; temp. 33° to 39° F; wind 5-10 m.p.h.; total party-hours 34; total party-miles 170.

Ben Coffey, Lula Coffey, Evelyn Cole, John DeLime, Nito Graham, George Harvey, Bob Head, Kenneth Leggett (compiler), Don Manning, Jina Manning, George Payne, Clell Peterson.

HENDERSON—35° 23' N, 88° 45' W. 30 December; 06:45 to 15:30; overcast; temp. 36° to 45° F; wind 1-5 m.p.h.

Mrs. E. M. Carpenter (compiler).

SAVANNAH—24 December; 08:00 to 17:00; clear; temp. 28° to 45° F; wind 0 m.p.h.; total party-hours 9; total party-miles 40.

David Patterson (compiler), Mike Patterson.

COLUMBIA—35° 36' N, 87° 10' W. 30 December; 07:00 to 18:00; high overcast; temp. 25° to 45° F; wind 0-5 m.p.h.; total party-hours 14; total party-miles 192.

William Dale, Barbara Finney, William Fuqua, Cleo Mayfield, George Mayfield (compiler), Evelyn Ridley.

NASHVILLE—26 December; 04:45 to 17:00; temp. 13° to 35° F; wind 10-15 m.p.h.; clear; total party-hours 81½; total party-miles 334½.

Mr. and Mrs. B. A. Abernathy, Frances Abernathy, Mr. and Mrs. Clyde Anderson, Sue Bell, Mike Bierly, Mr. and Mrs. Luther Christman, Mrs. T. L. Clark, Mrs. J. L. Clarke, Annella Creech, Ann Denslow, Milbrey Dugger, John and Evelyn Ellis, Charles E. Farrell, Clara Fentress, Albert F. Ganier, Katherine A. Goodpasture, Ben Groce, John Herbert, Mrs. A. B. Herron, Louise Jackson, Mrs. William H. Jackson, Mrs. J. W. Lauderdale, Margaret Mann, Kathy Meyer, Mr. and Mrs. George R. Miller, Fanny Murphy, Ann Nichols, Henry E. Parmer (compiler), Mrs. William Puryear, Mr. and Mrs. Oscar Patrick, John and Heather Riggins, Scott Thomas, Mr. and Mrs. W. J. Vaughan, Virginia Workman.

HICKORY-PRIEST—36° 12' N, 86° 40' W. 3 January; 06:30 to 17:00; partly cloudy a.m.; intermittent rain p.m.; temp. 36° to 56° F; wind 10-30 m.p.h.; total party-hours 45; total party-miles 230.

The Blue Goose (Parmer party) was an adult, however, its status as a wild bird was questionable due to domestic birds being in the area in recent years. The 110 Common Goldeneye, 102 in one flock, was a daily abundance record for the Nashville area. The 12 Oldsquaw (Bierly party) were in one flock on Percy Priest Lake. The Common Merganser was on Old Hickory Lake by Goodpasture.

Vivian Anderson, Sue Bell, Michael Bierly (compiler), Ruth Castles, Dot Crawford, Paul Crawford, Annella Creech, Ruby Dobbs, Milbrey Dugger, Ann Fleming, Katherine Goodpasture, Pam Harger, Pat Harger, Helen Hodgson, Carol Knauth, Mary Lou Lorance, Margaret Mann, Don Manning, Gina Manning, Kathy Meyer, Ann Nichols, Henry Parmer, Heather Riggins, John Riggins, Natasha Riggins, Ann Tarbell, Scott Thomas.

LEBANON— $36^{\circ} 15' N$ ,  $86^{\circ} 21' W$ . 28 December; 06:00 to 19:00; clear; temp.  $23^{\circ}$  to  $44^{\circ} F$ ; wind 5-10 m.p.h.; total party-hours 54; total party-miles 110.

The Rose-breasted Grosbeak (1) was seen in the area daily from 18 December to 5 January. When first seen the bird was obviously injured—but recovered to depart at the January cold spell. The bird was seen at a feeder located at the home of Mrs. Margaret Williams who lives near the Gallatin Steam Plant. The sighting was confirmed by several additional birders of some experience. The Little Blue Heron (1) was a mature bird. It was seen by an experienced birder (Dan Denney) at the Boxwell Boy Scout Camp. It was identified by sight and binoculars at a distance of 35 feet. The bird was observed for about five minutes. The Green Herons (2) were seen by two adult experienced birders (Mary Wharton and Lucille Chambers).

Joe Adams, Mrs. Robert Bain, Dr. Sidney Berry, Mrs. Frank Bloodworth, Mrs. George Bouton, Mrs. Lucille Chambers, Dan Denny, Mrs. H. Easter, Col. Robert Hosier, Dr. and Mrs. William Howard, Robert Justice, Mrs. J. P. Leathers, Mrs. Gwendolyn McFarland, Mr. and Mrs. Dixon Merritt, Bill Sellers, Reverend and Mrs. William Senter (compilers), Mrs. Margaret Smith, Mrs. Sue Smith, Mr. and Mrs. Porter Taylor, Willie Taylor, Mr. and Mrs. Neil Welty, Mrs. William Welty, Miss Mary Wharton.

COOKEVILLE—28 December; 06:30 to 16:30; fair; temp:  $20^{\circ}$  to  $40^{\circ} F$ ; total party-hours 55; total party-miles 100.

Dr. and Mrs. J. O. Cummins, Mr. and Mrs. James Haile, Mr. Roy T. Hinds, Dr. Paul L. Hollister, Mr. and Mrs. Frazier Jaquess, Dr. and Mrs. Sidney L. McGee, Mrs. J. T. Moore, Sr., Mr. T. B. Link, Mr. Miser R. Richmond, Mr. and Mrs. Roy H. Sullivan, Mr. F. R. Toline, Robert Toline, Miss Marie White (compiler).

CHATTANOOGA— $35^{\circ} 02' N$ ,  $85^{\circ} 16' W$ ; 27 December; 08:00 to 19:00; clear a.m.; cloudy to overcast p.m.; temp.  $17^{\circ}$  to  $44^{\circ} F$ ; wind 0-9 m.p.h.

Frances Barnwell, Benton Basham, Jeff Basham, Hugh Crownover, Maxine Crownover, Jon DeVore (compiler), Edith Fenn, Kurt Krause, Veta Sliger, Mary Tunsberg, Jack Wagner, Mark Wagner, Adele West, Mrs. Harvie Wilkinson.

KNOXVILLE— $35^{\circ} 55' N$ ,  $84^{\circ} 5' W$ ; 27 December; 07:00 to 19:00; clear to partly cloudy; temp.  $25^{\circ}$  to  $40^{\circ} F$ ; wind 5-15 m.p.h.; total party-hours 81; total party-miles 490.

The Green Heron was seen by Boyd Sharp who flushed it at a distance of about ten feet and had a good look at it. The Bonaparte's Gull (3) were seen by Paul Pardue on Loudon Lake and the same birds were seen again on the following day by Pardue and others. The Blue Grosbeak was seen by Paul Pardue, who watched it through 20 powered telescope for several minutes. The Le Conte's Sparrow was identified by Dr. Walter Scarlett, who was familiar with the species in Arkansas.

Joshua Banner, James Campbell, Joseph Howell, Susan Hoyle, Beth Lacy, Chester Massey, Mrs. C. Massey, Deborah Massey, Morton Massey, Terry Mc-

Gown, Robert Monroe, Walter Nickell, Louise Nunnally, Paul Pardue, W. P. Scarlett, Boyd Sharp, Mr. and Mrs. L. F. Smith, James T. Tanner (compiler), Samuel Tipton, Laura Wells.

GREAT SMOKY MOUNTAINS NATIONAL PARK—35° 40' N, 83° 29' W; 3 January; 06:30 to 18:00; overcast a.m.; clear to partly cloudy p.m.; temp. 20° to 63° F; wind 0-35 m.p.h.; total party-hours 114; total party-miles 406.

Joshua Banner, Mrs. Howard E. Barclay, Mr. and Mrs. Lane Briggs, James Campbell, Mary Ruth Chiles, Mr. and Mrs. John Christianson, Mr. and Mrs. O. T. Collett, Mrs. Mary Frances Davidson, Mr. and Mrs. Henry Gassaway, Mr. and Mrs. Alfred Haegele, Dave Hassler, Robbie Hassler, Joseph C. Howell, Mr. and Mrs. Dan Jones, Tony Koella, Beth Lacey, Mrs. Dorothy T. Lexau, Dorothy J. MacLean, Mrs. George McGown, Chester A. Massey, Debbie Massey, Eleanor Massey, Mr. and Mrs. Robert Monroe, Julia Moore, Andy Morton, Chuck Nicholson, Louise Nunnally, Holly Overton, Paul S. Pardue, E. Powell Puckett, Mr. and Mrs. F. Earle Rankin, Mrs. Sterling Ryder, A. Boyd Sharp, Johneta Smith, Louis Smith, James T. Tanner, S. R. Tipton, Lucille Walder, Laura Wells, Bill Williams, Irene Williams, Mrs. C. H. Wodtke, George Wood, Hedy Wood, Richard C. Zani (compiler).

GREENEVILLE—3 January; 08:00 to 18:00; overcast to clearing p.m.; temp. 30° to 53° F; wind 0-20 m.p.h.; total party-hours 35; total party-miles 57.

Betty Armitage, Elizabeth Burleson, Mrs. Marjorie Clemens, Mrs. Chester Darnell, Mr. and Mrs. William Fischer, Mr. and Mrs. King Gaut, John Waddell, Mr. and Mrs. David Johnson, Mr. and Mrs. Richard Nevius (compilers), Richard Sievert, Dr. and Mrs. Royal Spees.

KINGSPORT—36° 30' N, 82° 31' W; 26 December; 07:45 to 17:00; clear; temp. 12° to 24° F; wind 10 m.p.h.; total party-hours 28½; total party-miles 87.

Roy Allen, Tom Finucane (compiler), Lucille Smith, Ann Switzer, Jon Wert.

ELIZABETHTON—36° 20' N, 82° 08' W; 2 January; 06:30 to 17:30; clear to partly cloudy; temp. 17° to 43° F; wind calm.

Fred Behrend, Mrs. George Dove, Glen Eller, Dr. and Mrs. Lee R. Herndon, Roby May, John Martin, Mrs. Potter, Peter Range (compiler), Brent Rowell, Mr. and Mrs. Tommy Swindell.

Correction: The sentence beginning in line four of the last paragraph (Alsop, *The Migrant* 41:50, 1970) reads as follows: "The average annual precipitation is about 38 inches". The sentence should read: The average annual precipitation is about 83 inches.

## EASTERN BLUEBIRD NESTING AT ASHLAND CITY, 1970

By AMELIA R. LASKEY and MARTHA F. HERBERT

This report is a continuation of the 1968 and 1969 nesting activities of Eastern Bluebirds (*Sialia sialis*) in the rural Neptune Community of Ashland City. (*Migrant* 39:73-74 and 40:81-82).

This year John S. Herbert has been gradually placing the 69 available nest boxes for Bluebirds on metal pipes. Thus far, observations indicate that the boxes already installed on pipes have provided better protection from climbing mammals than those still nailed on fence posts. From 13 March to early September, M. F. Herbert and A. R. Laskey made weekly inspections of these boxes on 9 miles of rural roads in the Neptune Community of Ashland City, compiling records for this report.

The first egg of the season was laid on 2 April, the same date as last year. On 17 April, 35 nests contained complete or partial sets of eggs. The peak was reached on 24 April: 42 nests with eggs, 4 with young, but troubles had already started and 7 nests had come to grief. The latest brood fledged the first week of September. During the season, 10 sets of white-shelled eggs were laid. Two females had 3 white-egg sets each.

Of the 69 available nest boxes, 64 were occupied at least once by Bluebirds, plus a martin house. Three other species built in these boxes: Red-bellied Woodpecker (*Centurus carolinus*), Carolina Chickadee (*Parus carolinensis*), Carolina Wren (*Thryothorus ludovicianus*). The woodpecker enlarged the opening, laid 4 eggs, raised 2 young; the other two species were unsuccessful. House Sparrows (*Passer domesticus*) made numerous attempts to occupy 10 boxes, but we removed nests and eggs immediately. The sparrows gave up by late May. Bluebirds used a number of these boxes later.

Bluebirds laid 690 eggs (163 clutches): 397 eggs hatched: 325 young fledged (47% of eggs laid); 365 eggs and young were unsuccessful (53%). Of the 365 unsuccessful, the greatest number was due to predation (165), mainly snakes: 103 were abandoned. In 5 known instances, female feathers were found on the ground under or near the nests, doubtless victims of the many cats in this area. There were 40 unhatched eggs, mainly singles and mostly addled; 43 young disappeared which probably died in the nest and were removed by the parents; 8 eggs in two boxes were broken when blown down in a windstorm. One nestling, already banded, was removed by a boy.

An adult female was found dead in Box 26 near a tobacco field that had been sprayed with a pesticide, the same box where an incubating female was found paralyzed last year. Another female was eaten by an *Elaphe* snake (chicken snake) while laying eggs. She was found in the snake's stomach with egg shell fragments. Two adult male Bluebirds were dead in nest boxes. One had been scalped by some other bird.

Early in the season, some females do not flush readily from their nests and are caught for banding or reading of their band numbers. In 1970, 23 females were banded and 10 were retaken that had been banded in 1968 or 1969.

Seven of these had been banded as nestlings in the area. Two of those, banded as adults in 1969, were using the same nest boxes in 1970. Capturing the females also revealed movements during the nesting season between nest boxes. In one instance, No. 108-184684 moved 1.2 miles.

We believe that the better percentage of success of 1970 (47%) over 1969 (39%) nestings was due mainly to weather conditions. In 1969 July daily temperatures averaged 82.7 degrees (2.5 above normal) while July 1970 was reported to be 3 degrees below normal in the U. S. Meteorological Summary. Also in 1970 the heat inside all of the occupied boxes was modified by covering the top with aluminum foil.

1521 GRAYBAR LANE 37215.

611 LYNNBROOK ROAD 37215.

## T.V. TOWER CASUALTIES AT NASHVILLE: SPRING AND AUTUMN, 1970

By AMELIA R. LASKEY

For 1970, M. L. Bierly had charge of collecting the T. V. tower casualties on daily morning trips during spring and autumn migration. He made many trips personally and was assisted by C. W. Fentress, K. A. Goodpasture, David Lee, George Miller, Pauline Miller, Heather Riggins and John Riggins. In other ways, H. C. Monk and Virginia Price have helped.

The spring trips, from 15 March to mid-May at WSM, yielded only 10 casualties of 9 species: House Wren, Catbird, Tennessee Warbler, Bay-breasted Warbler, Yellow-breasted Chat, Orchard Oriole, Summer Tanager (2), Purple Finch and Field Sparrow. The first casualty was the Field Sparrow on 17 April.

On 23 July, M. L. Bierly resumed visits to W. S. M. tower which he terminated 15 November. From 23 July through 26 Sept. only 15 birds were found. Early Sept. had been unusually warm (16 days when the high temperature reached 90 to 94 degrees). On 25 Sept. winds veered to the north, with overcast skies and drizzles, which precipitated the disastrous kill of 28 Sept. At WSM 3,482 birds of 54 species were gathered that morning. The heaviest kill at WSIX occurred there also on 28 Sept. (78 birds). On 12 Oct. with similar type weather, there were 88 casualties at WSM.

The total for autumn 1970 from both towers was 3,787 individuals of 67 species: WSIX 104 of 21 species, WSM 3,683 of 66 species. The heaviest losses were suffered at WSM: Tennessee Warbler 845, Ovenbird 631, Magnolia Warbler 420, Black-and-white Warbler 429.

Each year the casualties at ceilometer or T.V. towers have produced specimens of new or rare species or significant migration data for the Nashville area. For 1970, two Swainson's Warblers at WSM on 28 Sept. constituted our first TV tower casualties (kept since 1957) and our first local autumn record of the species. A Yellow Rail from WSIX on 31 Oct. is our latest record for this uncommon species in our area.

Other occurrences are indicators of dates when our nesting species may have started migrating through our area from more northerly nesting grounds. Among them from WSM is a Red-bellied Woodpecker, the first of this species (28 Sept.) found at towers here, Wood Pewee 24 Aug. Yellow Warbler 10 Aug., Yellow-breasted Chat 12 Aug. The status of the two mid-summer Mockingbirds is questionable (late July and early Aug.). These are the first casualties of this species since WSM tower was completed in 1960.

As in previous years, the casualties were used for various scientific studies.

The list of species for autumn 1970 follows. The first numeral is for WSIX and the second numeral is for WSM with an asterisk (\*) indicating that the species was found only at WSM.

Virginia Rail 1; Yellow Rail \*1; Mourning Dove \*2; Yellow-billed Cuckoo \*1; Red-bel. Woodpecker \*1; Yellow-bel. Sapsucker \*2; Yellow-bel. Flycatcher 2— 6; Acadian Flycatcher \*1; Least Flycatcher \*1; Wood Pewee 2— 6; Brown Creeper \*1; House Wren \*8; Winter Wren \*1; Long-billed Marsh Wren \*22; Short-billed Marsh Wren \*1; Mockingbird \*2; Catbird 3— 61; Wood Thrush \*15; Swainson's Thrush \*1; Thrush remains (not Wood) \*1; Golden-crowned Kinglet \*2; Ruby-crowned Kinglet \*4; White-eyed Vireo \*6; Yellow-throated Vireo \*13; Solitary Vireo \*6; Red-eyed Vireo 3— 191; Philadelphia Vireo \*57; Warbling Vireo \*2; Black-and-white Warbler 11— 429; Swainson's Warbler \*2; Worm-eating Warbler \*2; Golden-winged Warbler \*23; Blue-winged Warbler 2— 9; Tennessee Warbler 11— 845; Nashville Warbler 1— 17; Parula Warbler \*16; Yellow Warbler \*1; Magnolia Warbler 10— 420; Black-thr. Blue \*3; Myrtle 2— 2; Black-throated Green Warbler 1— 58; Blackburnian \*47; Yellow-throated Warbler \*1; Chestnut-sided Warbler 6— 264; Bay-breasted Warbler 3— 95; Blackpoll Warbler \*2; Prairie Warbler \*1; Palm Warbler \*8; Ovenbird 29— 631; Northern Waterthrush 2— 21; Kentucky Warbler \*27; Mourning Warbler \*3; Yellowthroat 2— 72; Yellow-breasted Chat 1— 10; Hooded Warbler \*4; Wilson's Warbler \*8; Canada Warbler \*8; American Redstart 5— 176; Scarlet Tanager \*4; Summer Tanager \*1; Rose-breasted Grosbeak 1— 20; Indigo Bunting 1— 25; Grasshopper Sparrow \*1; Slate-colored Junco \*1; Field Sparrow \*5; White-throated Sparrow \*1; Lincoln's Sparrow \*1; Unidentifiable account condition 5— 4; Totals 104— 3,683. Grand total for autumn 1970 3,787.

1521 GRAYBAR LANE, NASHVILLE, 37215

## PRESIDENT'S MESSAGE

I am writing this message to you on the day following our most successful and inspiring joint meeting with the Kentucky Ornithological Society at Mammoth Cave, Kentucky. The facilities and forest environment of the Park were superb and birdsongs, especially warblers, abounded. In all, about 129 species were found including the surrounding area outside the Park. It was generally conceded by long-time members who have known him for years, that our Founder, Mr. Albert Ganier, gave the finest illustrated slide lecture of his career on "The 50 Most Unusual Birds of the World." His enthusiasm and vigor remain an inspiration for us all. The meeting was also attended by Mr. Dixon Merritt, our other living Founder and by my mother, Mrs. George R. Mayfield, Sr., wife of a Founder. We are indebted to John Ellis and Mike Bierly of Nashville, and to Ray Nall, Herb Shadowen, Willard Gray, and Mrs. Stamm of the Kentucky Ornithological Society, and to their co-workers for carrying out the local arrangements of this most successful joint meeting.

Our Board of Directors voted to hold our fall meeting at Montgomery Bell Park the week-end of 30 October. Thirty-six rooms and suites and ten cabins are now available, but I am told that these will all be filled by reservations as much as two months prior to our meeting date, if we do not reserve them first.

As most of you know, our present Editor, Dr. Lee R. Herndon, is retiring following this issue. Lee is a past-president of the Tennessee Ornithological Society and did much to rejuvenate our Society following the diminished activity associated with the period of World War II. He has been a leader in the Elizabethton Chapter over the years and deserves our thanks for his work during these past years as Editor of *The Migrant*.



During the last two years our Society and its members have become increasingly interested in the environment and matters of conservation throughout our state. I have maintained liaison with a number of organizations interested in preserving our wild rivers, our Great Smokies Park, our wilderness areas, and an environment beneficial to man and birds. I have met with representatives of these groups for productive sessions with our new Commissioner of Conservation and most recently on 26 April with Governor Dunn and Commissioner Jenkins. I think this liaison is important and I am gratified that the Board of Directors has seen fit to allow me to continue in this capacity along side Mark Pritchard, our other Conservation Coordinator.

When I became President, I asked that we study and communicate our thoughts, ideas, and desires for a better Society and I urged that we have at least one additional meeting in the fall as well as a foray. These things have been accomplished. I want to take this opportunity in my last presidential message to you to thank the officers and members for their work and cooperation in forging what I believe is a closer and more active Tennessee Ornithological Society.

GEORGE R. MAYFIELD, JR.

## THE SEASON

LEE R. HERNDON, *Editor*

Relatively mild weather prevailed during the first part of the period, with some snow in the eastern part of the state near the end of December and again on 28 January. Rainfall was considerable during January but no zero temperatures were recorded at the lower elevations during the period.

Many shorebirds remained well into the period due to the moderate temperatures and the low lake levels, which provided suitable habitat and feeding areas. The first real influx of waterfowl occurred about the second week-end of November, when there was a drop in temperature accompanied by snow flurries. Shorebirds and waterfowl reports were much more numerous than usual, while northern finches were very scarce. A few Purple Finches and Evening Grosbeaks wintered in the Elizabethton area, but only a few Pine Siskins were reported from over the state.

So many noteworthy observations occurred during the period that if listed here a large portion of *The Season* would be repeated.

**WESTERN COASTAL PLAIN REGION** — *Double-crested Cormorant-Warbler*: Double-crested Cormorant: 1 Nov. (1) SFSP (JS) Short-eared Owl: 5 Dec. (4) SAFB (BC, LC, BB, LS), 13 Feb. (7) SAFB (BC, Knox). Fish Crow: 31 Dec. (9) Lake County (BC, LC) 27 and 28 Dec. (12) Memphis (BC). Red-breasted Nuthatch: 27 Dec. (2) Memphis (BC). Orange-crowned Warbler: 10 and 11.

*Locations*: SAFB—Stuttgart Air Force Base, SFSP—Shelby Forest State Park.

*Observers*: BB—Benton Bashom, BC—Ben B. Coffey, Jr., Knox—James M. Campbell and Knoxville Group, LC—Mrs. Ben B. Coffey, Jr., LS—Lee Shafer, MD—Mary Davant.

DAVID E. PATTERSON, Harbeth Hills Academy, Savannah, 38372.

**CENTRAL PLATEAU AND BASIN REGION**—*Loons-Ducks*: Common Loon: 9 Nov. (1) to 18 Jan. (12) WR (KLD), (1-2) NA during period. Horned Grebe: to (35) NA, 11 Jan. (225) peak WR (KLD). Pied-billed Grebe: 2 Nov. (16), then up to (90) 28 Dec., down to (22) 25 Jan. WR (KLD). Double-crested Cormorant: 6 Dec. (1) DRU (TOS). Great Blue Heron: 6 Dec. (40) DRU (TOS), 3 Jan. (32) OHL (TOS). Green Heron: 26 Dec. (1) NSQ (KAG, MM, MLB). Cattle Egret: 21 Nov. (1) CCR (JHR). Common Egret: 26 Nov. (3), 29 Nov. (2) (DM), 6 Dec. (12)

(TOS), all DRU. Yellow-crowned Night Heron: 21 Nov. (1) CCR (JHR). Canada Goose: 24 Nov. (22,000) TNWR (GNB). 9 Nov. (40) to a peak of (85) 28 Dec. WR (KLD). Then 30 Jan. seven flocks over NA (52-200) (TOS). White-fronted Goose: 18 Nov. (2) DRU (GNB). Snow Goose: 10 Nov. (300) BSU (GNB). Blue Goose: 10 Nov. (1,400) BSU (GNB). Fulvous Tree Duck: 27 Nov. (1) BSU (DM). Mallard: 28 Dec. (1,800) peak at WR (KLD). Black Duck: 11 Jan. (1,000) peak at WR (KLD), 16 Jan. (500) HP, peak NA (TOS). Gadwall: 30 Nov. (169) peak WR (KHD), 16 Jan. (50) HP, peak NA (TOS). Pintail: 16 Jan. (75) HP (TOS). Green-winged Teal: 16 Nov. (30) peak WR (KLD). American Widgeon: 16 Nov. (35), then almost absent until 25 Jan. (36) WR (KLD), 8 Nov. (300) HP (JHR), 16 Jan. (200) HP (TOS). Shoveler: scarce, 16 Jan. (10) HP (TOS). Wood Duck: 7 Nov. (35) BT (RH), 26 Dec. (13) TJ (JNR) and (2) NSQ (KAG, MM), first NA at Christmas in ten years. Redhead: 16 Nov. (79) WR (KLD) only large flock there, scarce NA. Ring-necked Duck: 16 Nov. (73) peak WR (KLD), 23 Nov. (100) peak NA at RL (AT). Canvasback: 11 Jan. (275) WR (KLD), 3 Jan. (17) CL (JHR). Lesser Scaup: 16 Nov. (2,000) peak WR (KLD), 31 Jan. (131) peak RL (AT). Common Goldeneye: 11 Nov. (1) to 31 Jan. (75), both RL (AT), 11 Jan. (62) peak WR (KLD). Bufflehead: from 11 Nov. (2) (MLB) to 31 Jan. (22) (AT), both RL. 11 Jan. (27) peak WR (KLD). Oldsquaw: 25 Dec. to 15 Jan. (1-2) RL (TOS), 3 Jan. (12) PPL (MLB), with last 16 Jan. (1) there (MLB, ROH). 18 Jan. (11) WR (KLD) only report there. Surf Scoter: 16 Nov. (7) WR (KLD). Ruddy Duck: 16 Nov. (98) WR, then scarce there (KLD). Hooded Merganser: 7 Dec. (275) WR (KLD). Common Merganser: 10 Dec. (2), 27 Dec. (1) LD (RTH), 3 Jan. (1) OHL (KAG) only NA report. Red-breasted Merganser: 7 Dec. (28) WR (KLD) only report.

*Vultures-Thrushes*: Black Vulture: 16 Jan. (65) HP (TOS). Golden Eagle: 15 Nov. (1) BSU (DM), 21 Nov. (1) DRU (DM) and (1) CCR (TOS), 6 Dec. (3) DRU (TOS), (4) during period WB (FB). Bald Eagle: 6 Dec. (5) DRU (TOS), (1-4) during period LD (RTH). Pigeon Hawk: 7 Nov. (1) H (AT). American Coot: 16 Nov. (7000) down to (154) 25 Jan. WR (KLD), peak at RL (365) 26 Nov. (AT) Common Snipe: (3) wintered H (ROH). Dunlin: 8 Nov. (4) GSP (JHR, PC). Semi-palmated Sandpiper: 9 Nov. (2) GSP (PC). Franklin's Gull: 6 Dec. (1) DRU (HEP *et al.*). Bonaparte's Gull: 9 Nov. (6) (LOT), 29 Nov. (28) DHL (MLB), 12 Dec. (44) PPL (MLB). Great Horned Owl: 26 Dec. (3) calling RL (MLB), 19 Dec. (1) BT (RH), 3 Jan. (2) Rickman (RTH). Ruby-throated Hummingbird: very late, 5 Nov. (1) H (TC). Horned Lark: in Jan. (100) WR (KLD), (100) HP (TOS), 25 WB (FB). Red-breasted Nuthatch: 26 Dec. (1) H (BHA). Long-billed Marsh Wren: 2 Nov. (1) casualty WSM-TV (ARL). Catbird: 9 Dec. (1) H (HR) first Dec. record for NA. Brown Thrasher: seven reports wintering NA.

*Waxwings-Sparrows*: Cedar Waxwing: regular over area in Nov., Dec. Yellow-throated Warbler: very late, 5 Nov. (1) H Columbia (DG *vide* GRM). Bay-breasted Warbler: 1 Nov. (1) CW (JR). House Sparrow: 1 Jan. (800) BL (JHR). Rusty Blackbird: (100) wintering H (ROH), few H (JOE). Rose-breasted Grosbeak: 18 Dec. thru 5 Jan. (1) H Mrs. Herschell Willmore at Gallatin, also seen by (PDC). Indigo Bunting: 11 Nov. (1) H

(MLB), latest NA by a week. Dickcissel: 23 Dec.—7 and 8 Jan. (1) H (FB). Evening Grosbeak: 26 Dec. (1) WB (FB), 9 Jan. (1) H Gallatin (Mrs. Dick Fenkers), 16 Jan. (1) H (Dorothy Christman). Pine Siskin: 28 Oct. (1) H (ARL). Lark Sparrow: (1) 7 Nov. SHV (AC, MD) 11 Jan. (3) WR (KLD). Oregon Junco: 1 Dec. thru 10 Jan. (1) H's (ARL, AC and MD) then 13 Jan. (1) H (KAG) all may have been same bird. Chipping Sparrow: 11 thru 27 Jan. (3) H WB (FB).

*Locations:* BL—Bush Lake, BSU—Big Sandy Unit, BT—Byrdstown, CCR—Cross Creeks Refuge, CL—Coleman Lake, CW—Cheekwood, DRU—Duck River Unit, GSP—Gallatin Steam Plant, H—home area, HP—Hunter's Point, LD—Lilydale, NA—Nashville Area, NSQ—Newson Station Quarry, OHL—Old Hickory Lake, PPL—Percy Priest Lake, SHV—South Harpeth Valley, TNWR—Tennessee National Wildlife Refuge, TJ—Two Jays, RL—Radnor Lake, WB—Woodbury, WR—Woods Reservoir.

*Observers:* BHA—B. H. Abernathy, FB—Frances Bryson, GNB—Gary N. Burke, MLB—Mike L. Bierly, AC—Annella Creech, PDC—Paul and Dot Crawford, TC—Mrs. Tom Clarke, KLD—Kenneth H. and Lil Dubke, MD—Milbrey Dugger, JOE—John O. Ellis, DG—Dan Gray, Jr., KAG—Katherine A. Goodpasture, RH—Robbie Hassler, ROH—Roger O. Harshaw, RTH—Roy T. Hinds, ARL—Amelia R. Laskey, DM—Mr. and Mrs. Don Manning, GRM—George R. Mayfield, MM—Margaret Mann, HEP—Henry E. Parmer, HR—Heather Riggins, JHR—John N. and Heather Riggins, AT—Ann Tarbell, LOT—Laurence O. Trabue, TOS—members of the Nashville Chapter on field trips.

HENRY E. PARMER, 3800 Richland Ave., Nashville 37205.

EASTERN RIDGE AND VALLEY REGION—*Loons-Ducks:* Common Loon: regular in small numbers throughout area. Horned Grebe: first, 16 Nov. (1) CL (PP). Double-crested Cormorant: first 31 Oct. (1) K (AM) one to two regular in Knoxville area from 17 Nov. through period by PP, FJA, JMC, AM, EM; 14, 15 Jan. (2) DC (DE, BS). Great Blue Heron: much more numerous than usual in Chattanooga area, max. 15 Dec. (94) HRA (KD). Green Heron: 15 Jan. (1) K (FJA). Common Egret: 15 Jan. (1) K (FJA), 17 Jan. (1) K (FJA, JMC, BL, JS, LS). American Bittern: 11 Nov. (1) AM (KD). Canada Goose: max., during most of period up to (4600) HRA (AA). Mallard: max., up to (4800) HRA (AA). Black Duck: max., up to (4300) HRA (AA). Gadwall: max., 26 Jan. (36) ChL (KD). Pintail: max., up to (80) HRA (AA). Green-winged Teal: max., up to (300) HRA (AA). Blue-winged Teal: last, 11 Nov. (4) AM (KD). American Widgeon: max., up to (70) HRA (AA). Redhead: max., 3 Nov. (12) HRA (KD). Greater Scaup: max., up to (500) BWP (KD). Common Goldeneye: max., up to (175) BL (GE, PR). Bufflehead: max., up to (41) HRA (KD). White-winged Scoter: 2 Jan. (3) NL (LS), 16 Jan. (1) BL (LRH), 26 Jan. (1) ChL (KD). Ruddy Duck: 23 Nov. (3) CL (PP). Common Merganser: 22 Nov. (1) K (FJA, JMC, EM, CAM), 1 Jan. (1) BL (LRH). Red-breasted Merganser: 3 Nov. (8) HRA (KD), 15 Nov. (7) K (FJA, CAM), 17 Nov. ChL (12) ChL (KD), 8 Dec. (14) and 29 Dec. (13) ChL (KD).

*Vultures-Sandpipers:* Turkey Vulture: max. 15 Nov. (26) HRA (LD). Sharp-shinned Hawk: 16 Jan. (1) ND (FJA), 24 Jan. (1) BC (FJA). Red-tailed Hawk: unusually common Battle Creek max., 28 Dec. (19) (KD). Red-shouldered Hawk: 8 Dec. (1) A (PP), 24 Jan. (2) BC (JMC, JCH). Rough-legged Hawk: 19 Nov. (1, light phase) NL (LS). Bald Eagle: 8 Dec. (3 immatures, 1 adult) HRA (KD), 21 Jan. (2 adults) HRA (WiC). Marsh Hawk: 9 Nov. (1) K (FJA), 22 Nov. (1) K (FJA, JMC, CAM, EM), 27 Dec. (1) K (PP). Sandhill Crane: 3 Nov. (3) K (PP). Virginia Rail: 11 Nov. (1) AM (KD), 15 Nov. (1) K (FJA, CAM). American Golden Plover: 1 Nov. (8) K (WB, AM, LN), 2 Nov. (8) K (FJA, WS). Black-bellied Plover: 1 Nov. (1) K (WB, AM, LN), 15 Nov. (4) Ki (FJA, CAM). Woodcock: first singing, 4 Jan. (4) MP (KD), 29 Nov. (1) CL (JMC, JCH). Least Sandpiper: 3 Nov. (21) HRA (KD), 26 Jan. (7) HRA (KD). Dunlin: through period, max. (145) SB (KD). Semi-palmated Sandpiper: 26 Jan. (1) HRA (KD).

*Gulls-Longspurs:* Bonaparte's Gull: 24 Nov. (3) NL (LS), 6, 23, 26, 27, 28, Dec. (2 to 14) K (PP), 29 Jan. (3) BL (PR). Barn Owl: through period (1) AM (KD). Barred Owl: 3 Jan. (1) SeV (LS). Red-breasted Nuthatch: 30 Nov. (6) CL (PP), 12 Dec. to end of period (1 to 3) SeV (LS). Blue-gray Gnatcatcher: unusual winter record, 12 Dec. (1) at suet feeder K (JS, LS). Water Pipit: 8, 9, 22 Nov. (20, 215) K (FJA, JMC, RME, EM, CAM, JBO, MW, BW, IW), regular from 1 Dec. (1-15) SB (KD). Purple Finch: very few records. Vesper Sparrow: 3 Nov. (1) HRA (KD), 10 Nov. (1) SB (KD). Chipping Sparrow: 2, 8 Nov. (1) K (FJA), 4 Nov. (3) Ch (LD), 17 Nov. (2) SB (KD). Sharp-tailed Sparrow: 2nd Knox County record, 12 Nov. (1) K (FJA, MW). Lapland Longspur: first Knox County record 7 Nov. (1) K (MW).

*Locations:* AM—Amnicola Marsh, A—Athens, BC—Blount County, BL—Boone Lake, BWP—Booker T. Washington Park, Ch—Chattanooga, ChL—Chickamauga Lake, CL—Cove Lake, DL—Douglas Lake, HRA—Hiwassee River Area, K—Knoxville, Ki—Kingston, MP—Morse Pond, Ga, ND—Norris Dam, NL—Nickajack Lake, SB—Savannah Bay, SeV—Sequatchie Valley.

*Observers:* FJA—Fred J. Alsop, AA—Arnold Aslinger, WB—Winnifred Brown, JMC—James M. Campbell, WiC—Wilford Caraway, KD—Kenneth Dubke, LD—Lil (Mrs. Kenneth) Dubke, GE—Glenn Eller, DE—David Etnier, RME—Ray M. (Danny) Ellis, LRH—Lee R. Herndon, JCH—Joseph C. Howell, BL—Beth Lacy, CAM—Chester A. Massey, EM—Eleanor (Mrs. Chester) Massey, MM—Morton Massey, AM—Andy Morton, CN—Chuck Nicholson, LN—Louise Nunnally, JBO—J. B. Owen, PP—Paul Pardue, PR—Peter Range, LS—Lee Shafer, JS—Johneta (Mrs. Louis) Smith, LS—Louis Smith, BS—Bob Stiles, WS—William Searle III, BW—Bill Williams, IW—Irene (Mrs. Bill) Williams, MW—Morris Williams.

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*EASTERN MOUNTAIN REGION—Loon-Merganser:* Common Loon: 4 Nov. (2) WiL (GE). Common Egret: 4 Nov. (1) WaR (GE). Black Duck: throughout period (1-4) WaL (LRH). Gadwall: 15 Nov. (3) WiL (PGR). Pintail: 23 Dec. (1) WiL (LRH, PGR). American Widgeon: 23 Dec. (2) WiL (LRH). Shoveler: 7 Nov. (1) WiL (GE). Ring-necked Duck: through-

out period (max. 85) WiL (LRH, GE). Canvasback: 4 Dec. (1) WiL (LRH). Bufflehead: throughout period (5-60) WaL, WaR, WiL (GE). Hooded Merganser: 17 Nov. (75) WiL (LRH, GE).

*Hawk-Snow Bunting*: Red-tailed Hawk: throughout period HC (MS). Golden Eagle: 16 Nov. (1) EGC (LRH). Common Raven: 5 Dec. (4) UM (PGR). Red-breasted Nuthatch: 30 Dec. (8) RM (FWB). Brown Thrasher: throughout period (1-8) E (LRH *et al.*). Myrtle Warbler: common throughout period. Snow Bunting: 25 Nov. (1) GRB (FWB).

*Locations*: E—Elizabethton, EGC—Elizabethton Golf Course, GRB—Grassy Ridge Bald, Roan Mountain, HC—Heaton Creek, near Roan Mountain, RM—Roan Mountain, UM—Unaka Mountain, WaL—Watauga Lake, WaR—Watauga River, WiL—Wilber Lake.

*Observers*: FWB—Fred W. Behrend, GE—Glen Eller, LRH—Lee R. Haddon, PGR—Peter G. Range, MS—Maxie Swindell.

BRENT ROWELL, 2227 Edgemont Ave., Bristol, 37620.

## BOOK REVIEWS

DIE VOGEL DES BODENSEEGEBIETES. By H. Jacoby, G. Knotsch, and S. Schuster. Schweizerische Gesellschaft für Vogelkunde und Vogelschutz, Winterthur, Switzerland. 260 p. 1970. Swis Francs 18.50.

"The Birds of the Lake Constance Region" summarizes many years of ornithological research around that large lake on the border of northern Switzerland and southern Germany. This report was compiled by three workers with the cooperation of many other individuals, and the whole was sponsored by the Swiss Society for Bird Study and Bird Protection. This society is a counterpart of the T.O.S., and for many years the two groups have exchanged their publications, *Der Ornithologische Beobachter* for *The Migrant*.

American readers who can read German, will be interested in this book for one of two reasons. The first is that it provides an excellent example of how intensive bird study in one small region can be summarized. Another is that it pictures the birds in another continent but one with similar vegetation, agriculture, and human uses of the landscape to that found in eastern North America. This review will consider these two points.

Almost 40 pages are devoted to the description of the area, emphasizing those aspects of importance to bird life. The topography, climate, water conditions in Lake Constance, and vegetation are described in some detail. Of particular interest are several aerial photographs which give a stranger to this country an excellent idea of the landscape and of the kind of habitats present. The large reed marshes which are found on the border of Lake Constance, and which are considered to be the areas of greatest ornithological interest in this region, are described in some detail. This introductory part also describes changes that have occurred in abundance over the past 100 or more years, migration through the region, and the protection of bird life.

The accounts of species are arranged in taxonomic order. Each is treated in a more or less standardized way, with paragraphs on status, changes that have occurred in abundance or range, annual presence including notes on breeding, and very often concluding with a series of questions that need to be investigated. The emphasis on water birds in this region is illustrated by the fact that, although about one half of the species are characteristic of water (geese and other waterfowl, terns and gulls, shorebirds), two-thirds of the pages are devoted to these species, and the remainder to the actually more abundant land birds. A very useful list, placed at the end of the book, gives the common and scientific names of each species, indicates by symbols the status such as regular breeder or occasional migrant, and lists the pages on which the species is mentioned and described; this serves as a very useful summary of the birds of the Lake Constance region and also as an index. In addition, there is an alphabetical index of species names.

The Lake Constance region is considered to include 720 square miles of which about one third is in the lake itself. The surrounding country is mostly agricultural with extensive woods or forests only on the higher ground. Within this area 313 species of birds have been recorded. One hundred and thirty of these are considered to be regular breeders, 75 regular migrants or winter visitors, and the remainder occasional or accidental visitors. As mentioned earlier, almost half of these species are water birds attracted to the lake itself or to the large reed marshes. There is, nevertheless, a good list of species to be found in forested habitats. About a dozen species breeding in this region are also native to North America and would be familiar to a visitor from here. An American ornithologist would also be interested in two familiar birds of European origin: the Starling, which is described as a very frequent breeding bird in the entire region not only within the city but also in the inner parts of woods; and the House Sparrow which is briefly dismissed in a sentence saying that it is a frequent breeding bird in all cities and villages.

The Lake Constance region is one which has long been civilized and a center for bird study, so that the history of changes in abundance is of special interest. Six species including the White Stork have disappeared as breeding birds. But ten species have in the last several years invaded the area as breeders. Eight breeding species, several of them hawks and owls, have become relatively more rare, and six others have increased in number. Most of the species which have invaded and colonized in this area or have increased in number are birds with nests in and around Lake Constance. Some of the increase in the number of water birds appears to be the result of fertilization of the Lake by domestic and other kinds of sewage resulting in an increase in plant life, fish, and other small animals, all of which has provided a larger food supply for water birds.

The Lake Constance region has some of the same problems with bird conservation that are found in America. Breeding areas are being reduced by "development" and an increase in outdoor recreation, such as the use of boats on the lake and the construction of campsites at its edge. Hawks and owls, although present in greater variety than in many places in eastern North America, likewise suffer from persecution. It is nice to see, however, that the Peregrine Falcon is still breeding in this part of Switzerland. Many similar interesting comparisons can be found in the pages of this book.

High standards are set by this report. Much significant information is condensed into relatively few pages. The troublesome problem of evaluating questionable records appears to have been done in a scientific and scholarly way. The printing is excellent, and the illustrations, although few, are of very high quality.

JAMES T. TANNER, Graduate Program in Ecology, University of Tennessee, Knoxville, 37916.

ORNITHOLOGY IN LABORATORY AND FIELD—Olin Sewall Petingill, Jr. Burgess Printing Co., Minneapolis, Minn. 1970. Illustrated by Walter J. Breckinridge. 524 p.

At some time, to almost everyone interested in birds, questions arise, to which there appears to be no immediate satisfactory answer. Most amateur bird enthusiasts have never been exposed to a formal course in ornithology. Therefore, they do not know where to seek an authoritative answer. Although the author does not profess to cover every detail of the ornithological field, the twenty sections, into which the text is divided, assist the student in direct field observations, suggest methods and provide practical aids for pursuit of the many exciting opportunities that are encountered.

Some of the topics considered are: topography, feathers and feather tracts, anatomy and physiology, external structural characters, plumage and plumage coloration, distribution field identification, behavior, territory, song, mating, nests and nest building, eggs, egg laying and incubation, young and their development, parental care, longevity, numbers and populations.

At the end of each section, a rather extensive list of references is given, which pertain specifically to the topic of consideration.

As a specific example of the thoroughness with which the various topics are covered, Appendix A: Ornithological Methods, the individual subheadings are as follows: Blinds for Observation and Photography; Bird Photography; Recording Bird Vocalizations; Recording Colors of Birds and Bird Eggs; Measuring Elevation of Nests and Flight Paths; Marking Nest Sites; Boundaries of Territories, and Census Lines; Capturing Wild Birds; Banding Wild Birds; Marking Wild Birds; Collecting Birds; Permits for Capturing, Banding, Marking and Collecting Birds; Preparing and Storing Specimens; Determining the Sex and Age of Live Birds; Weighing Birds; Measuring Birds; Attracting Birds and Controlling Objectionable Birds.

For those who are interested in ornithological writing, Appendix B: Preparation of Papers, lists the following sub-headings: Preparation of the Manuscript; Organization; Style of Writing.

Of more than passing interest are the Bibliographies pertaining to ornithology, life histories, publications of regions and states of the United States as well as current journals of North America and foreign countries.

The material presented in this book is interesting and entertaining for the casual observer and for the serious bird student it is highly recommended as a reference work and should be on his library shelf.

LEE R. HERNDON

## PREPARATION OF COPY FOR PUBLICATION

The purpose of THE MIGRANT is the recording of observations and original information derived from the study of birds, primarily in the state of Tennessee or the area immediately adjacent to its borders. Articles for publication originate almost exclusively from T.O.S. members.

Contributors should prepare manuscripts and submit them in a form acceptable to the printer, after editorial approval. Both articles and short notes are solicited but their format should be somewhat different.

Some suggestions to authors for the preparation of papers for publication are given herewith.

**MATERIAL:** The subject matter should relate to some phase of Tennessee Ornithology. It should be original, factual, concise, scientifically accurate, and not submitted for publication elsewhere.

**TITLE:** The title should be concise, specific, and descriptive.

**STYLE:** 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* available from the American Institute of Biological Sciences, 3900 Wisconsin Avenue N. W., Washington, D. C. 20016.

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**SUMMARY:** Articles of five or more pages in length should be summarized briefly, drawing attention to the main conclusions resulting from the work performed.

**IDENTIFICATION:** Rare or unusual species identification to be acceptable must be accompanied by verifying evidence. This should include: date, time, light and weather conditions, exact location, habitat, optical equipment, distance, behavior of bird, comparison with other similar species, characteristic markings, experience of observer, other observers verifying observation and reference works consulted.

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