

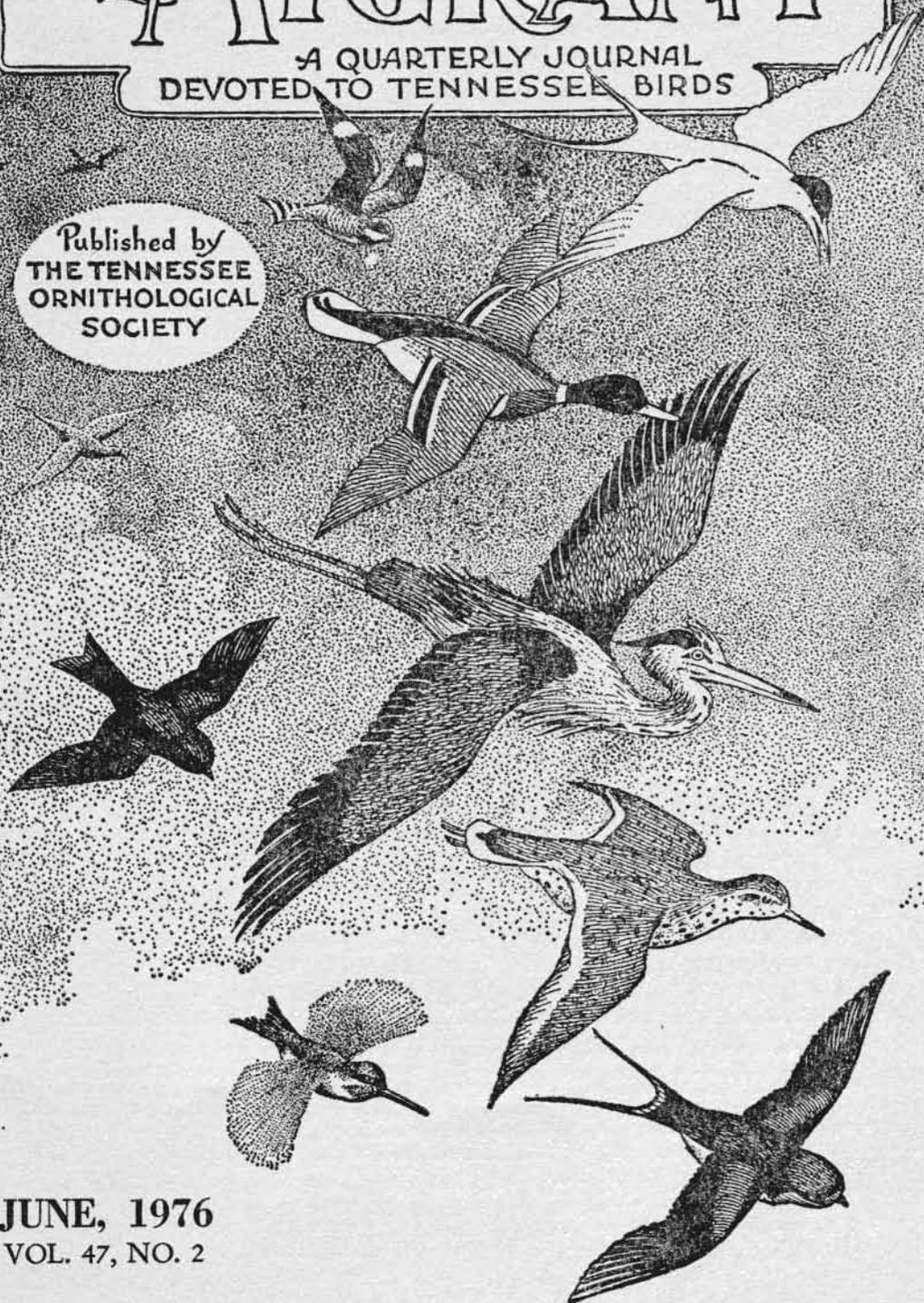
THE MIGRANT

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NO. 2

ANNUAL AUTUMN HAWK COUNT

THOMAS W. FINUCANE

In 1975 the T.O.S. Autumn Hawk Count totaled 17,062, with 16,510 Broad-winged Hawks. Our average over the last five years was 18,000 hawks. In 1975 a record 422 hours of observation was established, shattering the old record of 369 set in 1974. The hawk count in 1975, however, was nearly 7,000 lower than in 1974. Of the stations giving the five highest counts that year, all had lower counts in 1975, a total decline at those stations of 13,000. In particular, the Mendota Fire Tower had 9,800 fewer Broad-wings, in spite of more hours and more people participating. Chattanooga area stations, on the other hand, had outstanding flights of Broad-wings.

The halfway point in the migration came late, on 25 September. Ninety percent of the count accumulated over a period of 15 days, longer than average, which was 11 days for the years 1970-74. Between 15 and 24 September only 21 September had a good Broad-wing count. The 90% interval began on 13 September and ended on 27 September (both days were Saturdays). On this basis the Broad-winged Hawk migration was early. All the 90% periods for the five years before 1975 fell between 15 and 30 September.

The most remarkable observation in the 1975 season was made by Tom Odom. Playing tennis in Kingsport, he threw the ball up to serve and spotted 30 Broad-winged Hawks flying south across the sky. The date was 16 August.

The 1975 count of Sharp-shinned Hawks was 158, more than double our average for the five preceding years. The count at the Rogersville Kyles Ford station on Clinch Mt., probably our best lookout for Sharp-shins, was 65, higher than last year's total for the whole T.O.S. project. The species has been recovering after having dropped to below 30% of its population 40 years ago, as shown in hawk-migration data. Nearly all the hawk-migration stations in Eastern North America had record counts in 1975. Hawk Mt., Pa. in the last three years, 5,125, 6,791, and 8,232 Sharp-shinned Hawks after 33 years with no counts above 4,500. Our count of 54 Coopers Hawks is a new record for the T.O.S.

The total for Red-tailed Hawks was 125, a difficult count to make, because some Red-tails fly up and down the ridges or perhaps pass far out over the valley on the return trip. The 1975 count is the highest we have had except for several

TABLE 1
ANNUAL AUTUMN HAWK COUNT, 1975

No	Date	Cbs	Hrs	Station	Alt	Wind	Sky	T	Shn	Op	Rdt	Ra	BdWg	MH	Cap	AK	Others
1	8/16	Tte	K	Rinsport	1200	B 1-2	1	80	-	-	-	-	50	-	-	-	-
2	9/1	T	7	Rog Kyles Pd FT	2401	N2 1-2	2	68	-	-	-	-	9	-	-	-	-
3	5	Fm	3	Rog Kyles Pd FT	2401	SE 0-3	5	65	-	-	-	-	0	-	-	-	-
4	10	G	3	Mendota Fire Tower	3018	-	3	-	-	-	-	-	8	1	-	-	-
5	13	L	3	Head River rocks	2100	-	1	-	-	1	1	4	200	-	-	2	-
6	13	G	3	White Oak Mt FT	2100	-	1	-	-	1	1	5	112	-	-	-	-
7	13	L	-	Ross Mt Net Bally	6000	S-33 1-3	2	72	4	-	-	-	20	-	-	-	-
8	13	AA	5	7 mi N of Crossvl	1260	S-5	-	60	-	-	-	-	179	-	-	3b	-
9	13	Tt	8	Rog Kyles Ford FT	2401	NE-1	2	60	1	-	2	-	196	1	2	-	b
10	13	QS	9	Mendota Fire Tower	3018	2-3	-	55	1	-	3	-	424	-	-	1	-
11	14	w	8	7 mi N of Crossvl	1260	0-2	SE	2	66	-	-	-	400	-	-	-	b
12	14	Tnt	8	Rog Kyles Ford FT	2401	0-3	SE	1	60	3	-	1	204	-	-	1	4u
13	14	P14	8	Mendota Fire Tower	3018	-	1	-	1	2	1	-	336	-	-	1	2
14	14	E	2	Nickelsville Va	-	-	-	-	-	-	-	-	497	-	-	-	-
15	15	G	4k	Head River rocks	2100	-	-	-	2	-	1	-	61	-	-	1	-
16	15	w	7	7 mi N of Crossvl	1260	SE 0-3	3	62	-	-	-	-	43	-	-	-	u
17	15	T	9	Rog Kyles Pd FT	2401	SE 0-4	3	68	-	-	6	-	21	-	-	-	2u
18	15	GrF	4	Mendota Fire Tower	3018	SE 3-6	v	62	-	-	-	-	27	-	-	-	-
19	15	E	1	Nickelsville Va	-	-	0	70	-	-	-	-	154	-	-	-	-
20	16	G	2	Head River rocks	2100	-	-	-	2	-	-	-	38	-	-	3	2b
21	16	w	7k	7 mi N of Crossvl	1260	E 0-1	4	-	-	-	-	-	6	-	-	-	-
22	16	F	3	Mendota Fire Tower	3018	v	0-1	4	-	-	-	-	104	-	-	-	-
23	-	D	9	Dunlap Fire Tower	2240	-	-	-	2	1	3	-	62	-	-	1	2b
24	18	w	9	7 mi N of Crossvl	1260	v	0-2	5	67	-	-	-	0	-	-	-	-
25	18	L	4	Missionary Ridge	-	w	0-1	3	72	-	-	-	0	-	-	-	-
26	19	G	1k	Head River rocks	2100	-	-	-	-	-	-	-	44	-	-	-	2b
27	19	L	5	White Oak Mt FT	2425	3-1	1-3	72	4	1	5	-	112	-	-	1	-
28	19	w	7	7 mi N of Crossvl	1260	SE 0-2	3	74	-	-	1	4	52	-	-	-	u
29	19	F	6	Rog Kyles Pd FT	2401	w	0-6	3	72	2	1	2	115	-	-	-	b
30	19	19	2k	Mendota Fire Tower	3018	S	-	3	72	3	1	5	50	1	-	-	-
31	-	D	8	Dunlap Fire Tower	2240	-	-	-	-	-	-	-	115	0	-	-	-
32	20	G	2	Head River rocks	2100	-	-	-	-	-	-	-	6	2	-	-	b
33	20	K	9	Signal Point	-	SW-N	3-4	4	77	2	-	2	12	-	-	-	b
34	20	w	7	7 mi N of Crossvl	1260	-	-	5	65	4	8	-	189	-	-	2	-
35	20	35	5	Avondale Fire Tower	2485	SE 3-6	4	65	4	8	-	-	136	-	-	-	6
36	20	T	7k	Rog Kyles Ford FT	2401	3-v	0-3	4	67	11	-	4	21	-	-	-	-
37	20	Y	7k	Holston Mt Radar	4342	S	-	4	65	-	-	1	1	1	-	-	-
38	20	36	6	Mendota Fire Tower	3018	-	-	4	-	4	-	-	265	2	-	-	-
39	20	E	-	Copper Ridge	3200	-	-	-	-	-	-	-	47	-	-	-	-
40	20	Z	4	Copper Ridge	2100	-	-	-	-	-	-	-	150	-	-	-	-
41	21	K	4	Lookout Mt Hi Pt	2392	-	-	-	-	-	-	-	239	1	-	-	b
42	21	E	8	Signal point	1972	S-SW	3	0	-	-	2	-	1	1	-	-	-
43	21	W	6	7 mi N of Crossvl	1260	v	-	1	-	-	-	-	354	-	-	-	b
44	21	U	-	Look Rock, Pothills Parkway	-	-	-	-	-	-	-	-	361	-	-	-	f
45	21	35	5	Avondale Fire Tower	2485	NW	2-3	1	72	3	1	1	3	-	-	1	-
46	21	Tn	8k	Rog Kyles Ford FT	2401	N-4	0-2	1	66	7	1	4	446	-	-	3	b 4u
47	21	RX	4	Meadow Creek Tower	2875	-	-	-	-	-	1	-	20	-	-	-	-
48	21	C	3	Holston Mt Radar	4342	-	-	1	70	-	-	-	-	-	-	3	-
49	21	F	9k	Mendota Fire Tower	3018	S 0-3	2	2	70	4	3	-	1319	-	-	-	b
50	22	B	2	Look Rock, Pothills Pkwy	2200	W-5	5-6	5	50	-	-	-	-	-	-	-	b
51	22	T	2	Rog Kyles Ford Tower	2401	NE	3-5	60	-	-	-	-	-	-	-	-	-
52	22	Pb	2	Mendota Fire Tower	3018	-	-	-	-	-	-	-	3	-	-	-	-
53	24	T	8	Rog Kyles Ford FT	2401	NW	3-4	60	9	1	1	-	507	2	-	-	5u
54	24	P	4k	Mendota Fire Tower	3018	S	0-6	4	72	-	-	-	114	-	-	-	u
55	25	B	4	Look Rock	-	NW	2-3	1	65	-	-	-	151	4	-	-	u
56	25	T	8	Rog Kyles Ford FT	2401	S-v	0-4	2	60	19	1	4	926	-	-	1	5a
57	25	F57	8k	Mendota Fire Tower	3018	SSE	0-1	2	63	6	4	1	360	-	-	2	4a
58	26	I	1	Chattanooga	700	N	2	5	59	-	-	-	500	-	-	-	-
59	26	L	1	White Oak (from below)	-	0	-	65	-	-	-	-	257	-	-	-	-
60	26	M	4	Rockwood Fire Tower	2040	-	-	5	55	12	-	-	269	-	-	3a	Rflg
61	26	Fc	3	Mendota Fire Tower	3018	S	0-1	5	65	-	1	1	324	-	-	1	-
62	27	K	3	Head River rocks	2100	-	-	-	-	-	-	-	57	-	-	-	2b
63	27	G	1	Collegedale Gap	1972	NE	0-3	5	50	-	-	-	200	-	-	-	-
64	27	K	8	Signal Point	1972	NNE	3-4	1	65	-	1	4	2	-	-	1	-
65	27	L	7	White Oak FT	1425	NNE	3-6	3	50	2	3	6	1027	1	3	1	-
66	27	w	7k	7 mi N of Crossvl	1260	NE	0-1	4	55	-	-	1	925	-	-	-	9a
67	27	FJ	2	Rockwood Fire Tower	2040	NE	2	3	52	1	-	3	680	-	-	1	-
68	27	B	3	Look Rock	-	w	4	3	63	-	-	-	-	-	-	-	2a
69	27	T	8	Rog Kyles Ford FT	2401	N	0-5	3	56	11	-	3	20	-	-	1	-
70	27	C	4	Holston Mt Radar	4342	S	breeze	6	60	1	1	-	337	-	-	-	u
71	27	F71	8	Mendota Fire Tower	3018	N	0-5	4	54	5	4	-	34	-	-	2	-
72	28	G	3k	Lookout Mt Hi Pt	2392	-	-	-	3	2	-	-	48	-	-	-	Peregrine c
73	28	K	8	Signal Point	1972	v	0-2	4	65	-	1	4	2	-	-	-	4a
74	28	74	1	Lookout Mt Tenn	1972	NE	0-2	0	60	-	-	-	35	-	-	-	4a
75	28	w	7	7 mi N of Crossvl	1260	ENE	0-2	2	66	-	-	-	44	-	-	1	3a
76	28	76Pb	5	Mendota Fire Tower	3018	S	0-5	0	57	-	2	1	1	-	-	3a	4b 4f
77	29	G	1k	Lookout Mt Hi Pt	2392	-	-	-	-	-	-	-	26	-	-	-	b
78	29	w	6	7 mi N of Crossvl	1260	SSE	0-3	1	70	-	-	-	252	-	-	-	5b 7f 3u
79	29	R	3	Meadow Creek FT	2875	v	light	2	65	-	-	-	7	-	-	2	larva
80	30	H	5	Fall Creek Falls	1800	-	-	-	-	-	-	3	55	2	-	-	-
81	30	w	5	7 mi N of Crossvl	1260	S	0-1	2	72	-	-	2	38	-	-	1	a 2b 2f
82	30	P	3k	Rockwood Fire Tower	2040	SW	0-1	0	60	-	-	-	2	-	-	-	5a
83	10/1	N	K	7 mi E of Gettlinburg	-	-	-	-	-	-	-	-	75	-	-	-	-
84	2	G	1k	Head River rocks	2100	-	-	-	-	-	1	-	103	-	-	-	-
85	2	G	2	7 mi N of Crossvl	1260	v	0-3	0	52	-	-	-	-	-	-	-	-

86	4	PV	4	Rockwood Fire Tower	2040	SW	2	1	52	5	5	1	-	-	-	-	-	-	4#	-	-
87	4	Cm	3	Holston Mt Reder	4233	-	-	1	-	-	-	-	-	35	-	-	-	-	-	-	-
88	5	G	2W	Lookout Mt Hi Pt	2392	-	-	-	-	3	1	1	-	49	-	-	-	-	-	-	-
89	5	F	3	Mendota Fire Tower	3018	SE	5-3	-	52	-	-	-	-	-	-	-	-	-	-	-	26u
90	5	F	5W	Mendota Fire Tower	3018	V	0-4	30	65	5	1	4	2	2	-	-	-	-	4#	b	u
91	21	G	2W	Head River rocks	2100	-	-	-	-	-	-	1	-	3	-	-	-	-	2#	b	llu
92	22	G	1W	Lookout Mt Hi Pt	2392	-	-	-	-	1	-	4	-	3	-	-	-	-	-	-	-
93	25	G	1W	Lookout Mt Hi Pt	2392	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
94	30	G	1W	Head River rocks	2100	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-
95	31	G	1W	Head River rocks	2100	-	-	-	-	1	-	8	-	3	-	-	-	-	-	-	-
96	11/6	G	2W	Lookout Mt Hi Pt	2392	-	-	-	-	-	-	11	-	1	-	-	-	-	8	b	llu
97	11/1	T	6	Rog Kyles Ford Pt	2401	NW	0-3	0	55	-	-	-	-	-	-	-	-	-	-	-	-
98	11/12	G	1W	Head River rocks	2100	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-

years in the early sixties when Oliver Irwin was contributing data from Memphis. Gary Bayne added 35 to the Red-tail count from short watches on Lookout Mountain, Ga., late in the season. It could become our first good station for studying the migration of the Red-tailed Hawk.

The Marsh Hawk total was 33, also more than double the T.O.S. average for the previous five years. It was an outstanding Marsh Hawk year for nearly all stations reporting to HMANA.

We had 21 Ospreys. This beautiful bird began flying by lookout stations in record numbers around 1970, when it should have been disappearing because of widespread nesting failures from egg fragility considered to be an effect of insecticides in the adult birds. For several years now, however, Osprey counts have been subsiding at many stations. The effect can be seen in the Osprey data in Table 2.

The Tennessee Ornithological Society hawk-migration project is dominated by Broad-winged Hawks. A year when the other species constitute three percent of the data is a rare occurrence. When we speculate on the changes in counts of the other species, our sample size seems small. But the Sharp-shin, Marsh Hawk, and Osprey numbers do seem to be rising and falling like those in the large counts in the Northern Appalachian Region.

Although our counts of other hawks are relatively small, our counts of Broad-wings, compare well with Hawk Mt., Montclair, Raccoon Ridge, Hook Mt., etc. The really large counts of Broad-wings, up to 70,000 in one day, have been compiled along the north shores of the Great Lakes. The T.O.S. totals are combinations of data from many lookouts, and no single lookout grinds out big numbers every year.

TABLE 2
SEVEN YEARS OF T.O.S. HAWK TOTALS

Year	Hrs	SS	CH	RT	RS	Bw	MH	Os	AK
1975	422	158	54	125	7	16610	33	21	17
1974	369	62	32	81	10	23564	16	19	34
1973	316	61	25	75	18	20370	14	28	6
1972	337	104	35	93	10	15057	25	36	26
1971	250	68	34	45	12	13452	11	28	19
1970	180	81	16	47	7	16598	10	23	7
1969	249	14	9	36	7	4215	1	7	13

Our hawk watch is different. The fact that we observe at so many places with different characteristics — our wide range of altitudes, for example — gives us an advantage in the interpretation of weather effects.

KEY TO REPORTERS

A—Adele West; B—Bill and Irene Williams; C—Charlotte Finucane; D—Daniel Jacobson; E—Eugene Scott; F—Tom Finucane; G—Gary Bayne; H—Mary Shafer; I—Janet Phillips; J—J. B. Owen; K—Ken Dubke; L—Lil Dubke; M—Mary Jane and Boyd Sharp; N—Susan Mengel; O—Gertrude Fleming; P—Boyd Sharp; Q—Bob Quillen; R—Royal and Helen Spees; S—Arthur Smith; T—Tom Odom; U—David Highbough; V—Gary Muffly; W—Gene West; X—Margaret and King Gaut, Mealer Mathiesen; Y—Glen Eller, Gary Wallace; Z—Homer and Garland Osborne; b—Barney Finucane; c—Cliff Coney; e—Ethyl Odom; m—Marion Finucane; t—Tom Odom III; 14—Bob Quillen, m, b, Gracie Finucane, Roy and Hattie Allen, Jim Price, Alan Cook, Jim Gilland; 19—C, Max Carpenter, Dennis Martin, Gary Spires, Wallace Coffey; 35—Gracie, Joe, Dick Finucane, Jeff Dawson; 38—Bob Quillen, Jim Price, Fred Alsop with 11 students, Eleanor and John Knapp with a party of 10, Pete Range and family, Mark Buckner and his grandfather; 57—Bob Quillen, Rick Phillips, Tom Green and wife, Richard Craven, Max and John Muller; 71—Lee and Lois Herndon, John and Caroline Martin, Mike Abbot; 74—Harvey Wilkerson.

BEAUFORT WIND SCALE

0—less than 1 mph; 1—1 to 3 mph; 2—4 to 7 mph; 3—8 to 12 mph; 4—13 to 18 mph; 5—19 to 24 mph; 6—25 to 31 mph.

SKY CODE

0—no clouds; 1—generally fair, with no long periods in shadow; 2—partly cloudy; 3—mostly cloudy; 4—light overcast; 5—heavy overcast, heavy fog, or rain.



THE HISTORY OF AMERICAN ORNITHOLOGY (A Sketch for the Bicentennial Year)

ANN T. TARBELL

Surely those were birds flying over the endless ocean! And birds meant land! A weary Columbus sailed on, and on 12 October, 1492, his landfall in the West Indies marked the discovery of the New World. The master navigator displayed brilliant bird skins and exotic parrots to Ferdinand and Isabella, and in subsequent years the Spanish galleons brought back not only treasures of gold and jewels, but unfamiliar plants and animals and scores of travellers' tales to quicken the interest of the Old World.

Only a few accounts were valuable as natural history and those were mostly on flora. Ponce de Leon, finding "the Flowery Land" in 1513 noted the bright parrakeets, and the important work, *Natural History of the West Indies*, by the Spaniard Oviedo in 1526 contained many first hand observations on birds.

Meanwhile, in the northern seas the French navigators were reporting. Jacques Cartier in 1545 described the incredible, raucous hordes of sea birds on the "Bird Rocks" of the Canadian shores and that fine naturalist-explorer, Samuel de Champlain, kept accurate diaries (1603-1635) describing the Black Skimmer, Wild Turkey, thousands of wild pigeons, and other land and water birds. Jacques Le Moyne of the French Huguenot colony in Florida and South Carolina, was our first zoological artist in 1562, and Denis of Arcadia published on America's coastal natural history in 1672.

Sir Walter Raleigh's Lost Colony of Roanoke, 1585, left a valuable legacy: John White's numerous water colors of Virginia birds—Blue Jay, Towhee, Bluebird, and others—and John Hariot's *Report* listing 86 birds, a fine count.

In 1662 the Royal Society of London was chartered and this company of natural philosophers greatly stimulated the development of all sciences in America through its patronage and its Colonial Fellows. Their correspondence and specimens provided an enormous body of first-hand observation and material for study and publication on both sides of the Atlantic.

Of interest is the fascination exerted on all early observers, Spanish, French, and English, by 3 New World birds: the eagle for its size, the handsome "Turkie," and the "Hum-bird." That midget with its ruby throat, was it a cross between a fly and a bird, a beetle and a bird? Even his Majesty, Charles II, marvelled at the tiny nest and eggs carefully dispatched from Massachusetts Bay by John Winthrop, Jr. in 1670.

Mark Catesby had no equal in organized study of America's wilderness; coming from England in 1712 well sponsored by scientists of the Royal Society and friends, he studied, collected, sketched, and painted the flora, fauna, and topography of southern regions. He has received deserved recognition for his beautiful and "noble work," *Natural History of North Carolina, Florida and the Bahama Islands*, completed in 1747. His finest contributions were in ornithology and his book remains a classic; he is remembered as the "Founder of American Ornithology."

Pioneer American scientists included an eminent group in Philadelphia among whom were John Bartram, botanist, and his son, William, 1739-1823, the Florida Traveller, whose list of 215 native birds was the most complete until Wilson's work.

Lewis' and Clark's Expedition to the Pacific in 1803-1806 followed remarkable instructions for field observations and recording given by President Jefferson, a talented natural historian himself, and kindled great enthusiasm for science in the new republic. Lewis, a careful observer, described about 53 western birds, many new, and among them the two which were to commemorate the explorers, Clark's Nutcracker and Lewis' Woodpecker.

The next impressive American work was the *American Ornithology* published 1808-1814 by Alexander Wilson. Self-taught, devoid of native artistic ability but driven by his goal and encouraged by Bartram, this former Scottish weaver and poet collected east of the Mississippi, meeting Audubon in Louisville naming the Nashville Warbler in Tennessee in 1810, soliciting subscriptions. His birds although poorly drawn and colored are memorable, and his accurate and charming observations and great compilation of 245 species have entitled him the "Father of American Ornithology."

Field naturalists pushing farther west were the eccentric Thomas Nuttall, who explored alone the Missouri Basin and the Ozarks (1809-1820) and accompanied John K. Townsend to the Pacific Northwest in 1834; Charles Lucien Bonapart, nephew of Emperor Napoleon, and one of our greatest ornithologists, who published his *American Ornithology*, a continuation of Wilson's, in 1828; William Cooper of New York and Thomas Say of Philadelphia, all collecting, classifying, and publishing with enthusiasm.

The beauty and wealth of America's bird life was revealed by John James Audubon's magnificent, life-size aquatints in the *Elephant Folio* (1827-1838). The second edition, completed in 1844, adding birds from the Northwest and from Audubon's trips to Labrador and the Missouri depicted almost 500 birds and included the text of his *Ornithological Biography* and the plates as *The Birds of America*. Many people had helped, his wife, Lucy, and two sons; his best friend, naturalist John Bachman, William MacGillivray who collaborated on the text; and eager young men, Richard Harlan, Edward Harris, Isaac Sprague, Thomas Brewer, Thomas Lincoln, John Bell, and others. The romantic story of Audubon's life and the magnificence of his work have made him an almost legendary figure.

Meantime the West was opening up, as trappers, traders, explorers, artists, and emigrants thronged the wilderness. Dr. William Gambel was the first birdman down the Santa Fe trail in 1841, collecting in the Southwest and California, and in the next 3 decades, the West was criss-crossed by hundreds of expeditions. Crack survey teams from the Army Corps of Engineers ran the Mexican boundaries, settled by 1854, and surveyed routes for the Pacific railroads. Expeditions fought Indians, established Army posts, protected covered wagon roads and mapped the land. With every government force went field naturalists, organized and directed by the brilliant Spencer Fullerton Baird, friend of Audubon and second Secretary of the Smithsonian, intent on recording the splendor of the flora, fauna, and topography of pristine America. For years the birdmen, many of them Army doctors and including Abert, Xantus,

Coues, Mearns, Maynard, McCown, Heerman, Bendire, Henshaw, Ridgeway, and others, toiled through mountains, deserts, and plains, forwarding specimens to the National Museum and building its fabulous collections.

From the many illustrated volumes of the railroad surveys, Baird, with the assistance of taxonomists John Cassin and George Lawrence, had printed *The Birds of North America* (1858), a landmark publication, and Dr. Elliott Coues and Robert Ridgeway developed into the century's leading ornithologists publishing the great *Key to North American Birds* (1872) and *Ornithology* (1877), respectively.

Thirty years of bone-cracking expeditions in Canada's arctic (1819-1849) by British explorers, Richardson, Ross, and Franklin, revealed boreal birds—owls, grouse, partridges, and the myriads of summering waterfowl and songbirds. Young John Kennicott and his crew struggled from Puget Sound to the foggy Bering Straits compiling montane species and the white hordes of nesting oceanic birds (1864-1866), and Edward Nelson later studied the teeming shorebirds of Alaska's tundra.

By 1880 most of America's birds were compiled and the great centers of zoological research, the eastern Museums in Boston, New York, Philadelphia, and Washington, bulged with skins and egg collections to be classified and reclassified. The remaining proper names (and numerous "old-time" ones) of species which commemorate these early naturalists—Wilson's Warbler, Baird's Sandpiper, and so many others—lend color and historical interest to the study of American birdlife.

Ornithological societies were formed to promote research: the Nuttall in Cambridge (1873) by the brilliant and winning William Brewster; the Wilson (1888) in the mid-west; the Cooper (1893) in California; and the most important, the American Ornithologists' Union (1883), publisher of the *Auk* and of checklists begun in 1886. Intensive regional studies increased and Lt. Bendire comenced the valuable *Life Histories* (1892-1895) to be continued later by A. C. Bent.

The powerful Biological Survey of the U. S. Department of Agriculture (1886), headed by C. Hart Merriam, originator of the life-zone concept, directed much national wildlife research. Thousands of studies on birds' foods were made and A. K. Fisher's valuable report on *Food of Hawks and Owls* (1888) demonstrated for the first time the beneficial role of raptors.

The protectionist movement was stirring as ornithologists, appalled by the massive slaughter for market and millinery trade—countless thousands of shorebirds, terns, gulls, egrets, and songbirds decorating ladies' bonnets—foresaw extinction of many species and endeavored to secure strong laws. John Burroughs, first popular nature writer, by his influential *Wake Robin* (1871), opened sympathetic eyes to the public's feathered friends and other popular writers followed. George Bird Grinnell, editor of *Forest and Stream*, a powerful force for conservation, founded the first Audubon movement in 1886 which thousands of school children and adults joined and which spread rapidly. Schools celebrated "Bird Day" museums, societies, lecturers, and newspapers worked to educate the public and Frank Chapman published the first popular *Handbook of Birds of Eastern North America* (1895) and started the maga-

zine, *Bird Lore*, in 1899. America's bird life was well compiled, but the flight to preserve it was just beginning.

The twentieth century opened on an encouraging note with the passage of the Lacey Act by Congress in 1900 which prohibited interstate commerce in game and feathers, and thus enabled the states to enforce their many protective laws. Desperate and unceasing labor for years more was needed to save the world's dwindling and persecuted bird life; over 60 species were endangered. President Theodore Roosevelt, well remembered for his influential role in conservation, acting to save Brown Pelicans nesting in Florida created the first National Wildlife Refuge in 1903. The National Audubon Society, reactivated in 1905 by William Dutcher, manned Florida sanctuaries to fight the plume hunters of this multimillion dollar world trade. Due largely to the efforts of T. Gilbert Pearson of the A. O. U., William Hornaday and a public shocked by the murder of Audubon warden, Guy Bradley, by plume hunters, the basic protective law, the Migratory Bird Treaty Act, was enacted by Congress in 1918 and since then has slowly been effectively broadened to protect almost all of the 850-odd species in North America. It is thanks to these state and federal laws regulating protection, hunting, and management that we can still enjoy our beautiful varied bird life, much of it earlier doomed to almost certain extinction, the fate of the Great Auk, Labrador Duck, Heath Hen, Passenger Pigeon, and Carolina and Louisiana Paroquets. Vigilance and public education are constantly needed, as shown by the tragic slaughter of raptors, unprotected for decades, their plight publicized by the establishment of Hawk Mountain Sanctuary in 1934 and by recent killings of eagles.

Frank Chapman wrote of this century "that it is our knowledge of living rather than dead birds which has increased." Although much work still involved classification and description of valuable museum collections, witness the continuing revision of the North American check list by the A. O. U. and the 15-volume *Check-list of Birds of the World* now being completed by Ernst Mayr of Harvard, interest was turning to the study of the ecological niche and the life processes of the bird.

The centers of knowledge in the early decades were still in the museums, the most influential being the wealthy Museum of American History in New York with its remarkable staff, Frank M. Chapman, educator and ornithologist extraordinary; J. A. Allen, biographer; Robert Cushman Murphy, authority on sea birds; and others. The U. S. National Museum claimed the scholarly Robert Ridgway, Alexander Wetmore, and S. Dillon Ripley, and distinguished work was done elsewhere around the country. The Museums have launched numerous field expeditions to foreign lands and oceans and American ornithologists have become experts on exotic birds.

Other institutions were gaining prestige. Cornell was the first university to appoint a professor of ornithology, A. A. Allen, in 1915, and on the West Coast Joseph Grinnell directed graduate work at about the same time at U. California. Now over 50 universities give Ph.D. degrees in this field—Michigan, Yale, Kansas, U.T. L.S.U., F.S.U., and others. The Special Laboratory of Ornithology at Cornell, Sapsucker Woods, was established in 1957. Much very technical research work using sophisticated equipment for studies in migration, physiology, behavior, taxonomy, and ecology is now performed in indoor laboratories. Departments of wildlife biology doing research are operated by state

and federal agencies and significant work is done in National Parks and in the more than 350 federal refuges of over 30 million acres.

Major new tools of investigation are photography, first developed by Chapman and invaluable in life history; bird-banding and color marking, supplying data on millions of birds; radar for monitoring migration; sound recordings for song studies; improved optical equipment and statistical methods. Audubon Christmas Counts, started by Chapman in 1900, federal censuses, and data from established field stations supply field information.

A perfect flood of publications, scientific works, journals of all levels, excellent state bird books, and popular literature, not only has served to disseminate scientific knowledge, but has activated amateur interest to an unprecedented degree. Artists (Fuertes, Peterson, Sutton, Harm, Coheleach, and others), photographers, and lecturers have been influential, state societies have been productive, and R. T. Peterson's and C. Robbins' handbooks have been of immeasurable consequence.

The interest and work of amateurs in ornithology, mostly in field work and conservation, have contributed much, and ornithological societies have served to tie together the professional scientist and the bird-watcher to create an epoch of unparalleled knowledge, enthusiasm, and concern for America's bird life.

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- 6033 Sherwood Drive, Nashville 37215.

THE 1975 CHRISTMAS BIRD COUNTS

MORRIS D. WILLIAMS

This year's total of 132 species on the counts across the state ties the 1972 total for the second highest count ever. However, the total number of individual birds was low this year. The total of approximately five million birds is only one-third of last year's total. Fewer reports of large numbers of Starlings and Icterids were received this year.

Three species appear for the first time on the Tennessee Christmas Counts; they are: Western Grebe, Surf Scoter, and Cape May Warbler. This brings the total number of species recorded on the Christmas Counts to about 187.

I have several requests to make of local compilers in order to make the state counts more accurate and complete. All unusual species reports should be accompanied by supporting details. These details should be prepared by the original observer as soon as possible after the observation is made. I am sometimes asked, "How does the observer know which species need to be supported by notes?" In general, if the observer does not know that a particular species is unusual, that is sufficient grounds for doubting the record, and the local compiler should delete the record if the observer can not provide convincing details. Including notes with an observation does not always insure that the observation will appear in the tabulation. I am sometimes not convinced that a species can be unquestionably identified in the field under certain conditions. However, since I could be wrong in my decision to delete a species, these deletions are included in the section with information on the counts. Two species that I frequently have doubts about are the Scaup Ducks. We should report these as "Scaup Sp." unless we can give good evidence for ascribing them to the Greater or Lesser species.

Several errors recur in the reports that I receive. Species lists should be submitted in A.O.U. order. The new field lists prepared by TWRA and TOS show the correct order, and these lists are ideal for submitting reports. If these lists are not used, use proper English names. One report this year listed "Common Grebe." Take care to report all of the birds found during the count. Common species such as Eastern Meadowlarks are sometimes not reported. List the participants in alphabetical order, taking care to spell names correctly. I think it would be a good idea to ask someone who is familiar with birds and the participants in a count to proof read counts before submitting them. Finally I would ask compilers to send in their counts as soon as possible after the count. This year, I had begun to receive Spring Counts before all of the Christmas Counts were received.

I appreciate the efforts of local compilers to get their completed reports submitted on time. I realize that their job is difficult and time consuming.

INFORMATION OF THE COUNTS

MEMPHIS—21 Dec.; 06:45 to 16:45; mostly to partly cloudy; tem. 34° to 39°; wind, N, 10-15 mph; 27 observers in 12 parties; 66 party-hours (48 on foot, 18 by car); 156 party-miles (55 on foot, 101 by car).

David R. Brown, Mr. and Mrs. Ed Carpeiter, Lula and Ben B. Coffey, Jr. (compilers—672 N. Belvedere, Memphis 38107), Julian Darlington, Fred

THE 1975 CHRISTMAS BIRD COUNTS

	Memp	Reel	Hend	Dove	Star	Lavr	Aahl	Colu	Nash	Jick	Murf	Leba	Hano	Cook	Chat	Hivn	Knox	GMN	Gre	King	Bliz	Hrin
Common Loon	--	--	--	--	--	--	--	--	5	5	--	--	2	--	--	--	2	--	--	2	12	1
Horned Grebe	--	--	--	5	--	2	--	1	138	--	--	--	200	--	5	--	31	--	--	--	--	18
Western Grebe	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pied-billed Grebe	2	14	--	9	6	19	4	31	--	51	--	2	40	1	6	4	36	--	--	17	10	4
dbl.-cr. Cormorant	--	4	--	--	--	--	--	--	--	--	--	--	--	--	--	8	--	--	--	--	--	--
Great Blue Heron	--	14	--	30	3	--	26	10	--	16	--	10	6	--	2	119	39	1	1	2	--	15
Bl.-cr. Night Heron	--	--	--	--	--	--	--	--	2	--	--	--	--	--	--	--	--	--	--	--	--	--
Canada Goose	--	112.5M	--	5M	60	--	56	2	--	74	--	145	38	--	53	550	78	--	--	--	--	--
Snow Goose	45	84	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mallard	99	170K	--	20K	16	8	2.8M	469	--	85	--	67	74	--	29	311	1	--	--	38	86	59
Black Duck	2	5.5M	--	800	4	1	79	14	--	37	--	--	12	--	18	34	12	--	--	50	12	15
Gadwall	--	2.2K	--	50	6	4	6	110	--	3	--	--	3	--	2	20	29	--	--	--	--	1
Pintail	--	600	--	12	--	--	14	--	--	--	--	--	70	2	--	1	--	--	--	--	5	--
Green-winged Teal	--	1.2M	--	2	--	2	15	21	--	--	--	--	95	--	--	--	--	--	--	--	--	--
Blue-winged Teal	--	25	--	--	--	1	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--
American Wigeon	--	350	--	40	5	--	34	2	--	--	--	450	4	--	--	4	2	--	--	--	5	--
Northern Shoveler	2	2.2M	--	1	--	--	10	6	--	--	--	150	--	--	--	--	--	--	--	--	--	--
Wood Duck	8	50	2	--	3	--	2	2	--	3	--	--	--	--	3	--	3	--	--	2	--	--
Redhead	--	600	--	1	--	--	--	2	--	--	--	150	10	--	--	--	8	--	--	--	--	--
Ring-necked Duck	3	2.8M	--	2.5M	60	3	29	63	12	--	24	--	1	--	7	6	4	--	--	30	90	1
Canvasback	2	1200	--	12	3	1	3	4	20	2	--	--	3	--	--	--	--	--	--	17	--	--
Greater Scaup	--	--	--	--	--	--	--	4	--	2	--	--	4	--	45	--	--	--	--	--	--	--
Lesser Scaup	2	80	--	--	2	3	4	--	24	10	5	--	72	--	103	--	1	--	--	4	3	--
Common Goldeneye	--	9	--	--	1	1	--	5	5	51	--	--	32	--	8	--	3	--	--	--	--	6
Rufflehead	--	80	--	2	--	2	--	--	33	17	--	--	16	--	--	27	--	--	--	--	105	1
Oldsquaw	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
White-winged Scoter	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Surf Scoter	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ruddy Duck	4	1.2M	--	1	--	9	--	2	--	--	--	--	4	--	--	--	1	--	--	--	1	--
Hooded Merganser	--	30	--	125	--	--	4	--	--	8	--	--	5	20	10	22	3	--	--	--	4	--
Common Merganser	--	15	--	--	3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6
Red-br. Merganser	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--	2	--	--	--	--	--
Turkey Vulture	--	7	17	--	1	2	57	--	19	--	--	12	60	--	--	1	--	2	--	--	200	--
Black Vulture	--	3	--	1	--	--	2	--	64	--	6	--	--	--	--	2	1	--	--	--	37	--
Sharp-shinned Hawk	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	1	1	--	1	--
Cooper's Hawk	--	--	--	3	--	--	--	--	1	--	--	--	--	2	2	--	1	3	1	1	1	1
Red-tailed Hawk	32	26	--	2	15	13	12	9	16	15	--	5	3	2	19	6	14	11	1	1	2	4
Red-sh. Hawk	--	5	--	--	4	1	6	--	2	1	--	--	--	--	2	--	--	--	--	--	--	--
Rough-leg. Hawk	1	3	--	--	2	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Golden Eagle	--	2	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bald Eagle	--	51	--	--	--	--	1	--	--	--	--	--	--	--	--	--	1	--	--	--	--	1
Marsh Hawk	2	3	--	1	3	3	1	2	1	1	1	2	1	--	--	1	--	1	1	--	--	--
Osprey	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
American Kestrel	--	8	5	2	15	12	28	13	32	45	14	9	18	9	22	4	7	1	1	4	8	21
Ruffed Grouse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	--	3	4	1

	Temp	Reel	Head	Dove	Blir	Swr	Ashl	Colu	Wash	Hick	Hurrf	Leba	Manc	Cook	Chat	Jiwa	Knox	USNW	Gre	King	Eliz	Bria
Bobwhite	72	--	28	8	69	19	103	48	50	35	43	--	--	--	10	4	4	16	1	11	15	10
Turkey	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
American Coot	66	34	--	200	10	224	4	703	--	253	10	--	119	8	311	118	1,441	--	--	49	--	58
Killdeer	62	28	6	8	16	20	70	34	52	100	19	13	39	9	101	74	66	79	27	38	45	14
American Woodcock	1	1	--	--	--	--	--	1	--	1	--	--	--	--	3	--	4	--	--	--	--	--
Common Snipe	32	3	16	--	9	15	15	9	4	2	--	3	14	--	21	36	13	--	7	4	3	--
Least Sandpiper	--	1	--	--	--	--	--	--	--	--	--	--	--	--	29	--	--	--	--	--	--	--
Dunlin	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12	--	--	--	--	--	--
Herring Gull	7	23	--	--	--	--	--	--	--	16	--	1	1	--	--	2	2	--	--	--	--	4
Ring-billed Gull	9	202	--	1	--	--	1	--	--	230	--	--	15	--	14	45	158	--	--	--	--	150
Bonaparte's Gull	--	24	--	--	--	--	--	--	--	187	--	--	3	--	--	--	1	--	--	--	--	1
Rock Dove	1	4	--	1	39	3	87	71	97	132	--	28	90	--	91	130	528	2	11	63	36	66
Mourning Dove	196	114	114	200	83	21	81	61	174	78	8	229	17	160	552	1	326	137	74	31	43	155
Barn Owl	--	--	--	--	--	--	2	2	--	--	--	1	--	--	--	--	--	--	--	--	--	--
Screech Owl	--	3	--	1	1	1	6	5	7	7	--	6	5	2	1	--	6	4	4	1	12	8
Great Horned Owl	--	1	--	--	1	1	6	9	--	--	--	2	--	2	1	1	2	--	--	1	--	--
Barred Owl	1	10	--	1	7	1	2	3	--	--	--	2	--	--	--	--	--	--	--	--	--	--
Belted Kingfisher	4	3	1	1	11	14	20	20	15	26	3	5	14	2	7	8	26	21	3	5	8	14
Common Flicker	221	98	39	4	40	19	48	27	66	52	17	11	16	12	23	4	32	12	3	4	4	6
Red-bellied Woodpecker	7	19	9	1	24	12	26	23	35	9	--	1	4	2	8	3	9	26	1	7	10	5
Red-bell. Woodpecker	100	66	38	2	53	28	91	63	99	44	3	12	7	26	29	4	20	9	15	8	2	3
Red-hd. Woodpecker	1	138	--	1	1	1	1	2	1	1	--	1	1	2	1	--	--	--	--	1	1	--
Yel.-bell. Sapsucker	61	27	9	3	13	1	24	25	35	28	11	4	4	4	15	1	15	6	--	3	10	4
Hairy Woodpecker	15	7	11	2	7	5	11	11	22	7	7	4	2	5	4	1	5	18	--	3	5	1
Downy Woodpecker	58	51	16	2	50	21	51	38	41	42	4	7	7	27	12	2	25	50	6	12	25	10
Eastern Phoebe	2	8	1	--	3	3	5	--	3	--	--	--	1	1	--	1	3	20	--	5	7	5
Horned Lark	258	117	--	--	25	253	--	10	10	21	--	--	--	1	--	--	3	3	--	--	--	--
Blue Jay	196	91	76	25	233	65	65	64	174	94	57	78	92	121	93	23	291	96	32	41	72	84
Common Raven	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Common Crow	65	249	21	50	170	105	878	147	1,231	322	71	46	83	57	126	408	354	234	106	70	287	471
Blk.-cap. Chickadee	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	534	--	--	--	--	--
Carolina Chickadee	214	130	38	10	141	32	102	115	232	104	47	84	46	54	91	10	221	--	40	54	90	111
Fufted Titmouse	67	60	33	14	76	28	52	90	146	61	25	45	61	80	71	6	74	246	46	20	53	40
White-br. Nuthatch	2	6	7	3	3	9	22	1	15	2	--	--	6	24	21	--	34	4	13	16	17	
Red-br. Nuthatch	24	1	10	--	4	1	4	--	1	5	--	--	--	--	8	2	32	26	--	--	15	14
Brown Creeper	19	13	5	--	14	5	10	5	10	8	--	--	--	1	2	--	3	25	2	3	4	4
House Wren	2	--	--	--	--	--	--	--	--	--	--	--	--	1	1	--	--	--	--	--	--	--
Winter Wren	50	33	9	--	6	5	10	5	8	3	--	2	--	5	1	4	34	--	1	2	2	6
Bewick's Wren	--	--	1	--	2	1	--	2	6	--	--	4	--	--	1	--	--	--	--	--	--	--
Carolina Wren	145	63	56	10	89	21	109	45	115	69	4	7	3	15	51	10	141	77	21	21	45	48
Lg.-bill. Marsh Wren	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--
Sh.-bill. Marsh Wren	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mockingbird	246	24	22	4	121	55	76	58	195	151	75	75	40	35	58	10	164	29	28	12	30	47
Brown Thrasher	22	16	1	1	2	5	2	5	6	6	5	3	7	12	20	3	5	1	1	--	--	--
American Robin	2,681	147	77	14	330	28	333	2,204	897	920	18	25	9	21	60	1	136	25	25	4	4	4

	Hemp	Reel	Hend	Dove	Clar	Lawr	Ashl	Colu	Nash	Hick	Surf	Leba	Manc	Cook	Chat	Hilwa	Knox	GSMN	Gre	King	Eliz	Bris
Hermit Thrush	28	54	?	1	3	10	12	6	4	1	1	1	---	---	---	6	1	13	---	---	4	13
Eastern Bluebird	--	15	21	11	180	99	133	56	60	27	4	18	33	31	27	11	45	41	5	25	18	20
Bl.-gr. Gnatcatcher	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Golden-cr. Kinglet	58	16	116	2	26	32	40	5	12	18	--	1	--	--	28	7	22	189	3	24	22	67
Ruby-cr. Kinglet	174	64	45	--	28	32	40	12	21	20	2	1	2	3	25	3	17	45	4	5	4	21
Water Pipit	--	7	--	20	1	--	53	--	--	--	--	--	--	--	--	2	44	--	--	--	--	--
Cedar Waxwing	648	10	63	16	4	--	11	20	84	--	--	--	--	--	75	15	32	--	--	36	--	3
Loggerhead Shrike	6	14	3	1	12	15	10	16	13	5	4	1	7	4	4	4	5	1	2	1	3	3
Starling	5.1M	1.3M	351	50	2.1M	2.6M	1.2M	.33X	3.8M	3.8M	234	1.3M	3.5M	1.5M	1.9M	2.4M	352M	142	410	775	495	10.2M
Cape May Warbler	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Yel.-rumped Warbler	150	45	17	2	26	1	9	5	17	18	2	2	--	1	49	4	93	5	12	31	17	4
Pine Warbler	--	--	?	--	--	--	--	--	--	--	--	--	--	--	2	--	--	1	--	1	--	--
Palm Warbler	--	--	--	--	--	--	--	--	2	7	--	--	--	--	--	--	--	--	--	--	--	--
House Sparrow	450	160	49	17	151	134	63	39	32	77	189	68	55	109	132	37	62	50	150	43	60	268
Eastern Meadowlark	660	145	33	21	100	121	302	--	145	181	128	65	156	107	68	209	157	136	220	29	27	100
Red-wing. Blackbird	4.7M	1.5M	167	500	700	777	1.8M	.5X	84	184	--	50	1M	--	754	275	3M	4	87	--	--	6
Northern Oriole	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rusty Blackbird	74	215	--	--	--	--	245	80M	55	96	1	--	--	--	43	--	4	1	--	--	--	--
Brewer's Blackbird	10	3	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Common Grackle	27	.8M	82	70	162	14.4M	501	106M	40	10	78	3	9.9M	500	195	55	30M	2	50	--	2	8.7M
Brown-hd. Cowbird	3.9M	50M	6	20	305	200	4	.25X	8	50	16	38	--	8	31	300	1.2M	--	--	--	--	400
Cardinal	637	120	198	24	567	240	397	379	469	250	160	214	90	134	159	26	243	297	54	123	141	144
Evening Grosbeak	--	--	24	31	1	72	23	9	106	1	4	--	50	86	26	--	184	687	55	25	42	8
Purple Finch	121	16	9	--	61	46	27	49	120	434	78	13	4	35	108	27	113	218	11	36	1	18
House Finch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	--	--	--	--	--	--
Pine Siskin	13	--	34	--	--	--	--	--	50	--	--	--	--	--	--	30	4	72	52	--	14	--
American Goldfinch	265	270	55	18	277	170	137	39	196	304	6	23	6	--	65	20	531	43	5	33	112	75
Red Crossbill	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	--	--	21	--
Rufous-sid. Towhee	132	9	67	18	106	63	79	49	97	41	31	17	23	--	39	8	104	26	2	30	4	12
Savannah Sparrow	344	12	--	12	1	20	9	8	--	8	--	2	4	--	19	29	16	40	--	--	1	--
LeDante's Sparrow	5	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vesper Sparrow	10	15	--	--	5	3	--	--	--	--	--	--	--	--	8	--	--	--	--	--	--	--
Dark-eyed Junco	818	124	665	90	343	289	565	95	704	457	30	231	59	--	99	44	93	1.7M	10	36	225	260
Tree Sparrow	--	19	--	--	3	--	1	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--
Chipping Sparrow	--	--	--	--	--	--	6	3	--	--	--	--	4	--	2	--	1	--	--	--	--	--
Field Sparrow	127	63	140	12	155	217	310	121	212	193	32	72	108	--	105	24	73	123	43	27	75	26
White-cr. Sparrow	19	35	4	--	2	31	7	136	38	5	37	36	--	--	1	--	32	--	7	31	8	10
White-th. Sparrow	1462	468	354	40	271	245	276	255	351	309	39	200	36	--	566	95	599	473	14	172	211	183
Fox Sparrow	62	27	1	2	13	2	6	3	12	11	17	--	--	--	10	--	--	--	--	--	--	--
Swamp Sparrow	350	467	8	5	93	72	98	44	59	98	--	--	--	--	55	26	22	14	--	--	--	5
Song Sparrow	381	169	129	3	135	214	166	129	169	214	8	66	38	--	96	62	263	321	21	27	119	67
Lapland Longspur	--	8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Species	79	100	55	69	82	78	87	80	67	83	45	61	69	43	82	72	84	61	50	63	64	70

Grand Total Species - 133; *see information on counts; M=1,000; X=1,000,000.

Dickson, Helen and Henry Dinkelspiel, John H. Embury, Frances and Philip Gelwick, Billy C. Grimm, Russell A. Jones, Allan Larrabee, Jerald Ledbetter, Calvin Newman, George Payne, Ernest Restivo, Mary Seahorn, Alice Smith, Arlo and Noreen Smith, Richard G. Taylor, Martha Waldron, Wade Waller, Bobby Whittemore, Wendell L. Whittemore.

The Snow Goose was a blue form. The female Cape May Warbler had been present several weeks, seen by Mrs. EC, BBC, and others. Marsh Wren and Le-Conte's Sparrow seen by BBC. One of the towhees was a male of the spotted race which was in the same yard where an individual had occurred in 1952-53. Western Meadowlark was deleted; no details—MDW.

REELFOOT—20 Dec.; 07:00 to 16:00; a.m. clear, p.m. partly clear; temp. 26° to 38°; wind S, 10-15 mph; 12 observers in 7 parties, 1 at feeder; 49 party-hours (24 on foot, 20 by car, 5 by boat); 269 party-miles (32 on foot, 225 by car, 12 by boat).

Lula and Ben B. Coffey, Jr., Wendell Crews, Guy Hogg, Don and Gina Manning (compilers—103 Stonewall Circle, McKenzie 38201), T. David Pitts, Harry Smith, Noreen Smith, Bettie Sumara, Martha Waldron, Richard Wallace.

The Western Grebe, 3rd state record, was carefully identified by Manning and TDP. Two immature night herons were seen on count day. Sixteen of the Snow Geese were blue forms. Twenty-seven of the Bald Eagles were immature. Merlin, Orange-crowned Warbler, and Rose-breasted Grosbeak were deleted; the supporting details on these species were not totally convincing—MDW.

Seen in count period: Bobwhite, Turkey, Fish Crow.

HENDERSON—29 Dec.; 06:45 to 16:45; cloudy; temp. 46° to 48°; wind 5-10 mph; 5 observers; 27 party-hours; 75 party-miles.

Mrs. Eddie M. Carpenter (compiler—2966 Glengarry, Memphis 38128), Lula and Ben B. Coffey, Jr., Jerald Ledbetter, Franklin McCamey, Jr.

DOVER—2 Jan.; 06:30 to 17:00; rain most of day, heavy in a.m.; temp. 43° to 49°; 2 observers in one party; 114 miles (113 by car, 1 on foot).

John W. Sexton (compiler—Route 1, Dover 37058), Dr. Gary O. Wallace.

Seen in count period: Turkey Vulture, Red-shouldered Hawk, Bald Eagle (imm.), Common Snipe, Herring Gull, Phoebe, Ruby-crowned Kinglet.

CLARKSVILLE—27 Dec.; cloudy, light snow early; temp. 28° to 35°; 16 field observers in 5 parties.

Joe Allen, David Chiles, Mike Filson, Floyd Ford (compiler), Scott Gunn, Jerold Harris, Tony Mahoney, Bill, Gloris, Elaine and Dewitt Milliken, Beverly Mock, Millie Perry, Kathy Lee Robertson, Jack Sites, Marianne Stephens.

Ten feeder observers—May D. Darnell, Sara Ford, Mrs. Earl Hughes, Ellen Hutchison, Martha Kimbrough, Thurston Lee, Peggy Offen, Louise Roach, Ellen Walker (compiler), Priscilla Weathers.

The Northern Oriole, reported by Mrs. Hughes, spent the winter.

Seen in count period: Sharp-shinned Hawk, Turkey, Pine Siskin.

LAWRENCE COUNTY—27 Dec.; 06:30 to 17:00; cloudy in a.m., occasional drizzle in p.m.; temp. 35° to 38°; 6 observers in 4 parties and 2 feeder observers; party-miles (145 by car, 18 on foot); 34.5 party-hours.

Lloyd Clayton (compiler—Route 4, Lawrenceburg 38464), Helen Clayton, David Ihrle, Delton Porter, Paul Porter, Don Simbeck, Vivian Shields, M. D. Williams.

Seen in count period: Black Vulture, Cedar Waxwing, Turkey, Oldsquaw, White-winged and Surf Scoters identified at close range by MDW.

ASHLAND CITY—21 Dec.; 05:30 to 17:30; overcast a.m.; partly cloudy p.m.; temp. 21° to 33°; wind S, 10-16 mph; 16 observers in 7 parties; 61 party-hours (39 by car, 22 on foot); 269 party-miles (244 by car, 25 on foot).

Michael L. Bierly, Dwight Cooley, Dot and Paul Crawford, Craig Empson, Scott Gunn, Jerold Harris, Martha and John Herbert, Louise Jackson, Robert Milburn, Rocky Milburn (compiler—2923 Sharon Hills Circle, Nashville 37215), Chap Percival, Jack Sites, Pat Stallings, Lewis Winfrey.

Seen in count period: Common Loon.

Snow Goose was blue form. Osprey and Blue-gray Gnatcatcher carefully studied by MLB and D. Cooley. Common Yellowthroat deleted since it was identified by call alone (I am not convinced that this species can be safely separated from the Marsh Wrens by call—MDW).

COLUMBIA—27 Dec.; 05:00 to 18:00; overcast; temp. 37° to 42°; wind NW, 0-5 mph; 11 observers in 6 parties and 1 feeder; 40 party-hours (28 on foot, 12 by car); 320 party-miles (292 by car, 28 on foot).

Kenneth Anderson, Ed Byassee, William Fuqua, Daniel Gray, Jr., Daniel Gray, III, Olin Hotchkiss, Bedford Lockridge, Mary Lyles, George R. Mayfield, Jr. (compiler—999 Sunnyside Drive, Columbia 38401), Allen Pressnell, Diane Pressnell.

Seen in count period: Pintail, Black Vulture, Virginia Rail, Sora, Eastern Phoebe.

NASHVILLE—27 Dec.; 06:30 to 17:15; overcast, light snow in a.m.; wind NW, 5-10 mph; temp. 35° to 39°; 33 observers in 7 parties and 5 feeders; 73 party-hours (41 on foot, 32 by car) plus 37 hours at feeders; 316 party-miles (280 by car, 36 on foot).

Frances Abernathy, Clyde Anderson, David Anderson, Sue Bell, E. Bergstrom, Michael Bierly, Annella Creech, Milbrey Dugger, Evelyn and John Ellis, Charles Farrell, Clara Fentress, Katherine Goodpasture, Sarah Gordon, Ben Groce, John Herbert, Evelyn Herron, Evelyn Holt, Louise Jackson, Portia MacMillan, Margaret Mann, Ann Nichols, Corinne Oakes, Oscar Patrick, Vir-

ginia Price, Win Shaughnessy (compiler—6413 Currywood Dr., Nashville 37205), Pat Stallings, Anna Sulser, Ann Tarbell, Lawrence Trabue, Kenneth and Sara Walkup, Virginia Workman.

Seen in count period: Pied-billed Grebe, Gadwall, Surf Scoter.

HICKORY-PRIEST—3 Jan.; 04:30 to 17:30; overcast in a.m., p.m. partly cloudy; temp. 46° to 34°; wind NW, 5-10 mph; 24 observers in 5 parties; 64 party-hours (30 on foot, 34 by car); 251 party-miles (25 on foot, 226 by car).

Frances Abernathy, Ann Arnett, Sue Bell, Michael Bierly (compiler—2415 Crestmoor Rd., Nashville 37215), Dwight Cooley, Annella Creech, Milbrey Dugger, Frances Evans, Charles Farrell, Katherine Goodpasture, Scott Gunn, Jerold Harris, Bill Jones, Carol Knauth, Margaret Mann, Randy Martin, Rocky Milburn, Marge and Oscar Patrick, Betty Richards, Pat Stallings, Ann Tarbell, Lawrence Trabue, Louis Winfrey.

MURFREESBORO—27 Dec.; 08:00 to 17:00; overcast, light rain, windy; temp. 34° to 42°; 2 parties, 14 neighborhood observers; 50 miles by car.

Anne Hettish (compiler—108 Lawndale, Murfreesboro 37130).

Seen in count period: Gray Catbird.

LEBANON—27 Dec.; 00:01 to 19:00; overcast, light snow cover; temp. 30° to 35°; 3 observers in 2 parties and 3 observers at feeders; 22 party-hours (6 on foot, 16 by car) plus 24 at feeders; 100 party-miles (10 on foot, 90 by car).

Marilyn Burchett, Ray Pope, Frances Sellars, John Sellars, William Senter (compiler—313 West Hills Drive, Lebanon 37087), Sue Smith, William A. Smith.

Seen in count period: Sandhill Crane (unconfirmed report of 18 birds by TWRA personnel), American Woodcock, White-breasted Nuthatch, Brown Creeper, Evening Grosbeaks (just outside of count area), Fox Sparrow, Lincoln's Sparrow was deleted, no details—MDW.

MANCHESTER—28 Dec.; partly cloudy, calm; temp. 34° to 50°; 8 observers in 4 parties, 2 feeder observers; 69 party-hours (25 on foot, 34 by car), 285 party-miles (11 on foot, 274 by car).

Debra Acuff, Carroll Barr, Stanley Barr (compiler—Rt. 2, Box 475 A-1, Estill Springs 37330), Marjory Harper, Betty King, Glenn King, Sanford McGee, Anna Parker, Violet Wakeland, Monty Wanamaker.

COOKEVILLE—19 Dec.; 07:30 to 16:30; clear, windy; temp. 10° to 20°.

Eleanor Alexander, O. R. Alexander, Beulah Clark, Mr. and Mrs. Sam Coward, Dr. and Mrs. J. O. Cummins, Caprice Haile, Raymond High, Mr. and Mrs. Frazier Jaques, Amy Johnson, O. Ray Jordan, Elizabeth Killefer, Mildred Lassiter, Helen Lewis, Mr. and Mrs. T. B. Link, Dr. and Mrs. Sidney L. McGee,

Mrs. J. T. Moore, Miser R. Richmond (compiler—519 N. Jefferson Ave., Cookeville 38501), Mr. and Mrs. Roy H. Sullivan, Thelma Tinnon, Mr. and Mrs. F. R. Toline, Chrissa Wendt, Florence Williams.

Wood Thrush and Magnolia Warbler were deleted—MDW.

CHATTANOOGA—21 Dec.; 05:00 to 22:00; overcast; temp. 27° to 36°; wind N, av. 13 mph; 22 observers in 12 parties, plus 7 feeder observers; 84 party-hours (40 on foot, 44 by car), plus 26 hours at feeders; 520 party-miles (37 on foot, 483 by car).

Lloyd and Betty Anderson, Jim and Frances Barnwell, Benton and Jeff Basham, Gary and Chris Bayne, Branson Block, Lloyd Davis, Jon and Nancy DeVore, Isabelle and Kenton Dickerson, Ken and Lil Dubke, Dr. Jack Freeman, Anne Gibson, David Grubbs, Daniel Jacobson (compiler—P. O. Box 6, Wildwood, GA 30757), Art Jones, Hodge and Gladys Lewis, J. Hunter Patterson, Kathy Philips, Lee Shafer, Gene Shiles, Carl Swafford, Dick Wodzinski.

Seen in count period: Blue-winged Teal, Redhead, Canvasback.

HIWASSEE—1 Jan.; 06:30 to 18:00; overcast; temp. 31° to 42°; wind E, 5 mph; 6 observers in 2 parties; 21½ party-hours (11½ on foot, 10 by car); 194 party-miles (9 on foot, 185 by car).

Kenton Dickerson, Lil Dubke, Daniel Jacobson (compiler—P. O. Box 6, Wildwood, GA 30757), Lemuel Jacobson, Ruth Jacobson, Roger Woodruff.

Pectoral Sandpiper was deleted; no details—MDW.

KNOXVILLE—28 Dec.; 07:00 to 17:30; mostly clear; temp. 37° to 49°; 22 observers in 11 parties; 73½ party-hours (45½ on foot, 28 by car); 488½ party-miles (46½ on foot, 442 by car).

James Campbell, Dr. Howard Chitwood, Rob Harris, Dr. Robert Harris, Don Heiser, James Holt, Beth Lacy, Mrs. George McGown, Allison McNutt, Bill McNutt, Gary Muffly, Charles P. Nicholson, Holly Overton, Paul Pardue, Diane Rook, Paul Rook, Ken Sanders, Mabel Sanders, A. Boyd Sharp (compiler—245 Peters Rd. Knoxville 37919), Dr. James Tanner, Bill Williams, Irene Williams.

Long-billed Marsh Wren seen by CPN and earlier by ABS and MDW; House Finches by Harris and later by many others.

GREAT SMOKY MOUNTAINS NATIONAL PARK—4 Jan.; 06:00 to 17:30; clear to partly cloudy, light snow in a.m., ground covered in higher elev.; temp. 9° to 30°; wind 1-7 mph, but up to 18 mph in higher elev.; 44 observers in 21 parties, plus 4 observers at feeders; 162 party-hours (115 on foot, 47 by car), plus 32 at feeders; 541 party-miles (138 on foot, 403 by car).

Fae Andrews, Carolyn Brown, Kay Bacon, Susan Bretton, Winnifred Brown, Nanci Buss, Stan and Gwen Canter, Glenn Cardwell, Dr. Howard Chitwood, Don DeFoe (compiler—G.S.M.N.P., Gatlinburg 37738), Jay DeFoe, Lori DeFoe, Maurice Grigsby, Julie Hardin, J. H. and S. B. Harris, David High-

baugh, Bill Hooks, Dr. J. C. Howell, Tony Koella, Henry Lix, Susy Lix, Bill and Allison McNutt, Gary Muffly, Charles P. Nicholson, Mary Noel, Louise Nunnally, Holly Overton, J. B. Owen, Truett Patterson, Ann Ragan, John and Nancy Rennie, Gail Satterfield, Terry Satterfield, Boyd and Mary Jane Sharp, Hugh and Lillian Smathers, Alan Smith, Arthur Stupka, Dr. James Tanner, Bill and Irene Williams, Morris Williams, Clara Mae Wodtke.

White-crowned Sparrows were deleted, observer not seasoned—MDW. Carolina and Black-capped Chickadees were not separated in the tally.

GREENEVILLE—28 Dec.; 07:30 to 17:00; clear to cloudy; temp. 34° to 52°; wind, 0-6 mph; 9 observers.

Mr. and Mrs. O. C. Armitage, Mr. and Mrs. King Gaut, Wilma Irvine, Boris Kondratieff, Mr. and Mrs. Richard Nevius (compiler—Route 6, Greenville 37743), Mrs. John Speer.

KINGSPORT—3 Jan.; 07:00 to 19:00; overcast, fog, light rain in a.m.; temp. 45° to 30°; 8 observers in 6 parties; 45 party-hours (30 by foot, 14 by car, 1 by barge); 107 (16 on foot, 90 by car, 1 by barge).

Tom Bowman (compiler—Bays Mountain Park, Route 4, Kingsport 37660), Teresa Brown, Joe and Tom Finucane, Eugene Scott, Arthur Smith, Ann Switzer, Howard Young.

ELIZABETHTON—20 Dec.; 06:45 to 17:30; clear in a.m., partly cloudy in p.m. and windy, 5-15 mph, trace of snow above 3000 ft.; 13 observers in 5 parties; 287 party-miles (271 by car, 16 on foot); 47 party-hours (28 by car, 19 on foot).

John Adams, Joy Dillenbeck, Martha Dillenbeck, Glen Eller (compiler—Rt. 3, Grandview Terrace, Elizabethton 37643), Harry Farthing, Sally Goodin, Lee Herndon, Barney Keffer, Richard Lewis, John Martin, Ed Schell, John Wright, Keith Young.

BRISTOL—27 Dec.; 07:30 to 18:00; overcast, intermittent rain and snow, 0-1 in. of snow; temp. 30° to 34°; wind W-SW, 2-10 mph; 13 observers in 6 parties and 2 at feeders; 43½ party-hours (12½ on foot, 26 by car, 5 by boat) plus 10 at feeders; 313½ party-miles (18½ on foot, 235 by car, 60 by boat).

Rockwell Bingham (compiler—216 Melody Lane, Bristol 37620), Rosemary Bingham, Wallace Coffey, Dot Crawford, Paul Crawford, Martha Dillenbeck, Joy Dillenbeck Glen Eller, John Gray, Ken Hale, Conrad Ottenfeld, Charles Smith, Angela Wilson, Diane Wilson, John Wright.

The Cape May Warbler seen by Crawfords and Wilsons was present for several days prior to count. Black-capped Chickadees were deleted; although this species probably occurs in this area occasionally in the winter, field identification is not reliable—MDW.

ROAN MOUNTAIN—29 Dec.; 07:30 to 18:30; clear in a.m., overcast in p.m.; temp. 30° to 46°; wind 10-15 mph; trace to 3 in. snow above 5,000 ft.;

6 observers in 3 parties; 102 party-miles (94 by car, 8 on foot); 21 party-hours (13½ by car, 7½ on foot).

Paul Crawford, Glen Eller (compiler—Rt. 3, Grandview Terrace, Elizabethton 37643), John Gray, Jake Slonaker, Angela Wilson, Diane Wilson.

Only 5 species found above 5,000 ft. elevation. American Kestrel (1), Ruffed Grouse (1), Screech Owl (2), Belted Kingfisher (1), Downy Woodpecker (6), Blue Jay (5), Common Raven (2), Common Crow (16), Carolina Chickadee (6), Tufted Titmouse (9), White-breasted Nuthatch (5), Red-breasted Nuthatch (2), Carolina Wren (1), Eastern Bluebird (4), Golden-crowned Kinglet (1), Starling (5), House Sparrow (9), Cardinal (2), Evening Grosbeak (2), Purple Finch (1), American Goldfinch (1), Dark-eyed Junco (17), Field Sparrow (8), Song Sparrow (16). Total 24 species.



THE SEASON

FRED J. ALSOP, III, *Editor*

WINTER SEASON: 1 NOVEMBER - 15 MARCH

This was a rather mild winter for Tennessee and not a notable one for Northern finches. It did, however, produce many most interesting records of late lingering warblers in all the reporting regions as well as observations of some waterfowl, birds of prey, and several songbirds not commonly seen in the State.

This is our best season for seeing waterfowl and "good finds" for T.O.S. birders included 15 Whistling Swans in the Western Coastal Plain and White-fronted Geese here and in the Central Plateau and Basin. The latter region also produced the third state record for Barnacle Geese with two being sighted (You may have noted the increase in southern sightings of unusual North American and Old World waterfowl species and the discussions of their possible origins—wild or escapes from fanciers—in many ornithological journals). Oldsquaw were reported from all regions and scoters from the Central Plateau and Basin and the Eastern Mountain Regions. This last region also had a Red-throated Loon.

Eagles of both species were seen and Northern raptors were represented in the reports by Rough-legged Hawks in the Western Coastal Plain and the Central Plateau and Basin. A Goshawk, reported in the previous "Season," was still present through this period in the Eastern Mountain Region. Several Horned Owls were found nesting and three Short-eared Owls wintered at the Smyrna airport.

There were several reports of Sandhill Cranes in the Central Plateau and Basin region with a migratory movement apparently under way in early December. Two Black-capped Chickadees were carefully observed by Diane Wilson as they came to a feeding station at her Bristol home in the company of Carolina Chickadees. The occurrence of these Northern—or, in Tennessee, high altitude—species at this location is most unexpected. Many late dates for several species of warblers were contributed including a wintering Yellow-breasted Chat in Covington in the Western Coastal Plain.

Lapland Longspurs were found in the Western Coastal Plain and the Central Plateau and Basin; Snow Buntings in Nashville and on Roan Mountain; Sprague's Pipit in the Western Coastal Plain and a sub-adult Harris' Sparrow in the Central Plateau and Basin Region. You'll find these records and much more useful information about the avifauna of Tennessee in these following pages of the Winter "Season."

WESTERN COASTAL PLAIN—*Loon-Crow*: Common Loon: 11 Dec. (2) Pin Oak Lake, NTSP (BBC, LCC). Horned Grebe: 11 Nov. (1) HPL (VH). Cattle Egret: 7 Mar. (1) M (HHD). *WHISTLING SWAN*: 3 Jan. (15) until 24 Jan. HNWR (JG, JL). *WHITE-FRONTED GOOSE*: 3 Jan. (1), 25 Jan. (1) HNWR (JL). *OLDSQUAW*: 27 Dec. (2) Ft. Pillow SP (HD, NS, MW, GP). Greater Yellowlegs: 7 Mar. (1) M (HHD). Sharp-shinned Hawk: 28 Dec. (1) M (HD). *ROUGH-LEGGED HAWK*: 21 Dec. (1) M (BBC, CN, JL). Golden Eagle: 4 Jan. (1) HNWR (JL). Least Sandpiper: 20 Dec. (1) Tiptonville Sewerage Pond (BBC, LCC). Great Horned Owl: 29 Dec. (1) M (DV), the owl was first sighted on a nest and two young have been observed (19 Mar.) Fish Crow: 27 Dec. (11) G (HD, NS, MW, GP).

Nuthatch-Longspur: Red-breasted Nuthatch: this species was fairly common in the Memphis area this season with 23 on the Christmas Count. The Henderson Christmas Count had a total of 10 (MEC). *HOUSE WREN*: 21 Dec. (2) on Christmas Count, M, 27 Dec. (1) Ft. Pillow SP (HD, NS, MW, GP). Bewick's Wren: 22 Feb. (1) H, DRNWR (JL). Short-billed Marsh Wren: 21 Dec. (1 each) 2 locations, M Christmas Count (BBC). *SPRAGUE'S PIPIT*: 31 Jan. (1) G (BBC, LCC). Orange-crowned Warbler: 24 Jan. thru 11 Feb. (1) R (MEC). Cape May Warbler: 2 Dec. thru 3 Jan. R (MEC, BBC, LCC), this is the first West TN winter sighting. Black-throated Green Warbler: 7 Nov. and 9 Nov. M (HD). Palm Warbler: 22 Feb. (1) H, DRNWR (JL). Yellow-breasted Chat: 25 Nov. thru 6 Dec. (1) C (AS). Rufous-sided Towhee (Spotted Race): 12 Dec. thru 25 Dec. Gn (MCS). Dickcissel: 27 Dec. (1) Ft. Pillow SP (HD). Evening Grosbeak: 29 Dec. (24) H (MEC), 19 Feb. (1) N (RF). Chipping Sparrow: 5 Dec. (3) M (MW). *LAPLAND LONGSPUR*: 31 Jan. (200) 1 Mi. south of Owl City, Lake Co., 1 Feb. (600) west of Phillipy, Lake Co. (BBC, LCC).

Locations: NTSP—Natchez Trace State Park; M—Memphis; HNWR—Natchie National Wildlife Refuge; HPL—Herb Parsons Lake, Fayette Co.; Ft. Pillow SP—Ft. Pillow State Park, Lauderdale Co.; G—Golddust, Lauderdale Co.; H, DRNWR—Hustburg, Duck River National Wildlife Refuge; R—Raleigh; C—Covington; Gn—Germantown, East Shelby Co.; H—Henderson.

Observers: BBC—Ben B. Coffey; LCC—Lula C. Coffey; VH—Van Harris; JG—Joe Guinn; JL—Jerald Ledbetter; HD—Helen Dinkelspiel; NS—Noreen Smith; MW—Martha Waldron; GP—George Payne; CN—Cal Newman; DV—Dave Vance; MEC—Mrs. Ed Carpenter; HHD—Henry and Helen Dinkelspiel; MCS—Mrs. Charles Seahorn; RF—Romana Fuller.

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CENTRAL PLATEAU AND BASIN REGION—*Grebes-Yellowlegs*: Horned Grebe: 17 Jan. (150) WR (Branson Block, DRJ). Great Egret: 23 Nov. (1) CL (CE, KJM). Yellow-crowned Night Heron: 27 Feb. (1) G (DC, PC), Compiler is unaware of other winter records for this species. *BARNACLE GOOSE*: 24-27 Jan. (2) CCNWR (MLB), 3rd State record. American Bittern: 9 Nov. (1) BV (MLB). *WHITE-FRONTED GOOSE*: 24-27 Jan. (2) HP (DC, PC); 25 Jan. (1 imm.) CCNWR (Gary Bayne, DRJ). Blue-winged

Teal: 27 Feb. (15) G (DC, PC). *OLDSQUAW*: bird reported last period still present thru 7 Dec. (MLB); 18 Jan. (1) WR (Violet Hite, MW). Surf Scoter: 1 bird of the 2 reported last period, remained thru 9 Dec. (MLB). Sharp-shinned Hawk: 5 reports during period. Cooper's Hawk: 7 Feb. (1) I-40 and 231 (CE, RJM); 20 Feb. (1) OH (SF, WF). *ROUGH-LEGGED HAWK*: 11 Jan. (1) Ashland City (Helen and Henry Dinkelspiel). Golden Eagle: 17 Jan. (3 adults) Auburntown (DRJ); 27 Jan. (3 imm.) Auburn Rd. (MW). Bald Eagle: 17 Nov. (1 imm.) BV (RJM); 21 Dec.-21 Feb. (1) CL (Nash. TOS). Osprey: one bird wintered at CL. Ring-necked Pheasant: 25 Jan. (1) Cowan (Effie Boyd). *SANDHILL CRANE*: 19 Nov. (25) Franklin Co. (Edwina Morrison, Mr. and Mrs. B. M. Jaco); 3 Dec. (5) Cookeville (Beulah Clark, BJ); 7 Dec. (28) HP (WT); 9 Dec. (12) OHL (WT); 9 Dec. (35) Murfreesboro (Richard Hunter). American Woodcock: 7 Dec. thru period (1-8) Shelby Bottoms (MPS). Black-bellied Plover: 25 Oct.-9 Nov. (1) BV (MLB, Larry Gates). Solitary Sandpiper: 9 Nov.-27 Nov. (1) BV (MLB, RJM). Greater Yellowlegs: 1-8 Nov. (8) CL (RJM); thru 30 Nov. (1) BV (MLB); 28 Feb. (1) NA (MPS). Lesser Yellowlegs: 13 Mar. (1) BV (MPS).

Owls-Bunting: Barn Owl: 2 Feb. (1, dead) I-40, 13 mi. W. of Nashville (Ken and Lil Dubke). Great Horned Owl: 26 Dec. (1 ad.) on nest. Five active nests during period, Five Points (MDW). *SHORT-EARED OWL*: 27 Nov.-21 Feb. (3) Smyrna Airport (Margaret Mann) Carolina Chickadee: 15 Mar. (nest/one egg) NA (Sue Bell). House Wren: 9 Nov. (1) BV (MLB). Bewick's Wren: 4 reports during period. Short-billed Marsh Wren: 9 Nov. (1) BV (MLB). Swainson's Thrush: 23 Nov. (1) OH (SF, WF)—very late. Blue-gray Gnatcatcher: 7-9 Nov. (1) OH (SF, WF). Cedar Waxwing: 2 Nov. (200) Radnor Lake (DRJ). Black-and-white Warbler: 28 Nov.-8 Dec. (1) Ft. Negley (Chap Percival). Orange-crowned Warbler: 9 Nov. (1—banded) Basin Springs (KAG). Palm Warbler: 3 Jan. (2) NA (RJM, MPS). Northern Oriole: mid-Dec.-12 Mar. (1) NA (Mr. and Mrs. Herbert Benson, KAG). Tree Sparrow: 8 Jan. (1) G (DC, PC); 18 Jan. (21) Smith Co. (BJ); 7 Feb. (12) BV (SF, WF). Chipping Sparrow: 18 Dec. (1) Lawrence Co. (Lloyd Clayton). *HARRIS' SPARROW*: mid-Dec.-1 Mar. (1) sub-adult, NA (DRJ, Adam Mitszel). *LAPLAND LONGSPUR*: 16, 17 Nov. (1) BV (MLB, RJM). *SNOW BUNTING*: 16 Nov. (2) BV (MLB).

Locations: B—Byrdstown; BV—Buena Vista; CCNWR—Cross Creek National Wildlife Refuge; CL—Cheatham Lake; G—Gallatin; HP—Hunter's Point; NA—Nashville Area; OH—Old Hickory; OHL—Old Hickory Lake; WR—Woods Reservoir.

Observers: MLB—Michael Bierly; DC—Dot Crawford; PC—Paul Crawford; CE—Craig Empson; SF—Sally Fintel; WF—William Fintel; KAG—Katherine Goodpasture; DH—Dave Hassler; RH—Robbie Hassler; DRJ—Daniel Jacobson; BJ—Bill Jones; RJM—Rocky Milburn; MPS—Pat Stallings; WT—Willie Taylor; MDW—Morris Williams; MW—Mary Wood.

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EASTERN RIDGE AND VALLEY REGION—One word seems to best describe this winter season—exciting. Observers across the region reported not

only unusual species such as American Avocet, Merlin, Peregrine Falcon, and LeConte's and Harris' Sparrows, but also recorded winter dates for the Osprey, Pectoral Sandpiper, Tree Swallow, Black and white and Cape May Warblers, Rose-breasted Grosbeak, and Indigo Bunting.

Boreal species staged a bumper invasion of the region, including both species of crossbills. House Finches spent most of the winter in Knoxville and Chattanooga reported both Surf and White-winged Scoters.

Migration was in progress before the end of the season with the usual martins and swallows, and early records of the American Bittern.

Loon-Merganser: Common Loon: sporadically through period (1-6) ChL (KD, DRJ); 15 Feb. (20) BTWSP (DRJ); 5 Dec. (7) BL (MD, SG). Horned Grebe: 10 Dec. (28) BL (MD, SG, HD); 14 Feb. (50) BTWSP (DRJ). Pied-billed Grebe: through period (25-35) SP (DKD). Double-crested Cormorant: six dates from 8 Nov.-15 Feb. (1-9) HRA (KLD, DKD, DRJ). Great Blue Heron: 1 Dec. (111) HRA (KLD); 31 Jan. (23) JCo (TK). Green Heron: three Nov. dates (AM, HRA); 14 Dec. (1) AM (KLD, DRJ). Great Egret: 29 Nov. (1) DL (JCH). Black-crowned Night Heron: 9 Nov. (1) FLL (JCH); 11 Mar. (9) KP (RL). *AMERICAN BITTERN*: 14 Feb. (1) KP (FJA); 14 Feb. (1) AM (DRJ). Whistling Swan: 25 Nov. (1) NL (DRJ, KLD). Snow Goose: 3, 4 Nov. (1), (2, blue morph) HRA (KLD). Blue-winged Teal: 23 Dec. (2) SP (DKD); 1 Mar. (1) SB (KLD). American Wigeon: 1 Mar. (500) NL (DKD). Redhead: 8 Mar. (40) ChL (KLD). Canvasback: 6 Feb. (7) PSF (JGH); 8 Mar. (40) ChL (KLD). Greater Scaup: 21 Feb. (350) BTWSP (KLD). Lesser Scaup: 23 Nov. (500) NL (DRJ, DKD, LD, LMJ). Bufflehead: 23 Nov. (60) NL (DKD, LD, DRJ, LMJ). Oldsquaw: 23 Nov. (1) NL (LD, DKD, DRJ, LMJ); 5 Feb. (1) BL (MD, SG). *WHITE-WINGED SCOTER*: 9 Feb.-1 Mar. (1-4) BTWSP (KLD, et al); 15 Feb. (5) WBL (KLD). *SURF SCOTER*: 4 Nov. (1) BTWSP (KLD). Common Merganser: 1 Dec. (2) ChL (KLD); 15 Feb. (1) HRA (DRJ). Red-breasted Merganser: 23 Nov. (150) NL (LD, DKD, LMJ, DRJ).

Vulture-Owl: Turkey Vulture: 8 Nov. (60) HRA (KLD). Sharp-shinned Hawk: nine records during period CH (KLD, DRJ); 10 Nov., 2 Dec. (1) PSF (JGH); 22 Nov., 21 Feb. (1) NoL (JCH); 28 Feb. (1) JC (DL). Cooper's Hawk: six records JC (SG, JS, ES, DL); two records CH (LBA, BB); 16 Dec. (1) Oak Ridge (JMC). Golden Eagle: 12 Nov. (1 adult), 24 Feb. (1 imm.) SeV (LSF). Bald Eagle: 1 Dec. (1 adult), 2 Dec. (1 imm.) HRA (Wilford Caraway fide KLD); 31 Jan., 27 Feb. (1 adult) NoL (JCH); 15 Feb. (3 adults) WBL (KLD); 15 Feb. (3 adults) HRA (DRJ); 21 Feb. (2 adults) NL (DRJ, DKD). *OSPREY*: 19 Nov. (1) MB (Mary Steel fide KLD); 22 Nov. (3) NL (KP); 12 Dec. (1) MB (Jon DeVore); 9 Mar. (1) AM (KLD). *PEREGRINE FALCON*: 22 Nov. (1 adult) NL (LS). *MERLIN*: 8 Feb. (1) KCo (Maurice Grigsby). Sandhill Crane: seven records 22 Nov.-4 Mar.; 22 Nov. (70) NL (KP); 9 Jan.-end of period (1) KP (FJA). King Rail: 9 Nov. (1) HRA (BS, DRJ). Virginia Rail: 9 Nov. (3) HRA (BS, DRJ); 7 Dec. (1) Westal Exit, I-40 near Rockwood (Mike Bierly, Margaret Mann, Paul Crawford, Betty Richards, DRJ); 23 Jan. (1) AM (DRJ). Killdeer: 8 Mar. (nest with 4 eggs) KCo (GCM). American Golden Plover: 4 Nov.

(1) HRA (KLD); 11 Nov. (2) PSF) (JCH). Black-bellied Plover: 8-14 Nov. (1-4) HRA, SB (KLD). American Woodcock: 14 Dec. (8, peeping and courtship flight) AM (KLD, DRJ). Common Snipe: highest regularly wintering numbers recorded at SB (100-200), 1 Mar. (250) SB (KLD); 8 Mar. (307) SB, HRA (KLD). Spotted Sandpiper: 23 Nov. (2) BL (PR, JS). Greater Yellowlegs: 3 Nov. (17) HRA (KLD); 8 Nov. (1) NoL (JCH); 29 Feb. (1) SB (LD). Lesser Yellowlegs: 12 Nov. (1) SB (LD). *PECTORAL SANDPIPER*: up to 5 lingered late, last recorded 1 Jan. (1) HRA (LD, RW). Least Sandpiper: 27 Jan. (61) SB, HRA (KLD). Dunlin: 27 Jan. (190) SB (KLD); 31 Jan. (105) JCo (TK). *AMERICAN AVOCET*: 22 Nov. (1, bird with mangled leg) JC (Barney Keefer fide MD). Herring Gull: 19 Jan. (45) ChL (KLD). Ring-billed Gull: 15 Feb. (250) BTWSP (DRJ). Bonaparte's Gull: 7, 8 Dec. (5) BL (GE, LRH, RL); 19 Jan. (38) HRA (KLD). Yellow-billed Cuckoo: 1 Nov. (1) AM (DRJ). Barn Owl: through period (2 active pairs) JC (RL, DL). Great Horned Owl: 14 Feb. (nest, 2 eggs) Signal Mtn. (Kenneth Miller fide DRJ). *SHORT-EARED OWL*: 25 Nov. (1) NL (DRJ).

Lark-Sparrow: Horned Lark: 1 Dec. (25) HRA (KLD). *TREE SWALLOW*: 19 Jan. (1) HRA (KLD). Barn Swallow: 13 Mar. (2) NL (DRJ). Cliff Swallow: 13 Mar. (2) NL (DRJ). Purple Martin: 3 Mar. (4) JCo (Clarence Burreis). Brown-headed Nuthatch: through period (2) McD (Nat Halverson, et al). House Wren: 1 Nov. (1) AM (DRJ). Bewick's Wren: 16 Dec. (1) AM (KLD); 3 Jan. (1) AM (DKD). Long-billed Marsh Wren: 9 Nov. (1) HRA (BS, DRJ, et al); 20 Dec. (1) KCo (MDW, BS, CPN). Short-billed Marsh Wren: 28 Nov.-29 Dec. (1-3) NL (DRJ, et al); 3 Dec. (1) AM (DRJ). Water Pipit: 8 Nov. (75) NoL (JCH); 7 Feb. (75) TCA (GE, LRH, DL, RL, ES). *BLACK-AND-WHITE WARBLER*: 7-14 Dec. (1) JC (DL). *CAPE MAY WARBLER*: 22 Nov. (1) K (BAM); 24 Dec. (1) JC (PR). Pine Warbler: 26 Jan. (1 singing) HRA (LD). Palm Warbler: 1 Nov. (1) AM (DRJ); 8 Feb. (1) NL (DRJ, LMJ). *BREWER'S BLACKBIRD*: 11 Jan. (3) TCA (GE, LRH). *ROSE-BREADED GROSBEAK*: 27 Nov. (7), 10 Dec. (5) WW (KP); 18 Dec.-22 Feb. (1) ACo (MT). *INDIGO BUNTING*: 1 Nov. (1) AM (DRJ); 20 Jan.-end of period (1) ACo (MT). Evening Grosbeak: flocks reported from all parts of region, max. 30 Nov. (100) Oneida (Mrs. H. M. Leeds). Purple Finch: 16 Nov. (200) JC (JS). *HOUSE FINCH*: 25 Dec.-end of period (max. of 14 at feeder) K (Robert and Laveda Harris). Pine Siskin: small flocks throughout region, max. 2 Nov. (100) K (Ed and Brownie Griffith). Red Crossbill: 23 Nov. (1) NL (LD, DRJ, et al); 29 Nov. (12) K (Harold and Edith Cress); 5 Feb. (6) K (Carl Swafford); 6, 12 Feb. (12) Chickamauga Battlefield, Ga. (KD); 29 Feb. (8) McD (GE, LD). *WHITE-WINGED CROSSBILLS*: 5-7 Nov. (12-15) Etowah (Harry Farthing). *LECONTE'S SPARROW*: 5-15 Dec. (1) NL (DRJ, GLB, et al). Vesper Sparrow: 10 Nov. (4) PSF (JGH); 22 Nov. (24) AS (DL); 14 Dec. (6) AM (DRJ). *HARRIS SPARROW*: 2 Feb.-end of period (1) White Pines (TK, et al). White-crowned Sparrow: 12 Dec. (100) Jonesboro (SG, MD); 13 Feb. (250) Telford (SG, MD).

Locations: ACo—Anderson County; AM—Amnicola Marsh; BL—Boone Lake; BTWSP—Booker T. Washington State Park; CH—Chattanooga; ChL—Chickamauga Lake; DL—Douglas Lake; FLL—Fort Loudon Lake; HRA—Hiwassee River Area; JC—Johnson City; JCo—Jefferson County; K—Knox

ville; KCo—Knox County; KP—Kingsport; McD—McDonald; MB—Moccasin Bend; NL—Nickajack Lake; NoL—Norris Lake; PSF—U. T. Plant Science Farm; SB—Savannah Bay; SeV—Sequatchie Valley; SP—Shawhon Pond, Chattanooga; TCA—Tri-Cities Airport; WBL—Watts Bar Lake; WW—Wildwood, Ga.

Observers: FJA—Fred J. Alsop; LBA—Lloyd and Betty Anderson; BB—Benton Basham; GLB—Gary L. Bayne; JMC—Jim Campbell; DKD—D. Kenton Dickerson; HD—Helenhill Dove; KLD—Ken and Lil Dubke; KD—Ken Dubke; LD—Lil Dubke; MD—Martha Dillenbeck; GE—Glen Eller; SG—Sally Goodin; JCH—J. C. Howell; JGH—James G. Holt; LRH—Lee R. Herndon; DRJ—Daniel R. Jacobson; LMJ—Lemuel M. Jacobson; TK—Tony Koella; DL—Dick Lura; RL—Richard Lewis; BAM—Bill and Alicyn McNutt; GCM—Gary and Cynthia Muffly; CPN—Charles P. Nicholson; KP—Kathy Phillips; PR—Pete Range; BS—Boyd Sharp; ES—Ed Schell; JS—Jake Slonaker; LS—Lee Shafer; LSF—Lee Shafer Family; MT—Margaret Thompson; MDW—Morris D. Williams; RW—Roger Woodruff.

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EASTERN MOUNTAIN REGION—The overall weather picture was that of above average temperature and below average rainfall through out the period. January was the only month with cold days, with several in the low teens during the middle of the month. February had above average temperatures which carried over into the first week of March. The rainfall for the entire period was below average. The early warm temperatures did not seem to effect the bird movement to any significant degree.

Several unusual waterfowl sightings were noted and several late warblers were seen. The most noteworthy occurrence was that of the Goshawk which was first reported during the last period. The bird apparently spent the winter in a very remote area near the upper end of Watauga Lake, being sighted in every month of the period. One Snow Bunting was reported from Roan Mountain.

Loon-Scoter: Common Loon: thru Nov. and Dec. with (12) on 22 Nov. RC (LRH), none reported since 10 Dec. (unusual). *RED-THROATED LOON:* 15 Nov. (2) RC (GW, DL); 17 Nov. (1) RC (MD, SG). Horned Grebe: 1st returned 15 Nov. (6) WatL (GW); 7 Feb. (50+) RC (LRH, ES). Canada Goose: 12 Dec. (1) WibL (RL). Gadwall: 29 Nov. (1) WatR (RL); 24 Jan. (2) RC (LRH, ES). Pintail: 15 Nov. (1) WibL (RL, GW); 20 Dec. (5) WatR (GE, HF); 7 Feb. (2) RC (GE, HF). Green-winged Teal: 22 Nov. (1) WibL (GW, DL); 29 Nov. (1) WibL (MD, SG, RL); 1 Jan. (1) WibL (GE). Blue-winged Teal: 1st returned 6 Mar. (2) RC (GE, HF). Northern Shoveler: 16 Nov. (2) WatL (MD, SG). Canvasback: 15 Nov. (2) RC (GW, DL); 21 Jan. thru 7 Feb. (1-4) RC (ETOS). *OLDSQUAW:* 17 Jan. (12) WatL (LRH). Ruddy Duck: 22 Nov. (3) WatL (GW, DL); 20 Dec. (1) WibL (GE, HF); 19-20 Feb. (1) WibL (RL). Black Vulture: Dec. thru Feb. (15-25) Bri (DW et al) in roost with 125+ Turkey Vultures. *SURF SCOTER:* 27 Nov. (1) WibL (GE). *WHITE-WINGED SCOTER:* 17, 31 Jan. (3) RC (LRH, ES).

Hawk-Vireo: GOSHAWK: 14 Nov., 10 Jan., 18 Feb. (1) RC (PR); 6 Mar. (1) RC (LRH, GE). Sharp-shinned Hawk: 18 Dec. (1) Eliz. (LRH); 20 Dec. (1) SV (GE, HF). Cooper's Hawk: 20 Dec. (1) SV (GE, HF); 21 Feb. (1) Eliz. (HF); 1 Mar. (1) Eliz. (GE). American Woodcock: 1st returned 11 Feb. (1 performing) Milligan (GW). Spotted Sandpiper: 1st returned 15 Mar. (1) SV (DL). Bonapart's Gull: 27 Nov. (2) WatL (MD, SG). Barn Owl: 2 active pair thru period (GE, GW et al). Great Horned Owl: 10 Jan. (1) WatL (PR); 2 Mar. (1) Bri. (Judy Abbott); 13 Mar. (1 banded) Bri. (DW, Wallace Coffey). Barred Owl: 24 Jan. (1) RC (LRH, ES). Common Flicker and Yellow-bellied Sapsucker: seemed to decline in numbers since mid Dec. thru end of Feb. (reason?). Raven: 1-3 regular thru-out period RM (ETOS). BLACK-CAPPED CHICKADEE: 21 Nov.-29 Feb. (2) Bristol (Diane Wilson). Red-breasted Nuthatch: none at higher elevation (poor cone crop). Hermit Thrush: 29 Nov. (3) WatL (LRH, GE, GW); 4 Dec. (1), 17 Jan. (2) RC (LRH, ES); 15 Feb. (1) Eliz. (GE). Cedar Waxwing: 24 Jan. thru 7 Feb. (75+) RC (ETOS). Solitary Vireo: 17 Nov. (1) RM (SG, MD) (late date).

Warbler-Bunting: Cape May Warbler: 23 Nov. thru 28 Dec. (1 at feeder) Bri. (DW et al). Pine Warbler: 13 Mar. (2) SV (JS). Palm Warbler: 10 Nov. (2), 23-24 Nov. (1), 21-22 Feb. (1) at feeder in Bri. (DW). Rusty Blackbird: 1st returned 7 Mar. (5) SV (GE). Evening Grosbeak: 1st returned 1 Nov. (48) RC (Fred Alsop), 7-10 small flocks and 1 large flock (75-80) at feeders in area (ETOS). Purple Finch: 1st returned 1 Nov. (8) RC (Fred Alsop). Red Crossbill: 22 Nov. (3) WatL (GW, DL), 20 Dec. (21) Cove Ridge (LRH, JM), 1 Jan. (7) WatL (GE), 31 Jan. (4) Cove Ridge (GW, DL). Chipping Sparrow: last fall record 10 Nov. (2) Bri. (Rockwell Bingham). White-crowned Sparrow: 20 Dec. (8) and 17 Jan. (3) Bri. (Rockwell Bingham). Fox Sparrow: 21 Nov. (3) RC (GW, DL, JS, RL), 31 Jan. thru 28 Feb. (1 at feeder) Eliz. (HF), 1 Mar. thru 9 Mar. (1 at feeder) Bri. (Judy Abbott). SNOW BUNTING: 16 Nov. (1) RM (RL).

Locations: Bri—Bristol; Eliz—Elizabethton; RC—Roans Creek; RM—Roan Mountain; SV—Siam Valley; WatL—Watauga Lake; WatR—Watauga River; WibL—Wilbur Lake.

Observers: MD—Martha Dillenbeck; GE—Glen Eller; HF—Harry Farthing; SG—Sally Goodin; LRH—Lee Herndon; DL—Dick Lura; RL—Richard Lewis; JM—John Martin; PR—Pete Range; ES—Ed Schell; JS—Jake Slonaker; DW—Diane Wilson; GW—Gary Wallace; ETOS—Elizabethton Chapter T.O.S.

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REVIEWS

VOICES OF NEOTROPICAL BIRDS—Dr. John William Hardy, Curator in Ornithology, Florida State Museum. Very appropriately, dedicated to Irby Davis, long-time expert on Middle-American birds and their songs.

This 12-inch 33-1/3 ips LP contains the songs and/or calls of 45 species, plus others named in the background. Recorded in Mexico and (10 species) Central and South America however, all but 5 species are found in Mexico. Those of special interest should be the Three-wattled Bellbird, two owls, four jays, and four nightingale-thrushes. Dr. Hardy has made an extensive study of these jays and thrushes. The general practice in arranging most LP records of bird vocalizations, has been to limit comment to a bare minimum, with most data on the jacket. The author here has something to tell us and his informal commentary adds to the value of the LP. The selection and arrangement emphasizes biological aspects—behavioral, ecological, and evolutionary. If you have no special interest in northern tropical birds of the Americas, the commentary will still be instructive and of general interest.

The LP ("Ara-1") can be ordered directly (\$6) from J. W. and Carol K. Hardy, 1615 N.W. 14th Ave., Gainesville, Florida 32605. It is also listed by Audubon Bookcase, Croton-on-Hudson, N. Y. 10520.

BEN B. COFFEY, JR.

THE LIFE OF BIRDS. 1975. Second Edition. By Joel Carl Welty. W. B. Saunders, Philadelphia. 623 p. \$18.50. — This basic college text was first published in 1962. Thirteen years later, with this revision, Welty has improved and updated what is still the best introductory ornithological textbook on the market.

There are 24 chapters in the new edition, compared to 23 in the first edition. The new chapter added concerns the relationship between mankind and birds. There are 77 more pages with a larger page format. This adds up to a considerable increase in information presented. There are some areas where rewriting of material was done, but generally the text has been improved by adding sections to the first edition where advances in ornithology have been made. New information is given on such topics as brain structure, circadian rhythms, dialects, magnetic sensitivity, respiration and temperature control. An extensive literature review section with 43 pages of references is included.

A minor problem with the new edition is that Welty failed to incorporate the name changes of birds that the A. O. U. made in 1973. Despite this shortcoming, Welty's 2nd edition is highly recommended for introductory ornithological courses in college and for anyone who would like to have a book that provides a rather complete overview on the life of birds.

GARY O. WALLACE

THE BIRD FINDER'S 3-YEAR NOTE BOOK. 1976. By Paul S. Erickson. Paul S. Erickson Inc., New York. \$7.95.—This is a permanent personal record book that never dates. It can be started any time and three years of records can be kept and used at a glance. There is room for daily remarks on the weather and other conditions. It has a life list index of more than 700 species of birds found in North America, listed alphabetically by their common and scientific names (based upon the latest update of the Checklist of the American Ornithologists' Union). There is space provided after each name where the date and other details can be recorded. This is an ideal record book for anyone who likes to keep detailed, permanent records of their observations.

GARY O. WALLACE

THE VIEW FROM HAWK MOUNTAIN. 1973. By Michael Harwood. Illustrations by Fred Wetzel. Charles Scribner's Sons, New York. 191 pp. \$6.95.—In this book the author has several purposes which are interwoven throughout the seven chapters of the book. Each chapter is headed with a line drawing of a raptor. Much of the book covers the hawk flights that are observed on Hawk Mountain in eastern Pennsylvania where annually there is a large raptor migration along the Kittatinny Ridge, essentially the southeast edge of the Appalachian chain. Harwood attempts to convey to the reader the thrills associated with observing these hawk flights. At the same time that the author is discussing the thrill of "partaking of the view from the mountain" he gives a detailed history of Hawk Mountain, and the people involved in establishing and caring for the Sanctuary. In addition to "partaking in the view" and giving a detailed history a third point is made. The Sanctuary is being damaged due to the heavy visitation by people which has required new facilities, new roads, resulted in overcrowded lookouts and trash accumulation and a lack of privacy for both birds and birders. The book ends by posing a subtle question as to what further changes will do to the mountain and to the hawks that migrate along the Kittatinny.

GARY O. WALLACE



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.

COPY: Manuscripts should be typed double spaced on 8½ x 11" paper with adequate margins, for editorial notations, and should contain only entries intended for setting in type, except the serial page number. Tabular data should be entered on separate sheets with appropriate title and column headings. Photographs intended for reproduction should be sharp with good contrast on glossy white paper in black and white (not in color). Instructions to the editors should be given on a separate sheet. Weights and measurements should be in metric units. Dating should be in "continental" form (e.g., 7 March 1976).

NOMENCLATURE: Common names should be capitalized followed by binomial scientific name in italics only after the first occurrence in the text for both regular articles and ROUND TABLE NOTES, and should conform to the A.O.U. Check-list 5th edition, 1957 and its Thirty-second Supplement. Trinomial should be used only after the specimen has been measured or compared with typical specimens.

BIBLIOGRAPHY: When there are more than five references in an article, they should be placed at the end of the article, otherwise they should be appropriately included in the text.

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.

REPRINTS: Reprints are available on request. Reprint requests should accompany article at the time of submission. Billing to authors will be through the state T.O.S. Treasurer.

Books for review and articles for publication should be submitted to the editor. Seasonal reports and items should be forwarded to the appropriate departmental editor whose name and address will be found on the inside front cover.

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