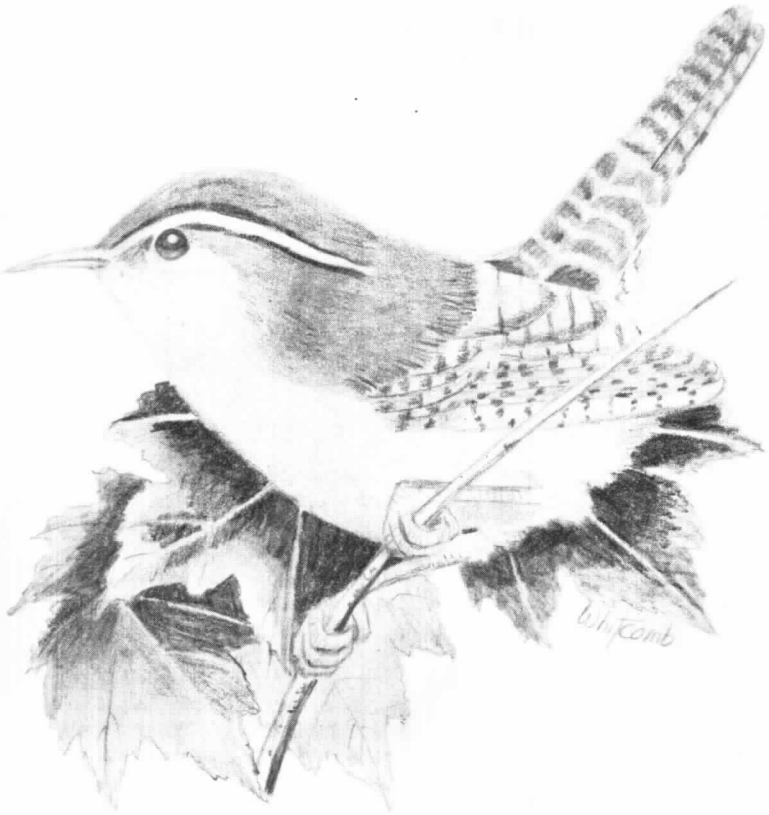
ISSN 0147-9725

MARYLAND BIRDLIFE



Bulletin of the Maryland Ornithological Society, Inc.

MARCH 1977
VOLUME 33
NUMBER 1

MARYLAND ORNITHOLOGICAL SOCIETY, INC.
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Cover: Carolina Wren, drawn by Mimi Whitcomb

MARYLAND BIRDLIFE

Volume 33 March 1977 Number 1

EVIDENCE OF WINTER MORTALITY FROM CHRISTMAS COUNT AND SUBSEQUENT INTENSIVE COVERAGE AT BELTSVILLE

Committee of Biologists
for Preservation of Natural Areas

Since 1971 the Bowie Christmas Bird Count has provided information on winter bird populations in Maryland's western coastal plain. One of the most productive sectors of this 15-mile diameter count circle, by virture of its habitat diversity and thoroughness of coverage, has been that comprising the Beltsville Agricultural Research Center. In 1974, a portion of the Center, including some of the most diverse and interesting habitat, was declared excess, and may now be masterplanned as open space and recreational land. This area has recently been termed[1] the "Beltsville Federal Masterplan Area" (BFMA).

In the 1976 Christmas Bird Count on January 1, 1977, BFMA was covered as a discrete sector of the Bowie circle. Basically, two parties covered its 2700 acres. One party worked the area leased by NASA for its Goddard Space Flight Center functions; the other party covered the portion currently administered by the U.S. Department of Agriculture. The coverage accorded these acres was considered thorough, by Christmas Count standards. In all, 29 party-hours were committed, and a total of 47 species recorded.

Nevertheless, there remained nagging doubts in the minds of the Christmas counters. How thoroughly had the area really been covered? Would further coverage turn up additional species? We strongly suspected this would be the case, since graphs of party-hours *vs.* species for other Christmas Count territories suggested that most territories on Maryland Christmas Counts receive far less than optimal coverage. For example, the graphs for the Center territory at Ocean City show that although the 1976 coverage had been the most intensive in history, with a record 111 species recorded, the 23-year species pool for the territory was actually 170 species. Although all species in a long-term species pool are not available every year, investment of additional party-hours in any given

[1] CBPNA (Committee of Biologists for Preservation of Natural Areas). 1976. Beltsville Federal Masterplan Area: Biological and Research Values and Recommendations for Land Use Master Planning. Draft. Published by Prince George's Audubon Society, PO Box 693, Bowie, Md. 20715

territory should uncover a substantial number of additional species. Such factors were of sufficient interest to motivate 14 members[2] of the CBPNA (Committee of Biologists for the Preservation of Natural Areas) to attempt an intensive coverage of the BFMA area on January 15, two weeks after the Christmas Count. All birds observed in each of six subsections were recorded on maps, and the totals were obtained from the maps after eliminating duplication. The comparison between the Christmas Count survey and the intensive census trip on January 15 (IC1) comprises one portion of this report.

The intensive coverage day of January 15 immediately followed a severe ice storm, which was itself a feature in the early stages of the most severe winter onslaught in Maryland in decades. The weather of early January and the weeks following the intensive survey was obviously perilous to many winter resident bird species. The existence of two baseline surveys suggested that a third count, similar to the intensive census of January 15 would be of great interest. It was hoped that such a count would reveal changes in populations as a result of mortality. Accordingly, the team of censusers, largely composed of the same personnel, recensused the BFMA area on February 19 (IC2). By this date, we felt the worst of the winter weather had passed, and with a few exceptions, spring movements had not begun. The changes in populations on the BFMA resulting from this severe winter onslaught form a second portion of this report.

Weather conditions for the three days are summarized in Table 1.

Table 1. Weather conditions during the three counts

	Date of count		
Weather condition	Dec. 24	Jan. 15	Feb. 19
Sky	Clear	Clear after ice storm	Overcast
Temperature (F.)	15°-28°	27°-37°	30°-46°
Wind (mph)	NW, 12-30	NW, 5-10	SW, 5-10
Snow cover	None	4", hard crust	Ice patches
Ponds	Partly frozen	Hard frozen	Thawing

RESULTS

The totals for the Christmas Count and the two subsequent intensive coverages are presented in Table 2. Subtotals from each of the six subsections for the two intensive counts are presented also, since they give a good measure of the internal variability of the counts. With few exceptions, the subtotals show the same population trends in all or most of the subsections.

[2] The participants were: Danny Bystrak, Sam Droege, Charles DuPree, Luther Goldman, Paul Jung, Stuart, Nancy and Lucy MacClintock, Paul Nytisco, Robert and William Patterson, Chandler Robbins, and Robert and Stephen Whitcomb.

Table 2. Comparison of BFMA Coverage on Three Winter Days

Species	Christmas Count	Intensive Count Days		Subsections (Jan. 15, Feb. 19)					
		Jan. 15	Feb. 19	1	2	3	4	5	6
Canada Goose	560	0	329	0,0	0,0	0,+	0,0	0,0	0,329
Great Blue Heron	0	1	1	0,0	0,0	0,1	0,0	1,0	0,0
Ring-billed Gull	0	2	3	2,0	0,3	0,0	0,0	0,0	0,0
Turkey Vulture	7	5	20	0,4	0,0	2,7	1,1	+,7	2,1
Sharp-shinned Hawk	1	3	0	0,0	+,0	0,0	1,0	1,0	1,0
Cooper's Hawk	1	1	1	0,0	0,0	0,1	0,0	1,0	0,0
Red-tailed Hawk	4	3	3	+,0	+,0	+,+	+,+	+,0	0,0
Red-shouldered Hawk	4	5	9	+,+	+,+	+,+	+,+	+,+	+,+
Rough-legged Hawk	0	1	0	0,0	0,0	0,0	0,0	1,0	0,0
Northern Harrier	0	1	1	0,0	0,0	0,0	1,0	0,1	0,0
American Kestrel	4	1	2	0,1	+,0	1,0	0,0	0,0	+,1
Common Bobwhite	31	61	26	9,0	0,9	12,0	28,17	0,0	12,0
Ring-necked Pheasant	1	0	1	0,0	0,0	0,1	0,0	0,0	0,0
Killdeer	1	0	2	0,1	0,0	0,1	0,0	0,0	0,0
Rock Dove	5	21	11	0,4	1,0	20,8	0,0	0,0	0,3
Mourning Dove	190	101	174	13,23	4,15	34,53	26,60	22,4	2,19
Common Screech Owl	1	5	5	0,0	1,1	0,0	0,0	3,3	1,1
Great Horned Owl	0	3	1	2,0	0,0	0,0	0,0	0,0	1,1
Common Flicker	5	18	60	2,2	3,3	2,1	9,49	1,4	1,1
Pileated Woodpecker	0	1	1	+,1	1,0	0,0	0,0	0,0	+,0
Red-bellied Woodpecker	4	35	48	9,8	7,12	4,9	5,6	2,3	8,10
Yellow-bellied Sapsucker	0	3	0	0,0	0,0	0,0	0,0	3,0	0,0
Hairy Woodpecker	4	9	12	1,4	2,2	1,2	1,3	2,0	2,1
Downy Woodpecker	8	34	30	10,9	4,9	6,4	3,2	1,1	10,5
Horned Lark	0	61	1	0,0	+,0	60,0	1,0	0,1	0,0
Blue Jay	43	108	123	24,21	8,19	42,53	10,11	15,12	8,7
American Crow	64	122	185	25,0	+,10	57,41	10,20	18,49	8,65
Fish Crow	1	2	2	0,0	1,1	0,0	1,1	0,0	0,0
Carolina Chickadee	54	119	200	40,112	18,19	12,22	5,6	24,6	20,35
Tufted Titmouse	13	70	67	14,12	30,25	6,5	4,4	2,2	14,19
Red-breasted Nuthatch	9	7	8	6,5	0,0	0,1	0,0	0,0	1,2
White-breasted Nuthatch	0	0	1	0,0	0,0	0,0	0,0	0,0	0,1
Brown Creeper	3	16	22	2,6	5,9	0,3	0,0	7,0	2,4
Winter Wren	1	0	0	0,0	0,0	0,0	0,0	0,0	0,0
Carolina Wren	14	20	3	7,2	0,0	6,1	2,0	2,0	3,0
Northern Mockingbird	12	21	18	5,14	3,0	2,2	4,0	2,0	5,2
Brown Thrasher	0	2	1	1,0	1,0	0,1	0,0	0,0	0,0
American Robin	0	3	4	3,1	0,1	0,0	0,0	0,2	0,0
Hermit Thrush	4	14	3	9,3	0,0	1,0	1,0	2,0	1,0
Eastern Bluebird	17	21	4	9,2	0,0	2,0	4,0	3,0	3,2
Golden-crowned Kinglet	17	27	0	4,0	5,0	1,0	1,0	3,0	13,0
Ruby-crowned Kinglet	1	3	0	0,0	0,0	0,0	0,0	3,0	0,0
Water Pipit	0	1	0	0,0	0,0	0,0	0,0	0,0	1,0
Cedar Waxwing	0	123	0	0,0	+,0	100,0	0,0	8,0	15,0
European Starling	184	881	991	56,68	+,8	820,887	0,0	2,5	3,23
Myrtle Warbler	2	1	2	0,0	1,2	0,0	0,0	0,0	0,0
House Sparrow	20	100	113	1,35	0,2	98,68	0,0	+,0	1,8
Eastern Meadowlark	17	1	4	0,0	0,0	0,0	0,3	1,1	0,0
Red-winged Blackbird	6	177	78	152,1	+,1	0,14	0,10	25,12	0,40
Common Grackle	0	772	19	2,0	+,0	2,4	0,8	635,4	133,3
Brown-headed Cowbird	0	0	278	0,0	0,0	0,278	0,0	0,0	0,0
Northern Cardinal	54	118	118	17,18	7,32	61,30	10,30	15,4	8,4
Evening Grosbeak	2	28	19	1,9	3,3	4,0	1,5	15,0	4,2
House Finch	10	0	4	0,0	0,0	0,0	0,0	0,4	0,0
Purple Finch	0	9	35	5,3	3,32	0,0	0,0	0,0	1,0
American Goldfinch	24	110	34	4,2	2,5	16,26	7,0	80,0	1,1
Rufous-sided Towhee	9	20	16	4,1	2,2	4,3	2,0	2,0	6,10
Savannah Sparrow	1	8	2	0,0	1,0	2,0	4,0	0,0	1,2
Northern Junco	200	452	355	23,86	109,35	183,164	43,25	80,9	26,36
American Tree Sparrow	2	11	12	0,0	7,4	1,6	1,2	2,0	0,0
Field Sparrow	27	83	57	32,14	12,0	17,21	10,4	3,18	4,0
White-crowned Sparrow	0	2	0	0,0	0,0	1,0	1,0	+,0	0,0
White-throated Sparrow	167	201	127	36,22	10,27	22,37	24,8	13,0	36,33
Swamp Sparrow	4	3	1	1,1	2,0	0,0	0,0	0,0	0,0
Song Sparrow	74	127	82	31,30	11,4	33,12	11,12	34,20	7,4
Total Species	47	59	56						
Total Party Hours	29	68	52						

Comparison of Christmas Count Coverage with Intensive Coverage. In the count of January 15 (IC1), 68 party-hours were invested, compared with 29 party-hours on January 1. The species total was increased from 47 to 59.

In the 2-week period January 1-15, some population changes were evident. These included: (1) Disappearance of Canada Goose, as open water froze; (2) Reduction in numbers of open field birds, with the exception of Horned Lark and Water Pipit; these two species may simply have been more detectable against ice and snow, than on bare ground; (3) Winter finches (Evening Grosbeak and Purple Finch) had increased in numbers in the Washington area between the two counts; (4) Winter Wren, a normal winter resident of BFMA, was already very low on Count day, and had disappeared by IC1. Carolina Wrens were quiet on IC1 day, and the numbers recorded, considering intensity of coverage, seemed low; mortality of this species may already have begun by January 15; (5) Increased totals of House Sparrows and European Starlings were certainly artifacts, resulting from more careful coverage on IC1; (6) Common Grackles and Red-winged Blackbirds were counted overhead from a number of stations in the morning of January 15, but were missed on Count day; none were seen feeding within the BFMA on either day.

More interesting than the differences between the 2 counts were the similarities. The 68 party-hours on IC1 were spread throughout the 2700 acres of BFMA, so that almost all parts of the parcel received some coverage. The ratio of party-hours on IC1 *vs.* Christmas Count Day was 2.34, which is very similar to the ratio of total individual birds reported, if only the stable wintering population is considered (bobwhite, woodpeckers, jays, crows, tits, nuthatches, creepers, wrens, mimids, thrushes, kinglets, warblers, and all fringillids except winter finches). Totals of these species were 1851 on IC1 *vs.* 869 on Count day. This ratio is 2.13. Probably, if party-hours spent walking fields, barren barnyards, etc. were deducted, and especially, time lost combating the ice crust, or attempting to hear birds through the barrage of ice that began falling from the trees about 10:30 a.m., the individual birds per hour may have been about the same on both days. Further increases in party-hours, however, would not produce similar efficiency, since all members of the censusing group felt that they had extended optimum attention to the various habitats within their subsections; hence, the party-hours of 68 for the 2700 acres can be taken as a rough estimate of the coverage required to efficiently cover a packet of mixed habitat of that size. It therefore seems that most land "territory," as defined in local Christmas Bird Counts, could profitably receive much more intensive coverage without loss of efficiency.

Comparison of First and Second Intensive Counts. In all, 52 party-hours were expended on IC2; the decrease from 68 was distributed rather evenly among the six subsections. The participants unanimously felt that the coverage on IC2 was equivalent to or more extensive than the earlier coverage. On IC2 day, there were no problems with extensive

ice or snow cover, enabling more efficient coverage; also, there was no background noise of falling ice. Counts of stable, hardy bird species fully support this impression. Species showing no change or slight increases, for example, include raptors, woodpeckers, jays, crows, tits, nuthatches and creepers. These birds represent the "hard-core" of permanent or winter residents in eastern North America. Finches and sparrows, on the other hand, are less well adapted to overwinter where persistent deep snow cover may bury their seed resources for long periods. Accordingly, only cardinals and northern finches held their own in our comparisons. A paired t-test showed that sparrows as a group (with the notable exception of the hardy American Tree Sparrow) suffered a significant ($p < .05$) decline. The decrease in bobwhite is probably real, although this cannot be demonstrated statistically because of the extreme variability resulting from its flocking behavior.

Other species have even more tenuous status as winter residents in the western shore coastal plain. Significant ($p < .05$) declines in the Carolina Wren and Eastern Bluebird were particularly striking, and almost certainly reflect high mortality. Hermit Thrushes also decreased in all of the five territories in which they were detected. Although we were not surprised to find that Ruby-crowned Kinglets had disappeared between the two intensive counts (but note the small sample size), we were surprised to find that Golden-crowned Kinglets had totally disappeared from the area, dropping from 27 to 0. We had expected this species, a normal hardy winter resident, to fare better than this, and have no explanation for such a dramatic decrease.

Winter Species Pool of BFMA. In all, 65 species were recorded on the three days of censusing and surveys. Four other species--Black Duck, Black Vulture, Herring Gull and Barred Owl, were recorded in the five-week interval between IC1 and IC2. In winters in which Beck Lake is not frozen, several water birds occur frequently on BFMA. These include Pied-billed Grebe, Mallard, Ring-necked Duck, Common Goldeneye, Hooded and Common Mergansers and Belted Kingfisher. About 10 other duck species occur less frequently. Land birds recorded on BFMA in other winters include American Woodcock, Black-capped Chickadee, Rusty Blackbird, Chipping Sparrow and Fox Sparrow. Also, Pine Siskins and Red Crossbills are common in BFMA pine woods in years of irruptions of northern finches. In suitable years, under appropriate conditions, therefore, the BFMA serves as winter habitat for nearly all the species recorded within the Bowie Christmas Count circle.

A final comment is in order concerning raptorial bird species. In the course of this winter's studies, we noted *11* species of raptors on BFMA. In other years, Saw-whet Owl, Barn Owl and Bald Eagle have been reported. The significance of this minimally disturbed area, in conjunction with the adjacent Patuxent Wildlife Research Center and the remaining acres of the U.S.D.A. Research Center, as an overwintering and breeding refuge for raptorial birds is obvious.

SUMMARY AND DISCUSSION

The Beltsville Federal Masterplan Area (BFMA) is composed of a rich mixture of upland pine and deciduous forest and a moderate amount of small stream floodplain, open fields and edge habitat. Our results suggest that such an area, consisting of 2700 acres of mixed habitat, could profitably absorb 52 party-hours in good weather, or 68 party-hours in adverse conditions for the purpose of winter coverage. Our three surveys of this area revealed the dynamic nature of bird populations, even in midwinter, as water birds responded to freezing of their habitats, winter finches continued to arrive in modest numbers in mid-winter, and wandering vagrant species such as Cedar Waxwing arrived and disappeared unpredictably. The stable population of winter residents (bobwhite, woodpeckers, jays, crows, tits, nuthatches and creepers) survived even the harsh winter of 1976-77, attesting to their adaptation for winter survival. However, our results suggest that Carolina Wren, Hermit Thrush, Eastern Bluebird and kinglets were severely impacted. Most fringillids, northern finches excepted, also suffered, but less drastically. Reductions in populations of some of these species may offer exceptional opportunities to study population interactions between the impacted species and other species, particularly neotropical migrants, with which they may compete in the summer.

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IMPACT OF THE SEVERE WINTER OF 1977 ON WOODLAND BIRDS IN THE MARYLAND PIEDMONT

Chandler S. Robbins

Marylanders, wildlife as well as people, have just experienced the most severe winter in more than 35 years. Although total snowfall in central Maryland was only slightly in excess of the long-term average, snow that fell on Christmas day 1976 remained on the ground in shady places for two months or more. Temperatures remained subnormal for 28 consecutive days, from Dec. 30 to Jan. 27, with long periods of hard freezing weather. An ice storm on Jan. 14-15 covered the snow with a thick crust, which sealed up the normal food resources of many of the ground-feeding species. For the next nine days the temperature remained below freezing. On Jan. 17 it dropped to or below 0°F. in all parts of the State (0° at Salisbury, -5° at Clarksville, -17° at Hagerstown). Since the five preceding Maryland winters had been unusually mild, populations of the half-hardy permanent residents such as Carolina Wren had been increasing and extending their range to higher elevations; winter mortality of other species also had been lower than normal. Thus, the impact of the 1977 winter was accentuated.

In the valley of the Middle Patuxent River at Columbia in Howard County (3 miles from the Clarksville weather station), I have been studying winter bird populations on two woodland plots since 1972. One plot,

located in the floodplain, consists of 45.5 acres; the other, in the adjacent upland, contains 29.6 acres. The vegetation of both plots has previously been described (Robbins, *American Birds* 25:963-964, 971). Censusing of both plots has been standardized. Each winter from early January to mid-February, four early morning and four late afternoon census trips have been conducted in each plot. Results of the various Winter Bird-Population Studies have been published in the June issues of *American Birds* through 1975 and in the December issue in 1976. Unlike the Christmas Bird Counts, the Winter Bird-Population Studies are conducted in the dead of winter when the bird population is relatively stable. The purpose of the present paper is to go into more detail regarding observed effects of the weather conditions on bird populations than is possible in the reports published in *American Birds*.

In a normal year in the Columbia plots, the supply of poison ivy berries lasts throughout the census period, and few changes in bird populations are noted during this six-week period. In the winter of 1976-77, however, the poison ivy berries were consumed much earlier than usual (either because of a smaller crop or greater demand) and by the end of January only a small number of berries, nearly all tiny ones, remained on the vines. Any berries that had fallen to the ground were buried under a hard crust of snow and were not available to the birds.

The first two trips through the upland plot were made on the afternoon of Jan. 8 and the morning of Jan. 9, before the worst of the cold weather. It is interesting to compare the results of these two trips with the later ones (Jan. 20 through Feb. 12) because of the drastic decline in several species (left two columns of Table 1). Little change in the numbers of woodpeckers, chickadees, titmice, and finches was noted, but the Carolina Wren disappeared entirely, the White-throated Sparrow virtually disappeared, and the Hermit Thrush and Yellow-rumped Warbler dropped to a small percentage of their previous numbers.

Unfortunately, no direct comparison is available for the floodplain plot because the first trip there was not taken until Jan. 22, after the greatest impact of the severe weather had been felt. During the period Jan. 22 through Feb. 12, populations remained quite stable in the floodplain plot, suggesting that most of the winter mortality had indeed taken place before the beginning of the 1977 study.

Both the floodplain and upland study plots lie within the Triadelphia Reservoir Christmas Bird Count (CBC) circle, and each year I cover a section of the Middle Patuxent Valley, including both plots, as part of this Christmas Count. Total coverage on the Triadelphia CBC was similar in both years (198 party-hours on Jan. 1, 1976 and 206 on Dec. 24, 1976, and with comparable but a little windier weather on the latter date). Thus, the Christmas Count totals (Table 1) for these two years can be compared directly to get an indication of relative populations before the onset of the severe weather.

And finally, the pair of columns at the right in Table gives a comparison between the floodplain study plot in January-February 1976 and

January-February 1977. All study plot figures in Table 1 are 2-trip totals (a morning trip and an afternoon trip) or means of 2-trip totals.

Table 1. Bird population changes in Upland and Floodplain study plots as compared with Christmas Count figures[1]

	Upland, 1977		Christmas		Floodplain	
	1/8-9	1/20-2/12	1976	1977	1976	1977
Species minimally affected						
Red-bellied Woodpecker	4	6.33	124	154	13.75	11.00
Yellow-bellied Sapsucker	1	1.00	3	11	2.75	3.50
Hairy Woodpecker	0	2.00	36	37	4.00	2.00
Eastern Bluebird	0	0	100	54	1.25	2.75
Purple Finch	0	2.00	34	93	7.25	2.50
American Goldfinch	1	0	364	380	1.50	4.50
Subtotals	6	11.33	661	729	30.50	26.25
Species moderately affected						
Common Flicker	2	0.50	102	102	17.00	1.75
Downy Woodpecker	7	6.67	166	160	21.50	11.50
Carolina Chickadee	6	6.00	749	638	19.50	11.25
Tufted Titmouse	4	6.00	274	293	17.75	8.75
Northern Cardinal	6	2.00	790	958	20.50	8.50
Subtotals	25	21.17	2081	2151	96.25	41.75
Species severely affected						
Belted Kingfisher	0	0	31	24	1.00	0
Winter Wren	0	0	21	18	2.25	0
Carolina Wren	2	0	308	301	9.25	0
Hermit Thrush	4	0.67	6	32	0	0
Ruby-crowned Kinglet	0	0	25	16	2.00	0
Yellow-rumped Warbler	7	1.67	68	65	129.75	17.00
Rufous-sided Towhee	0	0	23	49	1.00	0
White-throated Sparrow	33	0.33	2146	2443	31.75	3.25
Subtotals	46	2.67	2628	2948	177.00	20.25

[1]Numbers are either 2-trip totals or means of 2-trip totals

I examined the results of the eight trips in each plot in 1976 and in 1977 (total of 32 trips), species by species, using analysis of variance to detect significant population changes between 1976 and 1977. In this connection it is important to note that most species in Table 1 were found in similar numbers on both CBC's or in larger numbers on the December 1976 CBC. Christmas Count totals for the Hairy Woodpecker, Common Flicker, Downy Woodpecker, Carolina Wren, Yellow-rumped Warbler, and American Goldfinch were nearly identical (within 5%) both years; only the Belted Kingfisher, Carolina Chickadee, Winter Wren, Eastern Bluebird, and Ruby-crowned Kinglet were appreciably lower at the beginning of 1977.

The analysis of variance, comparing all 1976 trips through the study plots with all 1977 trips, showed a highly significant ($p < .05$) drop in the 1977 counts of the Belted Kingfisher, Rufous-sided Towhee, and White-throated Sparrow. Since the Belted Kingfisher, Winter Wren, and Ruby-crowned Kinglet were reported in lower numbers on the December 1976 CBC than in the previous year, I reduced the study plot figures for 1976 by the same percentage in an attempt to compensate for this lower population at the beginning of the 1976-77 winter. Even with this adjustment, the differences between the 1976 and 1977 study plot figures were statistically significant at the levels indicated, suggesting that the severe weather had affected the populations of these three species.

With one exception, woodpeckers and finches seemed well adapted to survive the abnormal cold and the prolonged icy conditions. All of the woodpeckers in my study plots rely heavily on poison ivy berries in a normal winter, and except for the flicker they seem capable of exploiting other food sources when these berries are not available.

Yellow-rumped Warblers, on the other hand, use poison ivy berries as their staple food (except on warm days when insects are available), so they were hard pressed to survive when the berry crop became exhausted before the return of warm weather. A few Yellow-rumps fed at sapsucker drillings, but not enough of these drillings were available to support the early winter population of warblers.

Carolina Wrens, Winter Wrens, and Ruby-crowned Kinglets winter regularly in the study plots, especially the floodplain plot. The winter of 1977 was the first in six that they were not recorded in the floodplain. Although all three of the species occasionally feed on poison ivy berries, they also find much insect food in a normal winter. The combination of severe cold, ice-covered trees, and heavily crusted snow apparently caused a complete wipeout of these species not only within the study plots but throughout the surrounding area as well, except that a few Carolina Wrens survived at feeding stations one-half mile or more away.

Kingfishers would have been unable to feed during much of the study period. In the past they have been present every winter, but have disappeared for a few days at a time when ice formed on parts of the river. This year, however, they did not return when the ice began to break up.

Although the treetop feeding finches were present in normal numbers, considering their vagrant habits, the ground-feeding fringillids, cardinal, towhee, and White-throat, declined significantly. These three species, in common with so many of the regularly wintering species, rely heavily on the poison ivy berries, which normally remain available long after the Japanese honeysuckle and other berries have been consumed. Thus, when the poison ivy berries disappeared while the ground was still sealed under ice strong enough to support a man, these normally hardy birds either perished on their winter territories or wandered off in a futile search for better pickings.

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OILED BIRDS SEEN AT OCEAN CITY, MARYLAND

Paul G. DuMont

On December 31, 1976, while birding at the Ocean City jetties from midafternoon on, I noted an unusually large number of birds with oil stain on their feathers. The following notes are of interest in light of the recent oil spills by tankers in Delaware Bay and off Nantucket Island, Mass., earlier this month.

Among the 100 or so gulls standing on the packed-sand beach above the north jetty were a Ring-billed and 5 Herring Gulls with brown staining and matted feathers on the upper wing coverts. Five of the 6 gulls had brown stain-bands across the breast, along the flanks, and across the vent-undertail areas--a broad, dark "bathtub ring" effect. Two of the Herring Gulls had matted feathers on the front of the face. None of these apparently oil-stained birds had any trouble flying when I pushed the whole flock into flight.

Among the flock of 150 or so Bonaparte's Gulls feeding over and resting on the roiling waters off the end of the south jetty was one winter-plumaged adult with a jet black, sharply demarcated, apparent oil stain across the lower belly and undertail feathers. The flight feathers had a very dark shadowing (suggesting staining) the full length of each feather and extending through all the secondaries and three or four feathers into the primaries. No other feather parts appeared discolored. This Bonaparte's had no trouble flying or attempting to feed on the wing. Twice after it dropped to rest on the water, it took to flight again with no apparent problem.

Two of the Oldsquaws in the flock of sea ducks feeding off the end of the south jetty appeared to have brown stains along the flanks. They also had irregular, dark areas on the face and neck, but I was unsure whether this might be staining or normal plumage variation. Both birds appeared healthy, dove regularly, and did no preening.

Around 4 p.m., a "clean appearing" Thin-billed Murre (*Uria lomvia*) and an apparently oil-stained Razorbill (*Alca torda*) swam up from a southeast direction to the feeding flock of Oldsquaws, scoters (all 3 species), and Red-breasted Mergansers at the end of the south jetty. The murre was identified as this species by its: extensive whiteness high up the side of the head--to well above the bird's eye on the rear face and partially above the eye on the foreface; long, thin, straight, dark bill; and generally flattened bill-into-forehead profile with the accompanying head peak toward the rear of the crown. It had a necked appearance, and the dorsal color of the body-wings was jet black and unspeckled, contrasting with the white ventral surface. The thin, black line extending posteriorly from the eye into the white rear face was only barely visible (and sometimes not at all) and seemed shorter than I expected; the lighting was more toward back lighting than side lighting and may have been a problem.

The Razorbill showed the typically thick, blunt-ended bill, the dark upper face, and the "raised rump, sloping back, neckless" appearance. It had brown stains throughout the lower face, irregularly across the breast, and as a solid band along the right flank and possibly left flank. Both alcids appeared midway in size between Oldsquaws and scoters, but closer to scoters; they rode higher in the water than the ducks.

The murre acted healthy and even dove once after the two alcids joined the sea duck flock. The Razorbill did no diving, preened its breast and flank feathers continuously, and paid no attention to the sea ducks. In its preening, the Razorbill's underwing covert and "axillary" areas were exposed--the underwing lining appeared to have some dark spots or stains while the axillaries were clear white, an interesting contrast.

The whole sea duck flock, which also included one "brown" King Eider, and the two alcids drifted behind the south jetty. Some minutes later, most of the flock took flight back toward the roiled waters off the end of the jetty. Two alcids also took to flight--one appeared to be the murre and the other appeared to be a "clean" Razorbill. I could see the left side of the breast and the left side and rear of the flank of this Razorbill, and the bird appeared to have no dark staining. The alcids peeled off and dropped into the ocean several hundred yards below the jetty. I could not pick them up again in my scope.

A little later a bedraggled, badly oil-stained Common Loon flew diagonally by the jetties heading toward Assateague Island. Its flight was lurching, weaving, and erratic. The loon had trouble maintaining altitude and an even course and had even more trouble keeping its body on a flat flight plane.

The entire head, neck, and breast were blackened and had a very rumpled look suggesting heavy feather matting. The black staining continued down the center of the belly and spread across the undertail area--only the right flank was whitish. There were several "holes" in the right wing flight feathers suggesting either missing or matted primaries. The wing beats were dissynchronous, and the right wing beat faster than the left.

As the loon attempted to land in the shallow waters off the island a little below the south jetty, it set its wings and projected its feet to brake the stop. Instead of slowing, the bird went into a reverse roll, overshot the water, and crashed on its head and right side in the shallow surf breaking onto the beach. After perhaps a minute the bird stirred, righted itself, and tried to "walk" and "fly" (only the left wing was beating) up onto the dry beach. My attention was diverted for a while, but when I rechecked the crippled loon, gulls were mobbing it and appeared to be pecking at its head. The loon seemed defenseless except for beating its left wing and trying, with little success, to "walk" back into deeper water. The gulls continued to mob the loon until it was too dark for me to see the action.

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EFFECT OF THE WINTER OF 1976-1977 ON EASTERN BLUEBIRDS

Lawrence Zeleny

The winter of 1976-1977 was one of the coldest on record throughout most of the eastern half of the United States according to official weather records. All-time records for severe cold were broken in many places. Human suffering was extensive, but wildlife suffered even more.

Bluebird trail operators reported Eastern Bluebirds (*Sialia sialis*) crowding in unusual numbers into nesting boxes or specially made roosting boxes for nighttime protection from the cold and wind. Sixteen bluebirds were observed entering one nest box at dusk near Largo, Maryland, by Michael L. Smith. Dead adult bluebirds were frequently found in these boxes--as many as eight in one nest box in Virginia. As spring approached, trail operators reported marked scarcities or even the complete absence of bluebirds.

To obtain a more objective indication of the extent of bluebird losses, trail operators were asked to report the number of boxes on their trails that were used for first brood nesting in 1977 as compared with 1976.

Reports were received on the status of 55 bluebird trails consisting of about 2,660 nest boxes in 17 states and one Canadian province. Most of the data were taken from complete records kept by the trail operators, but in a few instances estimates based on the best available information were used. The results are summarized in Table 1.

Table 1. Regional Losses in Eastern Bluebirds, 1976 to 1977

States and Provinces	Total boxes	Boxes used for first broods		Percent decrease, 1976 to 1977
		1976	1977	
North: Wis.,Mich.,Pa.,N.Y.,Que.	731	333	281	16%
Maryland	836	441	240	46%
Ohio and West Virginia	136	22	13	41%
Illinois, Indiana, Kentucky	297	135	36	73%
Kansas, Missouri	69	46	22	52%
Virginia, North Carolina	548	271	219	19%
South: Ala.,Ga.,S.C.	43	34	34	0%
Totals	2,660	1,282	845	34%

Estimated population loss is the decrease from 1976 to 1977 in the number of boxes used by bluebirds for first broods. For 1977 only those boxes (or their replacements) that were available to the birds in 1976 are considered. Where trails were enlarged in 1977 some of the birds that might have used boxes included in the computation may have used instead some of the new boxes. To determine whether this would have altered my calculations appreciably, I recomputed the overall population

loss using all of the boxes reported used in 1977. This indicated a minimum estimated population loss of 31% along the bluebird trails.

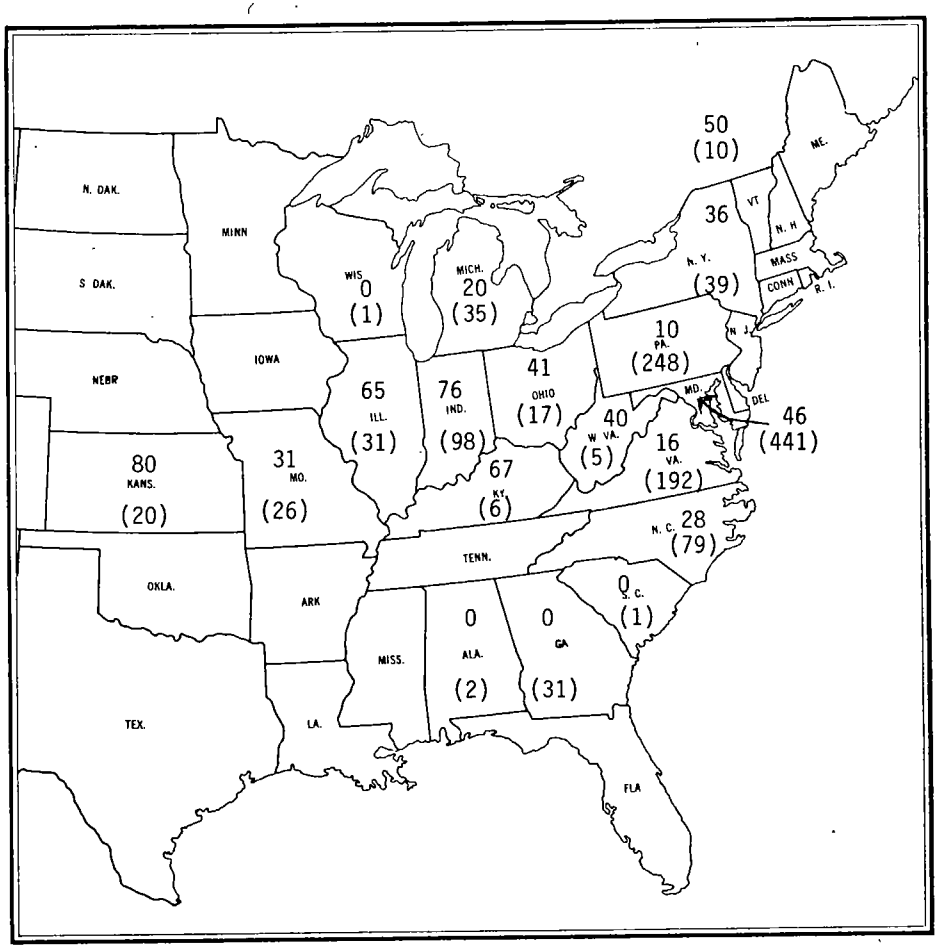

Figure 1. Percentage of bluebird population loss from 1976 to 1977 by state and province. Numbers in parentheses are the numbers of boxes reported occupied in 1976.

The greatest losses occurred in the middle latitudes rather than in the north or the south. These middle states represent the approximate northern boundary of the usual winter range of the Eastern Bluebird. Many and perhaps most of the bluebirds that nest in these states remain near their breeding areas throughout the winter. Banding recoveries show, however, that most of the bluebirds that nest in the northern states and Canada winter in the deep south. This is the probable explanation for the losses being heaviest in the middle states.

Unfortunately only scanty data on bluebird populations were obtained from the southern states.

The total reduction in the Eastern Bluebird population during the past year over the entire range of the species is probably somewhat less than the 34% indicated by this study, because the greatest number of reports were received from the states where the heaviest losses occurred. Nevertheless, the overall losses were undoubtedly very serious.

It is generally believed that when bluebirds within their normal winter range fail to survive the winter it is a lack of available food rather than just the low temperature that kills them. Berries upon which bluebirds depend for their winter food may become heavily coated with ice as a result of freezing rain. This may happen, of course, when the temperature is only slightly below freezing. If this condition persists for two days or more the bluebirds may die of starvation even at relatively moderate temperatures.

There is evidence, however, that during the winter of 1976-1977 it was the extreme cold rather than starvation that killed most of the bluebirds. Trail operators were asked to report whether freezing rains caused wild berries to be covered with ice for more than two consecutive days. In areas where bluebirds normally spend the winter this icing condition occurred on 12 trails; bluebird losses there averaged 42%. For 20 trails where ice did not last two days or more the overall loss was 40%. Thus the availability of food seemed to have very little influence on bluebird mortality. The combination of prolonged extreme cold and strong winds evidently was more than the bluebirds were equipped by nature to endure.

The Eastern Bluebird without question suffered a major setback last winter and many bluebird trail operators feel discouraged that so much of the fruit of their labors was wiped out so quickly. But we must try to view the situation in its proper perspective. Exceptionally severe winters have occurred from time to time throughout history and have taken their toll on wildlife. This is one of nature's ways of controlling the populations of many creatures.

Fortunately the bluebirds that survived the past winter in Maryland seem to be enjoying a high degree of nesting success in 1977. Perhaps we can speculate that these birds are tougher than those that perished and that their progeny may therefore be somewhat better able to withstand the rigors of severe winters. This is the way that progress is achieved through the slow but inexorable process of evolution.

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• GULL AND TERN COUNTS NEEDED •

Dr. William E. Southern of Northern Illinois University has asked our assistance in supplying information on gull and tern populations at all seasons. Contact your local MOS Chapter for reporting forms.

HERONS AND RAILS VICTIMS OF SEVERE FREEZE

Guy W. Willey

For two full weeks in mid-January 1977, minimum temperatures at Cambridge, Maryland, ranged between 1° and 20° F., except for a single night when the mercury fell only to 26°. This, in combination with abnormally low daytime temperatures, continually below 40° from Jan. 11 to 24, caused an almost complete freeze-up of the Blackwater River and its marshes.

On January 23, my sons Guy Jr (age 15) and Robbie (age 13) made a late afternoon visit with me to my property on Shorters Wharf Road near Blackwater National Wildlife Refuge. There was a small area of open water, about 2 by 6 feet, at each end of a culvert, where a Great Blue Heron (*Ardea herodias*) and a Clapper Rail (*Rallus longirostris*) had been feeding since about the first of January. When we arrived this time the Great Blue Heron was standing in the open water and had caught a rail that we believed to be the same one we had been seeing there. The heron flew off to a cleared area with its prey. We made no effort to run the heron away from the rail, which appeared near death. For two minutes we watched the heron devour the rail, and then we left. I returned the next day and found the remains of the rail.

The Great Blue Heron was one of the marsh species that suffered abnormal loss during the severe weather. I observed more than ten dead ones in the Blackwater area from January through February 17. At Blackwater Refuge we received reports from trappers and birders that these herons were dying. Reports of dead King (*Rallus elegans*), Clapper, and Virginia (*R. limicola*) Rails were widespread in late January.

It was recorded for the first time since about 1934-36 that muskrats were forced to cut out through the side of their houses, since their escape canals froze over in many areas. The severe cold also killed off many of the nutria in Dorchester County. Fortunately, the fields were free of snow during most of the period and there were no reports of heavy mortality of waterfowl.

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SOME EFFECTS OF THE 1977 FREEZE ON TALBOT COUNTY BIRDS

Jan G. Reese

One of the principal effects on birds of the freezing of Chesapeake Bay and its estuaries in January 1977 was the loss of offshore nesting sites for Ospreys (*Pandion haliaetus*). In early March I checked 136 of the 150 nest sites that were active in western Talbot County, Maryland, in 1976. Thirty-five percent of the sites had been completely destroyed by ice and tides. I managed to construct a nest platform on the remains

of 11 percent, and 3 percent have other structures nearby that are suitable for nesting. The 29 pairs of Ospreys that had used the remaining 21 percent have no old nest site to return to in 1977. At least ten pole/platform structures and numerous channel markers previously not used for nesting are available in 1977 and hopefully will provide nest sites for some of the displaced nesters.

Other species directly affected by the severe cold include the Great Blue Heron (*Ardea herodias*), Sharp-shinned Hawk (*Accipiter striatus*), Belted Kingfisher (*Megaceryle alcyon*), and Carolina Wren (*Thryothorus ludovicianus*). On March 11 I noted only about 50 Great Blue Herons in the Poplar Island colony where I usually expect more than 125 birds. Although Sharp-shinned Hawks were more numerous this past winter than I can remember, many may have been killed indirectly by the bad weather; during January and February I found 5 dead on highways where they had moved to prey on birds feeding along the open roadsides. I have not seen a Belted Kingfisher since December, although 53 of them had been recorded on the St. Michaels Christmas Count on December 19. And Carolina Wrens, 189 of which had been counted on December 19, were practically non-existent by early March.

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SONGBIRD MORTALITY IN PRINCE GEORGES COUNTY, MARYLAND

M. Kathleen Klimkiewicz

The winter of 1977 has been declared by some experts as the worst in 200 years. It is certainly the worst I can remember. The severe cold and snow cover with its ice crust have taken their toll on wildlife. This is evident in several ways.

The annual Winter Bird-Population Study at Piscataway Park, Accokeek, Md. showed two glaring effects of the severe winter. Eastern Bluebirds (*Sialia sialis*), present since 1974 on the 15-acre plot (average of 2 birds in 1974, + in 1975, 1 in 1976), were totally absent this winter. Carolina Wrens (*Thryothorus ludovicianus*) were absent on the last five trips (after Jan. 12), where there had been an average of 3 birds in 1976. Both species are dependent on winter insects and berries, which were unavailable for several weeks in January and early February. Further evidence of the weather's effect was noted during a 5-mile hike through the Patuxent Wildlife Research Center along the Patuxent River and Knowles Marshes in mid-February. Not only were Carolina Wrens totally absent, but so were White-throated Sparrows (*Zonotrichia albicollis*) Both species had previously been common in this area in winter.

The past several winters have been exceptionally mild and the Carolina Wren populations have risen accordingly each year as shown by the Christmas Bird Counts. A severe winter is one of many natural population checks and its effects should not cause undue alarm unless we experience several such winters in a row.

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EDITORIAL

DISASTER ISSUE

We are indebted to Mimi Whitcomb for the cover drawing of our chief disaster species, the Carolina Wren, which she drew specifically for this issue. This is the first time since 1947 that bird art (as contrasted with photography) has graced our cover. For those readers who have not seen the March-April issue of 1947 (Vol. 3, No. 2), the cover showed a map of Kent Island on which Joe Bures had drawn a sketch of each of the 41 species seen on the Feb. 16, 1947 M.O.S. field trip to Kent Island.

The front portion of the present issue is devoted to papers documenting some of the effects of the severe winter weather of January and February 1977. Although this is not the coldest winter on record in the Middle Atlantic States, its effects on bird populations will be much better documented than was the case in any previous harsh winter in eastern North America [1904-05, 1911-12, 1917-18 (the coldest January on record at Washington, D.C.), 1935-36, and 1962-63].

To put the winter of 1976-77 in proper perspective, we should review the cause and extent of the abnormally frigid weather. In a normal winter in the Middle Atlantic States we enjoy an alternation of cold, clear Arctic air masses from the northwest and warm, moisture-laden airflow from the Gulf of Mexico. At irregular intervals this pattern is broken by an Atlantic coastal storm that brings rain or snow on easterly winds. Thus periods of excessive cold, warmth, or precipitation seldom last more than 4 to 6 days at a time. In mid-December 1976, however, a strong pressure ridge developed in the upper atmosphere over the west coast. Clockwise circulation around this nearly stationary ridge pumped subtropical Pacific air into Alaska, giving that State its warmest winter in the 60 years of records. At the same time, clockwise circulation on the east side of the ridge ushered frigid Arctic air from northwestern Canada southeastward on a trajectory centered over Minnesota, Indiana, Georgia, and Florida. In mid-January the Pacific ridge expanded eastward, shifting the brunt of the cold weather eastward from the Ohio Valley into the Middle Atlantic States and giving us the coldest weather of the winter. During February the Pacific ridge of high pressure gradually weakened, permitting the normal sequence of weather alternations to return by mid-month.

Effects on birdlife of prolonged freezing weather coupled with deep or crusted snow were widespread. In the Ohio Valley, for the first time on record, the temperature remained continually below freezing for the entire month of January; at Buffalo it snowed on 53 consecutive days and 183 inches of snow had fallen by the end of February; and Miami had its first recorded snow, borne by high, bitter-cold winds. The mean January temperature for U.S. weather stations east of the Mississippi River was the lowest on record. The Washington area, with its fifth coldest January (10° below normal) did not fare as badly as our neighbors west of the Appalachians (18° below normal in Indiana).

In the winter of 1962-63 the British Isles had a weather disaster similar to ours. Their Common Birds Census (Bailey 1967) recorded a 78% reduction in Wrens (the same species as our Winter Wren), losses of 75% for Mistle Thrush and 57% for Song Thrush, 64% for their race of the White Wagtail, 60% for the Moorhen (same species as our Common Gallinule), and 55% for the Lapwing, which ecologically replaces our Killdeer. It took each of these species 4 or more years to recover from the disaster. Watch forthcoming Season reports, Breeding Bird Survey results, Christmas Counts, and banding summaries for additional documentation of the losses and subsequent recovery of our rails, Killdeer, kingfishers, wrens, Hermit Thrushes, bluebirds, kinglets, and other affected species.

Literature Cited

Bailey, R. S. 1967. An index of bird population change on farmland. *Bird Study* 14:195-209.

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THE MARYLAND CHRISTMAS COUNTS OF 1976

Danny Bystrak

New Maryland residents thinking they were "down South" were probably surprised by the winter of 1976-77. From the second week of October until the beginning of January, temperatures averaged 4° to 8° F. below normal throughout the Mid-Atlantic States. Counts on the first weekend of the period were treated to some gorgeous weather, but the rest of the period was one of the coldest on record.

The record 21 counts represent the combined efforts of 600 different people, many of whom helped on more than one count as exemplified by the 757 names listed after the Maryland counts in the July 1977 issue of *American Birds*. Unfortunately, the nasty weather on so many counts resulted in a 2.6% drop in total party-hours from 2866 last year to 2790.5 this year. Fortunately, however, the observers were hardy enough to spend almost precisely the same percentage of time afoot despite the weather. A gradual increase in time spent on foot is, of course, very desirable, for better coverage as well as gas saving.

Eight counts reached or surpassed the magic 100 species mark. Ocean City was highest with 161 species, followed by Crisfield with 131 and Southern Dorchester with 111. The new Liberty Reservoir count did remarkably well in its first year with 87 species. Garrett County had the traditional honor of lowest species total with 56--still a remarkable total considering the frozen lake and the snow cover.

The count tabulation on pages 22-29 is more or less in order of distance from the coast. Ocean City through Elkton are on the Delmarva Peninsula, Point Lookout through Bowie are on the Western Shore Coastal Plain, Rock Run through Catoctin on the Piedmont, Washington and Allegany Counties in the Ridge and Valley province, and Garrett County on the Allegheny Plateau. Unusual totals or species appear in boldface type.

As expected, the increase in frozen water resulted in a drop in many water-dependent species from Belted Kingfisher to herons, although most waterfowl numbers were normal. There were essentially no Black-capped Chickadees out of their breeding range this winter, but some observers continued to report them with no substantiating details. Berry-eating birds seemed to fare well as a result of the bumper berry crop. Colder weather always means a drop in Ruby-crowned Kinglet numbers, but not in Golden-crowneds. Many observers were puzzled over the paucity of Golden-crowns this year. The total for the State was only 53% of last year's. There was effectively no "northern finch" flight this year, with virtually no confirmed Pine Siskins. Lacking adequate details, the five reports of this species had to be deleted. A remarkable report was of 7 well-described Common Redpolls on the Lower Kent count.

The "best" birds of this season in terms of Maryland as a whole included two new species for the State. Two Smith's Longspurs were on Assateague Island for the Ocean City count; one of these had been present since November and had been seen by many observers. A Thin-billed Murre also graced the Ocean City count, to be photographed and seen by many observers. Other goodies were Northern Goshawks on three counts, Semi-palmated Plovers on two inland counts, Black-headed Gull, Whimbrel and Wood Thrush at Ocean City, Yellow-headed Blackbirds on two counts, Rose-breasted Grosbeak at Liberty Reservoir and Nashville Warbler and Ovenbird at Baltimore.

The "worst" birds (*i.e.*, most common) were Common Grackle (347,408), Canada Goose (247,167), Red-winged Blackbird (148,907), Starling (123,134), White-throated Sparrow (29,443), Common Crow (26,141), Slate-colored Junco (23,643), Mallard (22,281), Canvasback (20,864), and Myrtle Warbler (17,784).

OCEAN CITY - Dec. 29, 45 observers in 22 parties. 222 party-hours (163 on foot); 161 species, 188,104 individuals. Statewide high on 39 species. 25 species recorded on no other Maryland counts.

CRISFIELD - Dec. 30, 35 observers in 18 parties. 159.5 party-hours (112.5 on foot); 131 species, 81,853 individuals. Statewide high on 21 species. Only Glossy Ibis and Snowy Egrets in State.

SOUTHERN DORCHESTER COUNTY - Dec. 31, 21 observers in 14 parties. 111 party-hours (78 on foot); 111 species, 74,390 individuals. Statewide highs on 7 species. Only Golden Eagle in State.

ST. MICHAELS - Dec. 19, 26 observers, in 22 parties, plus 1 at feeders. 92 party-hours (49 on foot); 100 species, 71,545 individuals. Statewide highs on 5 species. Only Red Crossbills in State.

LOWER KENT COUNTY - Dec. 19, 38 observers, in 15 parties, plus 10 at feeders. 112 party-hours (64 on foot); 110 species, 235,474 individuals. Statewide highs on 7 species, only Common Redpolls in State.

SALISBURY - Dec. 26, 26 observers, in 9 parties, plus 2 at feeders. 69 party-hours (31 on foot); 91 species, 27,662 individuals.

DENTON - Dec. 18, 22 observers in 14 parties. 86 party-hours (41 on foot); 87 species, 17,164 individuals. Statewide highs on Rusty Blackbird and Horned Lark.

Table 1. Maryland Christmas

Species	Ocean City	Cris-field	So. Dorch.	St. Mich.	Lower Kent	Salis-bury	Den-ton	Elk-ton
Common Loon	15	5		2	3			
Red-throated Loon	19							
Red-necked Grebe	1							
Horned Grebe	100	27		70	5	2		
Pied-billed Grebe	14	8	2		3	3		
Northern Gannet	5							
Great Cormorant								
Double-cr. Cormorant	1							
Great Blue Heron	64	62	55	30	48	22	15	6
Green Heron	2				1			
Great Egret	1							
Little Blue Heron	1							
Snowy Egret		7						
Louisiana Heron	10	20						
Black-cr. Nt. Heron	8	40	4					
American Bittern	6	2	5			1		
Glossy Ibis		6						
Mute Swan	7			70	18			
Whistling Swan	102	215	575	4730	903	17	2384	20
Canada Goose	26765	1846	30920	35409	126860	4898	2447	7000
Brant	9055	532						
Snow Goose	1344		3014		4	7		
Mallard	4489	533	3490	1127	2788	475	3953	168
Am. Black Duck	2790	1112	1485	278	711	54	644	35
Gadwall	8	1			6	8		
Com. Pintail	313	16	42	31	257		2	23
Green-winged Teal	54	1	40		7		3	
Am. Wigeon	29	2	10	3	6	4	2	8
N. Shoveler	17	3	11			1		
Wood Duck	5	2			2	2	1	
Redhead	2	32	16	10	20	6		
Ring-necked Duck	2	2		1	48	39	12	
Canvasback	2685	1427	361	3417	2195	72		
Greater Scaup	48	121	3		44			
scaup sp.			44		323			2
Lesser Scaup	50	13		22	256		6	
Common Goldeneye	188	203	14	314	132	9	1	1
Bufflehead	1163	1334	158	849	29	2	1	
Oldsquaw	722	547	10	770	57			
King Eider	1							
White-winged Scoter	31	4	3	307	15			
Surf Scoter	121	57		30				
Black Scoter	48	16		4				
Ruddy Duck	40	18		658	23		5	
Hooded Merganser		9	3		*			
Common Merganser	2				3		24	38
Red-br. Merganser	221	18	3	6	16	4		
Turkey Vulture	429	611	121	108	223	450	573	118
Black Vulture	22	93	4	4	23	11	30	9
Goshawk			1					

Bird Count, 1976-1977

Point Look.	Anna-polis	Acco-keek	Bo-wie	Rock Run	Sen-eca	Tria-delph	Balt-imore	Liber. Res.	Cat-octin	Wash. Co.	Alleg. Co.	Garr. Co.
	2				3			1				
79	13			5	3		7	2			4	
	15			6	6	3	8	6				
9												
50	58	14	13	21	52	6	4	1	6	7	4	2
846	588	3		53	1	5	1	*		1		
1360	3531	565	899	2690	935	1016	8			18		
211	1014	50	113	266	546	1128	486	404	86	788	168	2
162	181	170	32	89	271	263	75	262	15	34	50	7
	61	15	1				10	5		10		
					2	1	1			*		
	1				2			*	2			
	104	30			9	4	7	1				
		25										
			4		5		25		1			
72	6	5				8						
		30	7		63		*					
3529	7105	60	2		3			6		2		
755	1131			18		1	1					
115	1745											
25	248	100		2	1		1					1
884	853	27	2	16	27	4	1	3		3		
644	390	80		26	64		11	3			6	
2050	548				3			2		1		
667	18											
274	15											
29												
117	220	45				6	8					
4	6	2			16	15	32	8	1			2
	1	8		270	16	6	200	68		3		
29	6			6				*				
306	66	1	29	55	122	104	215	62	37	36	1	
47	13			1	3	10	17	18		*		
		1			2							

Table 1. Maryland Christmas Bird

Species	Ocean City	Crisfield	So. Dorch.	St. Mich.	Lower Kent	Salisbury	Denton	Elkton
Sharp-shinned Hawk	12	25	7	7	9	7	2	3
Cooper's Hawk	1	3	4	4	1	1	3	
Red-tailed Hawk	30	41	15	18	65	13	18	16
Red-shouldered Hawk	10	4	7	1	6	1	8	5
Rough-legged Hawk		5	13			3	1	1
Golden Eagle			1					
Bald Eagle	7	4	12		1	2		2
Marsh Hawk	33	65	62	2	14	12	8	1
Merlin	2							
Am. Kestrel	83	63	14	67	84	70	70	30
Ruffed Grouse								
Com. Bobwhite	188	112	134	74	133	45	94	
Ring-necked Pheasant					1			
Wild Turkey					3			
King Rail		6			1			
Clapper Rail	6	10						
Virginia Rail	7	108	4	4	19	2		
Sora								
Am. Coot	96	2	14	2	6	1	1	
Semipalmated Plover	1							18
Killdeer	232	139	24	19	22	46	24	6
Piping Plover	6							
Black-bellied Plover	180	3						
Whimbrel	1							
Greater Yellowlegs	1		6					
Lesser Yellowlegs	2		2					
Ruddy Turnstone	145							
Am. Woodcock	38	14	12	1	3	1	1	
Common Snipe	79	89	21			14	9	
Red Knot	2							
Sanderling	693	73						
Western Sandpiper	8							
Least Sandpiper	2	7						
Purple Sandpiper	155							
Dunlin	1260	723						
Iceland Gull								
Gr. Blk.-backed Gull	171	35	14	24	349	5	3	28
Herring Gull	3240	1699	129	1780	409	263	4	374
Ring-billed Gull	1837	251	20	1650	1517	389	66	150
Black-headed Gull	1							
Laughing Gull	1							
Bonaparte's Gull	202							
Blk.-legged Kittiwake	1							
Forster's Tern	8							
Thin-billed Murre	1							
Rock Dove	90	126	6	118	166	77	150	66
Mourning Dove	1913	780	485	860	762	477	458	163
Barn Owl		3			2			
Screech Owl	63	13	2	17	29	2	1	2
Great Horned Owl	10	21	6	33	47	3	4	3

Count, 1976-1977 (continued)

Point Look.	Anna-polis	Acco-keek	Bo-wie	Rock Run	Sen-eca	Tria-delph	Balt-imore	Liber. Res.	Cat-octin	Wash. Co.	Alleg. Co.	Garr. Co.
9	12	1	12	3	10	2	6	4	3	1	3	1
	2		3		4	1		2		1	2	
25	27	3	31	17	68	26	23	18	24	17	12	6
8	20	2	63	1	61	40	5	16	3		1	
				1						1		1
4	4			2	1							
12	1	1	2	2	18			3	5	8	1	
31	37	2	34	39	69	19	18	25	44	12	16	9
											4	14
68	260	9	189	12	176	142	2	26	8	28	31	
				2	2	9	7	17	37	10	11	
					9				2			6
1	13											
	3											
1	329		1			1	189	22		3		
										1		
101	100	7	31	19	13	18	3		12	57	18	
			4		2	4	1	2				
10	1	4	13		12	5	3	1	28	152		1
7												
				1								
180	142	8	1	395			1	*				
3292	1061	200	99	784	24	6	108	6				
6626	1263	12	73	1650	105		372	1				
18	269					1						
25	207		263	323	606	719	671	867	431	8931	316	55
642	865	25	789	150	1363	834	334	862	346	433	66	21
	2		1	1	1	2		1	1			
5	29		4	2	1	5	20	19	19	3	8	
4	18		3	6	6	4	4	1	2	*	2	7

Table 1. Maryland Christmas Bird

Species	Ocean City	Cris-field	So. Dorch.	St. Mich.	Lower Kent	Salis-bury	Den-ton	Elk-ton
Barred Owl	1	2	1	1	5		2	1
Long-eared Owl								
Short-eared Owl	2	2	5					
Saw-whet Owl					1			
Belted Kingfisher	55	50	29	53	28	16	15	5
Common Flicker	383	227	87	188	175	108	54	15
Pileated Woodpecker	31	8	11	1		1	1	
Red-bell. Woodpecker	157	84	28	85	108	33	38	36
Red-headed Woodpecker	1			1				
Yellow-bell.Sapsucker	31	7		15	21	7	2	3
Hairy Woodpecker	71	23	8	10	30	6	4	9
Downy Woodpecker	169	93	58	66	78	35	15	45
Eastern Phoebe	16	3				7		
Horned Lark	190	69	20	64	1		364	
Tree Swallow		4	375					
Blue Jay	314	240	91	491	461	247	160	154
Common Raven								
Am. Crow	375	531	770	2843	279	576	192	306
Fish Crow		289	10	536	15	13	12	9
Blk.-capped Chickadee								
Carolina Chickadee	504	246	175	430	322	97	81	190
Tufted Titmouse	192	36	45	145	111	50	49	101
White-br. Nuthatch	28	4	1	6	2		1	9
Red-breasted Nuthatch	19	2	2	38	21		2	3
Brown-headed Nuthatch	10	46	67	58		1		
Brown Creeper	19	14	33	4	9	6	2	18
House Wren	4	4			2	5		
Winter Wren	57	49	22	3	3	3	7	
Carolina Wren	385	199	105	189	195	92	24	60
Marsh Wren	4	15	13					
Sedge Wren	3	5	3	1	1	1		
N. Mockingbird	139	100	43	378	347	142	97	86
Gray Catbird	27	20	2	5	1	2	1	1
Brown Thrasher	73	58	12	3	7	7	2	
American Robin	431	524	120	279	388	121	155	7
Wood Thrush	1							
Hermit Thrush	102	103	64	1	12	7		7
Eastern Bluebird	101	62	40	10	2	50	117	
Golden-cr. Kinglet	76	26	25	25	10	21	8	25
Ruby-crowned Kinglet	22	6	33	25	8	4	9	2
Water Pipit	309	295	28	3		123		30
Cedar Waxwing	95	6	2	104	107		14	
Loggerhead Shrike		1	1				1	
European Starling	8805	6524	745	3691	3809	3938	2040	2582
Orange-cr. Warbler	1							
Nashville Warbler								
Yellow-rumped Warbler	4330	5335	3875	361	241	310	8	19
Pine Warbler	10	3	2	2	1	2		
Palm Warbler	3	2			1			
Ovenbird								

Count, 1976-1977 (continued)

Point Look.	Anna-polis	Acco-keek	Bo-wie	Rock Run	Sen-eca	Tria-delph	Balt-imore	Liber. Res.	Cat-octin	Wash. Co.	Alleg. Co.	Carr. Co.
	3		5	1	17	4	1	4	5		2	3
	1											
							1					
21	37	2	7	11	48	24	29	9	14	15	7	3
118	145	11	195	22	307	102	35	35	35	16	7	
3	4	1	17		87	13	4	2	19	7	14	5
104	254	26	258	29	480	154	56	49	78	30	23	1
2		1		1	39				17	5		
8	30	10	74	1	60	11	6	8	6	3	5	
12	42	2	61	5	60	37	15	9	24	11	19	25
66	224	16	266	20	532	160	96	98	99	72	66	63
2	*		1		6		1	2			1	
44	44		3		57			58	132	12	32	19
156	312	40	513	80	1030	427	172	174	98	85	126	175
									1		1	12
617	744	100	1205	176	2080	7087	578	3551	1755	1106	627	643
2	66	7	113	13	118	454	3	8	15	6		
					2		3	1	7	62	145	605
317	799	30	993	168	1435	638	349	416	171	47		
76	412	20	440	135	695	293	105	126	139	55	197	84
2	18		38	7	205	51	35	18	53	4	51	113
18	5		21	2	8	11	28	9	2		1	7
5												
23	61	1	94	4	141	19	12	15	23	19	7	16
1	1					2						
21	28	3	57	6	54	18	9	10	15	2	5	5
279	583	30	344	34	819	301	158	127	139	51	85	14
	5											
1												
206	467	19	360	95	542	363	194	146	79	132	43	2
3	6		2	4		1	2	1				
13	6	1	12	2	4	4			2	1	1	
162	118	1	66	4	71	62	112	26	32	2	31	8
46	51	2	55	2	17	32	15	15	2	8	4	
56	21	5	132	13	257	54	42	53	15	17	72	
56	132		257	7	224	134	36	87	9	11	5	36
48	30	3	28	11	85	16	21	4	5	8	6	4
326	28		81		109	60						
8	47		532	5	41	81	45	42	65		15	3
3			1		2					1	4	
7397	4320	135	5975	2091	33000	10429	4422	13295	1490	4008	3826	612
	*											
							1					
2410	102	14	246	23	364	65	34	35	10		2	
3			2				*					
	1		1		2							
							1					

Table 1. Maryland Christmas Bird

Species	Ocean City	Cris-field	So. Dorch.	St. Mich.	Lower Kent	Salis-bury	Den-ton	Elk-ton
Com. Yellowthroat	4	1	1				1	
Yellow-breasted Chat	1							
House Sparrow	1260	401	165	913	679	522	576	486
Eastern Meadowlark	1619	1170	572	187	254	445	219	47
Yellow-hd. Blackbird	1							1
Red-winged Blackbird	28625	23654	18825	2560	34250	10285	439	8800
blackbird sp.								
N. (Balto) Oriole	1	1		1				
Rusty Blackbird	8	24	18				52	5
Brewer's Blackbird								1
Boat-tailed Grackle	24	733	78					
Common Grackle	60860	10686	3580	79	49994	149	197	5628
Brown-hd. Cowbird	6750	563	306	23	8	106	52	37
N. Cardinal	672	208	151	608	682	229	155	281
Rose-br. Grosbeak								
Evening Grosbeak	13	2		1	1		9	2
Purple Finch	18	9	2	6	4	21	3	18
House Finch	122	9	36	231	421	63	51	44
Common Redpoll					7			
Am. Goldfinch	418	184	32	270	238	79	53	67
Red Crossbill				3				
Rufous-sided Towhee	221	130	66	34	90	63	21	9
Savannah Sparrow	186	238	54	2	13		17	6
Sharp-tailed Sparrow	7	10	1					
Seaside Sparrow	8	1						
Vesper Sparrow	3	7	7		3			
N. Junco	1423	729	314	1420	999	827	354	888
Am. Tree Sparrow	52	6	1	2	56			41
Chipping Sparrow	10		3			5		
Field Sparrow	316	68	34	79	115	42	28	66
White-cr. Sparrow	87		5	6	157	12	17	31
White-thr. Sparrow	3900	1967	811	1482	1674	877	307	984
Fox Sparrow	27	3	9	6		1		1
Lincoln's Sparrow	1							
Swamp Sparrow	488	1227	298	13	96	170	8	2
Song Sparrow	1360	1134	662	562	238	214	65	199
Smith's Longspur	2							
Lapland Longspur	53							
Snow Bunting	203						35	
TOTAL INDIVIDUALS	188M	82M	74M	72M	235M	28M	17M	30M
TOTAL SPECIES	161	131	111	100	110	91	87	76
TOTAL PARTY-HOURS	222	159.5	111	92	112	69	86	59
PARTY-HOURS BY FOOT	163	112.5	78	49	64	31	41	32
PARTY-HOURS BY CAR	56	36	33	43	48	38	33	25
PARTY-MILES BY FOOT	156	88	72	55	69.5	28	20	32
PARTY-MILES BY CAR	604	297.5	312	523	461	293	397	232
PARTICIPANTS	45	35	21	26	38	26	22	24
PARTIES	22	18	14	22	15	9	14	8
FEEDERS				1	10	2		
FEEDER-HOURS				9	10	4		

* Seen during count week.

Count, 1976-1977 (continued)

Point Look.	Anna-polis	Acco-keek	Bo-wie	Rock Run	Sen-eca	Tria-delph	Balt-imore	Liber. Res.	Cat-octin	Wash. Co.	Alleg. Co.	Garr. Co.
1						1	2				2	
518	763	40	533	447	919	504	431	473	772	1017	550	396
746	43	27	226	40	106	196	1	111	26	38	2	8
6341	2792	65	249	178	8506	2678	38	1	183	20	1	417
	*									50000		
	7	1	45	6	36	38	*			3		4
4												
1178	364		212	15425	187000	11149	20	544	155	10	161	17
75	3032		615	33	4362	118	5	142	270	410	8	187
664	1186	80	1143	154	2026	958	521	544	223	375	310	158
								1				
46	1	9	63	10	3	11	2	67	2	101	4	16
11	73	1	67	7	107	93	31	31	14	8	58	1
34	20		247	95	130	118	70	22	15	185	92	
241	801	6	373	86	925	380	280	151	139	171	178	41
76	115	7	60	6	36	49	25	10	3		5	5
24	2	8	13		14	9		7				
1			1									
543	1426	150	3784	269	3928	2000	580	1268	556	948	840	397
4	3	10	55	6	181	240	1	209	168	310	202	47
	1				1	*					5	
477	169	50	838	47	426	599	10	170	36	24	26	8
7	10		24	12	116	72	1	37	45	211	12	
1656	2635	150	3512	348	3959	2443	912	871	396	375	154	30
1	1		11		2	9	6	6		1	1	
194	122	7	276	3	239	106	36	68	9	8	15	5
979	543	35	1100	126	1132	973	204	268	135	113	141	14
				4								
50M	46M	3M	29M	27M	262M	48M	13M	26M	9M	71M	9M	4M
102	105	71	87	84	100	88	90	87	72	73	75	56
124	221	21	305	56	353	206	139	124	70	75	84	102
104	175	21	254	21	295	173	99	84	46	31	47	50
20	46	0	51	35	56	33	40	40	24	44	37	52
99	142	14	239	32	285	156	72	49	59	30	48	70
249	439	0	531	151	541	403	248	533	279	464	292	493
27	57	3	80	12	109	35	38	21	16	27	28	17
10	30	3	44	6	53	25	17	9	7	9	12	11
	4		11		3	2	5	1	1	2	3	5
	18		11		24	4	15	7	2	4	3	7

ELKTON - Dec. 26, 24 observers in 8 parties. 59 party-hours (32 on foot); 76 species, 29,664 individuals. A remarkable 18 Semipalmated Plovers was the State high. The only State Brewer's Blackbird also.

POINT LOOKOUT - Jan. 2, 27 observers in 10 parties. 124 party-hours (104 on foot); 102 species, 49,792 individuals. Statewide highs on 8 species. Only Great Cormorants in State. Boat-tailed Grackle also good.

ANNAPOLIS - Dec. 26, 57 observers, in 30 parties, plus 4 at feeders. 221 party-hours (175 on foot); 105 species, 45,860 individuals. Statewide high on 8 species. Only Long-eared Owl and Soras in State.

ACCOKEEK - Jan. 2, 3 observers in 3 parties. 21 party-hours (all on foot); 71 species, 2,631 individuals. Statewide high on Northern Shoveler.

BOWIE - Jan. 1, 80 observers, in 44 parties, plus 11 at feeders. 305 party-hours (254 on foot); 87 species, 28,621 individuals. Statewide highs on 5 species. Palm Warbler, Loggerhead Shrike and Vesper Sparrow were good.

ROCK RUN - Dec. 18, 12 observers in 6 parties. 56 party-hours (21 on foot); 84 species, 27,227 individuals. The only Christmas Count Iceland Gull and the highest counts on Common Merganser and Greater Black-backed Gull.

SENECA - Dec. 19, 109 observers, in 53 parties, plus 3 at feeders. 353 party-hours (295) on foot); 100 species, 261,858 individuals. Statewide highs on 22 species. Two Goshawks and a Bald Eagle were the best birds.

TRIADELPHIA RESERVOIR - Dec. 24, 35 observers, in 25 parties, plus 2 at feeders. 206 party-hours (173 on foot); 88 species, 48,270 individuals. Statewide high on American Crow. A Bonaparte's Gull and a Yellow-throat were good.

BALTIMORE - Dec. 18, 38 observers, in 17 parties, plus 5 at feeders. 139 party-hours (99 on foot); 90 species, 12,682 individuals. Statewide high on Wood Duck and Hooded Merganser. Only Nashville Warbler and Ovenbird in State.

LIBERTY RESERVOIR - Jan. 2, 21 observers, in 9 parties, plus 1 at feeders. 124 party-hours (84 on foot); 87 species, 26,212 individuals. This new count in the rolling hills of Baltimore and Carroll Counties produced the only Rose-breasted Grosbeak in the State and the Statewide high on Evening Grosbeak.

CATOCTIN MOUNTAIN - Dec. 19, 16 observers, in 7 parties, plus 1 at feeders. 70 party-hours (46 on foot); 72 species, 9,026 individuals. Statewide high on Ring-necked Pheasant.

WASHINGTON COUNTY - Dec. 31, 27 observers, in 9 parties, plus 4 at feeders. 75 party-hours (31 on foot); 73 species, 70,685 individuals. Four Statewide highs including a remarkable 152 Common Snipes. Also Rock Dove, Am. Tree Sparrow and White-crowned Sparrow.

ALLEGANY COUNTY - Dec. 18, 28 observers, in 12 parties, plus 3 at feeders. 84 party-hours (47 on foot); 74 species, 8,924 individuals. Statewide high on Loggerhead Shrike.

GARRETT COUNTY - Dec. 18, 17 observers, in 11 parties, plus 5 at feeders. 102 party-hours (50 on foot); 56 species, 4,362 individuals. Statewide high counts on Common Raven and Black-capped Chickadee. Almost no waterfowl as Deep Creek Lake was frozen.

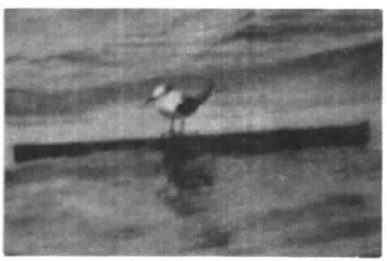
582 Rita Drive, Odenton 21113

A NON-STORM-BLOWN BRIDLED TERN AND OTHER OBSERVATIONS FROM A LATE SEPTEMBER PELAGIC TRIP OFF MARYLAND

Richard A. Rowlett

On September 26, 1976, a Bridled Tern (*Sterna anaethetus*) was observed 42 kilometers east-southeast of Ocean City, Maryland, 38°15'N, 74°34'W, by 30 observers aboard a chartered cruiser, the "Cap't Talbot." The tern was first spotted by the Captain, Dale Brown, when it flew from a piece of driftwood ahead of the bow. The tern landed on another piece of driftwood, and we were able to approach to about 25 meters and photograph it before it flew again. We followed the tern for about 15 minutes from one block of wood to another, before losing it to the envelopment of dusk.

The mantle was slate gray, broken by a conspicuous light collar on the hind neck. An extensive amount of white was present on the forehead, while the cap was confined to the nape and back portion of the crown. The tail was forked with the outermost feathers white.



Bridled Tern off Maryland
Photo by the author

Offshore birders are cautioned to beware in late summer of molting Black Terns (*Chlidonias niger*), which are occasionally seen at sea and might be mistaken for Bridled Terns. Black Terns can be readily recognized by their smaller size, notched tail, gray patch near the shoulder, and bouyant, erratic flight.

All previous records of the Bridled Tern in the northwest Atlantic, north of Cape Hatteras, have been waifs of hurricanes or other tropical storms. The species is fairly common in late summer and early autumn in the Gulf Stream of Cape Hatteras, N.C. Several Bridled Terns were reported near the coasts of northern New Jersey, and Long Island, New York, following the passage of Hurricane "Belle," on August 10, 1976 (Paxton, *et al.* 1977, *Am. Birds* 31:155-156). The likelihood of the September Bridled off Maryland being a lingering waif of that storm seems remote, and no other tropical disturbances affected the area subsequent to "Belle." The only previous record for the Bridled Tern in Maryland was on September 12, 1960, during the passage of the eye of Hurricane "Donna" over Salisbury, where two birds were seen (Dyke 1960, *Md. Birdlife* 16:63).

On September 26, warm and tropical water species including the Bridled Tern, 3 Audubon's Shearwaters (*Puffinus lherminieri*), a school of 125 Spotted Dolphins (*Stenella plagiodon*), and extensive mats of Sargasso Weed (*Sargassum* sp.) were found in the shallow shelf waters,

40 to 70 kilometers offshore, while colder water species including Wilson's Storm Petrel (*Oceanites oceanicus*) and Black-legged Kittiwake (*Rissa tridactyla*) were seen almost entirely beyond the edge of the Continental Shelf. Table 1 summarizes marine birds observed along the September 26 transect.

Species	Kilometers from shore			Total
	40-70	70-96	96-125	
Northern Fulmar	1	0	0	1
Cory's Shearwater	2	0	0	2
Audubon's Shearwater	3	0	0	3
Wilson's Storm Petrel	5	10	361	376
Northern Phalarope	8	4	0	12
Red Phalarope	2	1	0	3
phalarope sp.	0	0	13	13
Pomarine Jaeger	6	0	2	8
jaeger sp.	2	1	0	3
Herring Gull	0	1	2	3
Laughing Gull	1	0	0	1
Black-legged Kittiwake	0	0	1	1
Bridled Tern	1	0	0	1

Table 1. Marine birds observed along the September 26, 1977 transect from Ocean City to Baltimore Canyon. Darkness precluded observations closer to shore. The edge of the Continental Shelf was at 96 km.

Analysis of mid-September infrared satellite photographs (reproduced as a part of the Experimental Gulf Stream Analysis program conducted by the National Environmental Satellite Service of the National Oceanic and Atmospheric Administration) indicated (1) that a tongue of cool shelf water extended southward along the edge of the Continental Shelf, while (2) another tongue of warm slope water, including a large eddy of presumably Gulf Stream water extended northward, inshore from the edge of the Shelf, off the middle Atlantic states. The area was obscured by clouds during late September, so could not be analyzed at the time of our trip. The intrusion of warm slope and Gulf Stream water inshore might account for the presence of warm and tropical water species of birds, dolphins, and Sargasso Weed, and the cooler intrusion off the shelf may have been more to the liking of the kittiwake and storm petrels.

The presence of a light phase Northern Fulmar (*Fulmarus glacialis*) observed shortly before the Bridled Tern, 58 km east-southeast of Ocean City, 38°12'N, 74°22'W, is difficult to explain if the water theory is valid. The fulmar represents the earliest Maryland fall arrival date. Usually, this species is found in cold water along the edge of the Continental Shelf.

Migrating Cory's Shearwaters (*Puffinus diomedea*), jaegers, and phalaropes do not seem to be influenced as readily by water types and temperatures, except that Cory's tends to shun the very cold waters north of the Cape Cod Front.

Continued pelagic studies may reveal that tropical seabirds are regular rare visitors in late summer and early autumn off Maryland and the Delmarva Peninsula.

715 Main Street, #5, Laurel 20810

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LARGE FLIGHT OF VULTURES IN MONTGOMERY COUNTY

Paul W. Woodward and Joan C. Woodward

On February 24, 1973 we observed a flight of 165 Turkey Vultures (*Cathartes aura*) and 40 Black Vultures (*Coragyps atratus*) near the intersection of Edward's Ferry and Offutt Roads in western Montgomery County, Maryland. The vultures were first sighted in a kettle to the northwest and, almost immediately upon observation, began moving rapidly to the southeast by alternate circling and straight-line gliding in a loosely organized flock. Eight Mallards (*Anas platyrhynchos*) were flying with the vultures for at least part of the time. After the last birds passed overhead, we tried unsuccessfully to follow them by car. This observation occurred from 5:20 p.m. to 5:30 p.m., about 25 minutes before sunset. The sky was clear, temperatures were in the low 40's F., and wind was about 12 m.p.h. out of the northwest, the same direction from which the vultures originated. The next day we watched from 4:25 p.m. to 5:30 p.m. at the same location but saw no vultures.

In eight years (1969 to 1976) of extensive field work in this general area, we have never seen another flight of this type or vultures in such large numbers at one time. We found two other similar records in Maryland--198 Turkey Vultures migrating west on January 19, 1950 at the Patuxent Wildlife Research Center (Stewart, R. E., *et al.*, *Am. Mid. Nat.* 47:321, 1952) and 95 Turkey Vultures on January 26, 1971 flying south ahead of a cold front at Fulton (*Md. Birdlife* 27:76, 1971).

Despite a search of available literature and records, we do not have an adequate explanation of this observation. Three possibilities seemed worth exploring. The first is that this was a flight of vultures into a winter roost. Two Christmas Counts are conducted in this general area--Seneca and Washington, D.C., which includes the vulture roost at the National Zoological Park (*Am. Birds* 27:265-268, 1973). In the winter of 1972-73 the former count recorded 140 Turkey Vultures and only 4 Black Vultures, while the latter recorded 160 Turkeys and 12 Blacks. Based on these counts, it is unlikely that our flight could have been from a winter roost, mainly because we saw such a large number of Black Vultures. Also, we have no evidence that birds from the zoo range out this far into Montgomery County. A final piece of evidence against a winter-roost explanation is the fact that at Lilypons in Frederick County, about 16 miles north of the sighting location, no Black Vultures and only a one-day high count of 24 Turkey Vultures were seen in the winter of 1972-73 (Woodward, ms.). Lilypons is a concentration area for vultures during most of the year.

The second possibility is that these birds were migrants going into a temporary roost. Stewart and Robbins (Birds of Maryland and the District of Columbia, 1958) give a tentative spring migration period of January 25 to March 20 for the Turkey Vulture, which agrees well with our date of February 24. However, the Black Vulture is generally considered non-migratory. Furthermore, the weather on the day of observation and for the previous three or four days was not favorable for migration (Daily Weather Maps, Weekly Series Feb. 19-25, 1973, U.S. Dept. of Commerce). The wind was out of the north or northwest and on February 22 was fairly strong. A cold front came through the area from the northwest on the night of February 23. It is possible that this was a case of reverse migration (*i.e.*, moving south in spring), but there were no adverse weather conditions to the north, and more importantly, the presence of so many Black Vultures, which are near the northern edge of their range in Maryland, makes this explanation difficult to accept.

A final hypothesis is that these vultures were part of the local breeding population of the Maryland and Northern Virginia Piedmont, recently arrived from the south and for some unknown reason concentrating and roosting in these large numbers. We have no evidence to support or refute this possibility.

Despite our increased awareness in the days and weeks following our observation, no vulture flights or increased numbers of either species were noted. We are still intrigued and puzzled by this spectacular flight.

2433 Southgate Square, Reston, Va. 22091

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TELLING HAWKS FROM VULTURES

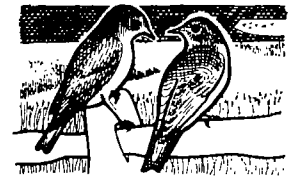
Jim Peters

Most hawks are brown, the vultures black.
The latter, feathered heads do lack,
But show their skin of black or red
While hawks are feathered brown instead.

Hawks always soar with wings held straight.
Dihedral wings are vultures' gate,
Causing them to tilt and rock
While steady flight denotes a hawk.

One final difference should be stressed
To tell vultures from hawks the best:
Vultures' shape is large and headless.
Surely now you wish I'd said less.

4427 Piney Grove Road, Reisterstown 21136



THE SEASON

OCTOBER, NOVEMBER, DECEMBER, 1976

Chandler S. Robbins

The first half of October was warm, with daily maxima in the sixties and seventies at Friendship Airport. Freezing temperatures arrived on Oct. 19, and cold or frigid weather remained with us for the rest of the winter. Five consecutive days of near-zero temperatures, Nov. 30 through Dec. 4, at McHenry caused almost all of Deep Creek Lake to freeze over at the beginning of December. Oakland had the chilliest reading of the year on Dec. 3, when the mercury dipped to -11° F. Average temperature departures for the state as a whole were -4° to -6° in October (despite the mild weather in the first half of that month), -5° to -7° in November, and -3° to -5° in December. Abnormally heavy precipitation in October (twice the normal) fortunately gave way to deficiencies of 2 to 3 inches in November and of about 1 inch in December, so continuous snow cover did not engulf Garrett County until Dec. 21 and the Ridge and Valley and Piedmont Sections until Christmas day.

A weak cold front started across Maryland on Oct. 7, but was interrupted by a very wet Low from the Gulf of Mexico and didn't reach the coast until the 9th, by which time it had lost all its punch. Two vigorous cold fronts on the 14th and 16th, however, ushered in one of the longest and most bitter winters in the memory of local citizens; subfreezing temperatures occurred in Garrett County every night from Oct. 18 through Dec. 31, with the single exception of Nov. 28, when it dropped only to 35°.

The extreme arrival and departure dates of the more commonly reported species are summarized by county in Tables 1 and 2. We thank the following observers for submitting lists of migration dates for these tables: Garrett--Mrs. Fran Pope, John Willetts, Dorothea Malec; Allegany--John Willetts, James Paulus, Kendrick Hodgdon, Dorothea Malec; Washington--Daniel Boone, Bob and Mary Keedy, Mr. and Mrs. Donald Cutchall, Mrs. Alice Mallonee; Frederick--Dr. John W. Richards; Baltimore City and County--Bob Ringler, Rick Blom, Jim Stasz, Peter Knight, John Trochet, Mike Resch, Martin Brazeau, Eddie Boyd, Steve Hardiman, Joe Schreiber; Harford-- John Wortman, Chuck Graham, Joe Schreiber; Howard--Joanne Solem, Mark Wallace, Dorothy Rauth; Montgomery--Mrs. Morrill Donnald and Adventure banding crew, Robert Warfield, Nancy and Lucy MacClintock, John Weske; Prince Georges--Sam Droege, Danny Bystrak, Daniel Boone, Chandler Robbins, Paul Nistico, Bill Hayes, Bob Patterson; Anne Arundel--Hal

Wierenga, Mark Hoffman, Danny Bystrak, Joe Schreiber, Paul DuMont; Calvert--John Fales; Kent--Dorothy Mendinhall, Margery Plymire, Floyd Parks; Caroline--Mr. and Mrs. A. J. Fletcher, Ethel Engle, Marvin Hewitt, M. Nuttle; Talbot--Jan Reese, Harry Armistead; Dorchester--Harry Armistead; Lower Eastern Shore (Wicomico, Somerset and Worcester Counties)--Harry Armistead, Charles and Gail Vaughn, Robert Warfield, Bob Ringler, Jim Stasz, Charles Hills, Paul DuMont.

Fulmars, Shearwaters, Gannets. Twelve **Greater Shearwaters** seen 42 to 60 miles east of Ocean City on Richard Rowlett's Dec. 4 pelagic trip extended the fall migration period of this species in Maryland into December for the first time. On the same trip 3 **Northern Fulmars** (1 light phase and 2 tan-colored birds) were encountered 60 miles east of Ocean City in Baltimore Canyon. Rowlett estimated that about 240 **Northern Gannets** crossed their path during the course of this trip.

Herons and Ibis. **Cattle Egrets** were unusually common for the fall migration period; daily counts at Plum Point in Calvert County reached a peak of 40 on Sept. 14, then gradually declined to a single bird on Oct. 4 (John Fales). In Talbot County, however, at least 50 were still present on Oct. 10 (Jan Reese). Counts made at Hoopers Island and southern Dorchester County by Harry Armistead on Oct. 10 and Oct. 18 demonstrate the changes brought about in one week by the arrival of cold weather: **Great Egrets** decreased from 25 to 9, **Snowy Egrets** from 65 to 2, Cattle Egrets from 10 to 0, and **Louisiana Herons** from 3 to 0. There were several late departures as well as an impressive number of birds that remained into late December despite the abnormally cold weather that prevailed from mid-October onward. Single **Green Herons** were sighted at the Patuxent Wildlife Research Center on Nov. 4 (Danny Bystrak), at Loch Raven on Nov. 12 (Mike Resch), in Howard County on Nov. 16 (Mark Wallace), and on the Dec. 19 Lower Kent Christmas Count, and there were 2 on the Ocean City Count on Dec. 29. Also on the Ocean City Count were a Great Egret, a **Little Blue Heron**, and 10 Louisiana Herons; and on the Crisfield Count there were 7 Snowy Egrets and a record 20 Louisiana Herons and 6 **Glossy Ibis**.

Swans and Geese. Although the **Whistling Swan** migration was quite ordinary, with a maximum count of 1,500 in Talbot County on Nov. 10 (Reese), the mass arrival of **Canada Geese** on Oct. 3 was spectacular. Nearly every observer from Frederick County eastward reported flock after flock, all day long and continuing into the night. Jo Solem claimed Oct. 3 "was the best day for migration I've had in the eight years we've been in Howard County"; she counted 35 flocks of Canada Geese, most containing 30 to 50 birds, flying southeastward over her home between 1:15 and 3:15 p.m.; and in the evening she stepped outside every 15 minutes between 7 and 8:15 p.m. and heard 1 or 2 flocks each time. Dorothy Rauth counted a total of 1,676 geese over Fulton, also in Howard County. At Germantown, Robert Warfield counted 29 flocks with about 75 birds per flock between 11:35 a.m. and midnight, and estimated between 2,000 and 3,500 geese over his home in a 20-hour period. At Beltsville, Bill Hayes counted 1,930 geese in 50 flocks. Mike Resch's estimate of 10,000-12,000 over his Parkville home agrees closely with

Table 1. Fall Arrival Dates for Late-arriving Species, 1976

Species	Median 10-yr	Median 1976	Garr	Alle	Wash	Balt	Howd	Mont	Pr.G	Anne	Calv	Kent	Caro	Talb	Dorc	LES
Common Loon	--	10/10	0	10/12	0	0	0	11/13	0	0	0	0	0	9/25	10/10	10/ 2
Whistling Swan	11/ 6	11/ 8	11/ 9	11/13	0	10/ 1	11/14	11/12	11/12	10/26	11/14	10/23	10/29	10/23	11/ 6	--
Snow Goose	--	10/10	0	0	0	0	11/14	10/ 3	0	0	0	9/25	0	10/11	10/10	--
Redhead	--	11/ 1	11/ 1	0	0	11/ 1	0	0	0	10/23	0	10/30	0	0	--	11/ 7
Ring-necked Duck	--	10/18	11/ 9	0	0	10/ 8	0	0	10/16	10/15	11/11	10/26	10/18	0	10/18	11/ 7
Canvasback	--	11/ 8	12/ 1	0	0	10/30	0	0	0	10/26	12/19	10/26	12/23	11/10	--	11/ 7
Lesser Scaup	--	10/18	0	10/ 9	0	10/ 8	0	0	0	10/27	0	10/26	10/ 8	--	10/18	11/ 7
Bufflehead	11/ 6	11/ 1	0	0	11/ 7	10/26	11/21	0	10/18	10/23	12/22	10/26	11/19	10/23	--	11/ 7
Oldsquaw	--	10/26	11/ 1	0	0	11/12	0	0	0	10/21	0	9/23	0	11/ 7	--	11/ 7
White-winged Scoter	--	10/10	0	0	0	1/19	0	0	0	10/ 2	9/26	9/14	0	10/10	10/10	11/ 7
Surf Scoter	--	--	0	0	0	0	0	0	0	10/ 2	0	9/23	0	11/ 4	0	11/ 7
Black Scoter	--	10/10	0	0	0	0	0	0	0	10/17	0	9/23	0	10/16	10/10	9/ 5
Ruddy Duck	--	10/ 8	11/ 1	10/ 2	11/ 6	10/14	0	0	0	10/ 1	0	9/25	10/ 8	0	--	--
Red-br. Merganser	--	--	0	0	0	11/ 1	11/21	0	0	10/26	0	10/30	0	--	--	--
Rough-legged Hawk	--	--	11/14	0	0	1/11	0	0	0	0	0	10/11	12/17	0	--	--
American Coot	10/17	10/ 5	10/29	10/24	10/ 2	9/30	11/14	0	9/27	9/25	11/28	10/ 5	9/27	--	--	11/ 7
Saw-whet Owl	--	--	0	10/30	0	12/18	0	0	0	0	0	12/19	0	0	0	0
Brown Creeper	9/28	10/ 2	9/21	10/15	--	9/29	9/29	9/29	10/ 1	9/29	10/18	9/28	10/ 5	10/11	--	10/ 2
Hermit Thrush	10/11	10/11	9/29	10/13	--	10/ 3	9/24	10/ 4	--	10/12	--	9/12	10/24	10/11	10/18	11/ 1
Eastern Bluebird	10/14	--	--	--	--	--	--	10/ 9	--	--	10/13	10/12	--	10/23	--	--
Golden-crowned Kinglet	10/ 6	10/ 5	--	10/29	10/10	10/ 3	10/ 3	10/10	9/29	10/ 7	10/ 4	9/29	10/ 5	10/ 3	10/10	11/21
Water Pipit	--	10/16	0	9/18	0	11/18	0	9/25	10/13	9/23	0	0	--	10/18	10/10	--
Orange-crowned Warbler	--	9/25	--	0	0	9/24	0	9/25	10/ 3	0	0	9/17	0	0	0	10/22
Rusty Blackbird	10/24	10/14	0	0	0	10/14	0	--	10/ 5	10/ 4	10/29	--	0	0	10/18	--
Evening Grosbeak	11/ 8	12/ 8	1/20	11/17	0	12/ 8	12/17	10/13	--	12/ 6	12/28	12/ 3	12/ 9	--	0	1/19
Purple Finch	10/ 5	10/ 7	9/22	10/14	10/17	9/22	10/20	9/27	9/14	10/19	0	9/23	10/ 7	9/25	10/10	1/19
House Finch	11/ 6	10/23	11/27	7/22	--	10/16	10/23	--	--	9/ 8	11/ 4	11/ 1	10/13	--	0	1/18
Rufous-sided Towhee	9/29	10/ 3	--	9/11	--	9/29	10/ 7	9/21	10/17	--	10/ 5	10/ 5	--	10/ 3	--	9/29
Vesper Sparrow	--	--	10/29	11/12	--	--	10/23	--	0	--	0	0	0	0	0	--
Northern Junco	10/ 6	10/ 4	--	10/ 4	--	9/23	10/12	10/ 5	--	9/18	10/18	9/29	--	10/ 3	10/18	11/14
American Tree Sparrow	11/21	11/13	11/13	--	11/ 6	11/13	--	11/ 3	11/23	11/21	0	12/11	0	0	--	--
White-crowned Sparrow	10/14	10/14	10/25	10/14	10/ 7	10/18	10/23	10/12	10/13	10/ 3	10/29	9/29	10/16	10/ 3	0	--
Fox Sparrow	10/28	10/30	--	10/15	0	10/15	10/30	10/17	10/28	11/ 3	0	11/15	11/20	--	--	12/22
Swamp Sparrow	10/ 1	10/ 5	--	10/14	--	9/25	10/30	9/25	9/21	10/ 5	--	9/29	--	10/10	10/10	--

Table 2. Fall Departure Dates, 1976

Species	Median 10-yr	Median 1976	Garr	Alle	Wash	Fred	Balt	Harf	Howd	Mont	Pr.G	Anne	Calv	Kent	Caro	Talb	Dorc	LES
Double-cr. Cormorant	--	--	0	0	0	0	0	0	0	0	0	--	0	--	0	10/23	10/18	--
Green Heron	10/ 2	10/ 5	9/ 5	--	--	--	11/12	--	11/16	--	11/ 4	9/28	9/14	12/19	10/ 5	10/ 3	--	--
Little Blue Heron	--	10/ 3	0	0	0	0	10/ 6	0	0	0	9/15	8/21	0	0	0	10/ 3	10/18	--
Cattle Egret	--	10/ 3	0	0	0	0	--	0	0	0	0	7/23	10/ 4	9/19	0	10/10	10/10	10/ 2
Great Egret	--	10/ 7	0	10/ 2	0	--	10/29	0	--	0	0	10/11	9/12	10/ 7	10/ 4	10/16	11/ 6	9/11
Snowy Egret	--	10/12	0	0	0	0	9/25	0	0	0	0	10/10	0	10/12	10/ 4	10/27	10/18	11/ 7
American Bittern	--	--	0	0	0	0	0	0	0	0	--	10/ 1	0	10/24	12/ 8	0	--	--
Glossy Ibis	--	--	0	0	0	0	0	0	0	0	0	8/21	0	10/20	0	0	--	10/ 2
Canada Goose	--	--	--	--	11/ 5	--	W	W	11/21	--	10/ 4	W	11/19	W	W	W	W	W
Blue-winged Teal	--	10/14	8/29	0	--	0	10/14	0	0	--	--	11/28	0	9/21	0	0	--	11/ 7
Wood Duck	--	11/ 3	8/29	--	--	--	--	0	9/ 5	--	11/ 3	11/20	--	11/ 7	--	--	10/18	11/ 7
Broad-winged Hawk	9/30	10/ 7	--	--	--	--	10/ 4	--	10/ 3	--	10/29	10/ 3	0	10/14	--	10/16	10/10	10/ 2
Osprey	10/ 5	10/15	--	9/19	--	--	10/15	11/11	10/ 3	--	10/ 4	10/ 4	8/13	10/29	10/ 8	11/ 2	10/18	11/ 7
Semipalmated Plover	--	10/ 2	8/17	10/ 2	0	0	8/29	--	--	0	0	10/15	0	--	0	9/25	10/10	11/ 7
Lesser Golden Plover	--	--	0	10/10	0	0	9/ 5	0	0	0	9/11	9/25	0	0	0	0	0	0
Black-bellied Plover	--	--	0	0	0	0	0	0	0	0	0	10/26	0	0	0	0	10/10	W
Greater Yellowlegs	10/26	10/25	8/28	10/ 2	10/ 2	--	10/ 8	0	0	0	11/ 8	11/ 5	0	10/12	11/ 9	11/10	--	11/ 7
Lesser Yellowlegs	--	10/ 2	8/29	10/ 2	--	--	10/ 7	0	0	0	10/29	10/ 3	0	8/30	0	9/11	--	11/ 7
Solitary Sandpiper	--	9/22	8/29	10/ 2	0	--	9/18	0	0	9/25	10/18	9/ 2	0	--	0	0	0	0
Spotted Sandpiper	--	9/12	8/29	10/12	8/15	--	9/18	--	9/12	--	--	9/17	0	9/ 8	--	9/12	--	--
American Woodcock	--	--	--	--	--	--	--	--	11/20	--	--	--	--	12/ 3	W	11/19	W	W
Semipalmated Sandpiper	--	10/ 2	8/29	10/16	10/ 2	0	9/30	--	0	0	--	10/ 9	0	--	0	10/23	9/27	--
Least Sandpiper	--	9/12	8/29	10/ 2	0	0	9/30	0	0	0	9/ 8	9/16	8/22	--	0	0	--	--
Pectoral Sandpiper	--	10/30	8/29	--	0	0	10/ 6	--	0	0	11/25	11/ 6	0	0	0	10/23	11/20	--
Dunlin	--	11/11	0	10/10	0	0	11/ 8	0	11/21	0	11/ 1	11/20	0	11/14	0	--	--	--
Laughing Gull	--	11/ 3	0	0	0	0	11/25	0	0	0	0	11/28	10/ 6	10/30	--	10/23	--	11/ 7
Forster's Tern	--	10/28	0	0	0	0	8/28	0	0	0	0	11/12	--	11/14	0	10/ 6	10/18	11/ 7
Common Tern	--	--	0	0	0	0	8/28	0	0	0	0	10/17	0	0	0	--	9/27	--
Royal Tern	--	--	0	0	0	0	0	0	0	0	0	10/17	0	0	0	11/ 6	10/18	11/ 7
Caspian Tern	--	10/ 3	0	0	0	0	8/28	0	0	0	0	10/10	9/27	0	0	10/ 3	--	11/ 7
Yellow-billed Cuckoo	9/30	9/25	--	--	--	--	10/15	--	9/11	10/ 4	9/ 5	9/25	9/19	10/12	10/ 2	9/12	--	--
Black-billed Cuckoo	--	--	--	0	0	0	9/13	0	0	10/10	0	10/23	0	0	8/11	0	0	0
Whip-poor-will	--	--	9/ 3	--	--	--	--	--	--	--	--	9/ 4	--	0	9/11	0	--	--
Common Nighthawk	9/14	9/28	9/25	8/25	--	10/ 7	10/13	0	9/ 5	--	10/ 7	10/ 8	9/ 9	9/19	--	--	--	10/ 2
Chimney Swift	10/ 8	10/10	--	--	9/12	10/ 6	10/30	--	10/ 7	10/15	10/17	10/15	10/ 5	10/10	9/30	10/10	10/10	10/ 2
Ruby-thr. Hummingbird	9/18	10/ 5	10/11	--	9/12	--	10/ 8	--	10/ 3	10/30	10/ 3	9/19	9/28	10/ 4	10/ 5	10/17	--	--
Red-headed Woodpecker	--	--	11/14	0	11/ 6	0	--	0	0	0	0	0	0	0	0	0	0	10/22
Eastern Kingbird	9/ 8	9/19	--	--	8/16	--	9/26	--	--	10/ 4	--	9/19	9/19	--	8/25	9/12	--	--

Species	Median 10-yr	Median 1976	Garr	Alle	Wash	Fred	Balt	Harf	Howd	Mont	Pr.G	Anne	Calv	Kent	Caro	Talb	Dorc	LES
Gt. Crested Flycatcher	9/14	9/18	9/25	--	--	--	9/18	--	--	--	9/19	9/20	--	9/ 7	--	9/12	--	--
Eastern Phoebe	10/21	11/ 6	--	--	--	--	11/ 6	--	9/25	10/27	11/25	12/28	10/31	11/14	11/19	11/ 7	10/18	W
Acadian Flycatcher	9/20	9/21	--	9/26	--	--	9/11	--	--	9/21	9/22	9/12	9/ 3	9/22	--	--	--	--
Yellow-bell. Flycatchr	--	9/12	0	9/22	0	0	9/ 5	9/ 1	9/12	10/ 3	9/ 4	9/13	0	9/26	0	0	0	0
Traill's Flycatcher	--	--	--	9/18	--	--	--	--	--	--	8/30	0	0	--	0	9/12	0	0
Least Flycatcher	9/22	9/17	9/ 3	9/22	0	0	9/22	0	0	9/22	9/ 6	0	9/23	9/12	0	9/12	0	0
Eastern Pewee	10/ 2	10/ 3	10/10	--	8/16	--	10/ 3	--	9/18	9/26	10/ 4	10/10	9/17	9/28	10/ 8	10/11	--	--
Tree Swallow	10/16	10/20	--	0	--	0	11/ 6	--	0	9/25	9/11	11/21	10/ 1	10/30	10/ 8	10/23	10/18	11/ 7
Bank Swallow	--	--	0	0	0	--	9/ 4	0	0	0	--	9/30	9/ 1	--	0	--	9/11	--
Rough-winged Swallow	--	9/24	--	--	--	--	9/18	--	--	--	--	9/24	10/ 2	9/22	--	10/ 3	--	--
Barn Swallow	9/13	9/18	8/29	--	--	--	9/18	--	--	9/25	9/11	11/ 6	9/12	10/ 9	--	9/12	--	10/30
Cliff Swallow	--	--	--	0	0	0	9/ 4	0	--	--	10/ 6	9/ 2	0	0	0	0	0	0
Purple Martin	9/ 4	9/18	--	--	--	--	9/ 5	--	--	10/ 4	9/ 7	9/25	9/ 4	9/18	8/16	10/ 3	--	10/ 2
Blue Jay	10/21	--	W	W	10/16	W	W	W	10/ 5	W	W	W	10/18	W	W	W	W	10/10
House Wren	10/ 4	10/12	9/ 5	9/22	--	--	11/ 6	--	9/14	10/27	10/13	11/12	--	10/ 5	11/24	10/11	10/18	10/ 3
Gray Catbird	10/16	10/23	10/20	9/30	10/24	--	11/27	10/ 6	9/20	10/23	10/15	10/25	10/28	10/30	--	10/23	W	W
Brown Thrasher	10/14	10/ 8	9/25	9/19	--	--	10/30	9/24	--	10/31	--	W	9/24	11/14	--	10/23	W	W
Wood Thrush	10/ 8	10/ 4	9/30	9/26	--	--	10/27	9/25	9/11	10/ 6	10/ 4	9/28	10/ 7	10/13	10/ 6	10/11	--	9/12
Hermit Thrush	10/30	10/27	10/25	10/31	--	--	10/27	11/ 6	10/18	11/ 6	W	W	10/27	10/29	10/24	10/23	W	W
Swainson's Thrush	10/10	10/11	9/30	10/15	0	11/30	10/29	9/25	--	10/30	10/ 5	10/14	9/20	10/16	10/ 2	10/11	10/10	--
Gray-cheeked Thrush	10/ 7	10/ 5	--	9/29	0	0	10/ 7	10/ 3	--	10/15	10/ 4	9/28	0	10/10	10/ 6	--	0	--
Veery	9/23	9/27	9/ 5	9/19	0	--	9/13	--	9/20	10/13	10/ 2	9/29	10/ 6	10/ 5	--	9/25	0	0
Blue-gray Gnatcatcher	9/14	9/21	--	--	--	--	9/ 5	--	--	9/25	9/ 4	10/16	8/11	9/21	--	10/ 3	--	--
Ruby-crowned Kinglet	11/ 2	11/ 6	10/11	11/ 7	--	--	10/31	11/ 6	12/24	11/21	11/21	W	10/29	10/29	--	--	W	W
Water Pipit	--	--	0	--	0	0	--	0	0	11/13	--	11/25	0	0	11/23	--	--	11/ 7
Cedar Waxwing	--	10/23	12/18	--	--	--	10/27	--	10/23	10/31	--	--	9/20	9/26	--	10/23	--	--
Loggerhead Shrike	--	--	0	0	0	0	0	0	0	0	0	9/25	0	10/23	12/18	0	0	--
White-eyed Vireo	9/22	9/29	9/25	10/10	--	9/29	9/29	9/ 1	--	9/26	9/24	9/28	9/14	10/ 5	10/ 5	10/ 3	--	11/ 7
Yellow-throated Vireo	--	--	0	--	--	--	9/22	--	--	--	9/20	9/22	--	0	0	0	0	--
Solitary Vireo	10/14	10/14	--	10/23	0	9/25	11/22	0	9/20	10/31	10/20	10/14	0	10/13	0	0	10/10	--
Red-eyed Vireo	10/ 4	9/29	--	--	--	--	10/ 7	9/25	9/11	10/14	10/ 2	9/29	9/14	9/29	10/ 9	9/25	--	--
Philadelphia Vireo	--	9/22	9/21	9/22	0	0	9/18	0	--	9/25	9/22	--	0	0	0	0	0	0
Black-&-white Warbler	10/ 4	10/ 8	--	9/18	--	9/25	10/10	--	--	10/ 7	10/ 6	10/ 8	--	10/ 5	10/ 8	10/10	10/10	--
Worm-eating Warbler	--	9/18	0	9/19	--	--	9/ 2	0	--	9/30	8/26	--	--	9/18	0	0	--	--
Golden-winged Warbler	--	--	--	--	0	0	9/12	0	0	0	8/30	0	0	0	0	0	0	0
Blue-winged Warbler	--	9/14	0	0	0	0	9/18	0	9/11	9/16	9/ 1	9/11	0	9/22	0	0	0	0
Tennessee Warbler	10/ 2	10/12	9/28	9/19	10/16	0	9/26	0	9/11	10/18	10/16	10/12	0	10/11	--	10/23	0	10/30
Orange-crowned Warbler	--	--	0	0	0	0	11/ 9	0	0	--	--	0	10/19	9/22	0	0	0	12/30
Nashville Warbler	10/ 5	10/ 2	--	11/30	--	0	10/ 4	0	9/25	9/29	9/28	10/11	0	9/23	--	10/11	0	0
No. Parula Warbler	9/30	10/ 7	--	--	--	--	10/ 4	--	--	9/25	10/16	10/12	--	9/25	9/29	10/11	10/10	--
Yellow Warbler	--	9/24	--	--	--	--	--	--	0	9/25	9/ 9	9/27	0	0	9/24	9/11	0	--

Table 2. Fall Departure Dates, 1976 (cont.)

Species	Median 10-yr	Median 1976	Garr	Alle	Wash	Fred	Balt	Harf	Howd	Mont	Pr.G	Anne	Calv	Kent	Caro	Talb	Dorc	LES
Magnolia Warbler	10/ 4	10/ 5	10/11	9/26	--	10/ 3	10/ 3	9/24	10/18	10/12	10/ 5	10/ 8	9/20	10/ 9	10/ 5	10/11	0	0
Cape May Warbler	10/ 4	10/ 8	9/26	9/19	10/17	--	10/13	0	--	9/25	10/ 7	10/26	9/22	10/ 9	10/ 8	10/11	0	0
Black-thr. Blue Warblr	10/ 8	10/12	--	9/22	0	0	10/27	--	--	10/12	10/12	10/11	9/27	10/18	0	10/11	0	--
Yellow-rumped Warbler	11/ 4	10/25	10/25	10/25	--	--	10/27	--	--	10/31	10/16	10/15	11/ 1	10/20	--	--	--	11/ 7
Black-thr. Green Warb.	10/ 6	10/11	--	9/25	10/16	10/ 3	10/15	0	9/11	10/13	10/16	10/27	9/27	9/25	0	10/11	0	0
Blackburnian Warbler	9/26	9/28	--	9/12	--	--	9/25	0	--	--	10/ 1	9/28	0	10/ 6	0	0	0	0
Chestnut-sided Warbler	9/28	9/30	--	9/12	--	--	9/23	0	--	10/ 9	10/ 1	9/28	0	10/11	0	0	0	0
Bay-breasted Warbler	9/30	9/29	9/24	9/22	--	0	11/ 2	0	9/30	10/ 1	10/ 3	9/28	0	9/24	--	0	0	0
Blackpoll Warbler	10/ 8	10/11	9/29	9/29	0	0	10/27	0	--	10/10	10/25	10/27	--	10/18	10/ 6	10/11	10/10	10/22
Pine Warbler	--	10/ 7	0	--	10/17	0	11/19	0	0	0	10/ 1	12/12	10/ 7	10/ 6	--	10/ 3	W	W
Prairie Warbler	9/20	--	0	--	--	--	9/ 5	--	--	--	0	11/14	--	9/22	--	10/ 3	--	--
Palm Warbler	10/22	10/28	0	0	0	0	10/ 4	--	--	10/27	11/13	12/26	10/28	10/ 4	--	--	10/18	11/ 7
Ovenbird	10/ 7	10/ 5	9/28	9/30	--	--	10/17	10/ 2	9/12	10/23	10/ 7	10/21	10/30	10/13	--	10/ 3	--	9/29
Northern Waterthrush	10/ 2	9/22	--	0	0	0	9/ 5	0	0	10/ 4	--	--	0	9/29	9/22	9/11	0	0
Kentucky Warbler	--	8/30	0	--	8/23	--	9/ 5	--	--	8/25	9/14	9/ 6	8/19	--	--	--	--	--
Connecticut Warbler	9/28	9/29	--	9/29	0	0	9/22	0	--	10/ 3	--	10/10	0	0	0	9/12	0	0
Mourning Warbler	--	9/25	9/25	9/22	0	0	11/ 2	0	0	9/29	0	9/11	0	0	0	0	0	0
Common Yellowthroat	10/14	10/10	9/28	9/30	--	--	10/30	--	10/ 5	10/11	10/16	12/12	9/24	10/ 6	--	10/11	10/10	10/22
Yellow-breasted Chat	10/ 9	--	--	--	--	--	10/17	--	--	10/23	--	9/11	9/29	--	--	--	--	--
Hooded Warbler	--	9/26	--	9/25	--	--	0	--	--	9/29	9/23	9/28	8/10	10/12	0	--	0	--
Wilson's Warbler	--	9/25	0	9/12	0	0	9/26	0	0	9/25	9/29	9/24	0	9/26	0	9/12	0	0
Canada Warbler	9/18	10/ 2	--	0	--	--	9/25	--	--	10/18	10/ 6	9/29	0	9/22	10/12	0	0	0
American Redstart	9/30	10/ 3	9/ 7	9/19	--	10/ 3	10/ 5	--	9/11	10/ 6	10/ 6	10/ 8	9/27	9/28	9/28	10/17	--	10/ 8
Bobolink	9/21	9/25	9/ 4	0	0	0	9/ 9	0	0	9/25	--	10/ 1	9/ 4	10/12	9/15	9/25	9/27	--
Orchard Oriole	--	--	0	--	--	--	--	--	7/ 1	--	--	8/28	7/25	--	--	8/22	--	--
Northern Oriole	9/22	9/28	--	--	8/16	--	10/ 4	--	--	--	9/22	11/27	9/19	11/29	12/10	9/12	0	0
Scarlet Tanager	10/ 4	9/29	9/29	9/25	--	9/25	10/ 2	--	--	9/29	10/ 4	9/29	9/28	10/ 4	10/ 8	10/11	--	--
Summer Tanager	--	9/27	0	0	0	0	0	0	9/12	10/11	0	9/11	--	0	10/16	--	--	9/27
Rose-breasted Grosbeak	9/30	10/ 5	--	9/22	0	--	10/ 8	0	--	10/ 5	10/ 9	9/25	9/20	9/29	10/ 7	10/11	0	0
Blue Grosbeak	9/22	9/12	0	0	0	0	9/ 5	0	--	--	9/13	9/26	8/29	9/17	9/15	9/12	9/11	--
Indigo Bunting	10/ 6	10/ 5	--	9/25	--	--	10/13	--	9/ 5	10/10	--	10/ 5	9/24	10/ 5	--	10/11	--	--
Dickcissel	--	--	0	0	0	0	0	0	0	0	0	10/ 5	0	0	10/ 8	0	0	0
Rufous-sided Towhee	10/29	10/30	12/18	12/29	--	--	--	10/ 6	11/21	10/30	10/16	W	10/29	10/19	W	W	W	W
Vesper Sparrow	--	--	10/29	11/12	--	--	--	--	--	--	0	10/29	0	0	0	0	0	10/22
Chipping Sparrow	10/26	11/ 1	--	11/12	--	--	10/31	--	10/23	10/26	11/12	11/ 8	10/28	11/14	11/15	11/ 1	10/18	W
White-crowned Sparrow	--	11/ 4	11/24	10/16	--	--	--	--	11/21	11/13	--	11/ 2	--	10/19	--	10/11	0	11/ 7
Fox Sparrow	11/24	11/12	10/25	11/11	0	--	11/ 6	--	--	11/14	--	12/ 7	0	12/ 3	--	--	--	W
Lincoln's Sparrow	--	10/23	--	10/23	0	0	10/ 4	0	0	10/30	11/ 2	10/29	0	10/11	0	10/11	0	0
Swamp Sparrow	--	--	12/18	10/23	0	0	10/27	0	W	11/14	W	W	W	W	W	10/23	W	W

Hal Wierenga'a total of 11,500 flying past Sandy Point. Two **Brants** appeared at Sandy Point State Park on Oct. 26 and 2 were also seen there on the late date of Dec. 4 (Wierenga); there was a respectable tally of 9,055 on the Ocean City Christmas Count. **Snow** (including Blue) **Geese** remained at Blackwater Refuge in good numbers, with 3,014 on the Christmas Count. Among the quarter-million Canada Geese in Kent County, Floyd Parks located a **Greater White-fronted Goose** on Nov. 14; it was seen the same day by Philip and Paul DuMont and a group from the Atlantic Naturalist Society. An adult Greater White-front with a Canada and 4 hybrid offspring was seen at the Blackwater Refuge Visitor Center on Nov. 20 (Paul DuMont, Harvey Mudd), and viewed by many other observers during the period. As a reminder that we should look extra carefully at Whitefronts, an adult **Lesser White-fronted Goose** (*Anser erythropus*) was spotted at Wye Institute on Oct. 25 by Richard Kleen, Jan Reese and Richard Felgenhaur. This Eurasian bird was almost certainly an escape, since it is a straggler even in western Europe; there is no valid North American record.

Ducks. The most exciting duck of the season was a **Fulvous Tree Duck** that flew past Hal Wierenga and Scott Mele at Sandy Point on Nov. 7 and headed across the bay to Kent Island.

Hawks. On Oct. 3, the same day as the great goose flight, there was a major movement of hawks as well. The coastal storm of the previous day moved out gradually on the 3rd; clearing skies and light northerly winds provided excellent conditions for hawk migration. Small flocks of **Broad-winged Hawks** were sighted at Laurel, Beltsville, Patuxent Wildlife Research Center, Sandy Point, and St. Michaels, and a total of 105 at Bellevue. Lone **Peregrine Falcons** were observed at Parkville (Resch), Sandy Point (Wierenga), and Beltsville (Hayes). **Sharp-shinned Hawks** totaled 65 at Beltsville (Hayes), 36 at Laurel (Mrs. Solem), and 50 at St. Michaels (Reese). Bill Hayes had the highest tallies of **Northern Harriers** (7 birds) and **Ospreys** (32) at Beltsville. And at Sandy Point, 23 of Hal Wierenga's seasonal total of 54 Ospreys were seen on Oct. 3. On the preceding "lousy rainy, gusty day with strong northeast winds" Armistead noted the following raptors flying north over Smith Island: 20 Sharp-shins, 2 Broad-wings, 5 Northern Harriers, and 7 **American Kestrels**. At Sandy Point State Park and Annapolis, Hal Wierenga observed 870 hawks of 12 species during the autumn months; he found the following species especially numerous this year: 2 **Northern Goshawks** (Oct. 19, Nov. 7); 302 **Red-tailed Hawks** (93 on Nov. 14); 69 **Red-shouldered Hawks** (23 on Nov. 6), 25 Northern Harriers, and 2 Peregrines. The last Broad-wing of the year was identified at Bowie on Oct. 29 by Robert Patterson.

Turkey, Gallinule. Six **Wild Turkeys** were found on the Garrett County Christmas Count. Fran Pope reported that helicopter and track surveys estimated the county turkey population at 500 birds. Some turkeys autopsied had died from exposure and starvation. Single **Common Gallinules** were at the West Ocean City pond on Oct. 24 and at Grasonville on Nov. 20 (Stasz, Ringler and others).

Plovers. Noteworthy late departure dates were as follows: **Semipalmated Plover** at Oldtown on Oct. 2 (Jim Paulus), **Piping Plover** at Sandy Point on Oct. 10 (Wierenga), and **Lesser Golden Plover** at Sandy Point on Nov. 7 (Wierenga).

Godwits, Whimbrel, Phalaropes. A single late **Marbled Godwit** was seen on Assateague Island on Nov. 7 (Paul DuMont). Maryland's first winter **Whimbrel** was discovered, also on Assateague Island, on the Ocean City Christmas Count (Rowlett). An ill **Red Phalarope** found on the Assateague beach on Oct. 10 was taken to the U.S. National Museum of Natural History (Dr. Prescott Ward). A high talley of 305 Reds rewarded Richard Rowlett and his Ocean City pelagic trip, 42 to 60 miles east of Ocean City on Dec. 4.

Dowitchers, Peeps. **Long-billed Dowitchers** were last seen at Sandy Point on Sept. 24 (Wierenga) and at Blackwater Refuge on Nov. 20 (Ringler and others). The last inland **Semipalmated Sandpiper** was seen at Oldtown on Oct. 16 (Paulus). A flock of 17 **Purple Sandpipers** at Sandy Point on Oct. 29 (Hoffman and Wierenga) was unprecedented in number and also broke the earliest date for the Bay. Single **Pectoral Sandpipers** were at Sandy Point on Nov. 6 and at the Patuxent Wildlife Research Center as late as Nov. 25 (Danny Bystrak). At least 36 **White-rumped Sandpipers** and 225 **Dunlins** flew by Sandy Point on Oct. 17 (Wierenga), a foggy, rainy day with winds of 10-25 m.p.h. out of the northeast. Hal Wierenga reported that 32 species of shorebirds were identified at Sandy Point State Park during the 1976 fall migration period.

Jaegers. On Nov. 8 at Sandy Point, Hall Wierenga watched an immature dark phase **Pomarine Jaeger** for half an hour while it harassed the waterfowl. Single Pomarines were seen from the Ocean City shore on Oct. 17 and Nov. 28 (Rowlett). Rowlett and party found 3 **Parasitic Jaegers** and a magnificent total of 37 Pomarines on the Dec. 4 pelagic trip off Ocean City; the Parasitics were only 10-15 miles offshore, but most of the Pomarines were in the 42-60 mile range.

Gulls. A **Lesser Black-backed Gull** returned to the Bowie Sewage Treatment Plant on Nov. 20, but made itself scarce for the rest of the period (Patterson). On the early date of Nov. 27 an immature **Iceland Gull** was at the Bowie landfill (Patterson and 20 others), and on Christmas day 2 immatures were found there (Woody Martin). About 650 **Bonaparte's Gulls** were seen migrating south along the Assateague beach on Nov. 28 (Rowlett and Harold and Hal Wierenga). On Dec. 27, 130 Bonaparte's Gulls were resting on the ice on the Back River (Ringler), and a record 269 were counted on the Annapolis Christmas Count. On Dec. 4 Rowlett and party counted 5 **Little Gulls** with a flock of 300 Bonaparte's 12-15 miles off Ocean City; this ratio of 1 to 60 should encourage everyone to examine each Bony with great care, at least along the coast. (The Bonies on the Annapolis Christmas Count were studied in flight in good light and did not include any other species.) Off Ocean City on Dec. 4, Rowlett noted that none of the 750 **Black-legged Kittiwakes** observed were adults. There were about 5 first-year birds to each 3 second-year birds.

Terns and Skimmers. Except for the **Forster's Tern**, which traditionally is the last to go, terns left Maryland with the advent of cold weather, Oct. 17-18. Noteworthy high counts for their resepctive areas were 5 **Royal Terns** at Bellevue on Oct. 3, and a record 120 Royals with 90 Forster's on the south tip of Barren Island in Dorchester County on Oct. 18 (all by Armistead). On Oct. 2 a group of 75 **Black Skimmers** was seen at Great Point near Crisfield by Armistead and the M.O.S. Smith Island party.

Doves, Cuckoos, Owls. A **Rock Dove** laid 2 eggs out-of-season on the balcony of a Laurel apartment, about Nov. 15, and actually fledged one of the 2 young (Mrs. Samuel Woolger); exact dates, unfortunately, are lacking. Late **Black-billed Cuckoos** were seen at Adventure near Potomac on Oct. 10 (Margaret Donnald) and at Sandy Point State Park on Oct. 23 (Hal Wierenga). Single **Barn Owls** were heard over Annapolis on only three dates from Oct. 3 to Nov. 24 (Wierenga). At dusk on Nov. 22 Jan Reese watched a **Long-eared Owl** flying around the north end of the Cambridge bridge. Two arrived at Sandy Point on Dec. 11 and for the fifth consecutive year some spent the entire winter there (Wierenga). It was a poor winter for **Saw-whet Owls** in Maryland; the earliest one reported was on Oct. 30 in Allegany County (John Willetts).

Nighthawks, Swifts. The mild weather of early October apparently encouraged several **Common Nighthawks** to delay their southward departures. Single stragglers were found on Oct. 7 at Emmitsburg (Ruth Richards), on Oct. 7 at Beltsville and Oct. 8 at Mitchellville (Patterson), and on Oct. 13 in the Baltimore area (Ringler and others). A lone **Chimney Swift** was at Lake Ashburton in Baltimore City on Oct. 30, about three weeks after the flocks had left for South America (Ringler and others).

Hummingbirds. Usually all hummingbirds have left by the end of September. Observers watching the hawk and goose flight on Oct. 3, however, saw migrating **Ruby-throated Hummingbirds** at Baltimore, Sandy Spring, Laurel, and Beltsville. Even later birds were found as follows: Oct. 4, banded at Damsite (Dorothy Mendinhall); Oct. 5 at Denton (M. Nuttle); Oct. 8 at Wiltondale, Baltimore (Herbert and Lola Strack); Oct. 9 at St. Michaels (Reese); Oct. 11, banded at Mountain Lake Park in Garrett County (Fran Pope); daily through Oct. 17 at Easton (Marion Delphey); and a new State record, one found freshly dead on Oct. 31, perched on a fuschia stem at Darnestown in Montgomery County by Mrs. Reid. Margaret Donnald took the bird to the Smithsonian, where Roxie Laybourne verified the species and estimated that it had died on Oct. 30. Note that the median departure date for this year is 17 days later than the 10-year average (Table 2).

Flycatchers. As might be expected at this time of the year, **Western Kingbirds** outnumbered Easterns. The only **Eastern Kingbird** found was at Ashton in Montgomery County on Oct. 4 (Lucy MacClintock). Single Westerns were identified at Tanyard in Caroline County on Oct. 7 and Oct. 8 (Ethel Engle), and at Bellevue on Oct. 11 (Armistead); and on Oct. 25 2 were found on and near Blackwater Refuge by participants in the MOS Listers Trip led by Jim Stasz and Bob Ringler. **Eastern Phoebes**

attempted to winter in Allegany, Carroll, Baltimore, Montgomery, Prince Georges, Anne Arundel, St. Marys, Wicomico, Somerset, and Worcester Counties. The only *Empidonax* flycatchers seen as late as October were 2 **Yellow-bellied Flycatchers** banded at Adventure in Montgomery County on Oct. 1 and Oct. 3 (Mrs. Donnald). Late for Garrett County was an **Eastern Pewee** on Oct. 10 (Mrs. Pope).

Swallows. Migrating **Tree Swallows** reached peaks of 3,000 in Talbot County on Oct. 16 (Reese) and 5,000 at South Point below Ocean City on Oct. 22 (Rowlett). Late departures of Trees from the upper Bay were on Nov. 6 in Baltimore County (Ringler and others) and Nov. 21 at Sandy Point (Wierenga). Other stragglers of note were: **Rough-winged Swallow** at Plum Point in Calvert County on Oct. 2 (Fales) and Bellevue on Oct. 3 (Armistead); 2 **Barn Swallows** at Sandy Point on Nov. 6 (Wierenga); and **Purple Martin** at Smith Island on Oct. 2 (Armistead and Baltimore Chapter trip), at St. Michaels on Oct. 3 (2 birds, Reese), and at Ashton on Oct. 4 (Lucy MacClintock). This is an unusual number of October observations of species that normally leave Maryland in early September.

Jays, Ravens. The southward migration of **Blue Jays** through Maryland was especially poor this year. The highest tallies reported were about 300 each on Oct. 3 and Oct. 10 at St. Michaels (Reese). **Common Ravens** are continuing their gradual increase in our western counties. Twelve birds on Dec. 18 constituted a new high for the Garrett Christmas Count, and 7 birds on Nov. 11 over the C & O Canal below Paw Paw were unusual for that area (Paulus).

Chickadees, Nuthatches. Very few **Black-capped Chickadees** came south into Maryland this fall and none were captured at banding stations except in the mountains. The earliest bird found in the Piedmont was on Nov. 2 at Towson (Jim Stasz), and there were almost no reports south of the counties on the Pennsylvania border. Small numbers of **Red-breasted Nuthatches** remained into the winter in all parts of the State (see Christmas Count table on pages 26-27).

Wrens, Mockers. **House Wrens** lingered into November in Baltimore County (Nov. 6, Ringler and others), at Sandy Point (12th, Wierenga), and at Tanyard (24th, Ethel Engle). Carolina Wrens were in peak numbers, with 14 on the Garrett County Christmas Count, 139 at Catoctin, 819 at Seneca, and 583 at Annapolis; at Adventure, Mrs. Donnald and her 'bandaides' captured 60 individuals from Aug. 15 through Oct. 31. Unusual in their respective inland locations were a **Marsh Wren** at Oldtown on Oct. 2 (Paulus) and a **Sedge Wren** in Prince Georges County on Oct. 5 (Sam Droege). There were 2 **Northern Mockingbirds** on the Garrett County Christmas Count, and 1 was still at Mountain Lake Park on Dec. 26 (Mrs. Pope). **Gray Catbirds** were found on 15 of Maryland's 21 Christmas Counts, with the uppermost locality at Liberty Reservoir. **Brown Thrashers** also were unusually widespread at Christmas, with high regional counts of 73 at Ocean City, 58 at Crisfield, 12 at Bowie, 2 at Catoctin, and singles on the Washington and Allegany Counts.

Thrushes, Gnatcatchers. Both **Swainson's and Gray-cheeked Thrushes** were in good numbers, with 365 Swainson's and 74 Gray-cheeks banded at

Adventure (Mrs. Donnald), and with Swainson's reported on several very late dates: Oct. 29 in Baltimore County (Ringler and others), Oct. 30 at Adventure (repeat of a previously banded bird), and Nov. 30 at Emmitsburg where one was found freshly killed (Ruth Richards) and the specimen preserved (Bill Meredith). A **Wood Thrush** was seen on the Ocean City Christmas Count (Charles Hills). Late **Blue-gray Gnatcatchers** were seen in Talbot County on Oct. 3 (Reese) and at Sandy Point on Oct. 10 and 16 (Wierenga).

Vireos. Two **White-eyed Vireos** were found on unusual dates: 1 in western Allegany County on Oct. 10 (John Willetts), the other at Ocean City on Nov. 7 (Paul DuMont). The last **Solitary Vireos** were sighted at Rockville, Oct. 31 (Kenneth LaBorde) and at Cylburn on Nov. 22 (Doug Santoni). No **Red-eyed Vireos** were found after the weather turned cold in mid-October.

Warblers. **Orange-crowned Warblers** were seen on Oct. 3 at Laurel and Oct. 22 at Ocean City (Rowlett), on Oct. 19 at Plum Point (Fales), on Nov. 9 in Baltimore County (Rick Blom), and on the Ocean City Christmas Count (Rowlett and Hoffman). No one day was outstanding for warbler migration at the banding stations, except that **Yellow-rumped Warblers** peaked at 134 birds at Adventure on Oct. 18 and 48 at Damsite the next day. Armistead reported his best migration on Oct. 11, when he identified 93 species at the family homestead in Bellevue. As usual, late dates of stragglers elicited much comment--especially for those species that lingered beyond the advent of cold weather in mid-October: a **Prothonotary Warbler** banded at Adventure on Oct. 26 repeated on Oct. 27, breaking the State departure record (Margaret Donnald); 2 **Tennessee Warblers** on Assateague Island, Oct. 30 (Hoffman); a **Nashville Warbler** was found alive at Clarysville on Nov. 30 when the temperature was below 10°, but failed to survive through the day (Willetts); another Nashville was on the Baltimore Christmas Count (Doug Santoni, Greg Tillman); a **Cape May Warbler** was in Odenton on Oct. 26 (Danny Bystrak), and another at Millersville in November (Paul Bystrak); a **Black-throated Blue Warbler** was banded at Damsite on Oct. 18 (Dorothy Mendinhall); a **Black-throated Green Warbler** and a **Blackpoll Warbler** were at Sandy Point on Oct. 27 (Wierenga); State departure dates for both the **Bay-breasted Warbler** and the **Mourning Warbler** were broken on Nov. 2 at Towson (both banded by Gladys Cole); a **Pine Warbler** was at Loch Raven on Nov. 19 (Mike Resch); another Pine Warbler was at Sandy Point on Dec. 12 and a **Prairie Warbler** was there on Nov. 6 and 14 (Danny Bystrak); **Palm Warblers** were found in December in Montgomery, Prince Georges, Anne Arundel, Calvert, Kent, Somerset, and Worcester Counties; **Ovenbirds** were at Sandy Point on Oct. 21 (Wierenga), banded at Adventure on Oct. 23 (Mrs. Donnald), seen at Plum Point, Oct. 30 (Fales), and observed on the Baltimore Christmas Count, Dec. 18 (Jim Orgain); **Common Yellowthroats** were seen on the Baltimore and Triadelphia Christmas Counts as well as the more usual tidewater areas; single **Yellow-breasted Chats** were seen in downtown Baltimore on Oct. 17 (Peggy Bohanan), banded at Sandy Spring on Oct. 23 (John Weske), and found on the Ocean City Christmas Count (Bob Whitcomb); a **Canada Warbler** was banded at Adventure on Oct. 18 (Mrs. Donnald); and there was an **American Redstart** at Bellevue on Oct. 17 (Armistead).

Blackbirds, Orioles, and Tanagers. Single **Yellow-headed Blackbirds** were found on the Elkton and Ocean City (Tom Andres) Christmas Counts, and Paul DuMont saw 2 others in a flock of some 80,000 blackbirds at Willards in Wicomico County on Dec. 31. The usual scattering of **Northern Orioles** attempted to winter at coastal plain feeding stations (Anne Arundel, Kent, Caroline, Talbot, Somerset, and Worcester Counties). Any **Summer Tanager** in Maryland in October is noteworthy. Nancy MacClintock saw one in her Silver Spring garden on Oct. 11, and Alicia Knotts found another at Denton on Oct. 16, the second-latest record for the State.

Northern Finches. **Evening Grosbeaks** arrived late and few stayed around for the winter (see tables on pages 28-29). Siskins, redpolls, and crossbills were virtually non-existent. Even **Purple Finches** were still in small numbers at the end of December (see pages 28-29). **House Finches**, on the other hand, are taking over the urban and suburban feeders. On the Christmas Counts, only Garrett County and Accokeek missed House Finch; and they were found in Garrett County both earlier and later in the winter. There were record-high counts of 122 at Ocean City, 231 at St. Michaels, 247 at Bowie, and 421 in Lower Kent County!

Grosbeaks and Dickcissels. A **Rose-breasted Grosbeak** wintering in the Reisterstown area was seen on the Liberty Reservoir Christmas Count on Jan. 2. Although single **Dickcissels** were seen at Sandy Point State Park on Oct. 5 (Wierenga) and at Denton on Oct. 8 (Marvin Hewitt), none of the 757 Christmas counters were able to find wintering Dickcissels among the 12,000 House Sparrows tallied. Try a little harder next winter!

Sparrows and Longspurs. Rarely does one spend a long weekend searching for a particular rare Maryland bird in a place where it has never been seen, and come home successful. Using this technique Richard Rowlett located not 1 but 2 **Clay-colored Sparrows** at the entrance to Assateague State Park headquarters on Oct. 22; he submitted three pages of notes to substantiate his find. There are only five previous records for the State. Late departure dates of interest include: **Grasshopper Sparrow** at Sandy Point on Nov. 9 and **Sharp-tailed Sparrow** there on Oct. 16 (Wierenga); **Vesper Sparrows** at Mountain Lake Park on Oct. 29 (Fran Pope) and in western Allegany County on Nov. 12 (Dorothea Malec); **White-crowned Sparrow** at Mountain Lake Park on Nov. 24 (Mrs. Pope); **Lincoln's Sparrow** at Eckhart on Oct. 23 (Willetts), Sandy Point on Oct. 29 (Hoffman), banded at Adventure on Oct. 30 (Mrs. Donnald); and seen at the Patuxent Wildlife Research Center on Nov. 2 (Danny Bystrak). A wintering Lincoln's was located on the Ocean City Christmas Count, and a record 5 **Swamp Sparrows** attempted to winter in Garrett County (Dec. 18 Christmas Count). Hal Wierenga broke the State arrival date for **Lapland Longspur** on Oct. 5 when one turned up at Sandy Point; he had another single there on Nov. 6. The only other locality reporting this species was the north part of Assateague Island where a flock of 53 was found by Mark Hoffman and Scott Mele on Nov. 27. The 2 **Smith's Longspurs** that wintered with them will be reported separately by Mr. Hoffman.

7900 Brooklyn Bridge Rd., Laurel 20810

COMING EVENTS

Dec.	2	ANNE ARUNDEL	Meeting. Bernard Halla. Library, West St., 8 p.m.
	2	BALTIMORE	Audubon Lecture, Tom Sterling. Dumbarton Jr.Hi, 8pm
	3	ANNE ARUNDEL	Trip to Calvert County. Meet Montg'y Wards, 7:30 am
	3	WICOMICO	Trip to Stadler Plantation, Manokin
	4	MONTGOMERY	Trip to Sandy Point. Meet US50 McDonald's, 8 am.
	4	HOWARD	Earlybirders trip. Meet Swansfield Elem. Sch., 6:30
	6	BALTIMORE	Ornith. Course. Identification, Robbins. Cylburn, 8
	8	HOWARD	Monthly meeting. Swansfield Elementary School.
	10	ANNE ARUNDEL	Trip to Sherwood Forest. Meet Montg'y Wards, 7:30am
	11	HOWARD	Trip to Baltimore Zoo. Meet Swansfield Elem., 12:30
	11	BALTIMORE	Pot Luck Trip. Meet Towson Plaza PO, 7:30 am. R.Blom
	15	MONTGOMERY	Meeting. Canvasbacks, Matthew Perry. Perpetual Aud,8
	18	BALTIMORE	Beginners trip to Blackwater. Meet Visitor Ctr, 10.

• *CHRISTMAS COUNT SCHEDULE* •

Contact local chapters for further information

	17	GARRETT COUNTY	Mrs. Wm. Pope 334-4908, D. Bystrak 674-2965
	17	ALLEGANY COUNTY	James Paulus, Box 35, Oldtown
	17	DENTON	A. J. Fletcher, Route 1, Box 201, Denton 479-1529
	18	ST. MICHAELS	Jan Reese, Box 298, St. Michaels 745-2875
	18	LOWER KENT	Mrs. E. Mendinhall, RD 2, Chestertown 778-0826
	18	SENECA	Dr. Wm. Oberman, 4100 W St., N.W., D.C. 333-6315
	18	CATOCTIN MT.	Dr. John W. Richards, Emmitsburg 447-6243
	24	TRIADELPHIA	Danny Bystrak, 582 Rita Dr., Odenton 674-2965
	26	LIBERTY RES.	Rick Blom, 9709 Branchleigh, Randallstown 922-0658
	26	HAGERSTOWN	Fran Cutchall, 1847 Virginia Ave., Hagerstown
	26	SALISBURY	Charles Vaughn, 1306 Frederick, Salisbury 742-7221
	27	CRISFIELD	Charles Vaughn, 1306 Frederick, Salisbury 742-7221
	28	CHINCOTEAGUE	Fred R. Scott, 115 Kennondale, Richmd 804-282-2666
	29	OCEAN CITY	C. S. Robbins, 7900 Brooklyn Br.Rd, Laurel 725-1176
	30	BLACKWATER	C. S. Robbins, 7900 Brooklyn Br.Rd, Laurel 725-1176
	31	BALTIMORE	Douglas Hackman, 3033 Woodside, Parkville 668-1464
	31	BOWIE	Bob Patterson, 12601 Buckingham Dr., Bowie 262-2459
Jan.	1	ANNAPOLIS	Hal Wierenga, 1216 Tyler Ave., Annapolis 268-1674
	2	POINT LOOKOUT	Ernest Willoughby, Lexington Park 994-0709
	2	ELKTON	Joel Citron, 2003 Ferndale, Wilmington 302-475-8773
		•	•
	3	BALTIMORE	Ornith. Course. Behavior, Hollens. Cylburn, 8 pm.
	6	ANNE ARUNDEL	Meeting. Films, Birds of Prey. Library, West St, 8
	14	MONTGOMERY	Lake Needwood trip. Meet at bridge over lake, 8 am.
	14	BALTIMORE	Delmarva trip. Meet US50 McDonald's, 7:30. Stasz.
	14	ANNE ARUNDEL	Feeder trip. Meet Montg'y Wards, 8 am. Fran Betty.
	14	EXECUTIVE COUNCIL	Meeting
	15	BALTIMORE	Covered Dish Supper. Bald Eagles, Abbott. Cylburn, 5
	19	MONTGOMERY	Annual Social. Reservations required.
	22	BALTIMORE	Pot Luck Trip. Meet Towson Plaza PO, 7:30 am. Stasz
	23	WICOMICO	Meeting. Bill Standaert. Asbury Meth. Ch., 7:30 pm
	24	PATUXENT	Meeting. 10 Yrs. of BBS, D.Bystrak. St.Philips,7:45
	28	ANNE ARUNDEL	Frostbite Trip to Sandy Pt. Meet Anglers,US50, 8 am
	28	WICOMICO	Bird Feeder Trip. Call Nancy Strahl, 546-1412

BOOK REVIEWS

CHECK LISTS OF BIRDS OF THE WORLD

A CODED LIST OF BIRDS OF THE WORLD
Ernest P. Edwards. 1974. E. P. Edwards, Sweet Briar, Va. 174 pp.

BIRDS OF THE WORLD: A CHECK LIST
James F. Clements. 1974. Two Continents, N.Y. 560 pp. $15.00.

REFERENCE LIST OF THE BIRDS OF THE WORLD
J. Morony, W. Bock & J. Farrand. 1975. Am. Mus., N.Y. 207 pp.

A CHECKLIST OF THE BIRDS OF THE WORLD
Edward S. Gruson. 1976. Quadrangle, N.Y. 212 pp. $10.95.

As the titles imply, these four books contain bare-bones lists of the names of the birds that inhabit our planet. Taxonomy of many genera and families of birds is still poorly known. There is no single accepted standard for the world-wide classification of birds--let along English names for birds that never occur in English-speaking countries. Hence, there are differences in scientific and English names, differences in sequence, and in lumping and splitting, from one book to another.

Edwards basically follows Wetmore's classification (as in the A.O.U. Check-List), Morony and Gruson follow Peters (a sequence more widely used in Europe), and Clements follows the classification of Van Tyne and Berger in their "Fundamentals of Ornithology."

There is no clear choice as to which book is the best. I judge Morony to be the most authoritative; yet many birders will reject it because it lacks English names and gives no indication of geographic range. Edwards, being thin, is the best one for a coat pocket. Both Morony and Gruson cite in detail the authorities they follow. Gruson's greatest advantage is the series of references given for every species. Clements, however, is the only one providing ample space to write in the date and place for each bird on one's life list.

	Edwards	Clements	Morony	Gruson
Binding	Cloth	Cloth	Unbound	Cloth
Measurements of book (inches)	6¾x9¼	6½x9¼	8½x11	6¾x9½
Scientific names	Yes	Yes	Yes	Yes
English names	Yes	Yes	No	Yes
Geographic range	Codes	Countries	No	Codes
Code number for each species	Yes	No	No	No
Columns for checkmarks	0	0	2	0
Space for writing locality/date	0	3 in.	0	0
Taxonomic sequence, ending with	Weavers	Sparrows	Crows	Crows
References cited	General	General	Specific	Specific
Index to genera	Yes	Yes	Yes	Yes
Index to English names (Order/Family)	O/F	F	No	F
Number of species recognized	8908	8904	9016	?

A review copy of Gruson resides in the Irish Grove Sanctuary library.
C.S.R.

THE WEB OF ADAPTATION, BIRD STUDIES IN THE AMERICAN TROPICS
David Snow. 1976. Quadrangle/New York Times Book Co., N.Y. $8.95.

David Snow, Curator of Birds at the British Museum, and his wife spent many months in the American tropics studying how some of the world's most bizarre birds have adapted to their surroundings. It is amazing to the casual student of evolution to realize how one factor, the practice of eating fruit, has caused such striking variations in behavior. To the birder confined to eastern North America, these strange South American birds are delightful to consider: bellbirds, cock-of-the-rock, manakins, oilbirds, the Crimson Fruit Crow. Naturalists have only begun to study their behavior, just when their habitats are being threatened by encroaching agriculture and industrial development. We hope these studies will make the South American countries more aware of the value of their bird resources.

This book will be placed in the library at Carey Run Sanctuary, as will "The American Robin" by Len Eiserer which was reviewed in the January 1977 Newsletter of Baltimore Chapter MOS. Joy Wheeler

BIRD SOUNDS
Gerhard A. Thielcke. 1976. Ann Arbor Science Library, Univ. Mich. Press, Ann Arbor. $2.95 (paper), $6.95 (cloth).

If, the next time you're at Irish Grove Sanctuary you find yourself confined to the house by the heat, mosquitoes or rain, you may have to open the windows and do your birding entirely by ear. There's now a book there which will give you some assistance. Bird Sounds gives a good textbook treatment of what you'll be hearing, or not hearing as in the case of the owl flying. The structure of the bird's sound-producing organs, the variations in sounds, bird songs and calls, how birds learn sounds, are all thoroughly written of in this book. Suggestions for further study are presented. Joy Wheeler

*

CURLEW SANDPIPER IN DORCHESTER COUNTY, MARYLAND

Carl W. Carlson and Josephine Walker

On November 19, 1976 we drove into Blackwater National Wildlife Refuge from the east on Key Wallace Road and about noon crossed the tidal creek just east of Headquarters. Seeing a shorebird flock on the tidal mud, we stopped within 20 to 50 feet of the scattered birds. Remaining in the car we checked them and found a few Killdeer and Common Snipe, but the solid, massed flock consisted entirely of Dunlin. In checking them out we spotted a different bird at the edge of the flat, about 10 feet from the flock.

Our attention was caught by its somewhat more slender (longer?) body-shape and its definitely taller, more erect posture. The bird remained 20 to 35 feet from us and fed busily for perhaps 5 minutes, allowing a careful check (book in hand) of field marks, and comparison with the nearby Dunlin. These marks are summarized below:

Bill - Slightly downcurved in an arc for its full length. It seemed thinner than the Dunlin bills, and had no vestige of the drooping end.

Mantle - Darker and more strongly patterned (scaled) than the Dunlin. The back was distinctly brownish gray and darker than the Dunlin.

Breast - The "bib" was paler and composed of lines of light streaks coming down from the face and throat. Both the bib and streaks therein were lighter than in the Dunlin. This plus the darker back made a color pattern so different from the Dunlins' that it was easily noticed without glasses. The lower underparts also appeared lighter (or whiter) than in the Dunlin.

Behavior - The bird fed busily, pecking rapidly but walking rather slowly, and seemed to examine the mud closely before pecking. This was in marked contrast to the Dunlin, which ran about furiously and pecked in what could be termed a frantic manner. (But perhaps birds feeding in a compact flock have to move faster to compete?) The bird maintained a gap of 8 to 12 feet between it and the flock, moving away as the Dunlin came closer. In contrast, any Dunlin that strayed from the flock's invisible boundaries seemed to hurry back rather promptly.

Posture - Standing and walking, the bird showed an erect posture, with a comparatively long neck. While feeding the bird kept its neck extended whereas the Dunlin when pecking displayed hardly more neck than when resting. The erectness emphasizes the comparative length and slenderness of the neck, while the longer legs make the bird taller.

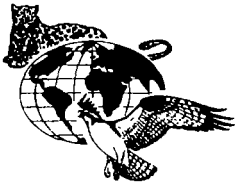
Legs - Black, and visibly longer than those of the Dunlin.

Rump - Definitely white; seen clearly at close range on take-off.

We had the bird in view by itself from 20 to 35 feet for at least 5 minutes, using a 10-30X B&L scope and 9X binoculars. Finally, when the bird was some 30 feet away and feeding tail-toward us, an eagle swooped down and every bird took flight. Since we both had the bird in perfect focus in bright sunlight at short range and "tail-to," we both saw clearly the white rump as it flew. The flock flew wide out over the marsh, scattering and regrouping; finally about half returned to our mudflat, but our bird was missing and could not be found again. A large number of birders searched unsuccessfully for it on the weekend of November 20-21.

On the basis of the field marks observed, it appears that the bird was a Curlew Sandpiper (*Calidris ferruginea*). The immature pictured on page 129 of Bruun's Birds of Europe closely resembles our bird. This is the only plate we have found that shows the erect posture and "long-necked" look. Luckily, just about it on the plate are pictures of the Dunlin to permit comparison of typical profiles and postures of the two species. These field marks seem neglected in American guides, but European works specifically remark on them (*e.g.*, Bruun and Ticehurst as quoted by Bannerman on page 249 of Volume IX of Birds of the British Isles). These differences are very similar to those of the erect, attentive Golden Plover as compared with the bull-necked Black-bellied Plover. While the profile/posture are not diagnostic, they are most helpful. This is the third time in six years we have spotted a bird by these marks that on close study proved to be a Curlew Sandpiper.

5706 Lone Oak Drive, Bethesda, Md. 20014 and
1543 N. Falkland Lane, Silver Spring, Md. 20910



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FEATURE AREAS: MICRONESIA, CAMEROONS

Leaders for *MICRONESIA* will be Doug Pratt and Phil Bruner who have been studying the birds of the Pacific for several years and are preparing a field guide to the birds of the area. Doug is also an artist whose magnificent bird paintings have appeared in several recent natural history and birding journals. This is your chance to be on the first birding tour we know of to these remote islands with their rare, endemic species. *CAMEROONS* in West Africa offers many endemic birds, unspoiled rain forests and rare mammals. Phil Agland, the leader, has thoroughly scouted the country and promises a very rewarding experience for a small group of adventurous travelers who will be among the first American birders to visit this fascinating country.

TEXAS COAST	April 1-14
TEXAS—BIG BEND	April 16-24
ARIZONA	April 26-May 10
CAMEROONS	April 10-May 3
HAWAII	May 23-June 6
MICRONESIA	June 8-27
EUROPE	May 20-June 3
NORWAY	June 14-30
GALAPAGOS—ECUADOR	June 18-July 9
PUERTO RICO—VIRGIN ISLANDS	June 25-July 9
DOMINICAN REPUBLIC—JAMAICA	July 11-25
PANAMA—GUATEMALA	July 27-August 15
MALAYSIA—HONG KONG	August 31-September 24
TRINIDAD—TOBAGO	September-October
AUSTRALIA	October 23-November 20

CONTENTS, MARCH 1977

MARYLAND BIRDLIFE

Published Quarterly by the Maryland Ornithological Society, Inc.
to Record and Encourage the Study of Birds of Maryland

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