

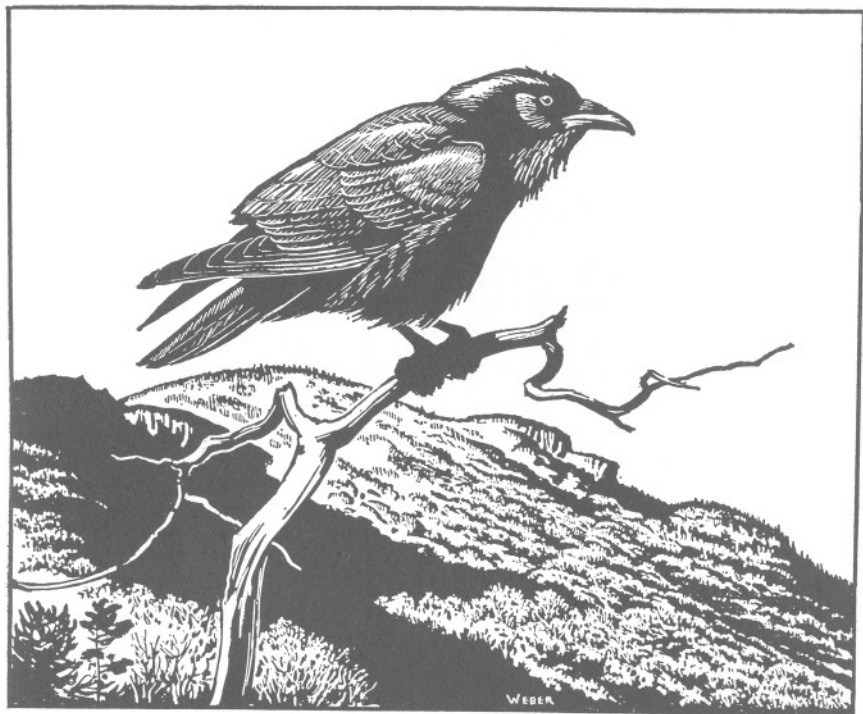
# The Raven

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The Virginia Society of Ornithology, Inc., exists to encourage the systematic study of birds in Virginia, to stimulate interest in birds, and to assist the conservation of wildlife and other natural resources. All persons interested in those objectives are welcome as members. Present membership includes every level of interest, from professional scientific ornithologists to enthusiastic amateurs.

Activities undertaken by the Society include the following:

1. An annual meeting (usually in the spring), held in a different part of the state each year, featuring talks on ornithological subjects and field trips to nearby areas.

2. Other forays or field trips, lasting a day or more and scheduled throughout the year so as to include all seasons and to cover the major physiographic regions of the state.

3. A journal, *The Raven*, published quarterly, containing articles about Virginia ornithology, as well as news of the activities of the Society and its chapters.

4. Study projects (nesting studies, winter bird population surveys, etc.) aimed at making genuine contributions to ornithological knowledge.

In addition, local chapters of the Society, located in some of the larger cities and towns of Virginia, conduct their own programs of meetings, field trips, and other projects.

Those wishing to participate in any of the above activities or to cooperate in advancing the objectives of the Society are cordially invited to join. Annual dues are \$1.00 for junior members (students), \$3.00 for active members, \$5.00 for sustaining members, \$10.00 for contributing members, \$100.00 for life members.

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## VIRGINIA CHRISTMAS BIRD COUNTS—1974-75 SEASON

F. R. SCOTT

There seems to be no end to the record being set yearly by the Virginia Christmas bird counts, nor does there seem to be any slackening in the interest shown by Virginians in this somewhat esoteric winter activity. A remarkable total of 526 persons took part in the state counts this winter, an increase of 72, or 16%, over last year. And since some of them took part in two or more counts, there are 755 names listed as observers. These participants totaled a record 2514 party-hours of field observation, 24% above the record set last year.

A record 31 counts are summarized here, an addition of two over last year. These additions are both in new areas and are most welcomed. The John H. Kerr Reservoir count fills a real gap in the coverage of the state, and it produced a number of significant species totals for the Virginia Piedmont. The new Fincastle count (in the Great Valley just north of Roanoke) also produced some fascinating totals. The number of counts, however, is reaching a point where additional ones will be difficult or impossible to accommodate in the tabulation.

The species total this year was 212, down a bit from the record 220 of last year but still the third highest in the history of the Christmas counts in Virginia. One might even quibble that this year's total tied for second highest with the 214 species recorded in 1971, since the Blue Goose and Ipswich Sparrow, which were recorded both years, are no longer considered full species and so are not counted in this year's total. Only one bird—the Le Conte's Sparrow—was apparently new to state Christmas counts, leaving the cumulative list of all Virginia Christmas counts at 273 species.

Cape Charles—as usual in recent years—had the most species (175), followed by Back Bay with 165 and Chincoteague with 162. Three other counts also topped 100, and inland count totals of note included 90 at Kerr Reservoir, 82 at Lynchburg, 74 at Waynesboro, 76 at Lexington, and 78 at Fincastle. Increases in coverage were evident in a number of counts. Cape Charles, with 259 party-hours, surpassed its own record made last year for a state Christmas count, and Chincoteague, with 237, was the only other one above 200. Seven other counts recorded 100 or more party-hours, and Fort Belvoir's 152 undoubtedly contributed to its exceptional totals of many land birds.

The weather during the count period was certainly as good as could be hoped for. Heavy rain was reported on only one count (Glade Spring) and intermittent light or moderate rain or snow on six, whereas only three counts listed a partial snow cover. December temperatures were above normal for the fifth consecutive year, a fact which certainly added to the many unusual birds with southern affinities that were recorded during the count period.

Two Virginia Christmas counts, Shenandoah National Park-Luray and Wachapreague, were not submitted for publication in *The Raven*, and four others—Crisfield, Point Lookout, and Seneca, Md., and Washington, D. C.—overlapped into Virginia from neighboring localities. All of these were submitted for publication in the April 1975 issue of *American Birds*, but as usual, this summary is of necessity confined to the counts printed herein.

The count tabulation given in Table 1 is more or less in order of distance inland from the coast. Counts 1-9 were all on the Coastal Plain, with 1-4 being directly on the coast and 5 and 6 being on the western edge of Chesapeake Bay.

Counts 10-16 were on the Piedmont and 17-31 were from the Blue Ridge westward. Details on each count are given at the end of this summary.

Unusual numbers of Common Loons and Horned Grebes far inland at Kerr Reservoir and Bristol may be an indication that the fall migration of these species was not over. A Red-throated Loon inland at Darlington Heights was unusual, as was the high count of 387 Pied-billed Grebes at Back Bay. Lack of ice undoubtedly contributed to the good numbers of this species and other water birds inland. Herons and egrets were in good if not record numbers along the coast, and abnormal inland reports included two Green Herons at Lexington, two Great Egrets at Fort Belvoir, three Black-crowned Night Herons at Hopewell, and four of the same species at Waynesboro.

The Mute Swans at Chincoteague were the fourth report on a Virginia Christmas count. These seem to have become resident in the area now, however, and will probably be a regular feature of future counts here. Some coastal waterfowl counts of interest included 32,000 Snow Geese, 12,000 Gadwalls, 400 Red-heads, and 6,000 Canvasback, all at Back Bay. Unusual ducks included a European Wigeon at Chincoteague, a second record for a state count, and a Common Eider at Back Bay, while Blue-winged Teal were found on five of the Coastal Plain counts. Waterfowl were exceptionally well represented inland. Kerr Reservoir recorded 13 species, including 356 Canada Geese, a Blue Goose, 1019 Black Ducks, 177 Canvasback, and 48 Hooded Mergansers, while Blacksburg reported 14 species, including 6 Wood Ducks and 162 Ring-necked Ducks. Other inland reports included a Whistling Swan at Lexington, 11 Surf Scoters at Fort Belvoir, and 21 Common Mergansers at Bristol, the last the only report west of Charlottesville. Hooded Mergansers were well above normal inland, being recorded on ten counts west of the Fall Line.

There were several excellent counts of vultures, the best being 438 Turkeys and 609 Blacks at Blacksburg. Roanoke's Goshawk was only the fourth count record since 1959, and the other *Accipiters* were in record numbers with a total of 120, divided as 79 Sharp-shins, 39 Cooper's, and two unidentified. Red-tailed Hawks were also in exceptional numbers, possibly indicating migration still in progress. Record counts included 36 at Chincoteague, 35 at Hopewell, and 25 at Lynchburg. For the second year in a row American Kestrels were in high numbers, with 755 this year versus 632 in 1974. A Black Rail at Back Bay was a sixth count record for Virginia, and American Coots were in high numbers with 35,000 at Back Bay and a number of interesting inland counts.

As usual, American Oystercatchers were found only on the Eastern Shore counts, both of them reporting record numbers. Fort Belvoir's 74 Common Snipe were excellent, and Spotted Sandpipers were reported at both Newport News and Fort Belvoir. Extremely high Willet numbers were found at Cape Charles, and others were recorded at both Chincoteague and Mathews. Chincoteague also produced a Pectoral Sandpiper as well as 1220 Western Sandpipers and 2310 Sanderlings.

Seven Parasitic Jaegers were tabulated at Back Bay, and single unidentified jaegers were seen at Chincoteague and Little Creek. An Iceland Gull at Little Creek was the first white-winged gull on a Virginia count since 1971. After reaching a peak total of 3149 in 1970, Great Black-backed Gulls eased off in total numbers during the following years but were up to 2543 this year. As usual, they were recorded on all the Coastal Plain counts but not west of here. Of the rarer gulls, two Lesser Black-backs were seen at Little Creek, Black-headed Gulls at Chincoteague and Back Bay, a Little Gull at Little Creek, and a Black-legged Kittiwake at Back Bay. These were, respectively, the second,



seventh and eighth, fifth, and fifth records for state Christmas counts. The gull counts at Kerr Reservoir were certainly noteworthy for the Piedmont, at least as far as published information is concerned. Common Terns were seen at Back Bay and Kerr Reservoir, the latter certainly a first winter record for the Piedmont.

Observers are clearly working harder to get good counts of owls. Barn Owls were found on a record ten counts this year, and Screech Owls had a banner year, with 54 at Cape Charles, 51 at Lynchburg, and 38 at Fincastle. Cape Charles produced the only Long-eared Owl, Short-eared Owls totaled 15 at Chincoteague and 14 at Cape Charles, and single Saw-whets were reported from Cape Charles, Back Bay, and Brooke. Like other semihardy species, both Yellow-bellied Sapsuckers and Eastern Phoebe again increased from last year, the former from 205 to 324 and the latter from 77 to 140. Both of these are record totals for Virginia Christmas counts, and in the case of the phoebe, this represents an increase to 56 birds per 1000 party-hours versus 38 last year and only 5 per 1000 party-hours in 1960, the most recent low point in this bird's winter population. Common Ravens also increased, with 90 birds reported on 14 counts and a peak of 21 at Waynesboro. Both Kerr Reservoir and Augusta County reported Bewick's Wrens, and Carolina Wrens probably reached record populations with a total of 3476, or 139 per 100 party-hours.

Eleven Brown Thrashers at Wise County were unusual for this Southwest Virginia locality, and a Swainson's Thrush was reported in Rockingham County. Record numbers of Hermit Thrushes and Eastern Bluebirds were tabulated this year, with totals of 507 and 1109, respectively. In terms of party-hours, however, the figures are good but not the best. The Hermit Thrush increased from 7 per 100 party-hours last year to 20 this year, a notable increase but still below the 25 per 100 party-hours in 1955. The bluebird increased from 31 per 100 party-hours in 1973 to 44 this year. The most recent low point for this species was 7 per 100 party-hours in 1966. Back Bay reported a Blue-gray Gnatcatcher, and both kinglets were in excellent numbers, while the 20 Loggerhead Shrikes in Augusta County was the best single total of this species on any state count in at least 13 years. Nearly equal shrike totals were obtained at Fincastle and Kerr Reservoir, with 19 and 18, respectively.

Back Bay's White-eyed Vireo was the third record for a Virginia Christmas count, and—as in 1973—Solitary Vireos were recorded on three of the coastal counts. Interesting warblers reported were a Black-and-white at Danville, a Nashville at Cape Charles, a Prairie at Chincoteague, two Palm Warblers at Glade Spring, an Ovenbird at Little Creek, and a Common Yellowthroat at Kerr Reservoir. This was only the third recent record of the Nashville Warbler on a state count, the first two being in 1972; the Prairie Warbler was a fifth record and the Ovenbird a fourth. There were unusually good numbers of Yellow-rumped Warblers inland, and the coastal counts had their normal spectacular concentrations. The best blackbird concentrations were at Back Bay and Bristol, and good numbers were also reported at Chincoteague and Waynesboro. Some interesting totals were 7384 Boat-tailed Grackles at Chincoteague, probably a record Virginia count for any time of year, and 150,000 Rusty Blackbirds at Bristol.

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TABLE 1 (following 8 pages). The 1974-75 Christmas bird counts in Virginia. The underlined figures indicate an unusual species or an unusual number of individuals for that particular count. Items marked with an asterisk (\*) are commented on further under count summaries.

[illegible]

[illegible]

	1. Chinoctague	2. Cape Charles	3. Little Creek	4. Back Bay	5. Newport News	6. Mathews	7. Hopewell	8. Brooke	9. Fort Belvoir	10. Charlottesville	11. Warren	12. Darlington Heights	13. Kerr Reservoir	14. Sweet Briar
Date	12/28	12/27	12/31	12/29	12/30	12/29	12/14	12/17	12/21	12/28	12/29	12/18	12/15	12/28
Black Skimmer	7	3	...	...	...	12	95	...	...	...	...	...	...	...
Rock Dove	80	552	1700	128	...	...	...	...	21	31	55	8	21	40
Mourning Dove	431	1009	607	358	816	348	260	170	1297	340	691	142	311	101
Barn Owl	1	4	...	2	...	...	3	...	1*	...	...	...	...	...
Screech Owl	22	54	16	33	...	...	1	...	...	3	6	2	7	1
Great Horned Owl	13	12	4	15	...	3	1	2	8	...	2	...	5	...
Barred Owl	...	1	1	30	...	4	2	2	8	...	...	1	4	...
Long-eared Owl	...	1*	...	...	...	...	...	...	...	...	...	...	...	...
Short-eared Owl	15	14	...	...	...	...	...	...	...	...	...	...	...	...
Saw-whet Owl	...	1*	...	1*	...	...	...	1*	...	...	...	...	...	...
Belted Kingfisher	97	69	68	49	24	48	4	18	23	19	9	6	13	3
Common Flicker	341	369	183	195	83	82	153	55	171	54	45	31	42	25
Pileated Woodpecker	11	...	30	24	3	3	13	20	37	27	24	7	4	10
Red-bellied Woodpecker	78	31	62	57	26	37	51	65	148	47	42	21	22	14
Red-headed Woodpecker	7	4	4	1	...	...	11	1	1	...	...	...	1	1
Yellow-bellied Sapsucker	11	3	11	9	6	2	18	19	13	14	35	16	24	16
Hairy Woodpecker	24	18	21	10	5	3	7	8	37	16	20	3	3	3
Downy Woodpecker	152	69	74	67	19	41	47	33	232	77	71	27	28	21
Red-cockaded Woodpecker	...	...	...	4	...	...	...	...	...	...	...	...	...	...
Eastern Phoebe	6	2	1	6	...	...	4	2	2	7	2	2	10	4
Horned Lark	41	64	...	2	11	...	8	...	...	11	42	115	...	...
Tree Swallow	57	4	...	44	...	...	...	...	...	...	...	...	...	...
Blue Jay	135	102	178	113	76	111	123	300	746	151	118	156	218	63
Common Raven	...	...	...	...	...	...	...	...	4	...	...	...	...	...
Common Crow	5616	62	351	405	99	371	256	180	563	747	347	277	322	71
Fish Crow	2435	111	131	41	59	93	15	4	306	4	...	...	...	...
Black-capped Chickadee	...	...	...	...	...	...	...	...	7	...	...	...	...	...
Carolina Chickadee	356	455	279	258	117	86	125	115	1071	260	155	197	111	76
Tufted Titmouse	98	36	93	59	41	51	62	40	379	123	43	27	37	37
White-breasted Nuthatch	1	1	17	14	1	...	19	...	61	41	27	10	4	14
Red-breasted Nuthatch	5	19	15	2	...	...	...	2	7	6	2	6	...	5
Brown-headed Nuthatch	154	117	56	55	...	14	...	...	...	...	...	3	...	...
Brown Creeper	23	12	60	12	7	1	21	1	34	11	9	6	9	4
House Wren	7	12	13	28	...	1	...	...	2	1*	...	...	...	...
Winter Wren	37	25	6	28	2	1	13	7	30	12	15	16	16	...
Bewick's Wren	...	...	...	...	...	...	...	...	...	...	...	...	1*	...
Carolina Wren	354	343	149	270	104	118	153	125	252	185	100	48	73	25
Long-billed Marsh Wren	7	47	8	40	20	3	...	...	...	...	...	...	...	...
Short-billed Marsh Wren	23	21	1	88	8	1	...	...	...	...	...	...	...	...
Mockingbird	85	96	122	123	159	113	98	64	173	117	88	50	42	36
Gray Catbird	88	22	21	152	8	9	3	...	...	2	...	...	...	1
Brown Thrasher	27	7	15	31	26	8	9	2	...	...	...	2	13	2
American Robin	232	208	131	431	16	210	36	42	76	388	233	105	42	...
Hermist Thrush	98	47	17	56	1	1	15	12	55	14	20	15	31	...
Swainson's Thrush	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Thrush sp.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Eastern Bluebird	98	6	4	11	...	113	60	62	18	63	49	43	66	14
Blue-gray Gnatcatcher	...	...	...	1*	...	...	...	...	...	...	...	...	...	...
Golden-crowned Kinglet	91	216	118	110	19	57	138	7	72	124	45	47	66	9
Ruby-crowned Kinglet	37	36	48	104	52	55	66	9	16	35	35	68	92	11
Water Pipit	343	903	15	126	...	...	1	...	...	...	...	125*	81	...
Cedar Waxwing	144	90	156	44	18	158	347	350	405	122	312	177	497	5
Loggerhead Shrike	...	1	...	...	1	...	9	4	...	11	11	13	18	1
Starling	3296	11,617	7800	5300	2435	759	12,143	720	2801	2215	2605	473	119	343
White-eyed Vireo	...	...	...	1*	...	...	...	...	...	...	...	...	...	...
Solitary Vireo	...	1*	2*	1*	...	...	...	...	...	...	...	...	...	...
Black-and-white Warbler	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Orange-crowned Warbler	...	2	...	10	...	...	...	...	...	...	...	...	...	...
Nashville Warbler	...	1*	...	...	...	...	...	...	...	...	...	...	...	...
Yellow-rumped Warbler	11,605	8090	1965	15,600	1898	1446	584	115	144	100	143	20	88	50

	15. Lynchburg	16. Danville	17. Big Flat	18. Rockingham Co.	19. Augusta Co.	20. Waynesboro	21. Lexington	22. Peaks of Otter	23. Clifton Forge	24. Fincastle	25. Roanoke	26. Blacksburg	27. Tazewell	28. Glade Spring	29. Bristol	30. Nickelsville	31. Wise Co.
	12/14	12/22	12/19	12/14	12/21	12/14	12/28	12/22	12/15	12/21	12/14	12/30	12/31	12/27	12/28	12/21	12/14
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
171	225	...	...	300	117	216	104	...	35	304	545	683	...	62	14	9	102
573	353	...	...	164	141	259	97	...	11	430	569	219	28	214	560	84	11
51	1	...	...	1	17	3	8	5	13	38	7	...	5	9	1	...	11
1	2	...	...	2	...	...	...	...	1	...	...	...	1	...	1	...	1
1	1	...	...	1	...	...	...	2	...	4	1	...	1	1	...	...	2
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	13	...	...	10	11	13	26	1	8	21	46	13	5	13	9	8	7
34	47	5	3	8	10	18	4	14	28	19	15	1	8	8	12	10	...
20	2	5	4	12	5	13	4	19	17	19	8	2	1	2	7	4	...
72	44	3	8	21	17	14	2	4	30	14	6	2	10	4	4	1	...
3	10	...	4	5	5	1	...	1	7	...	6	5	...	...	...	...	...
40	10	3	3	1	2	14	5	5	16	16	...	1	...	2	5	4	...
9	24	1	4	29	4	9	1	6	8	13	7	6	1	...	4	9	...
95	34	13	18	31	60	48	19	50	91	58	53	42	19	20	6	32	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21	6	1	1	1	2*	5	4	1	22	7	7	...	7	3	1	2	...
8	...	...	...	70	69	3	...	...	...	1	11	109	1	...	5	...	3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
165	205	2	30	221	228	211	11	100	250	100	73	90	97	93	24	61	...
2	...	6	...	1	21	5	1	17	11	9	2	5	...	...	...	...	...
690	210	19	419	1252	446	310	52	323	1714	292	561	266	123	172	482	244	...
...	...	...	...	30	206	11	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	4	...	...	9	...	2	...	6	...	...	...	...	...	...
400	181	116	65	127	165	128	73	254	354	249	162	129	85	44	33	138	...
163	103	28	53	30	61	76	31	153	119	112	97	122	48	36	41	124	...
23	27	14	2	14	45	38	16	50	34	30	24	33	12	1	6	26	...
14	7	7	4	6	1	3	1	9	7	5	1	7	...	...	2	1	...
...	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
42	12	4	4	8	6	5	6	6	15	20	9	6	3	2	1	4	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	16	1	...	1	6	13	3	7	5	6	14	3	3	...	4	7	...
...	...	...	...	...	1*	...	...	...	...	...	...	...	...	...	...	...	...
161	115	15	14	29	35	64	25	67	118	127	107	26	39	25	40	70	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
159	108	3	53	92	88	97	3	32	172	122	52	10	30	36	21	17	...
1	...	...	...	1*	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
8	32	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	19	1	...	...	2	2	12	32	20	10	1	...	...	...	...	...	...
...	...	...	...	1*	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
138	23	...	3	7	4	24	18	23	87	28	39	14	12	11	40	31	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
179	158	9	11	71	65	17	46	24	149	97	70	6	...	25	7	27	...
162	113	...	1	5	6	13	27	34	86	103	8	...	4	8	...	5	...
...	...	...	...	...	12*	...	...	...	...	...	...	...	...	...	...	...	...
148	13	...	...	...	2	20	...	...	503	207	8	8	...	...	...	...	...
3	...	...	...	...	11	5	...	...	2	19	5	1	5	2	1	8	...
1978	46,290	...	...	5515	122,604	62,000	7435	32	1363	8565	2874	5867	2317	2852	3,375,000	4391	435
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70	61	...	7	16	28*	89	...	18	148	8	11	2	...	1	65	7	...

15. Lynchburg	16. Danville	17. Big Flat	18. Hockingham Co.	19. Augusta Co.	20. Waynesboro	21. Lexington	22. Peaks of Otter	23. Clifton Forge	24. Fincastle	25. Roanoke	26. Blacksburg	27. Tazewell	28. Glade Spring	29. Bristol	30. Nickelsville	31. Wise Co.
12/14	12/22	12/19	12/14	12/21	12/14	12/28	12/22	12/15	12/21	12/14	12/30	12/31	12/27	12/28	12/21	12/14
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143	195	...	852	566	628	109	...	238	279	246	625	262	438	76	157	303
135	146	...	99	51	139	11	...	8	438	63	145	87	44	90	90	92
28	14	...	3	2003	2700	8	...	27	218	...	1	...	3	450,000	2	3
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2	31	...	...	41	19	...	...	1	...	20	...	25	9	150,000	...	...
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34	1	...	606	19,876	62,000	4	...	12	12	165	...	...	258	3,375,000	3	...
5	65	...	101	3551	2400	7	...	125	320	...	2	3	452	150,000	1	...
293	152	11	109	200	130	175	47	147	272	268	243	157	100	101	80	102
11	26	...	1	16	49	1	...	6	17	3	15	1	...	...	11	16
123	47	...	31	70	13	111	27	11	218	187	12	...	15	18	38	15
51	1	...	10	20	21	3	...	...	...	23	10	...	...	...	...	...
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235	122	23	43	75	135	124	1	38	123	182	105	23	6	31	106	85
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42	47	...	...	6	8	10	8	29	21	18	10	8	29	5	32	43
43	4	...	...	...	2	...	...	...	...	...	...	...	...	...	...	1
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868	757	30	117	501	316	544	268	459	1352	520	318	98	83	133	423	197
9	...	...	7	23	2	20	...	32	25	...	1	...	2	...	...	...
6	1	...	...	...	...	...	...	...	...	...	...	...	...	1*	...	3*
222	101	1	18	24	39	42	93	58	293	168	129	14	44	38	96	37
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18	12	...	73	95	124	164	...	3	274	56	111	1	202	13	76	...
807	341	21	161	125	167	342	145	189	472	618	253	26	139	64	78	64
6	...	...	...	...	...	3	...	...	1	3	...	...	...	1	8	1
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9	55	...	...	2	2	...	...	4	3	...	1	2	1	1	5	6
278	194	2	43	64	73	89	23	83	165	144	127	70	117	64	125	98
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82	74	32	67	68	74	76	38	66	78	69	75	61	56	67	60	60
9327	51,133	376	9799	152,903	134,245	11,109	1030	4909	18,659	8764	12,300	4065	8136	7,501,960	6761	2565
118	51	19	48	53	80	43	23	43	110	126	100	53	39	38	24	58
50	21	3	16	24	21	22	6	17	38	38	39	17	18	13	11	21



For the third year in a row, the northern finches did not all behave similarly. Both the Evening Grosbeak and the Pine Siskin were in the lowest numbers since 1970, with totals of 596 on 25 counts and 114 on 14 counts, respectively. The Purple Finch, on the other hand, increased to a record 2390 this year from 586 in 1973 and 1950 in 1972. This year's total was helped by a whopping 420 at Little Creek. Of the other northern finches, a Common Redpoll was reported at Charlottesville, and five counts listed Red Crossbills. Surprisingly, the House Finch decreased to 297 on 15 counts this year from 598 on 16 counts last year, but the total was still the second highest on record. Notable inland Savannah Sparrow totals were 130 at Kerr Reservoir and 43 at Lynchburg, single Le Conte's Sparrows were found at Little Creek and Back Bay, a first for Virginia Christmas counts, and a Harris' Sparrow was reported at Lexington, a second record for a state count. White-crowned Sparrows, which have been on a long, slow upward trend for many years, reached a peak this winter with 1731 tabulated on 25 counts. This compares with 850 on 22 counts in 1973 and 495 on 20 counts in 1972. In terms of party-hours, these are equivalent to 69, 42, and 31 birds per 100 party-hours, respectively. Lincoln's Sparrows were found at Cape Charles, Back Bay, and Hopewell, with a record count of five at Cape Charles, and Lapland Longspurs were seen at Cape Charles, Little Creek, and Newport News.

1. CHINCOTEAGUE NATIONAL WILDLIFE REFUGE (all points within a 15-mile diameter, center 2 miles north of center of Chincoteague, as described 1972; mainland woodland 20%, farmland 17%, salt marshes 15%, sheltered bays 15%, insular pine woodland 12%, fresh-water marshes and impoundments 6%, scrub pine and myrtle thickets 5%, sand flats and beaches 4%, dunes 3%, residential 3%).—Dec. 28; 3 a.m. to 5:45 p.m. Mostly cloudy in a.m., clear in p.m.; temp. 36° to 45°F; wind NE, 0-12 m.p.h.; ground clear, water open; wild food crop excellent. Fifty-nine observers in 29 parties. Total party-hours, 237 (197 on foot, 35 by car, 5 by boat); total party-miles, 455 (147 on foot, 284 by car, 24 by boat). Observers: David Abbott, Jackson Abbott, Robert Ake, Henry Armistead, Amy Bassatt, Bonnie Bowen, Ray Chandler, William Clark, Charles Cremeans, E. C. Cutler, H. S. Cutler, John and Thelma Dalmas, Paul DuMont, Philip DuMont, John Faaborg, Keith Fielder, Gordon Foer, Harriet Gilbert, Frank and Jo Hanenkrat, David Hughes, John Kelly, Kevin List, Larry Malone, Stephen Marshall, Paul McKenzie, Ed McKnight, Paul McQuarry, Damaris Modge, Dave Nutter, Dwight Peake, Richard Peake, J. R. Probst, Peter Pyle, Robert Pyle, Chandler Robbins, George Robbins, John Robbins, Richard Rowlett, Grace Russell, Bruce Schweitzer, F. R. Scott (compiler), Napier Shelton, Karl Stecher, H. G. Stevenson, Phil Stoddard, Ruth Strosnider, Paul Sykes, Jr., Leonard Teuber, John Terborgh, Charles Vaughn, Holly Wagner, John Weske, Grover Wilgus, Vee Willet, Bill Williams, Gary Williamson, Townley Wolfe, III. The Yellow-crowned Night Heron was seen by Chandler and Fielder, the Blue-winged Teal by David Abbott and Stoddard, and the male European Wigeon by the Hanenkrats. Dwight Peake, John Robbins, and Sykes found the Pectoral Sandpiper, and the Long-billed Dowitchers were found in three groups by the DuMonts. Three different parties listed the Marbled Godwits, all seen in a small area close to the eastern end of the Chincoteague causeway at different times. The jaeger and one immature Black-headed Gull was reported by Jackson Abbott and the second immature Black-headed Gull by David Abbott and Stoddard. Chandler and George Robbins and McKenzie recorded the Prairie Warbler. Detailed written descriptions were submitted for all unusual observations.

2. CAPE CHARLES (all points within a 15-mile diameter, center 1.5 miles SE of Capeville P. O. at Dunton Cove, as described 1972; open farmland 30%, pine and mixed woodlands 30%, salt marsh 15%, sheltered bay and mudflats 10%, open ocean and beach 7%, open bay 5%, towns 2%, fresh water 1%).—Dec. 27; 5 a.m.

to 5 p.m. Overcast with moderate rain in p.m.; temp. 35° to 50°F; wind SW, 5-20 m.p.h.; ground clear, water open; wild food crop good. Fifty-five observers in 10-33 parties. Total party-hours, 259 (225 on foot, 28 by car, 6 by boat); total party-miles, 620 (177 on foot, 403 by car, 40 by boat). Observers: David Abbott, Jackson Abbott, Robert Ake, Robert Anderson, Henry Armistead, Paul Baker, Ruth Beck, Mitchell Byrd, Ray Chandler, Janet Clark, Charles Cremeans, Betty Cutler, Herbert Cutler, Douglas Davis, Paul DuMont, Philip DuMont, John Faaborg, Keith Fielder, Harriet Gilbert, David Green, Charles Hacker, S. G. Hacker, David Hughes, Robert Kennedy, Paul McQuarry, Edward Marshall, Emily Moore, Dwight Peake, Richard Peake, Carl Perry, John Probst, Peter Pyle, Robert Pyle, John Robbins, Grace Russell, Bruce Schweitzer, Fred Scott, Napier Shelton, Dorothy Silsby, Zelda Silverman, D. D. Smith, Walter Smith, Karl Stecher, Phil Stoddard, Ruth Strosnider, Paul Sykes, John Terborgh, Leonard Teuber, J. S. Thornhill, S. L. Thornhill, Margaret Toth, Vee Willet, Bill Williams, Gary Williamson, Townley Wolfe. The Green Herons were found by Anderson, the DuMonts, and Scott, and the Long-eared and Saw-whet Owls were heard calling by the Peakes. Fielder saw the Solitary Vireo and Paul DuMont the Nashville Warbler. Two of the Lincoln's Sparrows were seen together by Jack Abbott and Stecher, and single birds were reported by Faaborg, Paul DuMont, and Richard Peake. Detailed written or oral descriptions were received for all of the unusual birds reported except for one of the Lincoln's Sparrows.

3. LITTLE CREEK (all points within a 15-mile diameter, center 3.8 miles NE of Kempsville in Virginia Beach, as described 1972; salt marsh, beach, rivers, bay, and ocean 30%, deciduous woodland 25%, pine woodland 20%, farmland 20%, suburbs 5%).—Dec. 31; 5:30 a.m. to 5:30 p.m. Partly cloudy with light rain in p.m.; temp. 41° to 52°F; wind NE to NW, 0-7 m.p.h.; ground bare, water open; wild food crop excellent. Thirty-one observers in 11 parties. Total party-hours, 103 (79 on foot, 24 by car); total party-miles, 451 (40 on foot, 411 by car). Observers: Robert Ake, Ed Ames, Carl Anderson, Robert Anderson, Floy Burford, Ray Chandler, Keith Fielder, Wavell Fogleman, Gisela Grimm, Virginia Hank, David Hughes, Kent Ihrman, Helen and Ronald Irving, Karla Lawler, Paul McQuarry, Dorothy Mitchell, Emily Moore, Dwight and Richard Peake, William Portlock, Robert and Peter Pyle, F. C. Richardson, W. F. Rountrey, Dorothy Silsby, Paul Sykes, Jr. (compiler), Robert and Peter Tripician, Gary Williamson, Townley Wolfe. The Ring-necked Pheasant was seen by the Pyles, the jaeger by Fogleman, and the Iceland Gull by Ake and McQuarry, the latter a second-year bird in direct comparison with Herring and Great Black-backed Gulls. The Lesser Black-backed Gulls, a winter adult and an immature, were reported by Ihrman, Sykes, and Wolfe, the adult in direct comparison with Herring Gulls and the immature in contrast to Great Black-backed, Herring, Ring-billed, and Laughing Gulls. Robert Anderson and Fogleman found the adult Little Gull and Hughes and Williamson the Solitary Vireos. The Tripicians discovered the Ovenbird, Rountrey observed the Northern Oriole at a feeder, where it had been for some time prior to the count, and Robert Anderson and Fogleman saw the Red Crossbills in flight and heard them calling. The Le Conte's Sparrow was found by Sykes and observed in direct comparison with a Sharp-tailed Sparrow, and the flock of Lapland Longspurs was observed twice in flight by Ihrman and Sykes as they gave their characteristic call notes. Written descriptions were received of all unusual species.

4. BACK BAY NATIONAL WILDLIFE REFUGE (all points within a 15-mile diameter, center 1.5 miles E of Back Bay, as described 1972; ocean 25%, deciduous woodland 25%, beach and dunes 20%, farmland 10%, pine woodland 10%, marshes and brackish bay 10%).—Dec. 29; 5:30 a.m. to 5:30 p.m. Overcast; temp. 38° to 51°F; wind SE to SW, 0-6 m.p.h.; ground bare, water open; wild food crop excellent. Thirty-eight observers in 16 parties. Total party-hours, 178 (132 on foot, 45 by car, 1 by boat); total party-miles, 605 (107 on foot, 488 by car, 10 by boat). Observers: Jorn and Robert Ake, Robert Anderson, Henry Armistead, Floy Burford, Ray Chandler, Charles Cremeans, Doug and Dwight Davis, Keith Fielder,



Robin Fields, Wavell Fogleman, Charles Gibson, Gisela Grimm, Virginia Hank, David Hughes, Kent Ihrman, Helen and Ronald Irving, Karla and Palmer Lawler, Paul McQuarry, Emily Moore, Lou Overman, Dwight and Richard Peake, William Portlock, Peter and Robert Pyle, F. C. Richardson, W. F. Rountrey, Grace Russell, Paul Sykes, Jr. (compiler), John Terborgh, Robert Tripician, Rommie Waterfield, Gary Williamson, Townley Wolfe (Cape Henry Audubon Society and guests). The brown-plumaged Common Eider was seen in the ocean surf by Sykes, and the Black Rail was flushed from a wet field by Chandler and Fielder in the same place where several had been seen earlier in December when the field was mowed. Portlock and Wolfe identified the Long-billed Dowitchers, and the Parasitic Jaegers were observed by Anderson, Cremeans, and Fogleman. The immature Black-headed Gull was noted by Fogleman three different times, the immature Black-legged Kittiwake by Sykes both in flight and at rest, and the Common Tern by McQuarry. Richard Peake heard the Saw-whet Owl calling, Armistead found the gnatcatcher, and Chandler and Fielder saw the White-eyed Vireo. The Solitary Vireo was heard calling and at times singing the full song (but was not seen) by the Peakes, and the Akes and Williamson heard and saw the Red Crossbills in flight overhead. The Peakes found both the Grasshopper and Lincoln's Sparrows, and the former was seen several days later by many observers. The Le Conte's Sparrow was flushed five times by McQuarry, the Pyles, and Sykes. One had been seen at the same location on 7 December by over 15 observers. Written descriptions were submitted of all unusual records.

5. NEWPORT NEWS (all points within a 15-mile diameter, bounded by Chesapeake Bay, Hampton Roads, James River, and Grafton, as described 1972).—Dec. 30; 7 a.m. to 3:30 p.m. Partly cloudy; temp. 42° to 60°F; wind S, 10-15 m.p.h.; ground bare, water open; wild food crop excellent. Twenty-five observers in 7 parties. Total party-hours, 57 (38 on foot, 19 by car); total party-miles, 337 (41 on foot, 296 by car). Observers: Ruth Beck, Mitchell Byrd, B. Drummond, Charles and Stalma Hacker, B. and G. Heimerl, Jose Hernandez, J. and T. Hotchkiss, D. Lundt, Dorothy and Sydney Mitchell, M. Phillips, Ash Rawls, D. and N. Silsby, Doris Smith, W. P. Smith (compiler), Susan Sturm, Bruce Schweitzer, J. Thomas, Jerry Via, L. Wilkinson, Bill Williams (Hampton Roads Bird Club). Byrd and party observed the Northern Shovelers, Virginia Rail, and Lapland Longspur, and the Spotted Sandpipers were seen by Hernandez and Lundt.

6. MATHEWS (all points within a 15-mile diameter, center 0.5 mile E of Beavertlet P. O., as described 1972; bays and rivers 30%, open farmland 20%, pine woods 20%, salt marshes 15%, mixed woods 10%, beaches 5%).—Dec. 29; 5:30 a.m. to 5:30 p.m. Overcast; temp. 35° to 49°F; wind NW to N, 0-15 m.p.h.; ground bare, water open; wild food crop excellent. Thirty-seven observers in 9 parties. Total party-hours, 92 (59 on foot, 31 by car, 2 by boat); total party-miles, 337 (60 on foot, 275 by car, 2 by boat). Seen in area count week but not seen count day: Common Snipe, Common Yellowthroat, White-crowned Sparrow, Fox Sparrow. Observers: Jay Andrews, Jeff Brown, Pat Carey, Peggy Gill, Mark Gorey, Clare Jones, Becky and John McCutcheon, Betty and Fred Maxwell, Maynard Nichols, Margaret O'Bryan, Brantley, Daniel, Elizabeth, and Richard Peacock, Mary Pulley (compiler), Grace and Matthew Purvis, Eleanor Respess, Betty and David Roszell, Chris and Jack Sheridan, Bill and Nancy Slate, Jerry and Warren Smith, Mary Jane and Toby Stout, Joy Tenney, Helen Walker, Barry, Gerry, Lorna, and Marvin Wass, R. J. Watson. The Red-necked Grebes were identified by Bill Slate. No details were submitted for the Willets.

7. HOPEWELL (all points within a 15-mile diameter, center Curles Neck, as described 1972; woodland 45%, farmland 30%, marshes and river shore 10%, brushy fields 5%, residential 5%, wooded swamp 5%).—Dec. 14; 5:30 a.m. to 6 p.m. Clear; temp. 34° to 55°F; wind N to NW, 0-8 m.p.h.; ground bare, water open; wild food crop good. Twenty observers in 7 parties. Total party-hours, 77 (61 on foot, 13 by car, 3 by boat); total party-miles, 279 (42 on foot, 217 by car, 20 by boat). Observers: Robert Ake, R. R. Belton, Jim Blatt, Charles Blem, Dean Brick,

Fred Murray, Margaret O'Bryan, Harold Olson, Robert Olson, Gene and Kathy Peyton, David and Elizabeth Roszell, Bruce Schweitzer, F. R. Scott (compiler), William Slate, II, Warren Smith, John Steiner, Bill Williams, Gary Williamson (Richmond Audubon Society). The Blue-winged Teal were seen by Belton, Scott, and Slate, and the Lincoln's Sparrow was flushed by Ake.

8. BROOKE (all points within a 15-mile diameter, center on road 3 miles ESE of Brooke, as described 1972; mixed forest edge 28%, tidal water 18%, deciduous woods, 13%, deciduous swamp 12%, marsh 11%, fields 10%, pine woods 5%, hedgerows 3%).—Dec. 17; 6 a.m. to 5:45 p.m. Clear in a.m., cloudy in p.m.; temp. 31° to 50°F; wind SE to NW, 0-10 m.p.h.; ground bare, water open; pine seed crop poor. Thirteen observers in 9 parties. Total party-hours, 74 (67 on foot, 7 by car); total party-miles, 121 (44 on foot, 77 by car). Observers: Roy Bailey, A. A. Baker, Henry Bell, III, L. D. Bonham, R. G. Luedke, E. T. McKnight (compiler), T.B. Nolan, J. C. Reed, E. M. Risley, R. L. Smith, A. M. White, D. R. Wiesnet, D. R. Wones. The Saw-whet Owl was seen by Bailey.

9. FORT BELVOIR (all points within a 15-mile diameter, center on Pohick Church, as described 1974; deciduous woods 30%, brush/old fields 22%, river and ponds 20%, parkland 8%, pine woods 7%, deciduous swamp 6%, residential 4%, freshwater marsh 3%).—Dec. 21; 6 a.m. to 4:30 p.m. Overcast; temp. 35° to 45°F; no wind; ground bare, water open; wild food crop good. Thirty-seven observers in 19 parties. Total party-hours, 152 (130 on foot, 18½ by car, 3½ by boat); total party-miles, 348 (94 on foot, 250 by car, 4 by boat). Observers: David Abbott, Jackson Abbott (compiler), Robert Abbott, Robert Augustine, William Clark, Alice and Paris Coleman, Clifford Cook, Paul and Philip DuMont, Owen Fang, Harriet Gilbert, Jon and Margie Goldstein, Evan Hannay, Dan Keeney, John Kelly, Will McDowell, David Mehlman, Peter and Robert Pyle, E. F. Rivinus, Napier Shelton, Stephen Smith, Barry Sperling, Ron Staley, Philip Stoddard, Leonard Teuber, James Tiffany, Jr., Bronson Tweedy, Carol Vaughan, Donald Weber, George Weickhardt, Donald and Mary Weisman, Ed White, Josephine Wood. One of the Great Egrets was seen by the DuMonts, Shelton, and others, and the second one was found by the Pyles and Sperling. The Pyles also recorded the second count record of Surf Scoters. Jackson and Robert Abbott located the Spotted Sandpiper, and the Barn Owl, a second count record, was found by Augustine.

10. CHARLOTTESVILLE (all points within a 15-mile diameter, center near Ivy, as described 1972).—Dec. 28; 5 a.m. to 6 p.m. Partly cloudy; temp. 41° to 51°F; no wind; ground bare, water open; wild food crop good. Twelve observers in 10 parties. Total party-hours, 79 (74 on foot, 3 by car, 2 by canoe); total party-miles, 240 (70 on foot, 167 by car, 3 by canoe). Observers: Robert Barbee, Bruce and Pring Davenport, Boo Johnson, Kenneth Lawless, Nelson Lewis, Peter Mehrling, Robert Merkel, Katherine Michie, Eileen Stephens, Charles Stevens (compiler), Tom Wieboldt. The House Wren was found by Lawless, the Northern Oriole by Stevens, and the Common Redpoll by Stephens.

11. WARREN (all points within a 15-mile diameter, center near Keene, as described 1972).—Dec. 29; 5:30 a.m. to 7:30 p.m. Mostly overcast; temp. 44° to 56°F; no wind; ground bare, water open; wild food crop good. Fifteen observers in 8 parties. Total party-hours, 80 (73 on foot, 7 by car); total party-miles, 295 (83 on foot, 212 by car). Observers: Mr. and Mrs. C. R. Barton, Jr., Bruce Davenport, Allen and Constance Hale, Pat Howard, Kenneth Lawless, Peter Mehrling, Robert Merkel, Eileen Stephens, Charles Stevens (compiler), Jeremy Stewart, Fred and Lina Whiteside, Tom Wieboldt. The Palm Warblers were found by Lawless.

12. DARLINGTON HEIGHTS (all points within a 15-mile diameter, center Darlington Heights P. O.).—Dec. 18; 7:30 a.m. to 5 p.m. Partly cloudy; temp. 20° to 38°F; wind NW, 0-10 m.p.h.; ground bare, water open. Sixteen observers in 4 parties. Total party-hours, 38 (32 on foot, 6 by car); total party-miles, 128 (26 on foot, 102 by

car). Observers: Louise Boatwright, Vera Copple (compiler), Bill Dickenson, Edith and Hall Driskill, Myrtle Drumheller, Keith Fielder, Warren Gramham, Jeff Halver-son, Frank Hanankrat, Charlotte Lombardi, Paul McQuarry, Myriam Moore, Joan Ricketts, Dorothy and Norman Silsby. The Red-throated Loon was identified by Dickenson, Hanankrat, McQuarry, and Norman Silsby, and the vultures were counted by Fielder, Halverson, and McQuarry as they flew off a roost. Fielder and Ricketts found the Water Pipits.

13. JOHN H. KERR RESERVOIR (all points within a 15-mile diameter, center John H. Kerr Dam, W to Ivy Hill, E to mouth of Smith Creek, including much of reservoir, portions of Roanoke River, and Lake Gaston; lakes, ponds, and rivers 25%, fields and pastures 20%, coniferous woodland 20%, deciduous woodland 15%, swamp and wooded marsh 15%, open marsh 3%, town and wooded residential 2%).—Dec. 15; 2 a.m. to 5:30 p.m. Mostly overcast; temp. 33° to 47°F; wind WNW, 0-10 m.p.h.; ground bare, water open; wild food crop excellent. Fourteen observers in 5-9 parties. Total party-hours, 44 (28 on foot, 16 by car); total party-miles, 158 (16 on foot, 142 by car). In area count week but not seen count day: American Woodcock, Rusty Blackbird. Observers: Michael Boatwright, Ray and Sandra Chandler, John and Thelma Dalmas, Keith Fielder (compiler), Frank Hanankrat, Paul McQuarry, Myriam Moore, Gertrude Prior, Daniel Puckette, Kathy Rice, Jean and Sue Wilburn. The Blue Goose was seen by two parties, including Boatwright, Fielder, and Puckette. The Common Tern was identified by Ray Chandler and was located again the following day (Dec. 16) by Fielder. Fielder also found the Bewick's Wren, which had been in the area for several weeks, and the Common Yellowthroat was seen by Ray Chandler.

14. SWEET BRIAR (all points within a 3-mile diameter, center Sweet Briar College, as described 1972).—Dec. 28; 7:30 a.m. to 4 p.m. Overcast most of day; temp. 38° to 50°F; no wind; ground bare, water open. Eight observers in 3 parties. Total party-hours, 18 (on foot); total party-miles, 17 (14 on foot, 3 by car). Seen in area count week but not on count day: American Robin. Observers: Carolyn Bates, Vicky Bates, Mary Blackwell, Jeanette Boone, Ernest Edwards, Kay Macdonald, Wyatt Murphy, Gertrude Prior (compiler).

15. LYNCHBURG (all points within a 15-mile diameter, center Lynchburg College, as described 1972).—Dec. 14; 4 a.m. to 5 p.m. Mostly clear; temp. 34° to 53°F; wind E, 0-5 m.p.h.; ground bare, water open; wild food crop fair. Fifty-two observers, 50 in 12 parties, 2 at feeders. Total party-hours, 118 (98 on foot, 20 by car) plus 4 at feeders; total party-miles, 393 (68 on foot, 325 by car). In area count week but not seen count day: Ring-necked Duck, Common Yellowthroat, Northern Oriole. Observers: Mr. and Mrs. Tom Beach, Louise Boatwright, Mike Boatwright, Jane Brinkley, Glen and Sue Burroughs, Ruth Carson, J. L. Carter, Ray Chandler, Sandra Chandler, Mike Christ, Vera Copple, John and Thelma Dalmas, Virginia Delaney, Audree Dodd, Edith Driskill, Myrtle and Tom Drumheller, Keith Fielder, R. S. Freer, Frank and Jo Hanankrat, R. C. Hill, Victor Kehrer, Mary Lerner, Kay Macdonald, Kathie Markham, Carl and Sharon Marlowe, Paul McQuarry, Gene Moore, Myriam Moore (compiler), Phyllis and Wyatt Murphy, Betty Padley, Taylor Piephoff, Gertrude Prior, Dan Puckette, Kathy Rice, Joan Ricketts, Bob Schamerhorn, Charles Sydnor, Lorene Thomas, M. B. Tillotson, Mary Walker, J. J. Williams, Grace Wiltshire, Mrs. John Woods.

16. DANVILLE (all points within a 15-mile diameter, center Ballou Park, as described 1972).—Dec. 22; 7 a.m. to 6:30 p.m. Clear; temp. 26° to 49°F; wind NE, 0-5 m.p.h.; ground bare, water open; wild food crop fair. Twenty-one observers, 18 in 9 parties, 3 at feeders. Total party-hours, 51 (36 on foot, 15 by car) plus 4 at feeders; total party-miles, 284 (47 on foot, 237 by car). In count area count week but not seen count day: American Wigeon, Common Merganser, Cooper's Hawk. Observers: Bob Beavers, Patricia and Russell Brachman, Mary Conner, Fenton Day, Donna Householder, Ed Kinser, Mark and Max Lassiter, Frances Peirce, Mauricio

Schrader, Brain Spear, Philip Spear, Mary, Nultie, Penultima, and Plumer Wiseman (compilers), Gordon Woody. The Black-and-white Warbler was seen by Mary Conner and Donna Householder. A Goshawk and 3 Black-capped Chickadees were removed from this count because of a lack of substantiating details.

17. BIG FLAT MOUNTAIN (all points within a 15-mile diameter, center on Pasture Fence Mountain, as described 1972).—Dec. 19; 7 a.m. to 5:30 p.m. Overcast; temp. 25° to 40°F; wind SW, 5-30 m.p.h.; 0-3 in. snow on ground; water open; wild food crop good. Three observers in 2 parties. Total party-hours, 19 (on foot); total party-miles, 30 (on foot). Observers: Robert Merkel, Eileen Stephens, Charles Stevens (compiler).

18. ROCKINGHAM COUNTY (all points within a 15-mile diameter, center at Ottobine, as described 1973; cultivated fields 45%, woodland 35%, streamsides 15%, residential 5%).—Dec. 14; 7:30 a.m. to 5 p.m. Partly cloudy; temp. 40° to 38°F; wind N, 1-8 m.p.h.; ground bare, water open; wild food crop good. Sixteen observers in 6 parties. Total party-hours, 48 (14 on foot, 34 by car); total party-miles, 271 (13 on foot, 258 by car). In count area count week but not seen count day: Rufous-sided Towhee. Observers: E. S. Butler, Jr., Max Carpenter (compiler), Pauline Council, Philip and Susie Cosminsky, John Diller, Robert Eggleston, Elwood Fisher, Betty Hedrick, Hollen Helbert, Harry Jopson, Clair Mellinger, Evelyn Row, Randal Shank, Mary and Richard Smith. The Swainson's Thrush was identified by Fisher and Mellinger.

19. AUGUSTA COUNTY (all points within a 15-mile diameter, center intersection of routes 780 and 781, as described 1972; open fields 55%, woodland 25%, residential 10%, ponds and streams 5%, parks 5%).—Dec. 21; 4 a.m. to 6:30 p.m. Mostly cloudy with moderate intermittent rain in p.m.; temp. 30° to 54°F; wind SW, 0-12 m.p.h.; ground bare, water open; wild food crop good. Twenty-four observers, 21 in 7 parties, 3 at feeders. Total party-hours, 53 (22 on foot, 31 by car) plus 3 at feeders; total party-miles, 360 (37 on foot, 323 by car). Observers: Brad and Paul Cabe, John Cacciapaglia, Joel Day, Elwood Fisher, James Gum, Virginia Harding, Mozelle Henkel, Kurt Kehr, Rolf Kehr, Josephine King, Si and YuLee Larner, Elizabeth Lee, John Mehner (compiler), Arthur Mizzi, Anne and Fields Moss, Isabel Obenschain, Julie Russell, Ruth Snyder, Sam Snyder. The Bewick's Wren was identified by Gum and Russell and the Gray Catbird by Fisher.

20. WAYNESBORO (all points within a 15-mile diameter, center Sherando, as described 1971; woodland 40%, open fields 40%, ponds and streams 15%, residential 5%).—Dec. 14; 5:30 a.m. to 4:30 p.m. Partly cloudy; temp. 32° to 47°F; wind SW, 5 gusting to 40 m.p.h.; snow cover 0 to 12 in.; fresh water partly open; wild food crop good. Twenty-one observers, 20 in 10 parties, 1 at feeder. Total party-hours, 80 (49 on foot, 31 by car) plus 4 at feeder; total party-miles, 471 (57 on foot, 414 by car). In count area count week but not seen count day: Northern Oriole. Observers: M. I. Bosserman, Corda Bott, Brad, Paul, and Tom Cabe, Denise Day, Anton Decker, Virginia Driver, James Gum, John and Mozelle Henkel, Eugene Kerby, Irene Larner, YuLee Larner, Jean Mehler, Isabel Obenschain, Julie Russell, Brian Scruby, Ruth Snyder (compiler), Sam Snyder, Charles Stevens. The night herons were found by the Snyders flying into a roost, one of the Eastern Phoebees was seen by the Cabes, and the second phoebe by Bott, Decker, and Irene Larner. The Cabes also found the Yellow-rumped Warblers, the Water Pipits were seen by Gum and Russell, and the *Northern Oriole*, a colorful adult male which had been in the area since Dec. 17, by the Snyders.

21. LEXINGTON (all points within a 15-mile diameter, center shifted 4.5 miles NW to Big Spring Pond, to include Lake Merriweather on the NW, Robertson Lake on the SW, and the confluence of South and Maury Rivers on the E; brush 50%, deciduous woods 20%, lakes and ponds 10%, river bottoms 10%, coniferous woods 5%, pastures and open fields 5%).—Dec. 28; 6 a.m. to 5 p.m. Mostly cloudy in

a.m., mostly clear in p.m.; temp. 47° to 54°F; wind SW, 0-5 m.p.h.; ground bare, water open; wild food crop excellent. Twenty-two observers in 6 parties. Total party-hours, 43 (19 on foot, 24 by car); total party-miles, 268 (24 on foot, 244 by car). In count area count week but not seen count day: Fish Crow. Observers: Judy and Kenneth Bradford, Greg Davis, Bart Durham, Laura Glenn, James and Marjie Hartley, Jill Hartley, Jan Jarrard, Peter Letcher, Bob and Sherri Ludt, Cochrane Lyle, Royster Lyle, Jr., Anne McThenia, Gene Moore, Myriam Moore, Bob Paxton (compiler), John Rogers, George Tolley, Polly Turner, Chris Wise. The Whistling Swan appeared to be an injured bird and has been on the same pond for some 9 months. One of the Green Herons was found by Royster Lyle and the other by Kenneth Bradford. The Harris' Sparrow had been at Tolley's feeder since Nov. 21 and had been seen by most of the local observers.

22. PEAKS OF OTTER (all points within a 15-mile diameter, center Peaks of Otter Visitor Center, as described 1972; elevation 1500 to 3950 ft.; woods 80%, fields 10%, conifers 8%, streams and ponds 2%).—Dec. 22; 8 a.m. to 4 p.m. Clear; temp. 27° to 35°F; wind SW, 12-18 m.p.h.; ground bare, water partly open; wild food crop fair. Six observers in 3 parties. Total party-hours, 23 (15 on foot, 8 by car); total party-miles, 50 (9 on foot, 41 by car). Observers: Garst Bishop, Almon English (compiler), Keith Fielder, Barry Kinzie, Paul McQuarry, Kathy Rice.

23. CLIFTON FORGE (all points within a 15-mile diameter, center Clifton Forge, as described 1974; woodland 40%, pastures 35%, streamside 18%, cultivated fields 5%, residential 2%).—Dec. 15; 5 a.m. to 5 p.m. Overcast with intermittent snow in p.m.; temp. 26° to 36°F; wind NW, 0-15 m.p.h.; ground bare, water partly open; wild food crop excellent. Seventeen observers, 11 in 5 parties, 6 at feeders. Total party-hours, 43 (30 on foot, 13 by car) plus 21 at feeders; total party-miles, 237 (33 on foot, 204 by car). In area count week but not seen count day: Pied-billed Grebe, Turkey Vulture, Ruffed Grouse, Pine Warbler, Fox Sparrow. Observers: Frances Cake, Dave Hardy, Ed Kinser (compiler), Dr. and Mrs. A. E. LeHew, Bruce Olson, Beth Scott, Jim Shires, Tim Truett, Ed Walters, Chris Wise (Allegheny Highlands Bird Club).

24. FINCASTLE (all points within a 15-mile diameter, center about 1 mile N of Fincastle near intersection of U. S. Rt. 220 and Va. Rt. 679; open farmland 30%, brushy, weedy fields and edges 25%, creeks, rivers, and ponds 18%, deciduous woods 15%, pine woods 10%, residential 2%).—Dec. 21; 1:10 a.m. to 6 p.m. Mostly clear; temp. 32° to 52°F; wind W, 0-5 m.p.h.; ground bare, water open; wild food crop good. Thirty-eight observers in 14 parties. Total party-hours, 110 (73 on foot, 37 by car); total party-miles, 457 (36 on foot, 421 by car). Observers: Jeannie Barlow, Mike Boatwright, Carol Sue and Edward Burroughs, Ray Chandler, John and Thelma Dalmas, Myrtle and Thomas Drumheller, John and Marion Eddy, Keith Fielder, Al Hall, Dorothy Hancock, Jo Hanenkrat, Rushia Harris, Buck Hartwell, Barry Kinzie (compiler), Shirley Kinzie, Janet and Thomas Krakauer, Carole Masart, Paul McQuarry, Woody Middleton, Ernest and Hazel Moore, Gene Moore, Myriam Moore, Sally Nelson, Bill and Jane Opengari, John Pancake, Connie Pancake-Cofield, Dan Puckette, Mike Purdy, Susan Spede, Susan Strum, Jerry Via. The Vesper Sparrows were identified by John Eddy.

25. ROANOKE (all points within a 15-mile diameter, center shifted about 2 miles N to intersection of Oakland and Williamson Roads; woodland 35%, farmland 30%, residential 25%, lakes and rivers 10%).—Dec. 14; 4 a.m. to 5 p.m. Mostly clear; temp. 40° to 50°F; wind SSW, 0-5 m.p.h.; ground bare, water open; wild food crop good. Thirty-eight observers, 36 in 15 parties, 2 at feeders. Total party-hours, 126 (75 on foot, 45 by car, 6 by canoe) plus 6 at feeders; total party-miles, 418 (54 on foot, 360 by car, 4 by canoe). In count area count week but not seen count day: Red-breasted Merganser, *Bald Eagle*, Ring-billed Gull, *Black-billed Magpie*. Observers: Charles Ames, Bob Bordeaux, Margaret Brown, Foy Clark, Allen Duvall, Col. and Mrs. John Eddy, Sam Ellington, Rusty Erskine, Eleanor Gladding,

Dorothy Hancock, Mr. and Mrs. Raymond Harper, Rushia Harris, Ellen Holtman, John Hudgins, Richard Kelly, Perry Kendig, Mrs. W. M. King, Barry Kinzie (compiler), Janet and Tom Krakauer, Skippy Lyle, Carole Massart, Mr. and Mrs. Norwood Middleton, Hazel and Ernest Moore, Sally Nelson, Jane and Bill Opengari, John Pancake, Connie Pancake-Cofield, Mike Purdy, Susan Spede, Tod Stockstill, Jerry Via, Betsy Watts. The Goshawk was observed carefully by Purdy, and the Bald Eagle, an adult seen during count week, was found by four observers (*vide* Kinzie). The Black-billed Magpie has been in Roanoke for about a year and is the same bird as the one reported on the 1973 Christmas count. It has been seen by several dozen observers in the past year and photographed clearly.

26. BLACKSBURG (all points within a 15-mile diameter, center Linkous Store, as described 1972).—Dec. 30; 3:45 a.m. to 5 p.m. Partly cloudy in a.m., clear in p.m.; temp. 42° to 60°F; wind NW, 0-5 m.p.h.; ground bare, water open; wild food crop good. Thirty-nine observers, 35 in 11 parties, 4 at feeders. Total party-hours, 100 (66 on foot, 34 by car) plus 6 at feeders; total party-miles, 402 (59 on foot, 343 by car). In count area count week but not seen count day: Barred Owl, Yellow-bellied Sapsucker, Common Grackle. Observers: Curtis and Karen Adkisson, Jean Ambrose, Bill Bradley, Dwight Chamberlain, Alan Clifford, Chris and Don Cochran, Dick Conner, Jim Craig, Gerald Cross, Mrs. Robert Felch, Michael Furey, Maynard Hale, C. O. Handley, Charles and Dorelyn Handley, Todd Handley, Henry Mosby, John Murray (compiler), Don Nelson, Hal Powe, Irvine Prather, Ramakrishna Reddy, Curtis Roane, Antonio Salvadori, Pat Scanlon, Myron and Ronald Shear, Joyce Simpkins, Ellison and Mary Linda Smyth, Connie Stone, JoAnn Underwood, H. P. Van Krey, Thayis Weibel, Dave and Peter West.

27. TAZEWELL (all points within a 15-mile diameter, center Four Way, as described 1972).—Dec. 31; 5 a.m. to 5 p.m. Overcast to mostly cloudy with moderate to light rain; temp. 40° to 48°F; wind SW, 4-6 m.p.h.; ground bare, water open; wild food crop good. Seventeen observers, 16 in 6 parties, 1 at feeder. Total party-hours, 53 (24 on foot, 29 by car) plus 4 at feeder; total party-miles, 279 (24 on foot, 255 by car). In count area count week but not seen count day: *Golden Eagle*, Red-winged Blackbird, *Northern Oriole*. Observers: C. Byrd, S. Cromer (compiler), T. Clinard, F. Dean, F. B. Dean, T. Decker, A. Greever, M. Hurt, E. Kinser, L. Leslie, H. Parris, J. Parris, M. Schrader, L. Shelton, P. Shelton, J. Surface, H. Toms (Clinch Valley Bird Club and guests). The *Golden Eagle* was seen by Kinser with a group from the bird club. The *Northern Oriole*, apparently an example of the western (Bullock's) race, came to Kinser's feeder for two days where a number of colored slides of it were taken. It had a large white wing patch and a black stripe from bill to throat. More details on this observation are expected.

28. GLADE SPRING (all points within a 15-mile diameter, center at junction of routes 750 and 609, as described 1973; open fields and hedgerows 45%, mixed deciduous and pine woods 30%, river bottoms 10%, residential 10%, marshes and ponds 5%).—Dec. 27; 7 a.m. to 5 p.m. Overcast with moderate to heavy rain; temp. 38° to 42°F; wind SE, 0-5 m.p.h.; ground bare, water open; wild food crop good. Eighteen observers, 17 in 5 parties, 1 at feeder. Total party-hours, 39 (14½ on foot, 24½ by car) plus 8 at feeder; total party-miles, 224 (14 on foot, 210 by car). In count area count week but not seen count day: Yellow-bellied Sapsucker, Golden-crowned Kinglet. Observers: Elisabeth, Ellen, and Lisa Aaron, Joyce Buchanan, Dorothy and Turner Clinard (compiler), Sara Cromer, Fred Dean, Anton Decker, Annella Greever, Madeline Hurt, Ed Kinser, Robert Kinser, Jr., Louise Shelton, Roy Strohl, Jenny Surface, Richard Trollinger, Jane White. The Palm Warblers were identified by Cromer with a party of six.

29. BRISTOL (all points within a 15-mile diameter, center junction routes 647 and 654, as described 1972).—Dec. 28; 8 a.m. to 6 p.m. Overcast, becoming partly cloudy by midafternoon; moderate to light intermittent rain until mid-afternoon; temp. 41° to 54°F; wind NE, 2-4 m.p.h. Thirteen observers, 12 in 5 parties, 1 at



feeder. Total party-hours, 38 (14 on foot, 21 by car, 3 by boat); total party-miles, 324 (10 on foot, 297 by car, 17 by boat). Observers: Judy Abbott, Rockwell Bingham (compiler), Wallace Coffey, Glen Eller, Lee Herndon, Joseph Jackson, Hervey Nunley, Conrad Ottenfeld, Brent Rowell, Charlie Smith, Angela Wilson, Diane Wilson. Brewer's Blackbird was removed from the count because of a complete lack of substantiating details. No details were submitted for the observation of the Chipping Sparrow.

30. NICKELSVILLE (all points within a 15-mile diameter, center Nickelsville, as described 1973).—Dec. 21; 5 a.m. to 7:30 p.m. Partly cloudy; temp. 33° to 46°F; wind WSW, 5-8 m.p.h.; ground bare, water open; wild food crop good. Eleven observers in 5 parties. Total party-hours, 24 (13½ on foot, 10½ by car). Total party-miles, 90 (14 on foot, 76 by car). In count area count week but not seen count day: Great Horned Owl. Observers: Jeff Francisco, Edith, Olinger, Aliceson, Ellen, Grace, Garland, Homer, and Jean Osborne, Eddie Rudder, E. E. Scott (compiler), Callie Starnes.

31. WISE COUNTY (all points within a 15-mile diameter, center Dorchester, to include High Knob, Norton, Wise; deciduous woodland 35%, strip mines 25%, business and residential areas 15%, fields and pastures 15%, orchards 5%, lakes and streams 3%, coniferous woodland 2%).—Dec. 14; 6 a.m. to 5:45 p.m. Mostly clear; temp. 34° to 52°F; wind SW, 5-15 m.p.h.; snow cover, 0-6 in.; water partly frozen; wild food crop excellent. Twenty-one observers, 19 in 7 parties, 2 at feeders. Total party-hours, 58 (34 on foot, 24 by car) plus 4 at feeders; total party-miles, 375 (25 on foot, 350 by car). Observers: Stacy Cantrell, Sara Cromer, Betty Gibson, Neva Gilson, Gaynelle Malesby, Dwight, Richard (compiler), and Tom Peake, Carolyn, Mary, and Rockwell Smith, Mauricio Schrader, Philip Shelton, Addison Stallard, Gladys Stallard, Wilma Stallard, Joe and Tom Straughan, Jenny Surface, Hazel Thrower (Cumberland Bird Club and guests). The Vesper Sparrow was seen at close range at a feeder by Addison Stallard, and the Chipping Sparrows were found by two parties, those led by Cromer and Joe Straughan and by Richard and Tom Peake.

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## OBSERVATIONS ON AN ALBINO ROBIN IN BLACKSBURG, VIRGINIA

VINCENT J. LUCID, ROBERT J. COE, AND  
RICHARD N. CONNER

An albino American Robin (*Turdus migratorius*) was observed on the campus of Virginia Polytechnic Institute and State University in Blacksburg, Virginia, during the first two weeks of July 1974 (Figure 1). The Robin was first noticed by C. D. Goldsmith, who brought it to the attention of the Department of Fisheries and Wildlife Sciences.

The plumage of the robin was entirely white, except for a few small patches (behind the eye and on the nape) which appeared gray, presumably due to shadows. The bill and legs were yellow; the former being somewhat lighter. The irises, which lacked pigment, appeared pink due to the blood in the capillaries of the retina (Pettingill, 1970:192). This description agrees with that of an albino robin killed in Chesterfield County, Virginia, in 1880 (Robinson, 1888).



The albino was readily identified as a robin by its body profile, movement patterns, and feeding habits. Continued observation revealed that vocalizations of the bird included the sharp cry used by robins as an alert or warning cry, and an exclamatory note which it used when following, and begging food from, a robin of normal coloration. On one occasion, the other robin was observed to feed a worm to the albino. Thus, it was determined that the albino was a juvenile bird. The albino was somewhat smaller than this normal adult robin.

It was quite apparent that the albino, having a lack of pigment in the eye, showed a distinct preference for shaded areas. Late one afternoon, the bird stood motionless in the shade of a large tree for at least 10 minutes. When the sun suddenly shone through the branches upon the robin, the bird immediately flew directly toward the sun into the crown of another tree.

Bent (1949:24) reported that partial and full albinism among robins is not particularly uncommon. According to Pettingill (1970:192) albinism may be hereditary, having a genetic basis, but also may occur in an individual due to some physiological disturbance. Among the large population of robins in this vicinity and in the general area, no other young or adults have been observed which showed any signs of albinism, either during this season or in the past.

A robin exhibiting albinism may encounter social difficulties and have a severe disadvantage with respect to natural selection. If a male, the robin without a red breast probably will be unable to defend a territory. There is, however, at least one record of an albino mating successfully with a normal robin (Bent, 1949:25). Unfortunately, the sex of the albino was not mentioned. The life expectancy of an albino is shorter than that of a normal bird. Beebe (1965:



FIGURE 1. *Albino American Robin observed in Blacksburg, Virginia, in July 1974. Photo by R. N. Conner.*

314) reported that albinos are especially susceptible to predation by hawks, for these raptors will single out a white bird from a group of darker individuals. Wallace (1955:56) stated that physical and physiological defects usually cause the early demise of albinistic birds. But there is always an exception; a partial albino robin returned to a banding station in Pennsylvania for eight successive years (Middleton, 1960).

The fate of the albino robin in Blacksburg is not known. It may have emigrated from the area, or may have already been eliminated. Since it was impossible to capture the bird for banding, this will remain a matter for pure speculation.

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## A HIGH-ALTITUDE NESTING RECORD FOR THE MOURNING DOVE IN SOUTHWESTERN VIRGINIA

JOHN S. WRIGHT

On 16 May 1974, while birding on Beartown Mountain, Russell County, Virginia, I flushed a Mourning Dove, *Zenaida macroura*, from a nest in a red spruce, *Picea rubens*, at an elevation of slightly over 4500 feet. The nest was about 6 feet above the ground and contained two eggs.

Few published records exist for Mourning Doves at high elevations in the Southern Appalachians. Murray (1938) gives a summer record for 3500 feet in Highland County, Virginia. Stevenson and Stupka (1948) list summer records for 4550 feet in the Great Smokies and 4100 feet near Highlands, North Carolina. Stevenson (1956) gives summer records for 3800 feet in Highlands, North Carolina; the same altitude on Brasstown Bald, Georgia;

and one unspecified record for 6000 feet. Stupka (1963) points out the rapid decrease in Mourning Dove populations above 2000 feet in the Great Smokies, with only accidental occurrence at middle or high elevations, giving two summer records for 4522 and 5266 feet. Both the Abingdon and Tazewell County forays (Scott, 1966 and 1973) covered Russell County Beartown, but no mention was made of Mourning Doves above 3500 feet. Stevens (1967) mentions seeing "several in openings near the summit" of Tazewell County Beartown (4710 feet), but apparently no nesting evidence was found.

In view of the paucity of summer records of Mourning Doves for middle and high elevations of the Southern Appalachians, and, as far as I can determine, the nonexistence of previous published nesting records for elevations of 4500 feet or above, I think it is appropriate to clarify this particular record by a description of the rather unusual topography and vegetation of the area where the nest was found. Stevens (1967) discusses the vegetation of Russell County Beartown in some detail.

The summit of Beartown Mountain, although only 4689 feet in altitude, has a moderately dense stand of red spruce, which continues downward to about 3900 feet at Mutters Gap, about 1.75 miles away. One feature of the mountain is its relative flatness once the 4400-foot contour is reached. For about a mile along this flattened northern crest, between the summit and Mutters Gap, the vegetation is primarily dense rhododendron with small spruce trees (15 feet) being clumped or scattered throughout. Large outcroppings of boulders are numerous and mark the only openings in the otherwise closed canopy of rhododendron, which evidently was formed after logging and fire. It was in this habitat that the nest was found. It may be worthwhile to point out that although the nest area itself probably makes very poor feeding habitat, it is but a relatively short distance down the steep mountainside to pastureland at about 3500 feet.

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REPAIRS FOR A WIND-DAMAGED  
HAIRY WOODPECKER NEST

LUCILLE H. GRIFFIN, RICHARD N. CONNER, AND CURTIS S. ADKISSON

On 17 April 1974 we discovered a Hairy Woodpecker (*Dendrocopos villosus*) nest about 8 m above the ground in a partially dead sugar maple (*Acer saccharum*) in the Poverty Creek Valley near Blacksburg, Montgomery County, Virginia. Seventy-two hours were spent observing the nest for the period of time between 17 April and 26 May.

On 29 April, during the incubation phase of nesting, a wind storm snapped off the branch that housed the nest cavity. The branch broke at the entrance to the nest cavity, the place most weakened by a combination of woodpecker and fungal activity. When the nest was examined, four eggs, all still intact, lay on wood chips at the bottom of the 16-cm deep cavity.

On the afternoon of 29 April an attempt was made to save the woodpecker nesting effort. The branch that had broken off was cut 20 cm above what had been the top of the nest cavity entrance. The top of the nest cavity was then placed back on the top of the exposed cavity nest and nailed in place using two lath strips. Tar paper was then wrapped around the tree to cover up any cracks that might allow light or rain to enter at the point of fracture.

The male Hairy Woodpecker did not return to the cavity that evening to roost on the eggs as is typical of the nesting behavior for this species (Lawrence Kilham, "Reproductive behavior of hairy woodpeckers II. Nesting and habitat," *Wilson Bulletin*, 80:286-305, 1968). We suspected that the presence of the tar paper was disrupting incubation efforts because of its unnatural appearance. The following day, 30 April, as we removed the tar paper, the female Hairy Woodpecker stuck her head out of the cavity and then went back inside. Later that day, when the female was not there, the open cracks were sealed up with putty. That night the male woodpecker roosted in the nest cavity.

Around 10 May the eggs hatched successfully and the young could be heard faintly buzzing in the nest cavity. About 16 days later the young fledged from the repaired cavity.

The woodpeckers had several rather traumatic experiences during the incubation phase of their nesting activity. The fact that the pair did not desert the nest suggests that the presence of eggs provides a very strong stimulus for Hairy Woodpeckers to continue incubation.

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RECENT SIGHTINGS AND NESTING OF BEWICK'S WRENS  
IN MONTGOMERY COUNTY, VIRGINIA

RICHARD N. CONNER, CURTIS S. ADKISSON, AND VINCENT J. LUCID

Past records of Bewick's Wrens (*Thryomanes bewickii*) in Montgomery County, Virginia, have been fairly regular, annual events: Ralph Brown, 1930 to 1945; John W. Murray, 1944 to 1955, 1960 to 1962, 1965, and 1967; Myron Shear, 1967; J. R. Jackson, 1968; and Mark Larson, 4 April 1974. Although

the majority of these sightings have been in the spring or summer, several winter records also exist for this span of time: 1932, 1933, 1967, and 1968.

Our recent observations of Bewick's Wrens are as follows: C. S. Adkisson on 20 January 1973 heard one by the New River near Whitethorne, Adkisson and R. N. Conner observed one wren in Crumpacker woods on the VPI & SU College Farm on 1 April 1974, and Adkisson heard songs of this species on 14-15 and 21-24 April 1974 2 miles northeast of Blacksburg, Va.

Nesting records of Bewick's Wrens in Montgomery County are rare. C. O. Handley, Sr., saw broods of young out of the nest in 1936, 1937, and again in 1942. C. A. Handley, Jr. saw a family of five in May 1943. No other nesting records have been reported until 1974.

On 18 May 1974 at the old Crumpacker house on the VPI & SU College Farm we observed what appeared to be nesting activity of a pair of Bewick's Wrens. Upon examining the house, we found one old nest in a broken down wall inside the house, suggesting the possibility that wrens had used the house the previous year. The beginnings of a new nest were discovered in a round stove-pipe hole in the wall of a different room. On 25 May four eggs were in the now completed nest and the pair began incubation. By 11 June four young wrens had hatched and were being fed by the adults. On 20 June, we discovered two young still in the nest and two young out of the nest on the floor. The adults were quite agitated, called frequently, and came close enough to permit detailed observation. The following day, 21 June, parents and young could not be seen or heard in or around the house.

Bewick's Wrens normally nest twice during each breeding season (A. C. Bent, *Life histories of North American nuthatches, wrens, thrashers, and their allies*, U. S. National Museum Bulletin 195). The pair that we observed started nesting on 18 May, which is later than would be expected for a species of wren that lays two clutches. Among other possible explanations for this delay in nesting activities is that the low density of the population possibly increases the time needed for male and female adults to come in contact and pair bond.

Another observation of interest was the low frequency of territorial singing by the male Bewick's Wren possibly caused by the absence of stimulation by songs of conspecific males.

It is impossible to determine whether the increase in sightings of Bewick's Wrens in 1974 represents an increase in the population density of this species in Montgomery County or whether it is a result of the increase in the number of people who are actively looking for such events.

We would like to thank Dr. John W. Murray for providing the information on past records of Bewick's Wrens in Montgomery County.

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### KIRTLAND'S WARBLER SEEN IN MECKLENBURG COUNTY, VIRGINIA

JAMES M. POTTER, JR.

On 1 September 1974 my wife and I were guests of Mr. and Mrs. Walter Newman at their cottage in the Ponderosa, a private development located in Mecklenburg County, Virginia, on the south shore of Kerr Lake 4.5 miles north of Townsville, Vance County, North Carolina, and 1.5 miles south of

the Ivy Hill Public Use Area. About midafternoon I noticed a flock of small birds in trees near the deck of the cottage, and we went outside to see what they were. Less than 30 feet from the cottage door in a stand of young pines, flowering dogwood, and blue beech (ironwood) at the edge of the woods, we saw about a dozen Pine Warblers (*Dendroica pinus*), a couple of Red-eyed Vireos (*Vireo olivaceus*), an immature flycatcher (*Empidonax* sp.), and an unfamiliar warbler that constantly wagged its tail up and down. While I went inside for a field guide (Robbins *et al.*, 1966), my wife and Mrs. Newman were able to confirm the field marks of the Kirtland's Warbler (*Dendroica kirtlandii*). The bird was about the size of the largest Pine Warblers, but smaller than the Red-eyed Vireos. It had entirely gray upperparts, well streaked with black. The eye ring was white and interrupted, but less distinct than in the field guide illustrations. The two dingy white wingbars were narrow and indistinct, though unquestionably present. Underparts from chin to belly were bright lemon yellow, and under tail coverts were white. The sides were coarsely streaked with black, and finer streaks of black extended into the upper breast without meeting in the middle. The feet and bill were black. The Kirtland's Warbler was seen in good light several times during approximately 10 minutes of observation. My wife and I were using a 7x50 binocular, and Mrs. Newman was using a 7x35 glass. The bird was very tame, capturing and consuming several green caterpillars while we watched and squeaked to lure it closer to us. Later in the afternoon I sat on the deck and watched hundreds of birds as they came from the point to the north of us, flew across the lawn between the cottage and the lake, and stopped to feed in the trees along the edge of the woods. Apparently many small land birds were moving southward ahead of a severe thunderstorm that struck the area in the late afternoon.

The two previous Kirtland's Warbler records for Virginia are from Fort Myer, where one bird was collected on 25 September 1887 and another was seen on 2 October of the same year (Smith and Palmer, 1888). Recently the species has been recorded three times as a fall migrant in southern Pennsylvania. One bird was banded on 21 September 1971 at the Carnegie Museum's Powdermill Nature Reserve located 3 miles south of Rector in Westmoreland County, and individuals were seen in Somerset County on 26 September 1972 and in Chester County on 27 September 1964 (Clench, 1973). In North Carolina the Kirtland's Warbler has been reported three times from Rocky Mount by Craighill (1942), who saw fall migrants on 2 September 1936, 22 September 1938, and 23 September 1941.

Craighill (1942) speculated that Rocky Mount might lie along the migratory route of the Kirtland's Warbler; however, the fall records accumulated prior to 1935 (Clench, 1973) strongly suggested a movement directly southeastward from the Michigan breeding grounds to the Bahama Islands across central Ohio and central and southeastern South Carolina, a route that presumably carried the birds across the Appalachian Mountains in Virginia or North Carolina, well to the west of Fort Myer and Rocky Mount. Analyzing fall migration records accumulated since 1935, Clench (1973) finds evidence that the modern migration route of the Kirtland's Warbler actually takes the birds across northern Ohio, over the Appalachians in western Pennsylvania, southeastward through the extensive pinelands of the Piedmont or inner coastal plain to coastal South Carolina, and then, apparently, over water to the Bahamas. The present sighting in Mecklenburg County, Virginia, seems to support Clench's projected route. A straight line drawn south-southeast from Rector to Little Abaco (one of the northernmost of the Bahama Islands and a known wintering ground for the

species) passes directly through Kerr Lake and strikes the Atlantic coast near the North Carolina-South Carolina state line. Rocky Mount is about 55 miles southeast of the Newman cottage and due north of Wrightsville Beach, North Carolina, and the Bahamas.

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## MOURNING WARBLERS IN GLOUCESTER COUNTY IN SPRING

ELIZABETH D. PEACOCK

On 31 May 1965 my son Daniel and I were birding northeast of the bridge at Bland Creek, Gloucester County, Virginia. We were listening for nesting Prothonotary Warblers when we heard an unfamiliar song nearby. We were astounded to see a male Mourning Warbler, *Oporornis philadelphia*, dart out briefly from the leaves just in front of us at eye level, the black "crepe" of its breast vibrating with the intensity of his vocal efforts.

On 30 May 1967 my husband and I saw a singing male Mourning Warbler feeding on a holly branch hanging over the water of Poplar Spring Branch on the southeastern side of the bridge just north of Signpine. Both of us studied the bird in bright sunlight with binoculars for several minutes.

3140 Highland Lane, Fairfax, Virginia 22030

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## CONSERVATION CORNER

ROBERT J. WATSON

The principal accomplishment of the 1975 session of the General Assembly in the direction of conservation was the actual launching of the Scenic Rivers System. This was authorized on paper, with much fanfare, several years ago, at the instigation of a former President of the VSO, the late Paul S. Dulaney. A 26-mile stretch of the Rivanna, in Fluvanna County, has now been designated as the first scenic river in the state. There are many other streams that should be included, but efforts so far have been blocked by the opposition of riparian landowners or of the advocates of hydroelectric development.



One other piece of legislation touching upon environmental matters was a requirement that all localities enact planning and zoning ordinances. This is in no way a step toward the assertion by the state of its own larger, and quite rightful, responsibility for land-use decisions; it simply extends throughout the state the present system whereby land-use decisions are made entirely by local governing bodies—a system that has proved readily exploitable by the profiteers of urban sprawl. Still, to the extent that this legislation represents any sort of motion, it is at least motion in the right direction.

Regarding the many other environmental issues facing the state—tighter control of strip mining, regulation of wasteful throwaway containers, enactment of a bond issue to get the Outdoors Plan off dead center, and others—the Assembly did nothing, despite the efforts of the relatively small number of legislators who are alert to the importance of these matters.

The impression is unmistakable that, in environmental awareness, the state of Virginia ranks near the bottom of the list. And there is every prospect that this situation will continue.

2636 Marcey Road, Arlington, Virginia 22207

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## NEWS AND NOTES

COMPILED BY F. R. SCOTT

**IN APPRECIATION.** The Editor is indebted to Walter Post Smith for the initial tabulation of the Christmas bird counts in this issue of *The Raven*.

**CORRIGENDA.** Several errors crept into the paper by John W. Murray in the September 1974 issue of *The Raven*, as follows:

Page 57, line 19 (American Bittern): 30 August should read 20 August.

Page 57, line 35 (Gadwall): Smith should read Smyth.

Page 61, line 12 (Common Tern): last date should be 8 October.

Page 65, line 9 (Cape May Warbler): last date should be 2 November.

Page 68, line 12 (Clay-colored Sparrow):  $W_1$  should be  $W_2$ .

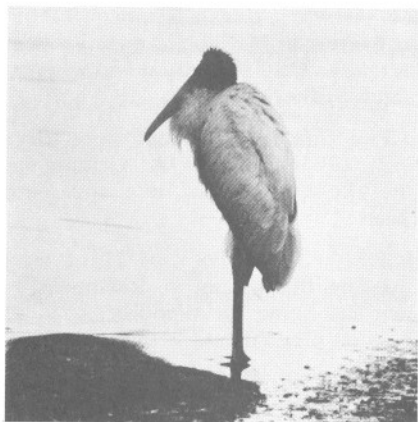
Page 68, line 42: Gadwell should read Gadwall.

Page 69, line 1: Cockoo should read Cuckoo.

Page 69, line 31: Armon should read Almon.

Page 70, line 9: Forester's should read Forster's.

**WINTER PELAGICS OFFSHORE.** Two winter boat trips organized by R. A. Rowlett out of Ocean City, Maryland, on 2 and 3 February 1974, with a combined total of 80 observers, yielded the best results yet of any winter pelagic trip off Virginia. The routes of the two trips went southeast from Ocean City and into Virginia waters about 35-40 miles out. Most of the interesting birds were in Virginia waters or just over the Maryland line. Among the more interesting observations made in Virginia were at least five Great Skuas and 500 Black-legged Kittiwakes each day. Details of these trips, with photographs of the skuas, were published elsewhere (*Maryland Birdlife*, 30: 51-55, 1974). There are about four prior sight records of the Great Skua in Virginia.



*Immature Wood Stork near Chamblissburg, Virginia, 23 May 1974. Photo by C. H. Lewis.*

**WOOD STORKS NEAR ROANOKE.** On 20 May 1974 Mr. and Mrs. C. H. Lewis were startled to find three immature Wood Storks at a pond on the farm of Frank Thompson near Chamblissburg, Bedford County, Virginia, about 10 miles east of Roanoke. The birds remained until 26 May and were seen by many VSO members, including Carole Massart, Paul McQuarry, Myriam P. Moore, Bill Openhari, and John Pancake. A news article on the birds by Pancake with a photograph by Howard Hammersley appeared in the *Roanoke World-News* on 21 May.

**EUROPEAN WIGEON NEAR HOPEWELL.** A male European Wigeon was found with some American Wigeon at a small pond in southwestern Charles City County, Virginia, on 10 March 1974 by F. R. Scott and D. W. Sonneborn. The location is close to the north end of the Harrison Bridge crossing the James River near Hopewell. The bird remained at least to 15 March and was also seen by C. R. Blem.

**DIVING DUCKS INLAND.** An unusual Piedmont concentration of diving ducks was noted at a reservoir just south of Culpeper, Culpeper County, Virginia, on 15 February 1974. J. B. Bazuin, Jr., estimated that there were 250 Ring-necked Ducks, 100 Canvasbacks, and 5 Redheads.

**HARLEQUIN DUCKS AGAIN.** For the seventh consecutive year Harlequin Ducks appeared around the artificial islands of the Chesapeake Bay Bridge-Tunnel between Kiptopeke and Virginia Beach, Virginia. Peak counts included two males on 5 January 1974 (G. S. Grant), one male and two females on 19 February (Berit Edsburg and R. A. Rowlett), and one male and two females again on 2 March 1974 (R. L. Ake, W. W. Fogleman, and G. S. Grant).

**RAZORBILL NEAR CAPE CHARLES.** A freshly dead Razorbill was discovered near Townsend, Northampton County, Virginia, on 29 December 1973 by P. W. Sykes, Jr., and others. The specimen was deposited in the collection of the College of William and Mary.

**CRESTED FLYCATCHERS IN WINTER.** Two Great Crested Flycatchers were found in Chesapeake, Virginia, 11 January 1974 by Gisela A. Grimm and remained at least to 19 January. They were also seen and photographed by R. L. Ake and D. L. Hughes.

**PARULA WARBLER IN WINTER.** A female Northern Parula was trapped and banded at Hampton, Virginia, on 31 December 1973 by W. P. Smith. This is probably the first confirmed winter record of this species for the state.

**DICKCISSELS AT VIRGINIA BEACH.** A male Dickcissel was present at Betty Lancaster's feeders in Virginia Beach almost daily from 22 December 1973 to 23 March 1974. Another Dickcissel, a female this time, appeared at the same place on 5 and 6 April 1974.

**PAINTED BUNTING AT NEWPORT NEWS.** A male Painted Bunting appeared at the feeder of Mr. and Mrs. Jack Frost in Newport News, Virginia, on 4 January 1974 and remained until 20 January. On 5 January it was trapped, banded, and photographed by Dorothy and Sydney Mitchell.

**REDPOLLS AT CRANEY ISLAND.** Two Common Redpolls were found at Craney Island, Virginia, on 12 February 1974 by Gisela A. Grimm and Virginia Hank. On the following day R. L. Ake saw one bird here, apparently a different one from the two previously seen.

**RED CROSSBILLS WINTER AT RICHMOND.** A flock of 12 or more Red Crossbills was observed frequently during the winter in Richmond by Charles R. Blem, who recorded them near his home on Woodley Road on 26 January and 2 February 1974, as well as on other dates.

**WHITE-WINGED CROSSBILL AT HOLLINS COLLEGE.** A White-winged Crossbill appeared at the feeder of Thomas Krakauer on the Hollins College campus in Roanoke County, Virginia, on 12 March 1974. First spotted by Janet Krakauer, the bird was seen on 15 March by John S. Pancake and Barry L. Kinzie, who photographed it. The bird had dark wings, two prominent wing bars, and hooked mandibles. It was about the size of a Purple Finch and evinced a pink-tan on the head and rump.

**OREGON JUNCO RETURNS TO NEWPORT NEWS.** A banded Oregon Junco was present at Newport News, Virginia, from 20 January to at least 4 February 1974, according to Dorothy and Sydney Mitchell. They were able to trap it on the latter date and found it was a bird previously banded by them on 18 January 1971.

**CLAY-COLORED SPARROW IN STAUNTON.** YuLee Lerner reported a Clay-colored Sparrow in her yard in Staunton, Virginia, about 6:30 a.m. on 30 April 1974. She had observed this species previously in Michigan and Minnesota. She saw the bird's clear breast, white line over the eye, and striped crown. The sparrow gave a song of four harsh buzzes, all on the same pitch, which the bird repeated three times before flying away.

**WINTERING LONGSPURS.** Unprecedented numbers of Lapland Longspurs were found at Craney Island, Portsmouth, Virginia, during the fall and early winter of 1973-74: Twelve were first reported here on 17 November 1973 (G. S. Grant, W. W. Fogleman, *et al.*), and peak counts included 40 on 28 December (Grant) and 36 in one flock on 1 January (R. L. Ake). Apparently they did not remain here longer, however, as Grant could find only one on 5 January 1974, and there were no further observations reported.

# The Raven

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Courtesy of Walter Weber

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The Virginia Society of Ornithology, Inc., exists to encourage the systematic study of birds in Virginia, to stimulate interest in birds, and to assist the conservation of wildlife and other natural resources. All persons interested in those objectives are welcome as members. Present membership includes every level of interest, from professional scientific ornithologists to enthusiastic amateurs.

Activities undertaken by the Society include the following:

1. An annual meeting (usually in the spring), held in a different part of the state each year, featuring talks on ornithological subjects and field trips to nearby areas.

2. Other forays or field trips, lasting a day or more and scheduled throughout the year so as to include all seasons and to cover the major physiographic regions of the state.

3. A journal, *The Raven*, published quarterly, containing articles about Virginia ornithology, as well as news of the activities of the Society and its chapters.

4. Study projects (nesting studies, winter bird population surveys, etc.) aimed at making genuine contributions to ornithological knowledge.

In addition, local chapters of the Society, located in some of the larger cities and towns of Virginia, conduct their own programs of meetings, field trips, and other projects.

Those wishing to participate in any of the above activities or to cooperate in advancing the objectives of the Society are cordially invited to join. Annual dues are \$1.00 for junior members (students), \$3.00 for active members, \$5.00 for sustaining members, \$10.00 for contributing members, \$100.00 for life members.

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# GROWTH RATE AND NESTING ASPECTS FOR THE GLOSSY IBIS IN VIRGINIA<sup>1</sup>

BILL WILLIAMS

## Summary

A growth rate and nesting study of the Glossy Ibis was conducted on the Eastern Shore of Virginia as an attempt to elucidate factors contributing to the rapid population range expansion of this species. The study area consisted of three heronries located near Wachapreague, Virginia. The weight, bill length, bill width, and tarsus length were measured daily for 67 young from 53 nests in two of the heronries. Growth was found to be rapid with fledging occurring at an age of 28 days. Fledging success was 34%, being greatly influenced by inclement weather periods.

Nest height selection of the Glossy Ibis on an overall basis was found to be significantly different ( $p < .001$ ) from the heron species with which the heronries were shared. Cursory food analysis of young indicated exploitation of an unoccupied feeding niche for this species.

## Introduction

The establishment of an invading species in a community implies two ecological possibilities: one, that the ecological niche characteristics for that species is unoccupied in that community, or two, that there has been no natural selection to insure the most efficient exploitation of the niche by its original occupant (Slobodkin, 1961). The Glossy Ibis (*Plegadis falcinellus*) is such an invading species which has extended its ecological distribution along the Atlantic Coast from original stock located in Florida, Cuba, and possibly the West Indies (Bent, 1926). Its first breeding record in Virginia in 1956 (Bock and Terborgh, 1957) came at the time that its nesting was also recorded in Maryland (Stewart, 1957). Breeding records for North and South Carolina had been established in the 1940's (Pearson *et al.*, 1942; Sprunt and Chamberlain, 1949). Prior to this the Glossy Ibis was known to breed only in the Brevard and Indian River counties of Florida (Wetmore *et al.*, 1957).

Since 1956 the Glossy Ibis has continued to expand its breeding range as far north as Maine (Finch, 1972). There can no longer be any doubt that the Glossy Ibis is undergoing a definite northward extension of its breeding range, as evidenced by the increase in numbers of individuals, of breeding localities, and of nests at breeding sites (Hailman, 1959). The species is not only expanding but consolidating the areas in which it has begun to breed (Hailman, 1959). At present the species breeds along the entire Atlantic Coast to Maine and along the Gulf in Louisiana and Texas (Palmer, 1962; Post *et al.*, 1970; Vaurie, 1965; Wetmore, 1965). Elsewhere, it is considered a straggler, appearing in Pennsylvania (Poole, 1964), Oklahoma and Arkansas (Sutton, 1967), Indiana (Mumford and Lehman, 1969), and Ohio (Campbell, 1944).

In Virginia the Glossy Ibis is found nesting all along the Eastern Shore. Its increase has been notable: from two nests recorded in 1956 to 350 to 400 nesting pairs in a single colony near Chincoteague in 1971. The Swash Bay heronries

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<sup>1</sup> Adapted from a thesis submitted to the College of William and Mary in partial fulfillment of the requirements for the degree of Master of Arts.

in which this study was conducted have increased from two nesting pairs in 1967 to 53 nesting pairs recorded there during the 1972 nesting season. This indicates either a rapid population growth of this species from the Virginia population or an increasing northward immigration of individuals each year.

If the Glossy Ibis must fill a previously unoccupied niche or exploit one which has never been fully occupied in order to be successful, what parameters of this niche are necessary for effective breeding? In this respect a study of nest site selection is warranted. Due to the interspecific associations that may be encountered in the heronries where the Glossy Ibis is to be found breeding, it seems essential to find out by which parameters this species successfully increases year after year. If its nest sites are such that it is not competing with the herons and egrets around it, then a partial answer to its success may be found in its exploitation of this available nesting niche.

### Acknowledgments

The author wishes to thank Michael Castagna and the staff of the Eastern Shore Laboratory of the Virginia Institute of Marine Science for the use of their facilities during the course of this study. A special thanks is extended to Mitchell A. Byrd for his advice and counsel as well as to G. R. Brooks and C. R. Terman for their critical review during the writing of this paper. Appreciation is also extended to my wife Madeleine and my parents for their help in the field, and to Jerry Via for his help in the field, for providing egg data, and for his constant advice and assistance.

### Methods and Materials

A major purpose of this study was a formulation of a growth rate for Glossy Ibis chicks, and accordingly, each morning from June 13 through July 12, weather permitting, two heronries identified as Swash No. 1 and Swash No. 2 were visited and every ibis chick was located by nest and measured. Each nest was tagged with red surveyor's tape and numbered from 1 to 43. To avoid confusion on identification of individual chicks, a plastic label with the letter A was placed on the left leg of the oldest or largest chick in the nest. The next largest received the letter B, and so on. Once the chicks were old enough to be banded, a numbered Fish and Wildlife Service band was placed around the left tarsus along with a color band, and a set of two color bands was placed around the right tarsus. Different combinations of colored bands were utilized for each bird. After banding, the birds were identified by the last three digits on the Fish and Wildlife Service band, and only when the birds were seen flying or running was the color combination used for identification.

Four measurements were made on each chick at the nest. First, the chick was weighed to the nearest 0.1 gram on a triple beam pan balance that was thoroughly cleaned and zeroed before each day's use. In those numerous cases when the ibis chick defecated in the pan balance, the excreta was not cleaned up until after the weighing. The action was unnaturally induced and to discard the feces would increase variability beyond that normally expected. Similarly, regurgitated food was retained in the pan until the weighing was completed.

Next, two measurements were made on the bill. The length of the exposed culmen from the point where the anterior feathers of the forehead cease to overlie the culmen (Baldwin *et al.*, 1931) to the tip of the bill was taken in millimeters using a pair of Mitutoyo dial calipers. Then the width of the



maxilla was measured. The measurement was made at the level of the posterior edge of the black band that crosses the otherwise pink bill. The final measurement was the length of the tarsus. The measurement was made from the exact middle point of the joint between the tarsus and the tibiotarsus behind to the level of the junction of the tarsometatarsus to the middle toe (Baldwin *et al.*, 1931). In addition, notes were made as to leg color of each chick, the presence or absence of an egg tooth, and whether or not the eyes were open or closed.

Many chicks of unknown age were found in the nest at the outset of this study and were aged based on estimates derived from the growth measurements that were made. Measurements on no chick that was estimated to be beyond 5 days of age were included in the data. A chick less than 24 hours old was aged day 0. These chicks and those of one day of age were considered to be of exact known age.

Measurements were also taken on as many Glossy Ibis eggs as possible. Using the calipers, the length and width of each egg was measured and recorded by nest number.

The second area of concentration was on nest site location of the Glossy Ibis as compared to the herons and egrets with which it shared the heronry. Using a tape measure, the height of every ibis nest in the three heronries (Swash No. 1, Swash No. 2, and Club House Point) was measured to its upper rim in inches and recorded. Likewise, the height of every heron and egret nest was measured and recorded. Each heron nest in the heronry was tagged with yellow tape prior to measurement of height. Subsequently, the yellow tag was removed, indicating that that nest had been measured.

In order to obtain a clearer picture of nest height selection, it was necessary to determine the average vegetation height for each nesting area. This was accomplished by a series of measurements made in the following manner. The measurer, beginning at one corner of a heronry, and facing across the heronry, took a measurement in inches of the height of the vegetation closest to the measuring tape. This measurement was recorded, and the measurer then took three steps forward towards the opposite side of the nesting area. Another measurement was then taken and recorded, and three more steps were taken and a measurement made and recorded. This process was repeated until the opposite corner of the heronry was reached. At this point three paces were stepped off toward the heronry perpendicular to the line of measurements just made, and a measurement was taken and recorded. Then the measurer faced across the heronry whence he had just come and stepped off three paces in that direction and made another measurement, following which he took three steps to make another measurement. In this manner the heronry was covered by a series of measurements along parallel lines three steps apart from one another crossing the heronry from one end to the other. These measurements gave a clear indication of the height availability of the cover for nest site selection.

A map of heronry Swash No. 2 was made and each ibis nest was marked on the map to get an idea of the gregariousness of the Glossy Ibis. From this it was also quite simple to compare the hatching synchrony of closely associated nests.

When possible, regurgitated food samples were recovered from the ibis chicks which vomited readily when handled during weighing. Also, feces of adults were collected from around the nest sites for analysis.

### *Statistical Procedure*

The growth data are reflected as means of all the data available for each given day. The *N* values (number of individuals measured) vary due to deaths of individuals or an inability to capture young for measurement. Also, in the event a measurement was believed recorded incorrectly in the field, it was discarded. Around each mean, one standard deviation was calculated.

The nest height data and vegetation height data are also reflected as mean values for each heronry. A student's *t*-test for unpaired data was used to compare the ibis nest heights to each other by heronry. This same procedure was used to analyze the differences between the heron species nest heights between heronries, and the differences between the Glossy Ibis nest heights and the heron species nest heights not only in each heronry but also on an overall basis. The *t*-test was further used to compare the vegetation heights for each heronry.

### *Habitat Description*

From personal observations made over the last three years, it has been noted that the Glossy Ibis, herons, and egrets nesting on Virginia's Eastern Shore establish their colonies in two types of nesting situations. One is a tree-nesting situation as evidenced by the colony found on Mockhorn Island. Here the birds nest some distance above the ground in cedar trees. The other situation, and the one most often encountered for Eastern Shore heronries, is nesting in low shrub habitats such as Wax Myrtle (*Myrica*) or Marsh Elder (*Iva frutescens*). The major distinction here is one of height availability for the nest sites. In the latter situation, nests are built on or in close proximity to the ground, whereas in the former the nests are well above the ground.

Secondly, there is an obvious difference in the successional stage of these two situations. The first is found on well-established islands characterized by late stages of ecological succession, being covered with stands of Red Cedar (*Juniperis virginianus*) and Live Oaks (*Quercus* sp.). This high land is more accessible both to human and mammalian predators such as skunks, raccoons, and opossums. More cover is available for these predators to thrive and become established, no doubt a factor in tree-nest site selection by those birds that utilize such habitats.

The second situation is found throughout the tidal marshes of the Eastern Shore of Virginia, often being the result of spoil areas created by deposition of the culled oyster shells from local industry or from channel dredging. This has resulted in a slightly raised area upon which Marsh Elder could become established and offers a very convenient and safe heronry location. These spoil areas are virtually predator-free, having little access to land other than via water.

The main nesting areas for this study were three heronries of the spoil area type found near Wachapreague, Virginia. The most concentrated work was done in a heronry designated as Swash No. 2 located approximately 4 miles south of Wachapreague on an area called the "Swash," and another small heronry, designated Swash No. 1, located 3½ miles south of Wachapreague on Swash Bay. A third heronry, called Club House Point, is located some 4 miles due east of Wachapreague on Wachapreague Bay and opposite Parramore Island Coast Guard Station. Here only nest height data for all species were collected along with some egg measurements for ibis.

Swash No. 1 and Swash No. 2 are quite similar in physiognomy. Vegetation

in each is predominantly Marsh Elder (*Iva frutescens*), Sea-ox-eye (*Borrichia frutescens*), and Orach (*Atriplex patula*).

The heron species present at these two heronries were Snowy Egrets (*Egretta thula*) and Louisiana Herons (*Hydranassa tricolor*). Also found nesting in these heronries were Boat-tailed Grackles (*Cassidix major*), Red-winged Blackbirds (*Agelaius phoeniceus*), Clapper Rails (*Rallus longirostris*), Willets (*Catoptrophorus semipalmatus*), and, on the periphery of the heronries, Laughing Gulls (*Larus atricilla*). Nesting for all the species was confined to the Marsh Elder, either actually in the shrub itself or on the ground below it.

## Results

### Growth Results

Since the exact age of many of the chicks found in the nest at the outset of this study was questionable, the growth data are presented in two sets. First, the daily means of the four parameters of growth that were measured for those chicks which hatched after the study began and could therefore be precisely aged are shown in Table 1. Secondly, Table 2 shows the growth data for all the chicks studied including the exactly known age chicks and those chicks which were aged based on careful estimation. Since the curves for the two sets of data are very similar, interpretation of the data is based on both sets. The data for the exactly aged chicks terminate at day 15 due to insufficient sample size after that time.

TABLE 1. Glossy Ibis growth data means for exact known age chicks for 1972 breeding season.

Day Number	Weight, grams	N	Bill		N	Bill		N	Tarsus		N
			Length, mm			Width, mm			Length, mm		
0	20.2 ( $\pm 4.1$ ) <sup>1</sup>	17	13.4 ( $\pm 1.0$ ) <sup>1</sup>		18	4.8 ( $\pm 0.3$ ) <sup>1</sup>		18	12.9 ( $\pm 0.9$ ) <sup>1</sup>		17
1	25.9 ( $\pm 4.6$ )	31	14.1 ( $\pm 0.8$ )		30	5.0 ( $\pm 0.4$ )		29	13.9 ( $\pm 0.9$ )		31
2	35.3 ( $\pm 7.1$ )	25	15.2 ( $\pm 1.1$ )		25	5.2 ( $\pm 0.3$ )		24	15.3 ( $\pm 1.2$ )		25
3	48.0 ( $\pm 11.5$ )	23	17.0 ( $\pm 1.3$ )		23	5.8 ( $\pm 0.6$ )		23	16.6 ( $\pm 1.5$ )		23
4	64.4 ( $\pm 21.6$ )	22	19.3 ( $\pm 1.9$ )		22	6.3 ( $\pm 0.4$ )		22	19.3 ( $\pm 2.2$ )		22
5	104.5 ( $\pm 21.9$ )	21	21.7 ( $\pm 1.8$ )		22	7.2 ( $\pm 0.5$ )		21	23.7 ( $\pm 2.9$ )		21
6	137.8 ( $\pm 30.2$ )	22	24.3 ( $\pm 2.1$ )		21	7.5 ( $\pm 0.4$ )		21	27.3 ( $\pm 3.6$ )		21
7	174.5 ( $\pm 23.9$ )	18	27.1 ( $\pm 3.0$ )		18	7.9 ( $\pm 0.5$ )		18	31.7 ( $\pm 3.5$ )		18
8	215.1 ( $\pm 27.7$ )	15	29.3 ( $\pm 2.4$ )		14	8.1 ( $\pm 0.5$ )		14	36.7 ( $\pm 4.3$ )		14
9	240.2 ( $\pm 44.7$ )	12	31.4 ( $\pm 2.5$ )		12	8.4 ( $\pm 0.4$ )		12	40.3 ( $\pm 4.3$ )		12
10	286.6 ( $\pm 45.6$ )	11	34.0 ( $\pm 3.0$ )		11	8.5 ( $\pm 0.6$ )		11	45.6 ( $\pm 3.9$ )		11
11	295.6 ( $\pm 60.5$ )	14	34.8 ( $\pm 2.7$ )		14	8.9 ( $\pm 0.6$ )		14	46.2 ( $\pm 5.1$ )		14
12	320.1 ( $\pm 57.6$ )	13	36.8 ( $\pm 3.6$ )		13	8.8 ( $\pm 0.5$ )		13	49.8 ( $\pm 6.9$ )		13
13	340.6 ( $\pm 61.0$ )	13	38.7 ( $\pm 3.1$ )		13	8.9 ( $\pm 0.7$ )		13	50.9 ( $\pm 7.0$ )		13
14	381.0 ( $\pm 55.6$ )	10	40.0 ( $\pm 4.3$ )		11	9.0 ( $\pm 0.5$ )		11	55.4 ( $\pm 6.9$ )		11
15	396.6 ( $\pm 90.0$ )	5	42.7 ( $\pm 4.4$ )		7	9.3 ( $\pm 0.4$ )		6	58.9 ( $\pm 8.7$ )		6

<sup>1</sup>One standard deviation.

A curve drawn from the weight data (not shown) resembles a typical sigmoidal curve. Initially, the average daily increments of weight gain are on the order of 5 to 10 grams per day. By days 3 and 4, the average increments of weight have increased to approximately 20 grams per day. From day 5 through day 16 the average daily increments are on the order of 25 to 30 grams per day.

TABLE 2. Glossy Ibis growth data means for 1972 breeding season.

Day Number	Weight, grams	N	Bill Length, mm	N	Bill Width, mm	N	Tarsus Length, mm	N
0	20.2 ( $\pm$ 4.1) <sup>1</sup>	18	13.36 ( $\pm$ 1.00) <sup>1</sup>	17	4.81 ( $\pm$ 0.30) <sup>1</sup>	17	12.95 ( $\pm$ 0.70) <sup>1</sup>	17
1	25.9 ( $\pm$ 4.6)	31	14.14 ( $\pm$ 0.80)	31	5.01 ( $\pm$ 0.46)	29	13.99 ( $\pm$ 0.87)	31
2	34.7 ( $\pm$ 6.2)	34	15.10 ( $\pm$ 0.70)	35	5.22 ( $\pm$ 0.31)	31	15.02 ( $\pm$ 1.57)	36
3	50.5 ( $\pm$ 5.9)	38	16.60 ( $\pm$ 1.27)	39	5.82 ( $\pm$ 0.63)	37	16.94 ( $\pm$ 1.68)	37
4	67.9 ( $\pm$ 17.5)	46	18.42 ( $\pm$ 1.97)	46	6.52 ( $\pm$ 0.70)	42	19.46 ( $\pm$ 2.39)	46
5	103.5 ( $\pm$ 19.6)	48	21.25 ( $\pm$ 2.03)	48	7.19 ( $\pm$ 0.58)	46	22.93 ( $\pm$ 2.68)	48
6	134.9 ( $\pm$ 25.7)	47	23.71 ( $\pm$ 2.37)	47	7.53 ( $\pm$ 0.60)	47	26.14 ( $\pm$ 3.68)	46
7	166.2 ( $\pm$ 27.3)	44	26.57 ( $\pm$ 2.40)	42	7.94 ( $\pm$ 0.54)	44	30.57 ( $\pm$ 4.01)	44
8	202.1 ( $\pm$ 37.4)	41	28.07 ( $\pm$ 2.58)	41	8.18 ( $\pm$ 0.54)	40	34.85 ( $\pm$ 4.27)	42
9	234.3 ( $\pm$ 43.9)	38	30.64 ( $\pm$ 2.64)	38	8.42 ( $\pm$ 0.44)	38	38.16 ( $\pm$ 4.79)	38
10	270.9 ( $\pm$ 40.1)	34	33.40 ( $\pm$ 2.32)	34	8.69 ( $\pm$ 0.44)	35	42.66 ( $\pm$ 4.91)	35
11	292.9 ( $\pm$ 45.6)	31	34.52 ( $\pm$ 2.32)	31	8.87 ( $\pm$ 0.44)	30	45.45 ( $\pm$ 4.43)	31
12	321.3 ( $\pm$ 49.0)	21	36.80 ( $\pm$ 3.25)	21	8.93 ( $\pm$ 0.44)	21	49.28 ( $\pm$ 6.37)	21
13	336.1 ( $\pm$ 51.9)	20	38.65 ( $\pm$ 2.58)	20	8.79 ( $\pm$ 0.54)	20	50.64 ( $\pm$ 5.97)	20
14	364.7 ( $\pm$ 45.7)	16	39.64 ( $\pm$ 3.56)	17	9.01 ( $\pm$ 0.63)	17	54.48 ( $\pm$ 5.81)	17
15	381.2 ( $\pm$ 61.2)	13	41.67 ( $\pm$ 3.47)	13	9.30 ( $\pm$ 0.31)	13	56.24 ( $\pm$ 5.96)	13
16	387.1 ( $\pm$ 50.9)	14	43.04 ( $\pm$ 2.81)	13	9.11 ( $\pm$ 0.44)	13	58.53 ( $\pm$ 5.91)	14
17	377.0 ( $\pm$ 39.4)	8	43.40 ( $\pm$ 1.76)	8	8.89 ( $\pm$ 0.63)	9	59.42 ( $\pm$ 4.67)	8
18	411.4 ( $\pm$ 35.7)	6	45.48 ( $\pm$ 3.20)	6	9.37 ( $\pm$ 0.54)	6	65.22 ( $\pm$ 4.08)	6
19	417.8 ( $\pm$ 19.4)	2	47.20 ( $\pm$ 1.18)	2	9.42 ( $\pm$ 0.54)	2	68.85 ( $\pm$ 3.20)	2
20	390.9 ( $\pm$ 48.0)	4	47.57 ( $\pm$ 2.09)	4	9.01 ( $\pm$ 0.44)	4	64.91 ( $\pm$ 5.07)	4
21								
22	393.0 ( $\pm$ 24.0)	2	50.21 ( $\pm$ 1.73)	2	18.88 ( $\pm$ 0.77)	2	66.23 ( $\pm$ 1.51)	2
23								
24								
25	502.5 ( $\pm$ .707)	2	58.72 ( $\pm$ 3.27)	2	19.99 ( $\pm$ 0.00)	2	83.34 ( $\pm$ 3.34)	2

<sup>1</sup>One standard deviation.

Beyond day 16, growth data were irregular, probably due to the very small sample size. At this age, the young are quite mobile and are virtually impossible to apprehend when one is working alone. Nevertheless, if one smooths the curve and eliminates the irregularities of days 17 through 24 on the graph, the plot at day 16 points directly to the plot of the day 25 data. If this extension beyond day 16 is made, a gradual slowing down in average daily weight gained is evident and is probably the result of increased activity in preparation for fledging, which was found to be at 28 days based on sightings of color-banded young in flight from the heronry.

Data on the average daily increase in bill length show a direct arithmetic increase per day. The bill length curves do not show the irregularities that the bill width curves do and show no tendency to level off as the width curves do when they are smoothed out. It seems that the bill will continue to grow in length for some time after fledging but will show little if any increase in its width.

Variability in the average daily increase in tarsus length among individuals is not as great as that shown in the weight data. The tarsus length curves show a rather direct arithmetic increase per day, and, as with the bill length data, show that growth will probably continue on beyond actual fledging time.

Three other morphological changes were recorded when the growth parameters were measured: leg color, presence of an egg tooth, and opening of the eyes.

When a chick is newly hatched, its eyes are closed, the legs are a bright pink color, and the egg tooth is present. Table 3 is a summary of the changes in these morphological characters by day of age.

The leg color gradually changes by day 4 from the pink seen at hatching to a purplish black. Within a day, however, this purplish color changes to a solid black color which remains and is characteristic of the adult.

The egg tooth persists through day 3. By day 4, the egg tooth has been lost in about 50% of all the chicks, and by day 5 it is virtually gone from all the chicks.

TABLE 3. *Morphological Changes In Glossy Ibis Chicks During 1972 Breeding Season.*

EGG TOOTH				
Day Number	N	Percent Present		
0	27	100		
1	27	100		
2	29	100		
3	26	77		
4	28	54		
5	26	14		
6	28	4		
7	16	—		
8	15	—		

LEG COLOR				
Day Number	N	Percent Pink	Percent Purplish	Percent Black
0	29	100	—	—
1	29	100	—	—
2	34	96	4	—
3	38	55	45	—
4	39	9	76	15
5	47	—	18	72
6	47	—	4	96
7	33	—	—	100
8	33	—	—	100

EYE OPENING					
Day Number	Closed	Part Open	Open	N	
0	10	1	—	11	91% Closed
1	2	8	4	14	57% Part Open
2	1	3	6	10	10% Closed

Eye opening seems to occur by degrees. The eyes, closed on the day of hatching, are partially open on the following day showing only a small slit.

By day 2, however, the eyes are generally fully open, as the chicks respond to what is around them.

Using daily growth data (Tables 1 and 2) combined with the morphological changes that occur over the initial 5 to 6 days of growth (Table 3), one may fairly accurately age a glossy ibis chick in the nest. For instance, a chick weighing less than 25 g with a bill length of 13 mm, pink legs with a tarsus length of 12 mm, having eyes closed and an egg tooth present, is almost assuredly a newly hatched chick aged day 0. By day 4, however, more careful attention must be paid to morphological changes. The weight will range between 50 and 75 g. The bill length and width will be 18 mm and 6.62 mm, respectively, with little variation. The now purplish colored leg, being a fairly accurate indicator of day 4 age, will have a tarsus length of 19 mm. The eyes, of course, will be open, and chances are that the egg tooth will be present. The absence of an egg tooth and the presence of black legs will indicate that the chick is at least 5 days of age. Subsequent to this age, a critical examination of weight, bill measurements, and tarsus length would have to be done in order to determine an unknown chick's age accurately.

#### *Nesting Success*

Since the young had been monitored so closely for growth data, it was possible to gather accurate results on the nesting success of the Glossy Ibis in Swash No. 1 and Swash No. 2 heronries.

The average clutch size for 49 nests where young or eggs were observed was 2.93 eggs per nest, being consistent with previous clutch reports (Ali & Ripley, 1968; Bent, 1926; I.P.S.T., 1968; Palmer, 1962; Rand & Gilliard, 1968). The eggs averaged 5.12 cm in length and 3.54 cm in width, conforming with many reports. These averages were derived from a sample of 149 eggs from all three heronries and included the eggs found in the monitored nests. By keeping a daily account of every chick and egg in every nest, it was possible to get an accurate indication of how long incubation lasted. It was found to be 21 days, thus conforming with published data from other parts of the world (Bent, 1926; I.P.S.T., 1968; and Worth, 1940).

Fledging data indicate Swash No. 1 had a total of ten young for its four nests of which four fledged, giving this heronry 2.5 young per nest and a fledging rate of 1.0 young per nest. Swash No. 2 on the other hand had 57 young for its 43 nests of which 19 fledged. Therefore, this heronry had 1.3 young per nest and a fledging rate of 0.44 per nest.

In analyzing the mortality of the young ibis, four categories were determined: those young which were found dead in the nest, those which were found dead after hurricane *Agnes*, those which were found dead after bad weather other than hurricane *Agnes*, and those dead due to unknown causes. Young found dead after bad weather or hurricane *Agnes* were often found in the nests, but were not included in the "dead in nest" category because a specific cause could be attributed to the deaths, whereas the "dead in nest" category represented starvation and subsequent crushing of young by older, healthier, and larger nestmates.

At the time hurricane *Agnes* struck, 36 young Glossy Ibis were being monitored. Eighteen of these birds were dead when the storm passed, representing a 50% mortality. The average age of those chicks that died was 8.67 days. On an overall basis, however, viewing the whole study period, the loss of those 18 chicks represented only a 27% mortality. Six young were found dead due to



bad weather experienced 5 July 1972. This represented 9% of the total young for the study at an average age of 11 days.

Eighteen young or 27% of the total young monitored were found dead in the nests. These were almost always the last young to hatch and were too small to compete with their nestmates who were two and three days older. Their average age at death was 4.93 days.

Only two young found dead were not categorized. They represented 3% of the total and averaged 11 days of age at time of death.

TABLE 4. *Nest height selection for Glossy Ibis and heron species for 1972 breeding season.*

Heronry	Average Vegetation Height, inches		Average Glossy Ibis Nest Height, inches		Average Heron Species Nest Height, inches	
		N		N		N
Swash No. 1	26.25 ( $\pm$ 5.72) <sup>1</sup>	82	13.50 ( $\pm$ 2.08) <sup>1</sup>	4	13.05 ( $\pm$ 5.12) <sup>1</sup>	126
Swash No. 2	38.85 ( $\pm$ 8.19)	85	13.57 ( $\pm$ 6.12)	46	16.16 ( $\pm$ 5.90)	246
Club Point	39.90 ( $\pm$ 11.60)	635	14.60 ( $\pm$ 7.00)	65	17.95 ( $\pm$ 7.97)	629
Overall	38.31 ( $\pm$ 1.72)	802	13.94 ( $\pm$ 6.43)	115	16.90 ( $\pm$ 7.29)	1001

<sup>1</sup>One standard deviation.

#### *Nest Height Selection*

The results for nest site selection are shown in Table 4. Between the three heronries where nest heights were measured, there was no significant difference in the height of the nests of the Glossy Ibis. As for the heights of the nests for the heron species, Swash No. 2 and Club Point are not significantly different, whereas Swash No. 1 is significantly lower ( $p < .001$ ) than either of these (where  $p$  is the probability that a given event has occurred by chance). This discrepancy is probably due in part to an earlier seral stage of succession for Swash No. 1 in that the Marsh Elder appeared to be only recently established and still sparsely distributed over much of the nesting area instead of the thick growth of the shrub found in Swash No. 2 and Club Point. This is evidenced by the fact that the vegetation height (26.25 in.) in the Swash No. 1 heronry was significantly different ( $p < .001$ ) from the average vegetation heights of Swash No. 2 and Club Point. These two heronries have virtually the same average vegetation height (38.85 and 39.90 in. respectively) and show no significant difference from the overall average vegetation height (38.31 in.).

For Swash No. 2, the difference between the nest heights for the Glossy Ibis and the heron species is highly significant ( $p < .001$ ). Likewise, there is a highly significant difference ( $p < .001$ ) between the ibis nest heights and heron nest heights at Club Point. In each case the difference is approximately three inches. However, Swash No. 1 shows no significant difference in the heights of the ibis nests and heron species nests. I believe that this may be overlooked due to the sample size of the Glossy Ibis nests (4), and in fact when the nest height differences are compared on an overall basis, one finds a highly significant difference ( $p < .001$ ) between the heights of nests chosen by the Glossy Ibis and those heights of nests selected by the herons and egrets for all three heronries.

In addition to their preference for less height, the Glossy Ibis pick a fairly open site on which to nest. The nest is never hidden and is exposed on all

sides to the extent that the nest is readily seen from a few feet away, unlike many of the heron nests that are located in a mass of Marsh Elder foliage and not visible unless the vegetation is moved apart. As suspected from the fact that the herons and egrets choose significantly higher sites to nest than the ibis, one will find the heron and egret nests placed more on the limbs of the Marsh Elder, whereas the ibis choose to place their nests in or on the main stems of the shrub.

Working in heronries where there are a large number of Glossy Ibis nesting, one becomes increasingly aware that the ibis tend to nest quite close together as a group. In order to explore this to some extent and to study the effects of gregariousness on nesting, a map of Swash No. 2 heronry was drawn and every ibis nest in the heronry was located on it (Figure 1).

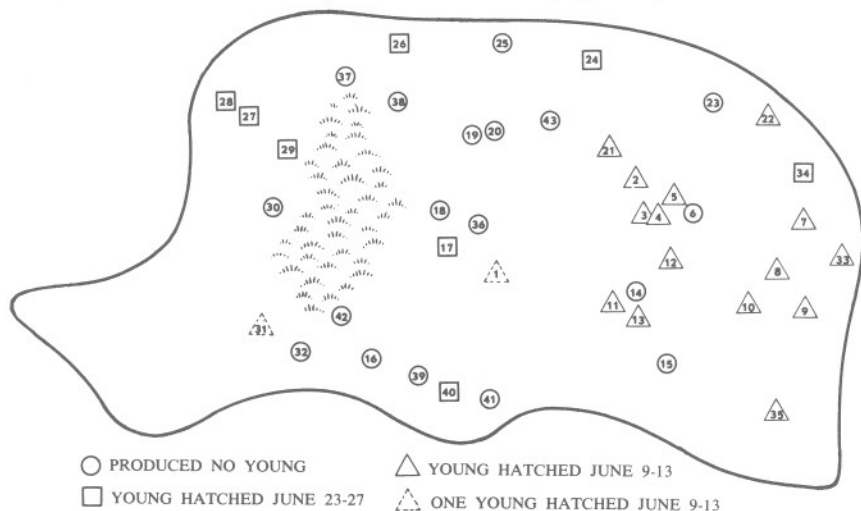


FIGURE 1. Glossy Ibis nest locations and primary hatching dates in Swash Bay heronry No. 2. The border delimits the physical edge of the shrub vegetation, and the stippling indicates the grassy area.

It is apparent that the Glossy Ibis preferred the eastern half of the heronry, and in some instances they nested almost within the same shrubs, as witnessed by nests 11, 13, 14 and 3, 4, 5. The western half of the heronry had a grass area where no nesting of herons or ibis took place. Only the nest of a pair of Willets was found there. Nests 29 and 30 were found on the ground on the edge of the grass area where the Marsh Elder began to grow again. This half of the heronry beyond the grass area was denser in shrub growth and was occupied by a few herons and egrets. The low nesting sites preferred by the ibis were not available here nor did the area appear open enough as mentioned above. The eastern half of the heronry provided not only the necessary site locations by height but also the openness that the ibis seem to prefer.

Knowing the approximate age of the young ibis makes possible a study of the hatching synchrony of eggs in nests located near each other. Within each nest it was found that the eggs hatched on consecutive days. Examination of Figure 1 shows that for those nests close together the young all hatched within

the five day period of 9-13 June. This accounted for 29 of the total 57 chicks hatched in the heronry. One will notice that two nests had one young hatch during this five-day period with the rest of the clutch hatching during the subsequent four days.

In the remaining nests that produced young, hatching took place primarily during the period of 23-27 June. This is the period immediately following the passage of hurricane *Agnes*. Nests 27 and 28, for instance, produced four young during that period.

It should also be noted that there were 18 nests which produced no young. The reason the eggs failed to hatch is unknown. Adults were seen leaving the vicinity of these nests, but it was impossible to tell whether or not they were actually tending to those nests or were from a nearby location. It would appear that the presence of the observer caused some of these wary birds to abandon the nests, and it also appeared certain that the inclement weather that was experienced also had a great deal to do with the nonproduction of these nests.

Regurgitated food revealed the diet of the young ibis consisted of insect larvae and crustaceans. Fish or minnows were not present in the samples nor were they observed in the fecal samples from the adults.

## Discussion

Due to the problem of exact aging of the chicks, the use of growth data should be approached with caution. It should be noted that the standard deviations expressed in Table 1 are larger for the most part than those found in Table 2, though the means are quite similar. Since the young of unknown age were aged based on evidence from previously recorded data, this would tend to inject a personal bias that would be reflected in lowering the standard deviations for the group. Use of the first set of data (Table 1), that of the precisely known-age chicks, must be considered the most valid. The second set of data may be used as supplemental information to strengthen that of the first set due to the larger sample sizes and the fact that they compare very closely.

Documented growth data for Glossy Ibis are virtually nonexistent. Glossy Ibis in the Soviet Union have been studied and found to increase in weight from 25 to 30 grams at hatching to approximately 500 grams by 30 days of age. These findings are consistent with those for Glossy Ibis in Virginia, which average about 20 to 25 grams at hatching and weigh on the order of 500 grams by 25 days of age, just three days before fledging. Data from adult Glossy Ibis indicate that the growth measurements of bill length and tarsus length from this study are consistent with previous reports. Rand and Gilliard (1968) found adult measurements of the culmen of the Glossy Ibis from New Guinea to be 140 mm and tarsus length to be 97 mm. Similar findings from India and Pakistan (Ali and Ripley, 1968) and the United States (Palmer, 1962) show the bill length to be between 99 and 144 mm and tarsus length to be between 85 and 110 mm. These data indicate that the growth of the bill length of the young in this study was about 50% complete by 25 days of age. Further, they indicate that at that age, just before fledging, the tarsus growth is approaching completion.

As emphasized in the results, the growth parameters demonstrate marked individual variations, especially where weight is concerned. This has also been found true in studies of robins (Lack and Silva, 1949), crows (Parmalee, 1952), and Boat-billed Herons (Juarez and Dickerman, 1972) in which daily

measurements were made on individuals. Referring to days 15 and 16 (Table 2), one can readily notice the large standard deviation about the mean in the weight data. Accepting the fact that individuals are inherently different, there are a number of factors that are responsible for variations. Competition between young for food is a major cause of variance (Lack, 1954). The larger young will demand more food and due to size will be able to get it by sheer dominance. For instance, on 20 June when the young in nest 7 at Swash No. 2 were measured, chick A weighed 354.7 g at age 12 days. Chick B at age 11 days weighed 308.7 g, and chick C at age 9 days weighed only 187 g.

Another cause of variation is time of feeding in relation to time of measurements. The heronries were worked at essentially the same time every day. Nevertheless, measurements may have been made at a time between feedings one day and just after feedings on another day. Also, the fact that the parents did not all arrive and depart at the same time makes even greater this timing-of-feeding variable.

There may very well be dimorphism between the sexes. The fact that the adults, much less the chicks, cannot be sexed on sight makes this rather difficult to determine. Juarez and Dickerman (1972) found there was little if any sexual dimorphism in growth data for the Boat-billed Heron.

Though individual variations do exist, the average growth rate is uniform for the Glossy Ibis chicks. Juarez and Dickerman (1972) found that the growth rate of the width of the bill, the length of the bill, and the length of the tarsus for the Boat-billed Herons was also uniform.

Not only is the growth rate for the Glossy Ibis uniform, but it is also comparatively rapid. Ricklefs (1968) states that young of large species usually require more time to attain adult size than those of small species. It is the author's feeling that the period of 28 to 30 days from hatching to fledging is relatively rapid for this large species. For example, in some passerines accelerated growth is limited to the first 10 days of growth (Lees, 1949). Stoner (1945) reported that the first 10 days of growth in the northern Cliff Swallow (*Petrochelidon pyrrhonota*) is the period of the most rapid development of the bony growth of the tarsus, ulna, and humerus. For larger species, such as gallinaceous birds, the growth rate increases for the first 30 days and then shows a slight decline (Wing *et al.*, 1944). Pileated Woodpeckers (*Dryocopus pileatus*) show a rapid weight gain during their first 15 days of growth in preparation for fledging at 26 days of age (Hoyt, 1944), closely paralleling the growth rate for the comparatively larger Glossy Ibis.

If this growth is rapid, then the food source must be substantial. cursory analysis of fecal samples of adults and regurgitated food of the young are consistent with previous findings from all over the world (Ali and Ripley, 1968; Bent, 1926; Coward and Barnes, 1969; I.P.S.T., 1968; Mackworth-Præd and Grant, 1962; and Palmer, 1962). The absence of minnows in these samples is in contrast with the large minnow-laden samples obtained from the regurgitations of heron and egret young. The implication of the exploitation of a feeding niche not occupied by the species with which the Glossy Ibis shares the nesting area is apparent.

A critical period in the early stages of growth in Glossy Ibis appears to be the first five days of life. Twenty-seven percent of the chicks died in the nest at an average age of approximately 5 days. In Herring Gull (*Larus argentatus*) chicks, mortality has been found to be greatest during the first week after hatching (Kadlec *et al.*, 1969). The causes for this in the ibis, based on obser-

uations at the nest, seem to be the great age and therefore size differences between the nest mates. Because the eggs hatch on consecutive days, the larger chicks in a four-egg clutch will be 30 to 40 g heavier than the final chick to hatch. In none of the nests where the fourth egg hatched did that young manage to survive. Many lasted 3, 4, or even 5 days but were so emaciated it was obvious they would not survive. The other chicks appeared healthy and active. This smaller chick would eventually be found trampled into the nest material, a victim apparently of starvation and weakness. Teal (1965) found a similar situation in his study of White Ibis (*Eudocimus albus*) and herons in Georgia, and Pratt (1970) concluded that competition for food was a major factor in the mortality of nestling Great Blue Herons (*Ardea herodias*) and Great Egrets (*Casmerodius albus*) in California.

A prime example of this may be found in the data for nest 7 at Swash No. 2. Chick D hatched on 13 June to share the nest with three other chicks weighing 100 g, 67 g, and 37 g, respectively. These chicks progressed normally over the next three days. However, chick D lost 3 g of weight, though the bill length and width and the tarsus length continued to increase. On 17 June, this chick was no more than a fragment of the nesting structure, having been trampled by its nest mates which now weighed 230 g, 180 g, and 90 g, respectively. Chick D simply could not hold its own in a contest for food from the parents.

Ricklefs (1965) points out that growth rate can affect brood size. This is due either to the fact that rapid growth in older chicks would lead to their out-competing smaller chicks for food or, on the other hand, a slow growth would create a situation where the chicks could not maintain themselves and would starve to death. In all likelihood it is the interplay of both rapid growth in some chicks and their competitive edge over smaller chicks of slower growth rates which leads to the brood's reduction.

Another critical factor in the survival of Glossy Ibis chicks is the weather, especially during the first two weeks of growth. By the age of 8 days the Glossy Ibis young will leave the nest readily. By two weeks of age the young are to be found near the nest site often wandering close by. It is believed this is what led to the demise of many of the chicks when hurricane *Agnes* and the inclement weather of early July 1972 struck. Those 24 young (36% of the total) that died averaged approximately 10 days of age and were found at the nest though not always in it. These young had survived the critical early stages of growth and were within 18 days of fledging. During a lull in the storm, they apparently left the nest and were unable to return in time to seek protection from the next downpour. Whether or not they can thermoregulate by this age is unknown, though observations of their panting behavior when hot and their shivering and huddling behavior when the air was cool would seem to indicate they cannot. Their downy feathers are not impervious to water, which would easily lead to chilling. Added to these factors is, most importantly, the size of these chicks, which almost eliminates the possibility of the parent brooding two or three in one relatively small nest.

Had the hurricane or the inclement spell not been experienced, it is strongly believed these young would have survived, possibly increasing the fledging success of the young in the two heronries up to 70%. Nesting data for some herons show a 45% mortality for nestling Great Blue Herons and a 43% mortality for nestling Great Egrets (Pratt, 1970). In Utah the White-faced Glossy Ibis (*Plegadis chichi*) has been shown to fledge two or more young per nest (Ryder, 1967).

It seems apparent then that nesting success itself may be a major factor influencing the Glossy Ibis increase in recent years. Barring such catastrophes as early season hurricanes and exceptional periods of rainfall, the Glossy Ibis are able to contribute substantially to a population increase. A similar finding was noted from a Texas study (Goering and Cherry, 1971) that was influenced by hurricane *Celia* in 1970. The authors state, "it appears that, in the absence of such a catastrophic event, reproductive success in Cattle Egrets can be very high." In contrast, Dusi and Dusi (1968) reported that drought played a significant role in limiting the reproductive efforts of the Cattle Egret (*Bubulcus ibis*) and White Ibises in Alabama.

If, in fact, nesting success in the Glossy Ibis is relatively high, a direct relationship is borne to the availability of nest locations. It is felt that nest site selection may be a factor in its increase in New York for instance (Post *et al.*, 1970). Clearly (see Table 4) the Glossy Ibis is exploiting a nesting niche not occupied by any species with which it shares a heronry in Virginia. Its height selection is significantly different from the herons and egrets and reduces any competition for nesting privileges. Dusi and Dusi (1970) have cited poor nest site selection and nest construction as a major cause of nest failure in Cattle Egrets.

A factor influencing the site selection other than height seems to be the requirement for some sort of "openness" around the nest that would be very difficult to quantify and analyze. It has been shown that Franklin's Gull (*Larus pipixcan*) shows a preference for vegetative sites for nesting "where neighboring gulls are least visible" (Burger, 1972).

Related to nesting success, though probably because of social stimulation, is the location of nesting sites in the proximity of the nest sites of other Glossy Ibis. This brings about synchrony not only in egg laying but also in egg hatching and subsequent departure of the young, which are seen to gather in large flocks beyond the heronries prior to their dispersal.

The rapidity of growth the Glossy Ibis experiences enables the young to leave the heronry area by mid July at the latest, providing them with the latter half of the summer to wander. This wandering is notably northward (Berger, 1961) as a review of regional fall migratory movements will show. It has been postulated that this wandering of immatures has contributed to the range expansion of the Cattle Egret (Rice, 1956). It is not hard to imagine, then, that in subsequent years as these birds mature they will return to those areas encountered as immatures that were favorable and establish nesting sites, especially where herons and egrets have colonized in previous seasons.

In the expansion of its ecological range the Glossy Ibis has encountered a favorable environment on the Eastern Shore of Virginia. It has been able to exploit a nesting niche not utilized by species with which it shares heronries. The young develop rapidly and, barring inclement weather periods, indications are that they are produced in large numbers, therefore providing the necessary recruitment to sustain a population expansion. Further, evidence strongly suggests the exploitation of a food niche by the Glossy Ibis that promotes the rapid growth of the young and avoids competition that would impede its ecological range extension. The reproductive effort appears to be synchronous and rapid within a single heronry, providing for a maximum use of the habitat over a short period and a consolidation of the postnesting dispersal that may contribute to the location of nesting areas for subsequent breeding seasons.



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## PIPING PLOVERS NESTING ON CHESAPEAKE BAY

BILL AKERS

The first confirmed nesting of the Piping Plover, *Charadrius melodus*, on Chesapeake Bay was discovered on 29 May 1973 when a nest with four eggs was found in a Least Tern colony near the north end of Grand View Beach, Hampton, Virginia. The adults were in the vicinity calling and giving the "broken-wing" feint. An immature bird was found dead in the tern colony on 19 July.

On 26 May 1974 another Piping Plover nest was found in the same area as the 1973 nest. This one also had four eggs, one of which looked very much like a Least Tern egg. This nest was empty on 6 June. On 9 June four Piping Plover chicks were photographed by Jerry Via and banded in this general area, three being found together and the fourth about 70 to 80 yards away, the latter perhaps from another nest. I believe there may have been as many as four pairs nesting at Grand View in 1974.

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## SOME HENSLOW'S SPARROW SUMMER RECORDS

ELIZABETH D. PEACOCK

My sons and I found a small colony of nesting Henslow's Sparrows, *Ammodramus henslowii*, in a weedy field on Route 659 several miles south of U. S. Route 50 in Loudoun County, Virginia, west of Chantilly while trapping mice

in 1961 during a rodent population eruption. One female that was caught in a trap was taken to the U. S. National Museum for verification. On 27 July 1961 I banded a male. In this way I became very familiar with the calls, plumages, and behavior of this species.

On 11 August 1963 I saw and heard a Henslow's Sparrow on the south side of U. S. Route 17 just west of Tappahannock in Essex County, Virginia, in a field of orchard grass and broom sedge.

Again on 13-15 July 1964 I saw and heard a Henslow's Sparrow in a fallow field northwest of Naylor's Bridge, Richmond County, Virginia, about 0.5 mile north of the Rappahannock River.

3140 Highland Lane, Fairfax, Virginia 22030

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## THE 1975 HATTERAS TRIP

MYRIAM P. MOORE

Pleasant weather enhanced the enjoyment of good companionship along the birding trails during the VSO winter field trip to the Cape Hatteras, North Carolina, area 7-9 February 1975. The Sea Ranch Motel comfortably accommodated the group, including the important early hour breakfast buffet. Mitchell A. Byrd, Ruth Beck, F. R. Scott, and Jerry Via provided thoughtful and able leadership.

The 55 participants, representing almost every section of Virginia, divided into three groups to visit on a rotating schedule the favored birding spots. Main areas covered were Bodie Island, north and south impoundments of the Pea Island National Wildlife Refuge, and the beach and mud flats around Orgeon Inlet.

Waterfowl were relatively sparse, but most of the expected species were listed. A single Common Eider was a special find by one group. Three Marbled Godwits were enjoyed by all, as was the large count of Avocets numbering better than 50 individuals. Two groups got excellent views of Short-eared Owls. Birders searching the beach shrubs and grasses for possible "good" sparrows discovered that habitat simply teeming with unbelievable multitudes of Yellow-rumped (Myrtle) Warblers. An evening visit to Nags Head Woods by one hardy group produced a large count of Screech Owls.

The outstanding observation of the trip was the sighting of three White Ibises, one of which was an adult. Dr. Byrd told us that although White Ibis individuals in immature plumage are occasionally observed in late summer in Virginia and North Carolina, he had not previously observed a full adult White Ibis north of South Carolina.

The total list of 119 species for the trip included some memorable birds, and in some cases significant additions to life lists, for the well-pleased participants.

101 Columbia Avenue, Lynchburg, Virginia 24503

## LOCAL CHAPTERS OF THE VSO

This list of local chapters, compiled by Myriam P. Moore, chairman of the Local Chapters Committee, has been revised to April 1975. The number in parentheses after the chapter name is the approximate total number of members of that chapter.

1. Alleghany Highlands Bird Club (15), Clifton Forge
2. Augusta Bird Club (100), Staunton-Waynesboro
3. Cape Henry Audubon Society (160), Norfolk
4. Charlottesville-Albemarle Bird Club (61), Charlottesville
5. Clinch Valley Bird Club (20), Tazewell
6. Cumberland Bird Club (18), Wise
7. Danville Bird Club (24), Danville
8. Hampton Roads Bird Club (90), Newport News-Hampton
9. Lynchburg Bird Club (197), Lynchburg
10. Marion Bird Club (17), Marion
11. New River Valley Bird Club (18), Blacksburg-Radford
12. Northern Virginia Chapter (150), Arlington-Fairfax
13. Richmond Audubon Society (315), Richmond
14. Roanoke Valley Bird Club (165), Roanoke-Salem
15. Rockbridge Bird Club (15), Lexington
16. Rockingham Bird Club (57), Harrisonburg
17. Margaret Watson Bird Club (formerly Spring Creek Bird Club) (20), Darlington Heights

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PHEASANT SEASON RESULTS NOTED

According to the Virginia Commission of Game and Inland Fisheries, results of the pheasant hunting seasons first begun in the Commonwealth in 1970 have been compiled by Game Research Biologist W. H. Taylor. Initially the season was for two days, only cock birds were legal, the bag limit was one per day, two per season, and all birds had to be recorded at a check station. The season was extended from two days to six days for the 1972, 1973, and 1974 seasons, with the opening date corresponding with the state-wide opening of the small game season. The bag limits remained the same: one cock pheasant per day, two per season, with checking required and mandatory completion of game kill tags.

Utilizing the kill tags as the basis of the report, Taylor concluded that a total of 389 birds were harvested during the 1974 season compared with 221 reported in 1970, 226 in 1971, 452 in 1972, and 418 in 1973. Page County was high for the 1974 season with a total of 134 birds reported. Loudoun County followed with a total of 113, Shenandoah with 57, and Rockingham with 35. The harvest in these counties represents 87% of all birds reported, but both Taylor and wardens indicate that some birds are being taken and not reported.

The combined total of birds taken legally during the five seasons indicated that Page County leads with a total of 616, Loudoun follows with 363 birds, and Shenandoah is third with 223. Eighteen counties reported only one bird for the period: Alleghany, Bedford, Charlotte, Chesterfield, Culpeper, Frederick, Hanover, Highland, James City, Louisa, Nansemond, Orange, Powhatan, Stafford, Surry, Warren, Washington, and York.

## NEWS AND NOTES

COMPILED BY R. L. AKE, R. H. PEAKE, AND F. R. SCOTT

IN APPRECIATION. The Editor is indebted to Richard H. Peake for substantial aid in preparing this issue of *The Raven* for publication.

ROANOKE OBSERVATIONS. During the VSO annual meeting in the Roanoke-Salem area, field trips on 10 and 11 May 1975 produced interesting observations, some of which are noted below:

*Virginia Rail*. On 10 May three birds of this species were found in Goose Creek Valley, Bedford County, by the Paul McQuarry group.

*American Woodcock*. Five adults and one young bird were reported by C. E. Stevens from Pine Mountain, northeastern Botetourt County, on 11 May.

*Red-breasted Nuthatch*. Two birds were found by C. E. Stevens at Harkening Hill, on the Bedford-Botetourt County line at Peaks of Otter, on 10 May. He found two more of this species at 2400 feet on the Pine Mountain trip on 11 May. These dates are rather late for this area.

*Brewster's Warbler*. On the Pine Mountain trip a hybrid warbler of the Brewster's type was discovered singing both 10 and 11 May, apparently on territory, in an area where both Blue-winged and Golden-winged Warblers were present. According to the John Dalmases, Myriam Moore, and Bill Opengari, a bird of the Brewster's type had been found in the same locality the previous year.

SPRING AND SUMMER PELAGIC OBSERVATIONS. On a boat trip on 26 May 1974 out of Virginia Beach, Virginia, to Norfolk Canyon, 65 miles east of Cape Charles, the following birds were seen: Common Loon, 1; Sooty Shearwater, 34; Wilson's Petrel, 255; Red Phalarope, 9; Northern Phalarope, 7; Pomarine Jaeger, 1; Parasitic Jaeger, 1; Royal Tern, 7; Common Tern, 51 and Arctic Tern, 2 (R. L. Ake, P. G. DuMont, and others). One of the Arctic Terns was seen flying directly overhead and allowed good observation of the underwing pattern, foreshortened head and neck area, long outer tail feathers, and slim bill. The second bird was observed sitting on driftwood quite near the boat. The long-winged, short-legged appearance of the bird was noted as was the slim, all dull coral bill. As the bird flew it gave a high, trilling *ki-ki* call and pursued a highly erratic flight pattern including dips and sharp, evasive turns. These sightings represent the second sight record for this species in Virginia, both of which have been made well offshore during May (see *Raven*, 45: 49, 1974). Although photographs have been taken of two of these birds, none are of sufficient quality to provide confirmative identification. Thus the species will have to remain on the hypothetical list until confirmation can be obtained. . . . On the western shore of Chesapeake Bay M. A. Byrd and C. W. Hacker observed 300 to 400 Wilson's Petrels in Mobjack Bay on 29 June 1974 following a period of intense northeasterly winds. Some of the petrels were at the mouths of the East and North Rivers. . . . Later in the summer R. L. Anderson observed eight Greater Shearwaters 10 miles east of Rudy Inlet, Virginia Beach, on 14 July 1974.

HIGH COUNT OF LEAST BITTERNS. On 25 April 1974 while conducting a field trip with his ornithology class, M. A. Byrd and his students flushed a minimum of 25 Least Bitterns from the marshes at Grand View, Hampton, Virginia. This is an extraordinary number of these normally very elusive birds.



**MUTE SWANS CONTINUE INCREASE.** A high count of 17 Mute Swans was reported as Chincoteague National Wildlife Refuge, Virginia, on 13 July 1974 by G. S. Grant and others. In addition to this now well established location for this species, a single bird was seen at Dyke marsh, Fairfax County, Virginia, from July through 24 August 1974 by J. M. Abbott.

**SUMMER EIDERS.** Both Common and King Eiders spent the summer of 1974 in Virginia waters. A female Common Eider was seen 27 May along the Chesapeake Bay Bridge-Tunnel (P. A. and P. G. DuMont), while an immature male Common Eider was first seen off Wallops Island on 7 July (C. R. Vaughn). On 24 August a second male appeared here (many observers), and by 29 September both birds were in nearly adult plumage (Vaughn). Apparently one of these birds was noted twice at nearby Chincoteague in July (L. K. Malone and R. A. Rowlett), and two were last noted here on October 5 (C. P. Wilds). Three King Eiders were present at Grand View, Hampton, between 26 May and 11 July (Bill Akers, Jerry Via, and Bill Williams). One of these was an adult male in superb plumage; the other two were a female and a probable immature male.

**SWALLOW-TAILED KITE AT BACK BAY.** Assistant Refuge Manager Frank Smith observed a Swallow-tailed Kite over the impoundment system of Back Bay National Wildlife Refuge, Virginia Beach, on 16 May 1974. This is apparently the first recorded sighting of this species on the refuge and one of the few in recent times for Virginia. The bird reported was likely one of the group of birds which have recently been noted as summer visitors on the North Carolina Outer Banks.

**BALD EAGLE SURVEY REPORT.** Jackson M. Abbott reports that the breeding season of 1974 was the most productive for young Bald Eagles since he began the survey in 1962, though production was still well below the replacement rate. Of 57 active nests in the Chesapeake Bay region (30 in Maryland, 26 in Virginia, 1 in Delaware), 28 were abandoned (9 in Maryland, 18 in Virginia, 1 in Delaware) and 29 (21 in Maryland, 8 in Virginia) produced 40 eaglets (27 in Maryland, 13 in Virginia), of which two disappeared before fledging. A complete report has been published elsewhere (*Atlantic Naturalist*, 29: 161-163, 1974).

**PURPLE GALLINULE AT CHINCOTEAGUE.** While birdwatching with his son Peter at Chincoteague National Wildlife Refuge, Virginia, on 13 July 1974, R. J. Tripician spotted a Purple Gallinule feeding at the marsh edge along the west side of the wildlife drive. The bird was seen in bright sunlight with its variety of colors clearly visible and was later pointed out to R. L. Ake, G. S. Grant, W. W. Fogleman, and others. Although shy, the bird was seen by those observers willing to be patient. On the following day R. A. Rowlett reported on the bird's shyness and noted that when spooked, it would fly up into the trees, 7 feet above the marsh, and peer out through the branches for extended periods of up to 30 minutes. Occurrences of this species along the Atlantic Coast north of its usual breeding range are rare but regular. A breeding record for Delaware has recently been recorded, but no such confirmed record exists for Virginia, though nesting has been suspected (see *Raven*, 39: 30-31, 1968; 44: 79-80, 1973).

**JUNE UPLAND SANDPIPERS.** Charles R. Vaughn reports that the first Upland Sandpipers, six, appeared at the Wallops Station airfield near Chincoteague on June 1, 1974.

teague on 27 June 1974. This seems to be the earliest "fall" migration date for Virginia.

**CURLEW SANDPIPERS AT CHINCOTEAGUE.** The Curlew Sandpiper was found twice at Chincoteague Refuge in 1974. R. A. Rowlett found one feeding with a small flock of Red Knots on 28 July, and another was seen here 4-5 October with a flock of Dunlin (Allen E. and Beatrice Kemnitzer) and 12 October (D. F. Abbott). Since these were observed over two months apart, they are assumed to have been different birds; both were in the dull, grayish fall plumage with a little buffiness on the underparts. The white rump was clearly evident on both birds. There appear to be three previous sight records of this species in Virginia, one supported by photographs (see *Raven*, 27: 73, 1956; 45: 38-39 and 50, 1974).

**BUFF-BREASTS IN 1974.** On 30 July 1974 Bill Akers and Bill Williams carefully observed a Buff-breasted Sandpiper feeding at Craney Island, Portsmouth, probably the earliest fall arrival date for this species in Virginia. At Chincoteague Refuge, two were noted first on 10 August (L. K. Malone) and last on 28 September (Philip Stoddard) with some memorable counts in between, including at least 32 on 9 September (C. P. Wilds and Evan and Ives Hannay) and 34 on 20 September (Wilds). Most of these were in that part of the refuge known as the Wash Flats and were seen by numerous other observers. Elsewhere, at nearby Wallops Station, two Buff-breasts were seen on 11 August (P. G. DuMont).

**SPRING RECORD FOR HUDSONIAN GODWIT.** A Hudsonian Godwit feeding in a mixed shorebird flock at the south end of Back Bay National Wildlife Refuge, Virginia, was observed by W. W. Fogleman and R. L. Ake on 18 May 1974. The bird's appearance was intermediate between winter and spring plumages. The dark underwing linings were clearly seen as the bird flew around over the feeding area. Spring sightings of Hudsonian Godwits are rare, but if the number of birds seen during the fall continues to increase, such spring reports may become more common.

**LESSER BLACK-BACKS IN 1974.** Reports of Lesser Black-backed Gulls in Virginia continue to build up, with observations during 1974 of apparently three different birds in addition to those reported on the Little Creek Christmas bird count (*Raven*, 46: 3-22, 1975). Along the Chesapeake Bay Bridge-Tunnel an apparent second-year bird was seen 19 February 1974 by Berit Edsburg and R. A. Rowlett and again on 2 March by R. L. Ake, W. W. Fogleman, and other members of the Cape Henry Audubon Society. Inland up the Potomac River D. F. Abbott found an adult at Dyke marsh, Fairfax County, on 31 March, and probably the same bird was seen at nearby Fort Hunt on 8 April by D. F. and J. M. Abbott. Another adult was found at Chincoteague Refuge on 4 November 1974 by Darelyn and C. O. Handley, Jr.

**BONAPARTE'S GULLS IN SUMMER.** A Bonaparte's Gull was seen at Hog Island, Surry County, Virginia, on 22 June 1974 (J. W. Via), and Bill Williams and Bill Akers observed a second-year bird on 1 July 1974 at Grand View, Hampton, Virginia. Another second-year bird was observed from 3 July to 28 July 1974 at Craney Island, Portsmouth, Virginia (Akers). Although many subadult gulls summer at places like Craney Island, there are relatively few records of Bonaparte's Gulls doing this.

# The Raven

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Courtesy of Walter Weber

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The Virginia Society of Ornithology, Inc., exists to encourage the systematic study of birds in Virginia, to stimulate interest in birds, and to assist the conservation of wildlife and other natural resources. All persons interested in those objectives are welcome as members. Present membership includes every level of interest, from professional scientific ornithologists to enthusiastic amateurs.

Activities undertaken by the Society include the following:

1. An annual meeting (usually in the spring), held in a different part of the state each year, featuring talks on ornithological subjects and field trips to nearby areas.

2. Other forays or field trips, lasting a day or more and scheduled throughout the year so as to include all seasons and to cover the major physiographic regions of the state.

3. A journal, *The Raven*, published quarterly, containing articles about Virginia ornithology, as well as news of the activities of the Society and its chapters.

4. Study projects (nesting studies, winter bird population surveys, etc.) aimed at making genuine contributions to ornithological knowledge.

In addition, local chapters of the Society, located in some of the larger cities and towns of Virginia, conduct their own programs of meetings, field trips, and other projects.

Those wishing to participate in any of the above activities or to cooperate in advancing the objectives of the Society are cordially invited to join. Annual dues are \$1.00 for junior members (students), \$3.00 for active members, \$5.00 for sustaining members, \$10.00 for contributing members, \$100.00 for life members.

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# RELATIVE ABUNDANCE OF BIRDS IN CUT AND UNCUT FORESTS IN SOUTHWESTERN VIRGINIA\*

STEVEN W. RUCKEL

## Introduction

Population studies of birds are usually designed to evaluate bird numbers in relation to habitat, time, geographic location, or density of other bird species. One of two approaches is normally followed in quantifying populations—calculation of absolute abundance or determination of relative abundance.

Absolute abundance implies either a complete census or an estimate based on samples from carefully measured plots or transects. Obviously, absolute population numbers are most desirable in terms of management decisions, analysis of species well-being, and comparisons of populations in different habitats or geographic regions. However, it is seldom that a complete census of a population can be made, and sampling often is tedious, slow, and limited to smaller areas.

For many studies an index of relative abundance provides sufficient information to allow comparison of different species on a specific area, or of the same species at different times (Linsdale, 1928; Kendleigh, 1944). Relative abundance usually is expressed as either (1) frequency of occurrence (percent of survey trips in which each species is recorded), or (2) number of birds of each species observed per unit of time. Because there is no computation of density involved in a relative abundance index, much of the critical and time-consuming employment of sophisticated sampling techniques is foregone. This allows surveys of larger areas to be completed with fewer personnel and with less time involved.

Dice (1930) proposed that animal populations are directly related to the amount and quality of their preferred habitat. Dambach (1944) and Hooper *et al.* (1973) have shown that bird densities are associated with the quantity of understory vegetation. Loveless (1974) likewise reported a positive correlation between species frequency of occurrence and amount of shrubby vegetation. Changes in habitat, such as forest regeneration following even-age forest management (clearcutting), might logically affect the fauna of an area.

This study was conducted to investigate the effects of clearcutting on avian numbers and species composition in southwestern Virginia.

The author is indebted to Richard N. Conner and Patrick F. Scanlon for helpful suggestions and a careful review of an early draft of this paper.

## Study Area

The site for the present study was the southeastern slopes of Sinking Creek Mountain in Montgomery County, Virginia, approximately 5 km east of U.S. 460. The survey route passed through a 4-year-old clearcut of approximately 50 ha and an adjacent, uncut woodland in the Jefferson National Forest at elevations between 595 m and 640 m.

Regeneration and sprouting on the clearcut were vigorous, and the typical oak (*Quercus* spp.)-pine (*Pinus* spp.) composition evident in the adjacent woods

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\* Release No. FIW 75-16 of the VPI & SU Department of Fisheries and Wildlife Sciences.

was manifested in the cutover forest by dense 2-m to 4-m growth. The uncut forest was composed primarily of oak and pine in the 20- to 60-year age class, with few overmature individuals. Figures 1 and 2 show typical examples of each habitat.



FIGURE 1. *Clearcut.*

### Methods and Materials

A survey route was initially laid out on the study area in the form of a rough trapezoid, taking advantage of existing logging trails and breaks in the vegetation whenever possible (Figure 3). The route was paced in a clockwise direction, starting at Point A, along the following compass bearings and for the following distances:

A to B N 10°W	329 m through the clearcut
B to C N 70°E	158 m through clearcut to edge of uncut forest 158 m through uncut forest
C to D S 10°E	329 m through uncut forest
D to A S 80°W	154 m through uncut forest to edge of clearcut 248 m through clearcut

The initial survey route was marked with plastic flagging to facilitate subsequent surveys.

Five individual surveys were conducted during May 1974. Upon arrival at the starting point (Point A) the date, time, temperature, and weather conditions were recorded (Table 1). Walking the route was then begun, and species and their numbers were recorded as they were seen or heard. Survey time and species numbers for the two types of habitat were kept separate. An attempt was made to conduct all surveys at approximately the same time each day. One afternoon survey was conducted in an effort to include species which might not be as active early in the day. Total time involved during the survey is presented in Table 2. Upon completion of the study, the total number of birds of each species observed in each habitat was divided by the total number of hours of observation in each habitat to obtain the relative index for each species.



FIGURE 2. *Uncut forest.*

Great Crested Flycatcher, Wood Thrush, Red-eyed Vireo, Tufted Titmouse, Carolina Chickadee, and Carolina Wren.

Analysis of relative abundance of those species that were arbitrarily considered "common" ( $\geq 1$  observation/hr) reveals that no species was "common" in both habitat types, suggesting that the apparent differences in the two habitats were, in fact, reflected by variation in avian species composition.

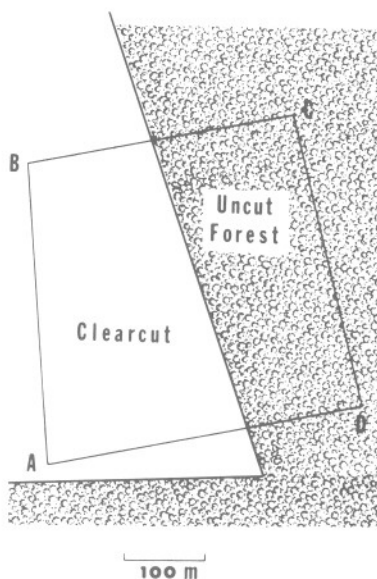
### Discussion

Results of the survey indicate that in the clearcut not only was there greater diversity of bird species, but also greater numbers of birds, both of which may be direct reflections of the availability of food and nesting cover in the clearcut versus the uncut forest.

Some birds observed were no doubt transient individuals, since their preferred breeding habitat was not present on the study area. Although transients would be absent during a June count, their presence in the clearcut during the month of May might be indicative

### Results

Total numbers and overall abundance of birds observed in each habitat are given in Table 2. Relative abundance (number observed per hour) of each species is presented in Tables 3 and 4. Thirty-seven species of birds were recorded in the clearcut area during the five survey trips. Twenty-three species were noted in the uncut forest. The survey not only revealed a greater species diversity in the clearcut, but also a consistently higher number of all birds (Figure 4). Thirteen species of birds were observed in both habitats, whereas 24 species were recorded only in the clearcut, and 10 species were found only in the uncut forest. The most common species occurring in the clearcut were Blue Jay, Rufous-sided Towhee, Prairie Warbler, Field Sparrow, Indigo Bunting, and American Goldfinch. Birds most abundant in the uncut forest included Ovenbird,

FIGURE 3. *Survey route.*

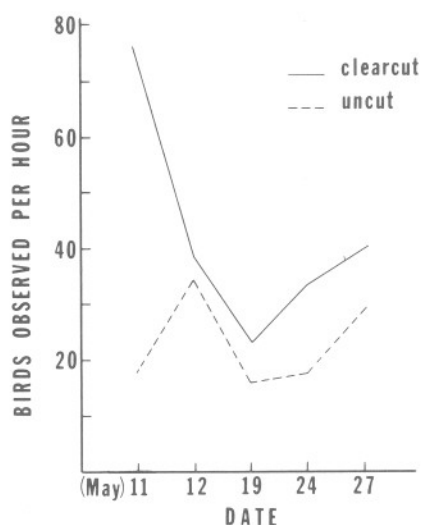


FIGURE 4. Total number of birds observed per hour per trip in each habitat type.

of the uncut forest (Figure 3) may have introduced some error due to the confluence of both habitat types and their corresponding bird populations. Future investigations might be designed to eliminate this "edge" effect by utilizing straight-line transects that avoid contact with edge areas.

Recognizing the boundaries of the relative abundance method of population description and habitat comparison and realizing the limitations of the present study, I nevertheless feel that this method is a comparatively quick and easy way to obtain an estimate of species presence and abundance over large areas. Thus, it may be a valuable tool for those involved in environmental impact and habitat management decisions.

TABLE 1. Survey conditions by trip—time involved, temperature, and weather.

Date	Time		Temp., ° F	Weather
	Clearcut	Uncut Forest		
May 11	8:45- 9:40 a.m. 10:45-11:00 a.m.	9:40-10:45 a.m.	58	Fair; slight breeze.
May 12	8:00- 8:55 a.m. 9:45-10:05 a.m.	8:55- 9:45 a.m.	60	Partly cloudy; calm.
May 19	4:50- 5:25 p.m. 6:15- 6:25 p.m.	5:25- 6:15 p.m.	78	Partly cloudy; rain showers.
May 24	8:05- 9:00 a.m. 9:50-10:45 a.m.	9:00- 9:50 a.m.	60	Sunny; light breeze.
May 27	8:15- 9:00 a.m. 9:40-10:00 a.m.	9:00- 9:40 a.m.	56	Heavy overcast with fog; light breeze and rain showers

of the importance of cutover forests as resting areas and sources of food for migrating species.

Certain species may have been misrepresented in the uncut forest because of poor visibility due to the dense foliage of the taller trees. Two species, the Broad-winged Hawk and the Common Crow, were recorded either flying directly over the clearcut or perched on one of the larger trees that persisted following the cutting operation. No doubt they inhabited the surrounding uncut forest also but were not counted because they were not seen while the observer was in the uncut part of the study area. Migrating Blue Jays, which were so obvious in the clearcut during the 11 May survey, were probably underrepresented in the uncut forest due to the visibility factor.

The close proximity of the southern portion of the survey route to the edge

TABLE 2. Total hours of observation, number of bird species and individuals observed, and number of birds observed per hour in each habitat during five survey trips.

Habitat	Hours of observation	No. of species	No. of birds	No. observed per hour
Clearcut	6.12	37	251	41.0
Uncut	4.25	23	92	21.6

TABLE 3. Birds of the clearcut. Total numbers and number observed per hour during five survey trips.

Species	Total number	No. per hour
Blue Jay, <i>Cyanocitta cristata</i> .....	68*	11.11
Rufous-sided Towhee, <i>Pipilo erythrophthalmus</i> .....	31	5.07
Prairie Warbler, <i>Dendroica discolor</i> .....	29	4.74
Field Sparrow, <i>Spizella pusilla</i> .....	22	3.59
Indigo Bunting, <i>Passerina cyanea</i> .....	14	2.29
American Goldfinch, <i>Spinus tristis</i> .....	10	1.63
Hooded Warbler, <i>Wilsonia citrina</i> .....	6	0.98
Great Crested Flycatcher, <i>Myiarchus crinitus</i> .....	5	0.82
Eastern Wood Pewee, <i>Contopus virens</i> .....	5	0.82
Brown Thrasher, <i>Toxostoma rufum</i> .....	5	0.82
Common Crow, <i>Corvus brachyrhynchos</i> .....	4	0.65
Blue-winged Warbler, <i>Vermivora pinus</i> .....	4	0.65
Common Flicker, <i>Colaptes auratus</i> .....	3	0.49
Carolina Chickadee, <i>Parus carolinensis</i> .....	3	0.49
Gray Catbird, <i>Dumetella carolinensis</i> .....	3	0.49
Blue-gray Gnatcatcher, <i>Poliophtila caerulea</i> .....	3	0.49
Cedar Waxwing, <i>Bombycilla cedrorum</i> .....	3	0.49
American Redstart, <i>Setophaga ruticilla</i> .....	3	0.49
Chipping Sparrow, <i>Spizella passerina</i> .....	3	0.49
Broadwinged Hawk, <i>Buteo platypterus</i> .....	2	0.33
Carolina Wren, <i>Thryothorus ludovicianus</i> .....	2	0.33
Mourning Dove, <i>Zenaida macroura</i> .....	2	0.33
Eastern Bluebird, <i>Sialia sialis</i> .....	2	0.33
Golden-winged Warbler, <i>Vermivora chrysoptera</i> .....	2	0.33
Ruby-throated Hummingbird, <i>Archilochus colubris</i> .....	2	0.33
Tennessee Warbler, <i>Vermivora peregrina</i> .....	2	0.33
Chestnut-sided Warbler, <i>Dendroica pensylvanica</i> .....	2	0.33
Scarlet Tanager, <i>Piranga olivacea</i> .....	2	0.33
Tufted Titmouse, <i>Parus bicolor</i> .....	1	0.16
Black-and-white Warbler, <i>Mniotilta varia</i> .....	1	0.16
Brewster's Warbler .....	1	0.16
Bay-breasted Warbler, <i>Dendroica castanea</i> .....	1	0.16
Blackpoll Warbler, <i>Dendroica striata</i> .....	1	0.16
Common Yellowthroat, <i>Geothlypis trichas</i> .....	1	0.16
Rose-breasted Grosbeak, <i>Pheucticus ludovicianus</i> .....	1	0.16
Turkey Vulture, <i>Cathartes aura</i> .....	1	0.16
Pileated Woodpecker, <i>Dryocopus pileatus</i> .....	1	0.16

\* Large number reflects several flocks of migrating Blue Jays.

TABLE 4. *Birds of the uncut forest. Total numbers and number observed per hour during five survey trips.*

<i>Species</i>	<i>Total number</i>	<i>No. per hour</i>
Ovenbird, <i>Seiurus aurocapillus</i> .....	19	4.47
Great Crested Flycatcher, <i>Myiarchus crinitus</i> .....	11	2.59
Wood Thrush, <i>Hylocichla mustelina</i> .....	10	2.40
Red-eyed Vireo, <i>Vireo olivaceus</i> .....	10	2.40
Tufted Titmouse, <i>Parus bicolor</i> .....	7	1.65
Carolina Chickadee, <i>Parus carolinensis</i> .....	5	1.18
Carolina Wren, <i>Thryothorus ludovicianus</i> .....	5	1.18
Blue Jay, <i>Cyanocitta cristata</i> .....	4	0.94
Acadian Flycatcher, <i>Empidonax virescens</i> .....	3	0.71
Worm-eating Warbler, <i>Helmitheros vermivorus</i> .....	3	0.71
Black-and-white Warbler, <i>Mniotilta varia</i> .....	2	0.47
Hooded Warbler, <i>Wilsonia citrina</i> .....	2	0.47
Ruffed Grouse, <i>Bonasa umbellus</i> .....	1	0.24
Pileated Woodpecker, <i>Dryocopus pileatus</i> .....	1	0.24
Downy Woodpecker, <i>Dendrocopos pubescens</i> .....	1	0.24
Hairy Woodpecker, <i>Dendrocopos villosus</i> .....	1	0.24
Eastern Phoebe, <i>Sayornis phoebe</i> .....	1	0.24
Eastern Wood Pewee, <i>Contopus virens</i> .....	1	0.24
White-breasted Nuthatch, <i>Sitta carolinensis</i> .....	1	0.24
Brown Thrasher, <i>Toxostoma rufum</i> .....	1	0.24
American Redstart, <i>Setophaga ruticilla</i> .....	1	0.24
Scarlet Tanager, <i>Piranga olivacea</i> .....	1	0.24
Rufous-sided Towhee, <i>Pipilo erythrophthalmus</i> .....	1	0.24

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## BANDING RESULTS AT KIPTOPEKE BEACH IN 1974

F. R. SCOTT

For the twelfth year in succession the Kiptopeke Beach Field Station, sponsored by the Virginia Society of Ornithology and located in southern Northampton County, Virginia, was operated during the fall to trap and band migrating fall land birds. During 1974 the station was open continuously from 31 August to 27 October plus 2 and 3 November. The station was closed only one day, 6 September, because of rain. As shown in Table 1, numerical results were quite satisfying, with record numbers of new birds trapped and total net-hours. In addition, there were 1344 repeats, 21 different returns of birds banded in previous years, and one foreign retrap.

TABLE 1. *Comparative statistics of four years of banding at Kiptopeke Beach, Virginia. The most recent previous reports on this station appeared in THE RAVEN, 45: 70-72 (1974), and 44: 68-70 (1973).*

	1971	1972	1973	1974
New birds trapped .....	9,680	7,331	7,584	15,600
Total species .....	101	95	98	102
Total net-hours .....	13,403	11,878	16,645	19,009
Trapping efficiency, new birds/100 net hr. ...	72	62	46	82
Days of operation .....	51	44	51	60

Banding totals of selected species are shown in Table 2 compared with those of the previous three years. With a record total of 15,600 birds banded, it would be expected that there would be numerous record seasonal totals of individual species, and this proved to be true. Some of these are indicated in Table 2. Undoubtedly, one of the principal causes of the high totals was the series of good cold fronts which passed through the area at regular intervals. Also of importance was a cold spell starting 1 October which really turned the migration on, and the stationed *averaged* 379 new birds per day for October, many of these being winter residents which began arriving in numbers much earlier than in 1973.

Among the peak flight days were 5 September (465 birds banded), 15 September (661), 23 September (573), 1 October (939), 8 October (911), 19 October (739), and 24 October (666). As usual, American Redstarts dominated the September flights, and Yellow-rumped Warblers predominated in the October flights. The one exception was the flight of 1 October, when the top three species were Ovenbird (157), American Redstart (120), and Catbird (106), and a total of 50 different species were trapped during the day, the most of any single day during the fall. There were many peak daily species banding totals of interest, among which were 12 Yellow-bellied Flycatchers on 5 September, 118 Ruby-crowned Kinglets on 17 October, 32 Tennessee Warblers on 1 October, and 45 Parula Warblers on 23 September. Unusual birds trapped here included single Saw-whet Owls on the evening of 20 October and the morning of the next day (Foy), a Yellow-throated Vireo on 16 September (Church), Warbling Vireos on 17 September (Church) and 20 October (very late—Foy), and a Golden-winged Warbler on 12 September (Scott). Also unusual was the record total of six Blue-winged Warblers between 2 and 15 September.

TABLE 2. *Four-year totals of new birds trapped at Kiptopeke Beach for selected species. An asterisk (\*) indicates a record seasonal total.*

<i>Species</i>	<i>1971</i>	<i>1972</i>	<i>1973</i>	<i>1974</i>
Sharp-shinned Hawk .....	22	45	48	51*
Yellow-bellied Flycatcher .....	17	10	15	42*
Traill's Flycatcher .....	27	36	40	96
Red-breasted Nuthatch .....	6	34	4	24
Brown Creeper .....	130*	17	82	107
House Wren .....	174	97	126	187
Winter Wren .....	24	12	29	62*
Catbird .....	585	344	229	618
Hermit Thrush .....	69	23	47	163
Swainson's Thrush .....	140	108	236	234
Gray-cheeked Thrush .....	218	149	87	184
Veery .....	204	202	172	290
Golden-crowned Kinglet .....	195	89	163	345*
Ruby-crowned Kinglet .....	181	132	134	659*
Philadelphia Vireo .....	11	8	13	28
Tennessee Warbler .....	15	28	25	129*
Nashville Warbler .....	17	34	26	71*
Cape May Warbler .....	88	49	74	125*
Black-throated Blue Warbler .....	369	379	319	545
Yellow-rumped Warbler .....	3236	1637	440	4286*
Bay-breasted Warbler .....	9	11	15	49*
Blackpoll Warbler .....	97	34	26	171
Palm Warbler .....	155	142	272	113
Ovenbird .....	196	151	230	558*
Common Yellowthroat .....	435	554	656	944
American Redstart .....	1236	1706	2164	2740*

All of the 21 returns from previous years were considered permanent or summer residents except for one possible winter resident, a Song Sparrow originally banded in 1973 and retrapped on 27 October 1974. Of most interest among the returns were five different White-eyed Vireos, one each originally banded in 1968, 1970, and 1971 and two banded in 1972 (one in the spring). The other returns were one Carolina Chickadee, eight Carolina Wrens, one Mockingbird, one Brown Thrasher, two Common Yellowthroats, and two Cardinals. The foreign retrap was an adult female Yellow-rumped Warbler (band no. 122-09431) banded at Fire Island Light, New York, on 6 October 1971 by T. H. Davis, Jr., and trapped and released here on 12 October 1974 by W. P. Smith. Also of interest was a Yellow-rumped Warbler (no. 1330-95968) banded here on 20 October 1974 by Mr. and Mrs. R. W. Foy and found dead near Swansboro, North Carolina, on 9 December 1974 by W. R. Collins.

Since it is felt by some people that primary wing feather situation (notching on the leading edge) can be a help in identifying some difficult thrushes, some effort was made to check this. All 105 Swainson's Thrushes checked had only the seventh and eighth primaries sinuated (counting from the inside out), all 93 Gray-cheeks checked had the sixth through the eighth sinuated, and all 55 Hermits had the fifth through the eighth primaries notched. Of the Veeries checked, 103 were similar to the Gray-cheeks, but two appeared to have only the

seventh and eighth primaries sinuated, although on this species it was occasionally difficult to make a decision on the sixth primary, so these data should be used with caution.

As in the past few years, an attempt was made, when possible, to age all birds trapped. In banding terminology, HY refers to "hatching-year" birds—i.e., birds hatched in the calendar year banded—whereas AHY refers to "after hatching-year" birds, or birds that hatched in a calendar year prior to the one banded. This avoids the use of the terms *adult* and *immature*, which are confusing since some birds do not attain their "adult" plumage for several years. Like other coastal banding stations, Kiptopeke Beach appears to have a proportion of HY birds far in excess of the general population. In 1974 at Kiptopeke Beach typical warbler ages included 97-98% HY for Tennessees, 95% for Black-throated Blues, 94-95% for Yellow-rumps, and 95% for American Redstarts. Blackpolls were lower at 89-91% as were Northern Waterthrushes at 81-82% and Common Yellowthroats at 82-83%. Thrushes were similarly spread out with 96% HY for Hermits and 97% for Swainson's, but with 88% for Gray-cheeks and 87% for Veeries.

In computing the above percentages, unknown-age birds were considered first as AHY and then as HY, thus giving a range of percentages for some species. When too many unknown-age birds were reported, that whole day's total was excluded from the computation for that species. Age ratios were not necessarily consistent from day to day. Redstarts, for example, had 99-100% HY birds on some days, whereas on 8 September a total of 86 were trapped, of which only 49, or 57%, were HY. It will be interesting to see if these general percentages hold in other years.

Station operation was essentially similar to that of previous years, with up to 43 mist nets in use as weather and personnel permitted from dawn to mid or late afternoon. Licensed banders in charge of the station for varying periods of time were Mrs. J. P. Church, Mr. and Mrs. Roger W. Foy, C. W. Hacker, Mr. and Mrs. Sydney Mitchell, F. R. Scott, and Walter P. Smith. These were aided by over 100 assistants and other banders whose help was essential to the operation. The banders are indebted to J. Schollenberger, of Seacoast Products, Inc., Port Monmouth, New Jersey, and John Maddox, of Virginia Beach, for permission to use the property on which the station is situated. Appreciation is also extended to Walter P. Smith, who did the initial editing of the field records and tabulated the daily results.

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## THE 1975 VSO ANNUAL MEETING

ROBERT J. WATSON

The Sheraton Motor Inn, on the outskirts of Salem, was the locale for the 1975 meeting of the Virginia Society of Ornithology. The Roanoke Valley Bird Club served as host for the occasion.

Proceedings began at 2:20 p.m. on Friday, 9 May, with a workshop discussion of problems of local chapters. This had been arranged by Mrs. Myriam Moore, chairman of the Local Chapters Committee, who presided. Presentations were made by Mrs. YuLee Lerner, on keeping local bird lists; Miss



Annella Greever, on raising money through the sale of handicrafts; Mrs. Claire Eike, on publicity; Miss Virginia Hank, on the advantages of affiliating with the National Audubon Society; and Mr. Bill Opengari, on recruiting members for the VSO. At the conclusion, Mr. Watson commented on the importance of the chapters in helping to broaden the base of support for conservation in Virginia.

The business meeting of the Society convened at 8 p.m. on 9 May, with President Peake in charge. A motion to dispense with the reading of the minutes of the last meeting was approved. The Treasurer, Mrs. Beck, had no formal report to submit but assured the members that the Society was in sound financial shape. Mrs. Lerner urged members to participate in the roadside breeding bird survey program in Virginia, which is coordinated by Dr. John Mehner.

A statement regarding "nuisance" birds, approved by the Board of Directors on 12 April, was summarized by Mr. Watson. The statement did not condemn all efforts to control such species but urged that any control methods be humane and that continuing research be undertaken. It was formally approved by the membership.

Mr. Watson also submitted an agreement, tentatively approved by the Board, with World Nature Tours, founded by the late Orville Crowder and now headed by Dr. Don Messersmith. Under this agreement, World Nature Tours would have exclusive right to operate extended trips for the VSO and to advertise among VSO members, in return for which the Society would receive a portion of the money charged for trips. Some debate ensued, during which it was pointed out that this agreement would not be binding on the local chapters. A motion to approve the agreement was eventually passed.

Mr. Scott announced that one issue of *The Raven* for 1974 was already in the mail and two more would be out shortly.

Dr. Byrd, chairman of the Nominating Committee, submitted the following slate:

*President:* Dr. Richard H. Peake, Wise

*Vice President:* Dr. J. J. Murray, Jr., Charlottesville

*Secretary:* Dr. Robert J. Watson, Arlington

*Treasurer:* Bill Williams, Williamsburg

*Editor:* F. R. Scott

*Board of Directors, Class of 1978:*

David L. Hughes, Norfolk

Col. Austin L. Lawrence, Falls Church

Mrs. Ruth S. Snyder, Waynesboro

A motion to close the nominations was approved, and the above nominees were declared elected.

The President called upon Mr. Jerry Via, who, on behalf of the Roanoke Valley Bird Club, welcomed all those attending. He then introduced Mr. and Mrs. C. S. Lewis, of Salem, who presented a program of slides entitled "Along Nature's Trails."

Field trips on Saturday morning, 10 May, were conducted by Mr. Opengari, Mr. Via, Mr. John Pancake, and other able leaders. Various points along the nearby Blue Ridge Parkway were surveyed, as well as a stretch of Craig's Creek, covered by a canoe party.

The afternoon session on 10 May was held in Massengill Auditorium on the campus of Roanoke College. The first three speakers were from Virginia Polytechnic Institute and State University. "Vocal Behavior of the Pine Grosbeak" was the subject of Dr. Curtis Adkisson, who presented tape recordings and sonogram slides of the calls of this widely distributed species. The "location" call, used by the birds in seeking contact with others of their kind, differs in various locations, but the variations fall into two basic types. From this and other evidence, Dr. Adkisson conjectured that there are two basic populations of the Pine Grosbeak in North America, the product of evolution during the Ice Age.

Mr. Richard N. Conner studied the placement of nest cavities in six species of woodpeckers (Pileated, Hairy, Downy, Red-bellied, and Red-headed Woodpecker and Common Flicker). All depend on rotted heartwood for the construction of their nests. More than half of the nest openings studied by Mr. Conner in Virginia were oriented toward the east or northeast, i.e., away from the prevailing wind direction. Most were pointed in a downward direction, probably because such orientation makes it easier to defend the nest.

Mr. Bud Prather presented preliminary findings of a study of Turkey Vultures in captivity, illustrating the anatomical features and behavior of this species. Evidence shows that Turkey Vultures use olfactory clues in finding food. Some believe that this species and other New World vultures are closely related to storks.

An intermission was followed by two speakers from the College of William and Mary. Mr. Bill Akers described "The Decline of the Least Tern in Virginia." This bird, once abundant, suffered greatly when slaughtered in large numbers to decorate hats. With protection, the species largely recovered but has suffered another decline in the last two decades or so, principally through destruction of its habitat. The 1974 Virginia population was estimated at 1500 to 2000; the largest nesting colonies are in Hampton (Grandview) and Portsmouth (Crane Island), with colonies also on some of the Eastern Shore barrier islands. Mr. Akers thought that the outlook may be improving now that most of the Eastern Shore islands are owned by The Nature Conservancy. He suggested that the VSO might erect ropes and signs to protect the colonies at Grandview and elsewhere.

A particularly stimulating paper, "Clutch Size Variation and Environmental Fluctuation," was presented by Mr. Chris Stinson. The speaker had investigated the reason for varying clutch sizes within a single species. He pointed out that the breeding environment varies from one year to another and suggested that different clutch sizes might prove advantageous in varying conditions. To test this hypothesis, Mr. Stinson examined clutch size data for various species (or pairs of sibling species) nesting under conditions of greater and lesser annual variation. He found that greater variation in clutch size was associated with temperate as compared with tropical breeding populations (the weather being, of course, more uniform in the tropics) and with less stable (and therefore more variable) habitats as compared with more stable habitats. On the other hand, no east-west variations were found in populations occupying the same latitude and habitat. Mr. Stinson emphasized in conclusion that his is only a preliminary hypothesis.

"Breeding Records of the Prothonotary Warbler on the Upper James River" was the subject of Mr. Barry Kinzie of Troutville. Available records, as summarized by Mr. Kinzie, suggest that the Prothonotary Warbler has been extending its range inland along the James River in recent years. There were no records west of Lynchburg until Scott and Watson found several near Big Island in 1970. Mr. Kinzie, however, found birds nesting along the nine-mile stretch between Eagle Rock and Buchanan in 1973. In 1974 he found five nesting pairs in this region. He thought that this range extension might be attributable to heavy flooding which has created broken snags suitable for nest sites.

Following Mr. Kinzie's presentation, the session adjourned, since two of the speakers listed on the program were absent. Members returned to the Sheraton for a hospitality hour, followed by the annual banquet, which began at 7 p.m. Mrs. Moore introduced representatives of the various chapters who were in attendance, including the Northern Neck Audubon Society, which plans soon to apply for affiliation as a VSO chapter. Dr. Peake announced that 123 species had been recorded on the morning's field trips, including American Bittern, Red-breasted Nuthatch, Lincoln's Sparrow, and Nashville, Bay-breasted, Blue-winged, Golden-winged, and Brewster's Warblers. Mr. Watson reported that The Nature Conservancy has acquired a large and valuable tract in Montgomery County and urged VSO members to join the Conservancy.

Dr. Philip Shelton of Clinch Valley College was cited as the winner of the 1975 Conservation Award, voted by the Board of Directors at its last meeting. Dr. Shelton was recognized for his ardent efforts to persuade the Commonwealth of Virginia to institute effective strip-mining controls.

The President called for a moment of silent prayer in memory of the late Mrs. Margaret Watson, in whose honor the former Spring Creek Bird Club has been renamed.

The principal speaker was Mr. Earl Baysinger, Deputy Director of the Office of Endangered Species and International Activities, U. S. Fish and Wildlife Service. Mr. Baysinger described the objectives and the legal basis of the endangered species program of the U. S. Government. At present, 160 species of animals or plants have been placed on the endangered list. The states are also encouraged to draw up their own similar programs, though few have done so. An international treaty signed in 1973, to take effect on 1 July 1975, sets up an international conservation organization.

Following the address, Dr. Peake called on Mrs. Sarah Cromer, chairman of the Resolutions Committee, who submitted resolutions expressing gratitude to all those individuals and groups responsible for the success of the meeting, including the host chapter, the Sheraton Motor Inn, and Roanoke College. These resolutions were carried by acclamation, and then the meeting adjourned. The majority of those attending, however, stayed over to take part in another round of field trips on Sunday morning. In all, 127 species and one hybrid were reported for the meeting. The second morning's field trips once again rewarded VSO birders with Red-breasted Nuthatches and a Brewster's Warbler as well as excellent views of the Black-billed Cuckoo.

## NEWS AND NOTES

COMPILED BY R. L. AKE AND F. R. SCOTT

IN APPRECIATION. The Editor is indebted to Anton M. Decker for aid in preparing this issue of *The Raven* for publication.

**LITTLE GULLS AT CRANEY ISLAND.** The spring of 1974 witnessed an uncommonly large massing of Little Gulls at Craney Island, Virginia. The initial observation was made during a field trip of the Cape Henry Audubon Society on 16 March when two adult birds were seen among a group of feeding shorebirds, Bonaparte's Gulls, and other gulls on the sand and mudflats outside the Craney Island impoundment at the southwestern corner (R. L. Ake, W. W. Fogleman, G. S. Grant, *et al.*). The dark underwing linings and short, rounded wings made the birds stand out in the crowd of other species actively feeding in the area. On 3 April the first immature bird appeared. The numbers continued to climb, and on 19 April six adults and four immature birds were seen resting on the sand bar on the inside of the impoundment on the southwestern corner. During this period many of the observations of the Little Gulls were made by W. W. Fogleman from a blind he had set up near the sandbar. The largest number of Little Gulls was recorded on 21 April when five adults and nine immatures were seen. This was also the last day any adult birds were noted. Some participants in one of the VSO annual meeting field trips saw two immature birds here 12 May, and the last recorded sighting was of five birds seen by R. H. Peake on 5 June. Evidently Craney Island became a staging area for the northward movement of Little Gulls. A similar concentration with large numbers of Little Gulls also occurred during the same period at Little Creek Wildlife Management Area in Delaware. The ultimate destination of these migrants remains an intriguing mystery. Elsewhere, a Little Gull was seen 2 miles south of New Point Comfort, Virginia, on 23 February 1974 by R. L. Anderson, who was on an oceanographic vessel at the time.

**CASPIAN TERNS IN SUMMER.** Caspian Terns were seen at Hog Island State Waterfowl Refuge, Surry County, Virginia, throughout the summer of 1974. Two seen here 2 June (J. W. Via) were undoubtedly spring migrants, as there are many early to mid June records for inland Virginia. But two here on 30 June (Via) and five on 8 July (Via and Bill Williams) were almost certainly nonbreeding summering birds. On the other hand, a count of 37 on 15 July (Via) probably indicated the first fall transients. Numbers remained high here into the fall, reaching a peak of 101 on 6 October (M. A. Byrd).

**WHITE-WINGED BLACK TERN AT CHINCOTEAGUE.** On 7 July 1974 Larry K. Malone of the staff of Chincoteague National Wildlife Refuge found an unusual tern hawking insects. He noted the white rump and tail, black back, belly, and head, and the reddish bill. The primaries were grayish like those of a Black Tern, but the upper wing coverts were white as was the leading edge of the wing. He identified the bird as a White-winged Black Tern, a Eurasian vagrant which had been sighted previously at Chincoteague in 1963 and 1964. C. R. Vaughn and Claudia P. Wilds confirmed the identification on 8 July. The bird was seen by many observers later in the summer, and on 18 July H. G. Stevenson found the bird associating with an adult Black Tern and several immature *Chlidonias*. One of the immatures fluttered and begged and was fed by the White-winged Black Tern. During this period the bird was molting and became more and more difficult to distinguish from the Black Terns

which were present, although the white rump and tail remained distinctive. The bird was last reported on 17 September (Philip Stoddard).

**WILLOW FLYCATCHERS IN BEDFORD COUNTY.** In a marshy area in Goose Creek Valley, Bedford County, Virginia, Mrs. C. R. Chandler, Ray Chandler, and Keith Fielder counted seven singing Willow Flycatchers on 5 June 1974. None could be located here on a return trip on 2 August.

**RAVEN AND BEWICK'S WREN IN BULL RUN MOUNTAINS.** Charles E. Stevens heard a Common Raven calling and observed one sailing around the quartzite cliffs of High Point Mountain in the Bull Run Mountains of Piedmont Virginia on 20 July 1974. The boundary between Fauquier and Prince William Counties follows the ridge crest over which the bird flew. Observations of Common Ravens east of the Blue Ridge are uncommon, although they have been found nesting on the Piedmont (see *Raven*, 45: 73-74, 1974). On the following day, 21 July, Stevens noted a Bewick's Wren singing on one of the rocky, scrubby summits of the Bull Run Mountains in Prince William County. There are very few recent summer records of this species east of the Blue Ridge.

**BROWN CREEPER IN SUMMER.** Robert J. Watson reports that John B. Bazuin, Jr., observed a Brown Creeper in Dranesville District Park, Fairfax County, Virginia, on 9 June 1974. A singing male together with a nonsinging bird were seen here on 5 July by Watson, thus increasing the speculation that nesting occurred.

**NASHVILLE WARBLERS AT WISE.** Although the Nashville Warbler is regular at Wise in the fall, it had not been listed in the spring before this year. However, on 29 April 1975 R. H. Peake, J. M. Straughan, and other members of the Cumberland Bird Club found two singing Nashville Warblers on the campus of Clinch Valley College in Wise, Virginia.

**SAXIS MARSH OBSERVATIONS.** On 12 August 1973 while hunting for Henslow's Sparrows in the marsh along the road to Saxis, Accomack County, Virginia, Robert L. Ake observed seven singing Short-billed Marsh Wrens. The birds responded aggressively, but after diligent searching no nests could be found. Also seen in the same area on that date were Sharp-tailed Sparrows, which were about one-fourth as common as the Seaside Sparrows, though the Sharp-tails could have been early fall transients and not necessarily locally breeding birds. The following year on 27 July 1974 Richard A. Rowlett found three Henslow's Sparrows and one Short-billed Marsh Wren in this same area. A week later on 4 August two Henslow's Sparrows were calling here, but the number of wrens had increased to six (Ake). This is the only place in Virginia where these two species have been found regularly in summer over the past few years.

**BOBOLINKS IN SUMMER.** On 16 June 1974 M. A. Byrd noted a male Bobolink singing at the Hog Island State Waterfowl Refuge, Surry County, Virginia. A month later on 15 July J. W. Via observed five Bobolinks, three males and two females, feeding in the refuge corn patch. These latter birds were possibly early fall migrants. In Gloucester County, Virginia, near Fox Creek, after noting the absence of migrating Bobolinks in a clover field usually visited by large flocks during May, Mrs. Elizabeth D. Peacock discovered a male Bobolink on 24 June 1974 and a different male the following day. A search for a nest was unsuccessful and no females were seen. Neither male was seen on subsequent days.

# The Raven

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The Virginia Society of Ornithology, Inc., exists to encourage the systematic study of birds in Virginia, to stimulate interest in birds, and to assist the conservation of wildlife and other natural resources. All persons interested in those objectives are welcome as members. Present membership includes every level of interest, from professional scientific ornithologists to enthusiastic amateurs.

Activities undertaken by the Society include the following:

1. An annual meeting (usually in the spring), held in a different part of the state each year, featuring talks on ornithological subjects and field trips to nearby areas.

2. Other forays or field trips, lasting a day or more and scheduled throughout the year so as to include all seasons and to cover the major physiographic regions of the state.

3. A journal, *The Raven*, published quarterly, containing articles about Virginia ornithology, as well as news of the activities of the Society and its chapters.

4. Study projects (nesting studies, winter bird population surveys, etc.) aimed at making genuine contributions to ornithological knowledge.

In addition, local chapters of the Society, located in some of the larger cities and towns of Virginia, conduct their own programs of meetings, field trips, and other projects.

Those wishing to participate in any of the above activities or to cooperate in advancing the objectives of the Society are cordially invited to join. Annual dues are \$1.00 for junior members (students), \$3.00 for active members, \$5.00 for sustaining members, \$10.00 for contributing members, \$100.00 for life members.

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## THE MOUNT ROGERS FORAY OF JUNE 1974

F. R. SCOTT

The VSO-sponsored breeding-bird foray to the Mt. Rogers area of Southwest Virginia was held from 18 to 23 June 1974 with 50 registered participants, equaling the record set for the 1972 foray at Tazewell and Burkes Garden. This was the seventh in a recent series of forays designed to make intensive studies of the breeding birds in various parts of Virginia.

The area covered was Smyth County and adjacent parts of western Grayson, southeastern Russell, and eastern Washington Counties. Most participants used the Mount Rogers Inn at Chilhowie as headquarters, though a number camped out at the U. S. Forest Service Grindstone Campground between Konarock and Trout Dale on rt. 603. The area is dominated by Mt. Rogers (5729 feet), the highest peak in Virginia, on the Grayson-Smyth line, and White Top (5520 feet), where Grayson, Smyth, and Washington Counties meet. The saddle between the two, Elk Garden, lies at 4450 feet. Several ridges run east and south from Rogers into Grayson County including Pine Mountain and Wilburn Ridge with considerable areas over 5000 feet, much of which is cleared pasture land. Wilburn Ridge runs south to Grayson-Highlands State Park, which varies in altitude from about 3800 feet at the entrance off U. S. rt. 58 to 4650 feet at Massie Gap and about 5100 feet on Haw Orchard Mountain. An interesting bog on Wilburn Ridge near the state park, locally known as Sullivan Swamp, lies at about 4850 feet. Much of this highland area lies in the Mount Rogers National Recreation Area of the Jefferson National Forest. A popular account of this locality recently appeared in *Virginia Wildlife* (Decker, 1973).

Other high areas covered on this foray included the Clinch Mountain Wildlife Management Area dominated by Beartown Mountain (4689 feet) on the west and Laurel Bed Lake (3550 feet), a 300-acre artificial lake built in 1968. Both of these are in southeastern Russell County. Brushy Mountain (4250 feet) lies just south of the lake on the Russell-Smyth border, and Flattop (4528 feet) and Redrock (about 4400 feet) Mountains are just south of this. All three of these and the lake are just a few miles north and northwest of the town of Saltville (1700 feet). Extensive areas of Red Spruce occur on White Top, Rogers, and Beartown with scattered stands also on Brushy Mountain and the ridges to the east and south of Rogers, including Haw Orchard Mountain.

Smyth County is drained to the southwest by three tributaries of the Holston River, the North Fork (1670-1800 feet) passing through Saltville, the Middle Fork (1950-2100 feet) flowing through Marion and Chilhowie, and the South Fork (2000-2350 feet). Other areas mentioned in the annotated list, all in Smyth County unless otherwise indicated, are Buller Bass Hatchery on the South Fork (2350 feet), Hungry Mother State Park (2200 feet at the lake), Rich Valley (2100-2200 feet), paralleling the North Fork east of Saltville, Grindstone (3750 feet) and Hurricane (2800 feet) Campgrounds just north and northeast of Mt. Rogers, respectively, Old Orchard Shelter (about 4000 feet) on the Appalachian Trail on the north slope of Pine Mountain, and Beartree Campground (about 3300 feet) in extreme eastern Washington County just north of U. S. rt. 58. For the purposes of the accompanying annotated list, elevations below 2500 feet are considered low, those between 2500 and 4000 feet are considered medium, and altitudes over 4000 feet are termed high.

This was the second VSO breeding-bird foray to concentrate on the Mt. Rogers area, though the first one—in 1966—was based somewhat farther away at Abingdon (Scott, 1966). This earlier foray also spent much time in the lowlands of Washington County, which apparently is more under the influence of southern or lowland affinities than neighboring Smyth County. In any event, a comparison of the results of the two forays indicates that many lowland species were more common in Washington than in Smyth County (e.g., Mourning Dove, Mockingbird, White-eyed Vireo, Warbling Vireo, Yellow Warbler, both orioles, and Summer Tanager). Interesting comparisons can also be made with the 1972 foray based at Tazewell (Scott, 1973), which overlapped the present foray area in that it also covered Beartown Mountain and Laurel Bed Lake in Russell County. The modern base-line work on the nesting birds of White Top and Rogers was done by J. J. Murray (1936 and 1937) accompanied by Alexander Wetmore. In the present annotated list, numerous comparisons are made with Murray's findings as well as those of the 1966 foray and the work of other observers.

The usual caveats are applicable when one attempts comparisons between different reports of the breeding birds of an area. Species distribution and abundance do change with time, of course, and ascertaining these changes is one of the prime purposes of these forays. There is a problem, however, in that apparent changes or differences may indeed be only apparent and not real. A field project such as this foray is highly dependent on bird song, which in turn is dependent on both the weather and the status of the nesting cycle of each species in that particular season. In the case of this foray, there was heavy rain one morning, and at high altitudes both fog and high winds inhibited bird song on two days. Coverage of the area was also quite incomplete, and there is no question but that considerably more useful information could be obtained here on even the common breeding species. The city of Marion, for example, was not covered at all. Thus the results reported here, while probably reasonably accurate for most species, might well be too conservative for some species. It is unlikely that the status of any species is overstated.

Several species were found on the 1966 foray but missed this time.<sup>\*</sup> These included Pied-billed Grebe, Black-billed Cuckoo, Common Nighthawk, Red-headed Woodpecker, Cliff Swallow, and Yellow-throated Warbler. The last species apparently is, or was, fairly common in the lowlands of Washington County, at least some years ago (Jones, 1932). Other species previously recorded in summer or as breeding birds in this general area—but missed on this foray—included Peregrine Falcon (Handley, 1940), Black Rail (Stevenson, 1947a), and Bachman's Sparrow (Stevenson, 1947a).

The procedure for the foray field work was similar to that of the previous breeding-bird forays. Participants divided up into reasonably sized groups, and choice areas were covered by different parties on different days, thus tending to compensate for differing weather conditions and observers' differing field abilities. In all, some 65 field cards were turned in, edited, tabulated, and then summarized in the following annotated list. The species total this time was 131, a record for any VSO breeding-bird foray in western Virginia.

The following observers are identified in the annotated list by last name only: C. S. Adkisson, Sarah Cromer, Mr. and Mrs. J. H. Dalmas, Bruce Davenport, A. M. Decker, J. W. Eike, Keith Fielder, Gisela A. Grimm, Virginia Hank, Barry Kinzie, Betty Lancaster, YuLee Lerner, P. E. McQuarry, Dorothy L. Mitchell, Myriam P. Moore, J. W. Murray, Bill Opengari, John Pancake, R. H.

Peake, Bruce Schweitzer, F. R. Scott, Zelda Silverman, C. E. Stevens, R. J. Watson, Henrietta Weidenfeld, and Bill Williams.

The foray participants were greatly indebted to Anton M. Decker, who served admirably as chairman of the local arrangements committee, checking out and arranging accommodations and food service and planning many of the suggested field routes for participants to use. He also personally checked out many of the areas prior to the foray period.

*Great Blue Heron.* One record, a single bird at Hungry Mother State Park on 22 June (Dalmases).

*Green Heron.* A few were found along the lower stream valleys, but none were reported at Laurel Bed Lake as they were in 1972.

*Mallard.* A female with a brood of 5 young was seen at Laurel Bed Lake on 22 June (Dalmases), and 6 adults and two broods totaling 8 young were found here the following day (Decker and Lerner). The Dalmases also located a female with 6 young on the Middle Fork on 21 June. Twenty-nine birds seen on the Saltville ponds on 21 June may not have been completely feral (Eike and Scott).

*Black Duck.* Three records. single bird was noted at Laurel Bed Lake on 21 June (McQuarrey *et al.*) and two the following day (Dalmases), and another was located at Saltville on 21 June (Eike and Scott).

*Wood Duck.* Fairly common locally with broods reported from Laurel Bed Lake, South Fork, and Hungry Mother State Park.

*Turkey Vulture.* Common, with a peak count of 33 in Rich Valley on 23 June (Peake).

*Black Vulture.* Rather uncommon. Reported by only four parties with a maximum of 11 in Rich Valley on 23 June (Peake).

*Sharp-shinned Hawk.* One record, a single bird near the Middle Fork on 21 June (Dalmases).

*Red-tailed Hawk.* Surprisingly scarce with only two reports. One bird was reported at Grayson-Highlands State Park by four parties, and another was seen near Flattop Mountain on 19 June (Stevens *et al.*). It was considered uncommon on the 1966 foray and fairly common at Tazewell in 1972.

*Red-shouldered Hawk.* Two records. Single birds were reported on White Top on 19 June (Moore) and at Hungry Mother State Park on 22 June (Dalmases). The first record, at an elevation above 4500 feet, may be a summer altitude record for Virginia.

*Broad-winged Hawk.* Fairly common with reports from ten different areas.

*American Kestrel.* Rather uncommon with only five reports of single birds, all below 4800 feet.

*Ruffed Grouse.* Uncommon with reports from only six parties and a peak count of 3.

*Bobwhite.* Common in the lowlands with lesser numbers up to 3500 feet. Two were also found in Grayson-Highlands Park at 4700 feet on 20 June (Mc-

Quarry), and one had previously been heard calling near here on Wilburn Ridge at 4850 feet on 24 May (Decker).

*Turkey.* One record, a bird heard calling near the South Fork on 21 June (Dalmases).

*American Coot.* Found only at Saltville where 5 were seen on 21 June (Fielder, Kinzie, *et al.*) and again on 23 June (Peake). It was not recorded on the 1966 foray.

*Killdeer.* Fairly common in the lowlands with two peak counts of 12. An adult with 2 young was found at the bass hatchery on 21 June (Dalmases).

*American Woodcock.* One record, two birds along rt. 603 near Konnarock on 19 June (Williams and Schweitzer).

*Spotted Sandpiper.* One record, a single bird along the Middle Fork on 21 June (Dalmases).

*Semipalmated Sandpiper.* A single bird was noted at Saltville on 21 June (Eike and Scott) and 22 June (Dalmases), almost surely a very late migrant.

*Mourning Dove.* Fairly common below 3000 feet with only a few records higher, though one was found at 4800 feet on Rogers on 19 June (Scott *et al.*). A nest with eggs was reported on Beartown at 4500 feet on 16 May 1974 (Wright, 1975). The maximum count was only 22.

*Yellow-billed Cuckoo.* Seemingly scarce with only four reports and a peak count of only 2.

*Screech Owl.* Fairly common below 4000 feet with one record at 4500 feet in Grayson-Highlands Park. There were two high counts of 4.

*Great Horned Owl.* One record, two birds near Beartree Campground on 22 June (Cromer and Peake).

*Barred Owl.* Fairly common below 4000 feet with a peak count of 4.

*Long-eared Owl.* Two records. Two birds were heard calling near the summit of Beartown on 21 June (Peake, Opengari, *et al.*), and one was found at Beartree Campground on 22 June (Cromer and Peake).

*Saw-whet Owl.* A single calling bird was heard and seen on the peak of Mt. Rogers both before and after midnight on the night of 18-19 June (Peake, Pancake, Fielder, and Kinzie). On White Top many observers heard and saw a bird near the peak at 5400 feet on 20 June (Dalmases, McQuarry, Opengari, *et al.*), and a second calling bird was found the same evening lower down at 4900 feet (Scott). The only previous summer record from this area was one heard calling on Rogers on 8 June 1974, just prior to this foray, by Philip C. Shelton (personal communication).

*Whip-poor-will.* Fairly common below 3300 feet with a maximum count of 8 in the Comers Creek area of Smyth County on 18 June (Williams and Schweitzer).

*Chimney Swift.* Common at low and medium elevations with a few recorded over the highest peaks.

*Ruby-throated Hummingbird*. Rather uncommon up to at least 4500 feet with 11 individuals recorded by eight parties.

*Belted Kingfisher*. Fairly common up to 3300 feet with a peak count of 6.

*Common Flicker*. Common at all elevations, though less so above 4500 feet.

*Pileated Woodpecker*. Single individuals were recorded by only four parties. This was surprising, since both the Abingdon and Tazewell forays had found the species to be fairly common.

*Red-bellied Woodpecker*. Found uncommonly and only at low elevations. Scott and Weidenfeld located 3 near Chilhowie on 22 June and 2 in Rich Valley on 23 June.

*Yellow-bellied Sapsucker*. Three reports of single birds from 3500 to 3800 feet. One was found near Grindstone Campground on 19 June (Vaughn), and the others were near rt. 603 and the Appalachian Trail on 21 June (Vaughn and Watson) and 23 June (Davenport and Stevens).

*Hairy Woodpecker*. Uncommon, with 18 birds reported by 12 parties, mostly at medium and high elevations.

*Downy Woodpecker*. Common at all elevations with a peak count count of 8. Adults were feeding young in a nest at Elk Garden (4480 feet) on 20 June (Watson).

*Eastern Kingbird*. Fairly common at low elevations with a maximum count of 14. A few were recorded up to 3600 feet.

*Great Crested Flycatcher*. Fairly common at low elevations with a few recorded up to 4500 feet.

*Eastern Phoebe*. Common below 3600 feet with a few higher. The peak count was 11.

*Acadian Flycatcher*. Common in the lowlands with lesser numbers higher. One was found near Elk Garden at 4500 feet on 18 June (Peake *et al.*)

*Willow Flycatcher*. Generally uncommon in the lowlands with a peak count of only 4. There were a few records higher, including two singing birds in Sullivan Swamp at 4800 feet on 20 June (Decker, Fielder, Peake, *et al.*). Peake believes that spraying for mosquitoes may have eliminated a thriving population of this species at the salt ponds in Saltville (personal communication). This species was first reported in summer in this general area in 1946 (Stevenson, 1947b).

*Alder Flycatcher*. A single singing bird was located in Sullivan Swamp on 19 June (Murray) and also the following day (Stevens *et al.*). The three-syllable song was clearly heard by both parties. This is apparently a first summer record for this area.

*Least Flycatcher*. Fairly common if somewhat local with a high count of 16. Most of these were at medium elevations, but one was found in Rich Valley on 23 June at 2000 feet (Scott), and others were located on both White Top and Rogers over 4800 feet. At least one, in fact, was found singing a strange one-note song (interspersed with its regular one) by several parties near the

summit of Rogers between 5400 and 5700 feet (19-21 June). The presence of this species at high elevations is evidently somewhat new, as it was not mentioned as occurring on White Top or Rogers prior to 1966 (Minor *et al.*, 1948; Murray, 1936 and 1937). A nest with young was observed at Grindstone Campground on 18 June (Pancake and Kinzie).

*Eastern Wood Pewee.* Common in the lowlands and fairly common up to at least 5000 feet.

*Horned Lark.* Common at high elevations with a peak count of 11. Not recorded below 4000 feet. This species appeared considerably more common here than during the 1966 foray. Two adults were feeding two fledged young on White Top on 19 June (Decker, Larner, *et al.*).

*Tree Swallow.* Recorded only at Laurel Bed Lake, where up to 3 were noted by several parties. This species was found nesting here in 1972 (Scott, 1973).

*Rough-winged Swallow.* Fairly common at low elevations with a few up to at least 3600 feet.

*Barn Swallow.* Common in the lowlands up to about 3000 feet with a few found as high as 4500 feet at Elk Garden. Several parties noted adults with fledged young along rt. 603 in both Smyth and Grayson Counties.

*Purple Martin.* Only 5 birds reported by three parties, all in the lowlands.

*Blue Jay.* Fairly common at all elevations with a peak count of 12.

*Common Raven.* Fairly common at high elevations with a few lower. A flock of 7 reported around White Top and Rogers on 19 June by several parties was evidently the same family group. Others were found at Grayson-Highlands Park, Beartown Mountain, and Beartree and Grindstone Campgrounds. It has previously been found nesting on Beartown (Coffey, 1968).

*Common Crow.* Common at all elevations, but the larger counts were in the lowlands.

*Carolina Chickadee.* Fairly common at low and medium elevations with a few apparently of this species as high as 5000 feet. Although only one bird singing the two-note song characteristic of the *Black-capped Chickadee* was found in this area in 1966 (Scott, 1966), seven parties reported these birds in 1974, at White Top, Rogers, and Grayson-Highlands Park, mostly above 4800 feet. Although one may well question whether these observations indicate a viable population of Black-caps in this area, it seems quite possible that these may at least be hybrids, and it is evident that the population, whatever one chooses to call it, is increasing (cf. Scott, 1973). Two adult Carolinas were found at a nest with 4 young near Marion on 21 June (Williams and Schweitzer), and adult chickadees of uncertain species were feeding fledged young at Laurel Bed Lake on 23 June (Decker and Larner).

*Tufted Titmouse.* Common below 3500 feet and fairly common at least to 5000 feet. Adults with fledged young were noted on White Top on 19 June at about 5000 feet (Decker, Larner, *et al.*) and near Old Orchard Shelter on 21 June at about 3700 feet (Vaughn and Watson).

*White-breasted Nuthatch.* Rather uncommon, mostly at medium elevations, with a peak count of only 4. Found up to 4800 feet on White Top and Rogers.

*Red-breasted Nuthatch.* Common in the spruce and mixed spruce and hardwoods on White Top and Rogers with maximum counts of 15 in each location. Three were also found on Beartown on 21 June (Peake, Kinzie, *et al.*). Two nests were located on White Top on 19 June (Decker, Larner, *et al.*), and one of these, with young, was seen by many observers over the next three days.

*Brown Creeper.* Reported by four parties on both White Top and Rogers with a peak count of 3 on each mountain. Two adults feeding one fledged young were seen on the White Top summit on 20 June (Williams and Schweitzer). This species was missed in 1966, but there are previous summer records here (Minor *et al.*, 1948; Rives, 1890).

*House Wren.* Fairly common but somewhat local below 3500 feet, mostly around towns and villages. Not seen higher than 4500 feet. Apparently formerly more common, at least at high elevations (Murray, 1937).

*Winter Wren.* Common on the upper parts of White Top, Rogers, and Beartown with a peak of 25 on Rogers and 16 on White Top. A few were also noted as low as 3400 feet in the Grindstone Campground area and 3600 feet on Red-rock Mountain. Fledged young were seen on White Top on 19 June (Decker, Larner, *et al.*), Mt. Rogers on 21 June (Decker *et al.*), and on nearby Pine Mountain on 23 June (Davenport and Stevens).

*Bewick's Wren.* Scarce and local. It was seen in four different localities in or near Grayson-Highlands State Park (including Sullivan Swamp at 4850 feet), and an empty nest of this species was located here under a wooded platform on 20 June (Fielder, Peake, *et al.*). Elsewhere, single birds were reported at Bear-tree Campground on 20 June (Vaughn and Cromer) and at Beartown Mountain on 21 June (Fielder, Kinzie, *et al.*).

*Carolina Wren.* Common at low elevations with a few birds up to 4500 feet.

*Mockingbird.* Rather uncommon at low elevations with a peak of only 10 in Rich Valley. It was surprising how scarce this species was around the towns of Saltville and Chilhowie. One was found as high as 4500 feet in Grayson-Highlands Park on 20 June (Fielder, Kinzie, *et al.*).

*Gray Catbird.* Common at all elevations.

*Brown Thrasher.* Fairly common at low and medium elevations with several records to 5000 feet. An adult was feeding fledged young near Grindstone on 21 June (Mitchell *et al.*).

*American Robin.* Very common at all elevations. Four nests with eggs were reported, and young in the nest were found on Rogers on 21 June (Decker *et al.*).

*Wood Thrush.* Common at low and medium elevations with a few up to 5300 feet on Rogers.

*Hermit Thrush.* Uncommon in the spruce zone with a peak of 8 on Rogers and 2 singing birds on White Top. Not recorded elsewhere. This isolated population has evidently increased since 1966, when one was found here for the first time in summer (Scott, 1966).

*Swainson's Thrush.* A single singing bird near the summit of Rogers on 19 June (Scott *et al.*) was the only report. One was also found here in 1966.



*Veery*. Common above 3500 feet with a peak count of 37. A nest on Rogers held one egg on 19 June and three on the next day (Williams, Schweitzer, *et al.*), and a fledged young was found at Grindstone on 22 June (Scott).

*Eastern Bluebird*. Fairly common in the lowlands with a few seen up to 4500 feet. A fledged young was observed near Grindstone on 19 June (Kinzie *et al.*), and a nest with young was located on Beartown on 21 June (Peake *et al.*).

*Blue-gray Gnatcatcher*. Uncommon at low elevations with a maximum count of only 4. One was also found at 3800 feet on Beartown on 21 June (Peake *et al.*).

*Golden-crowned Kinglet*. Common in the spruce zone of White Top, Rogers (and adjacent ridges), and Beartown with a peak of 25 on Rogers. A singing bird was also found on Brushy Mountain at 3900 feet on 21 June (Davenport and Stevens), and up to 2 were seen at Laurel Bed Lake at 3600 feet. Adults were feeding three barely fledged young at Sullivan Swamp on 20 June (Opengari, Peake, *et al.*), and an adult was nest building on White Top prior to the foray on 25 or 26 May (Adkisson *et al.*).

*Cedar Waxwing*. Fairly common up to at least 4500 feet. It seemed considerably more common than in 1966.

*Loggerhead Shrike*. One record, a bird near Saltville on 21 June (Fielder *et al.*).

*Starling*. Abundant in the lowlands and fairly common up to 4500 feet. A number of fledged young were seen near Grindstone on 19 June (Kinzie *et al.*).

*White-eyed Vireo*. Fairly common in the lowlands up to about 3600 feet. A singing bird on the summit of Rogers at 5700 feet on 19 June was a real surprise (Peake, Fielder, *et al.*). A fledged young was found near Grindstone on 19 June (Kinzie *et al.*).

*Yellow-throated Vireo*. Rather uncommon below 3500 feet with a peak count of only 3. Two were recorded up to 4500 feet in Elk Garden.

*Solitary Vireo*. Common at high elevations with a few records down to 3500 feet. The maximum count was 16 on White Top.

*Red-eyed Vireo*. Common up to at least 5000 feet.

*Warbling Vireo*. Uncommon with only 7 birds reported by four parties, all below 2100 feet.

*Black-and-white Warbler*. Fairly common at low and medium elevations. None recorded over 4500 feet.

*Prothonotary Warbler*. One record, a singing male found along the North Fork 2 miles east of Broadford, Smyth County, on 23 June at 1800 feet (Peake). In previous years Peake has observed single singing males at the same place on 18 June 1969 and near Saltville on 27 June 1972 (personal communication).

*Swainson's Warbler*. Two reports. A bird believed to be this species was heard singing at Beartree Campground on 20 June at 3300 feet (Grimm and Hank), and 2 were seen (but not heard singing) along Forest Service rt. 84 near Hurricane Campground on 21 June (Lancaster and Silverman). These

appear to be the first reports from this area in many years. The only definite previous record for Southwest Virginia was by F. M. Jones, who collected a nest with eggs in Washington County in 1932 (Jones, 1933). The species has, however, been found a number of times recently across the Tennessee border (see, for example, Howell and Campbell, 1972, and "The Season" in recent issues of *The Migrant*).

*Worm-eating Warbler*. Rather uncommon with only 11 birds reported by eight parties, none above 4700 feet. It appeared more common here in 1966 as well as on the 1972 Tazewell foray.

*Golden-winged Warbler*. Uncommon with 10 birds reported by six parties. Altitudes were between 3000 and 4600 feet.

*Blue-winged Warbler*. One record. A singing bird responded to a tape recorder on Walker Mountain (Virginia rt. 16) on 22 June at about 2500 feet and was well seen (Dalmases). This appears to be a first summer record for this area.

*Northern Parula*. Fairly common up to 3600 feet with a few higher. It seemed less common than in 1966.

*Yellow Warbler*. Common below 3300 feet but considerably less so than in 1966. A pair was feeding two fledged young on 20 June (Dalmases).

*Magnolia Warbler*. Uncommon and somewhat local at high elevations on White Top, Rogers, and Beartown with a peak count of 7 on Rogers. One was also found at Laurel Bed Lake at 3600 feet on 21 June (Davenport and Stevens). This bird seems to have increased in this area since it was first found here as a summer resident in 1966.

*Black-throated Blue Warbler*. Fairly common above 3000 feet with a peak count of 13.

*Black-throated Green Warbler*. Rather uncommon above 3000 feet with a peak count of only 5. It appears to have declined in recent years, since in 1966 it seemed particularly common in the spruce zone with a maximum count of 19 on Rogers versus a peak of only 3 there during this foray.

*Cerulean Warbler*. Uncommon and local with only 7 birds reported by four parties, generally at altitudes of 2000 to 3000 feet. Interestingly, all records were in the northern part of Smyth County (Walker Mountain and Rich Valley areas) and northeastern Washington County.

*Blackburnian Warbler*. Common at high elevations, especially on White Top and Rogers, with a few records down to 3000 feet.

*Chestnut-sided Warbler*. Common above 3000 feet with a few seen down to 2300 feet. The peak count was 50 in the Laurel Bed Lake area on 21 June (Davenport and Stevens). A newly fledged young was noted on Rogers on 19 June (Fielder, Kinzie, et al.).

*Pine Warbler*. One record, a singing bird seen at Hungry Mother State Park on 22 June (Dalmases). This species was not recorded on the 1966 or 1972 forays.

*Prairie Warbler*. Uncommon in the lowlands with a maximum count of only 4.

*Ovenbird*. Common at all elevations at least to 5200 feet.

*Northern Waterthrush.* One bird was observed at Grindstone Campground on 19 June (Vaughn), and two were found at Beartree Campground on 22 June (Peake, Fielder, *et al.*). There were several other possible records, but the birds were wary and not singing well. The only previous summer record from this area was a singing bird found near Grindstone on 2 July 1972 by Stevens (personal communication).

*Louisiana Waterthrush.* Fairly common in the lowlands up to 3600 feet. Two pairs with one fledged young each were seen at Hurricane Campground daily from 17 to 21 June (Williams and Schweitzer).

*Kentucky Warbler.* Fairly common in the lowlands up to 3500 feet with a peak count of 12. At least one was found up to 4200 feet.

*Common Yellowthroat.* Common in the lowlands and less common higher. It was, however, locally fairly common on Rogers up to 5500 feet, possibly an altitude record for the state. A fledged young was found near Grindstone on 19 June (Kinzie *et al.*).

*Yellow-Breasted Chat.* Fairly common in the lowlands with several peak counts of only 5. Recorded up to 4500 feet in Grayson-Highlands Park. This species seemed considerably less common than on the 1966 and 1972 forays.

*Hooded Warbler.* Common up to 3300 feet with a few to 4500 feet.

*Canada Warbler.* Common above 3500 feet with a few down to 3100 feet and a peak count of 24. A fledged young was seen near Grindstone on 19 June (Kinzie *et al.*).

*American Redstart.* Common up to at least 3600 feet with a few to 4500 feet.

*House Sparrow.* Common in the lowlands with a few up to 3500 feet.

*Eastern Meadowlark.* Common below 3500 feet with a few to 5000 feet on Wilburn Ridge near Grayson-Highlands Park.

*Red-winged Blackbird.* Abundant in the lowlands with a few locally up to 3600 feet.

*Orchard Oriole.* Rather uncommon with only 16 birds reported by eight parties, all in the lowlands. There was a maximum count of 5.

*Northern Oriole.* Rather uncommon in the lowlands with only 17 birds found by eight parties. The peak count was 5. One at 4500 feet in Grayson-Highlands Park on 20 June was quite unusual (Peake, Silverman, *et al.*). A fledged young was seen in Rich Valley on 23 June (Scott and Weidenfeld).

*Common Grackle.* Very common in the lowlands and fairly common to 3600 feet with a few up to 4500 feet.

*Brown-headed Cowbird.* Fairly common at all elevations at least up to 5000 feet. Single fledged young were found on three occasions. One was seen being fed by a female Blackburnian Warbler at Hurricane Campground daily between 18 and 21 June (Williams and Schweitzer); 2 adult Dark-eyed Juncos were feeding one near Grindstone on 20 June (Peake); and a male Chestnut-sided Warbler was feeding one near Clinch Mountain Campground on 23 June (Decker and Lerner).

*Scarlet Tanager.* Fairly common at all elevations with a peak count of 12. A male feeding a fledged young was found near Grindstone on 21 June (Larner *et al.*).

*Summer Tanager.* One report, a count of 6 near Saltville and along the North Fork on 23 June (Peake).

*Cardinal.* Common in the lowlands and fairly common to 3600 feet. A few were recorded up to 4800 feet.

*Rose-breasted Grosbeak.* Common above 3500 feet with a maximum count of 14.

*Blue Grosbeak.* Uncommon and local in the lowlands with 10 birds reported by three parties including 7 singing males in the Rich Valley area on 23 June (Peake).

*Indigo Bunting.* Common at low and medium elevations with a few up to 5500 feet on Rogers. A newly fledged young was found at Sullivan Swamp on 20 June (Kinzie, Peake, *et al.*).

*Purple Finch.* Apparently rare in the spruce zone with only three reports. One was seen at about 5300 feet on White Top on 20 June (McQuarry), a singing male was found on Rogers at 5700 feet on 19 June (Scott *et al.*), and a female was seen on Pine Mountain at 5450 feet on 21 June (Vaughn). It was first recorded here in summer in 1966 (Scott, 1966).

*American Goldfinch.* Common up to 4800 feet and fairly common to the highest elevations.

*Red Crossbill.* Common if local at high elevations. Large flocks were noted by several parties on White Top and Rogers with an amazing peak count of 114 on Rogers on 20 June (Stevens *et al.*). Thirty were also found in a spruce grove on Brushy Mountain at 4200 feet on 21 June (Davenport and Stevens). One on White Top on 20 June was in the streaked juvenal plumage (Scott).

*Rufous-sided Towhee.* Common at all elevations.

*Savannah Sparrow.* Two records. A singing bird was found near the intersection of rts. 714 and 736 in extreme eastern Washington County on 21 June (Dalmases). On the following day the same bird was located plus another singing bird just outside Chilhowie on rt. 608 in Smyth County (Scott and Weidenfeld). These two birds, which were only about 4 miles apart, were at about 2000 to 2100 feet in elevation and appear to be the first summer records for this area.

*Grasshopper Sparrow.* Seemingly rather uncommon, though the species was singing poorly during the foray period. Only 9 birds were reported by five parties with a peak count of 4, all apparently at low elevations.

*Vesper Sparrow.* Rather common above 4500 feet with a maximum count of 15. They were also local at lower elevations with a peak of 6 in Rich Valley. A probable nest of this species with 4 young was located at Sullivan Swamp on 20 June (Peake, Fielder, *et al.*), and a nest with 3 eggs was found at Elk Garden on the same day (Williams and Schweitzer).

*Dark-eyed Junco.* Very common above 4000 feet and fairly common down to 3300 feet with a peak count of 106 on Rogers. One was noted as low as

2800 feet near Laurel Bed Lake on 21 June (Eike and Scott). Three nests with eggs were located on Rogers prior to the foray on 25 or 26 May (Adkisson *et al.*), and four other nests with eggs were found on 19 June, two on Rogers (Williams *et al.*) and two on Flattop Mountain (Stevens *et al.*). A nest with 2 young was noted on White Top on 19 June (Decker, Larner, *et al.*), and fledged young were reported by six parties between 18 and 22 June.

*Chipping Sparrow.* Common in the lowlands up to 3500 feet and local up to 4800 feet. A pair with a fledged young was noted at Hurricane Campground each day from 17 to 21 June (Williams and Schweitzer).

*Field Sparrow.* Common below 4500 feet with a few up to 5400 feet on Rogers. Stevens and others found a nest with 4 eggs on Flattop Mountain on 19 June, and an adult feeding fledged young was observed on White Top on 20 June (Williams and Schweitzer).

*Song Sparrow.* Common below 4500 feet with a few up to 5500 feet on Rogers. An adult was feeding a fledged young near Grindstone on 21 June (Mitchell *et al.*).

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## A SUMMER POPULATION OF RED-BREASTED NUTHATCHES IN THE BLUE RIDGE OF AUGUSTA COUNTY, VIRGINIA

CHARLES E. STEVENS

On 30 June 1974 while walking along the jeep trail on the north side of Flint Mountain in an old burned section of the Blue Ridge south of Waynesboro known as Big Levels, to my considerable surprise, I heard a Red-breasted Nuthatch (*Sitta canadensis*) calling from Pitch Pines (*Pinus rigida*). After some "squeaking" on my part the bird came and perched in some rhododendron 5 feet from my face, then shortly returned to foraging in the pines.

The elevation here is only 3320 feet, and there is no Red Spruce (*Picea rubens*) in the area. Pitch and Table Mountain Pine (*Pinus pungens*) project upwards through thickets of *Rhododendron catawbiense*, Mountain Laurel, blueberries, huckleberry, Mountain Fetterbush (*Pieris floribunda*), azalea (*Rhododendron roseum*), Black Gum, Serviceberry, and Red Maple which cover the rugged substratum of light gray quartzite. The pines, which are probably not over 25 feet in height, do not form a closed canopy but are scattered.

A short while later and a half mile away I again heard a Red-breast calling in Pitch Pines by Green Pond, a sphagnum, sedge, shallow depression supporting cranberries, which lies at 3200 feet atop the flat ridge of Big Levels. This bird was also "squeaked" into close view, after which it resumed working the pines. The habitat here was very similar to the Flint Mountain one, with Pitch Pines standing above a dense oak-heath vegetation. Scrub Oak (*Quercus ilicifolia*), Chestnut Oak (*Q. prinus*), and Sassafras are common constituents. As on Flint Mountain the pines are probably not over 25 feet high, but some range over one foot in diameter at breast height.

This habitat has, like a sizable part of Big Levels, a long history of fire. The type is what some plant ecologists call a "fire climax," which means that with repeated fires this association will remain rather much the same in composition. These places would appear to indicate a fire history predating the arrival of European man to North America.

A return trip on 6 July 1974 produced a total of 14 nuthatches including a flock of nine. All of these birds were found in pine-oak-heath within about a one mile radius of Green Pond, the farthest ones being on Kennedy Ridge, Flint Mountain, and a point  $\frac{3}{4}$  mile northwest of the pond. Elevations where they were seen ranged from 3170 to 3320 feet. The Rufous-sided Towhee (*Pipilo erythrophthalmus*) totally dominated the avian population with 124 being recorded in 8.5 hours and about 9 miles. Also there were Carolina

Chickadees (*Parus carolinensis*), Indigo Buntings (*Passerina cyanea*), Blue Jays (*Cyanocitta cristata*), and Gray Catbirds (*Dumetella carolinensis*) with a sprinkling of Prairie Warblers (*Dendroica discolor*), Pine Warblers (*Dendroica pinus*), and Brown Thrashers (*Toxostoma rufum*). These seem unlikely associates for that denizen of the northern coniferous forests, the Red-breasted Nuthatch.

The parts of Big Levels beyond the one mile radius of Green Pond where no nuthatches were found showed a higher proportion of oak to pine or, in some cases, was mere scrub land.

It is rather strange that on several previous breeding-season trips through this mountaintop area over the last decade or so I had not found this bird. Possibly over the years the pines have grown large enough to support nuthatches. A survey of the literature which I had available revealed a precedent for the summer occurrence of Red-breasted Nuthatches in pitch pine. They have been reported nesting in "open pitch pine-aspen-white oak woods" on the Rome Sand Plains, Oneida County, New York (John Bull, *Birds of New York State*, Doubleday/Natural History Press, 1974, page 409).

If this is indeed a breeding population of Red-breasts on Big Levels, it would be the first known in Virginia outside of the spruce areas of the Mount Rogers-Whitetop group (Grayson, Smyth, and Washington Counties), the Russell and Tazewell Beartowns on Clinch Mountain, Mountain Lake (Giles County), northwestern Highland County, and western Rockingham County, where it occurs in virgin hemlock (*Raven*, 39:44, 1968).

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## WINTERING HENSLOW'S SPARROW IN SOUTHCENTRAL VIRGINIA

MICHAEL R. BOATWRIGHT

On 12 January 1975 a group from Lynchburg and Roanoke, Virginia, made a visit to the John H. Kerr Reservoir area in southcentral Virginia to observe the wintering waterfowl and other birds known to be in the area. After watching the waterfowl on the reservoir, the group drove to Goodes Ferry, a boat landing on the Roanoke River in Mecklenburg County. As we were walking across a broomsedge field, I flushed a small sparrow. During its flight, which was low and quite like marsh and grass sparrows, the short, slightly russet wings and short tail were evident. After flying about 20 feet it dropped back into the grass, but it landed on a small stalk, and from my position I was able to observe the bird clearly with 7x35 binoculars for about 10 seconds, during which I noted the dull olive face and head and faintly streaked upper breast and sides that made me believe the bird was a Henslow's Sparrow, *Ammodramus henslowii*.

I then returned to the car and reported the find to Ray Chandler. We both went back into the field to try to find the bird again, and I walked in to flush the sparrow while Chandler stood on the edge of the field. The sparrow again flew low over the grass and perched on a stalk. Chandler was able to observe



it from 20 feet and could see the olive head contrasting with a brown back. We also observed the flattish head and short tail again. The bird was obviously a Henslow's Sparrow, for which there are few winter records in Virginia.

Route 1, Madison Heights, Virginia 24572

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## THE FALL CHINCOTEAGUE TRIP

RICHARD H. PEAKE

Despite competition with many of the firemen of the East Coast for rooms, the 43 VSO'ers who participated in the August 1975 trip to Chincoteague National Wildlife Refuge found birding rewarding and the heat, flies, and mosquitoes bearable. Even an enforced dinner by candlelight did not seem to dampen the spirits of the group.

On Saturday morning, 16 August, a couple of birders sighted the White-winged Black Tern that had been seen on the refuge earlier in the summer, but the bird was already well into winter plumage. The antics of Wilson's Phalaropes delighted all the VSO'ers who saw these birds; other birders gained much enjoyment from close and extended views of Clapper Rails, which put on a show at Mitchell Byrd's command. Some birders were challenged by the task of separating plump Stilt Sandpipers from dowitchers; and, to the delight of birders from the hinterlands, a number of White-rumped Sandpipers showed the true color of their posteriors.

The highlight of Saturday for most birders was the Safari Bus trip, arranged by the intrepid local leader, Charlie Vaughn. This trip allowed leisurely studies of many species of birds in an area of the refuge not generally birded by VSO'ers who do not love Shanks' mare. Numbers of Whimbrels, Marbled Godwits, Hudsonian Godwits, and Gull-billed Terns were well seen.

The birding day ended when the evening thunder storms fell upon those who had accompanied Charlie Vaughn to his nets at his banding station on Wallops Island. By this time well over 100 species had been listed.

The next day Mitchell Byrd led one group to Fisherman Island; Charlie Vaughn led the other to Wallops Island. Both groups had successful birding. The Wallops group saw five Wilson's Plovers as well as numerous other species. Among these were Sandwich Terns, Wilson's Phalaropes, and numerous knots of Knots. A family of Barn Owls also provided much entertainment, and an early Least Flycatcher was heard calling.

Late in the day, back on the refuge, Bob Ake turned up a Reeve with brilliant orange-red legs, to the delight of the Peakes, who until that time had been skeptical of East Coast Ruff records. When the final tally for the Refuge-Wallops Island area—152 species—was completed, it was evident that the birds and the weather and the VSO contingent had combined to render the 1975 Chincoteague trip a success despite housing problems and thunderstorms. Even Fred Scott went home cheerful, and Betty Hunter (thrown bedless on the bountiful charity of Gertrude Prior and Jeanette Boone) added scores of birds to her life list.

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