

The Raven

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JOURNAL OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

EDITOR

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Art work on pp. 4, 10, 16, and 75 by Arun Bose

BLACK-BILLED CUCKOO PARASITIZES THE NEST OF A YELLOW-BREASTED CHAT

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During an on-going study of the breeding biology of the Yellow-breasted Chat (*Icteria virens*) on a 10-hectare site in Rappahannock County, Virginia (38°38'N 78°06'W), I found a chat nest parasitized by the Black-billed Cuckoo (*Coccyzus erythrophthalmus*). On 6 June 1994, in the territory of a color- and USFWS-banded pair of chats, I found a nest containing four cold, partly incubated chat eggs and one slightly incubated cuckoo egg.

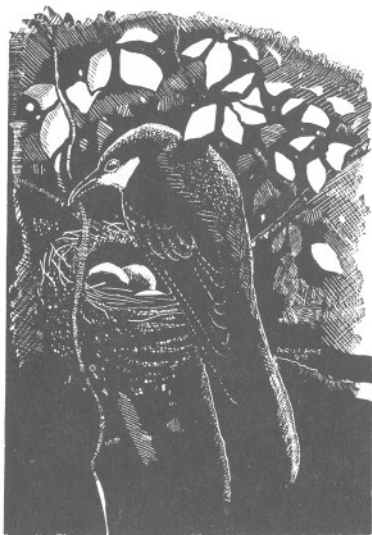
On the following day I returned to the area and watched the nest from a distance of about 6 m from 8:00 to 9:00 a.m. No chats or other birds went to the nest or were seen in the immediate area of it, so I weighed and measured the eggs. The chat eggs were white with dark reddish speckles mostly at the larger end and were 20.5 x 16.7 mm, 2.9 g; 19.8 x 16.9 mm, 2.7 g; 20.0 x 16.8 mm, 2.95 g; and 20.4 x 16.6 mm, 2.95 g. The cuckoo egg was light robin's-egg blue without markings and it measured 28.2 x 22.3 mm, 6.4 g.

FIGURE 1. Nest of a Yellow-breasted Chat containing four chat eggs and one Black-billed Cuckoo egg.



The next day I collected the nest and eggs which were cold and wet (Fig.1). The nest was a typical chat nest of dried grass with some large dried leaves in its foundation, the interior was lined with finer dry grasses. The nest exterior was about 12 cm across and 7.5 cm deep; the interior was about 8 cm across and 5 cm deep. It was at a height of 80 cm in a dense thicket of Japanese honeysuckle (*Lonicera japonica*) and blackberry (*Rubus* spp.). The vegetation of the thicket formed a cover over the top of the nest, so that it was almost invisible from above.

On 10 June I located a replacement nest with one egg of this same banded chat pair well within the vocally-defended territory of the male, and roughly 52 m distant from their first nest. Since there was no other female chat in this territory, this confirms that the female chat deserted her parasitized nest. The second nest was at a height of about 65 cm. It was generally the same size and construction as the first, except it measured only 4 cm deep. Subsequently, the female laid another three eggs at one day intervals. These four eggs hatched 12 days after the laying of the last egg.



I examined and measured these nestlings daily for seven days, until they had disappeared by the morning of the eighth day. One of the chicks was a runt, and it was gone on the fifth day. The other three chicks each suffered the infestation of four to nine subcutaneous fly larvae which may have retarded their growth. Even though I extracted the larvae to try to save the chat nestlings, there were still some larvae in each chick not mature enough for extraction on the last day I saw them. The next morning the nestlings were gone and I believe they suffered predation, as the longest emerging primary on the largest nestling was only 14 mm on the previous morning, so they could not have flown. Their weights were below fledgling weights of other chat nestlings on the same study area.

Both the Black-billed Cuckoo and the Yellow-billed Cuckoo (*Coccyzus americanus*) have been regular summer residents in the study area since I began record-keeping in 1988, except I have no records for the Black-billed Cuckoo in 1988 and 1990. Both of these cuckoos make their own nests, but very occasionally they are known to lay eggs in each others' and in other species' nests (Bent 1964). In the literature on the Yellow-breasted Chat there is no previous report of cuckoo parasitism (Petrides 1938, Bent 1963, Dennis 1958, and Thompson and Nolan 1973). The Black-billed Cuckoo literature (Spencer 1943, Bent 1964, Nolan and Thompson 1975) also indicates that it has not previously been reported to have parasitized the Yellow-breasted Chat.

The Brown-headed Cowbird (*Molothrus ater*) is an obligate brood parasite, and there are numerous reports of cowbird parasitism of the chat, some in which the chat raised the cowbird nestling (Friedmann 1929, Bent 1963, Friedmann and Kiff 1985, Shackford 1987). The usual cowbird egg is not far different in size and coloring from the chat egg, so it is not surprising that chats sometimes raise cowbirds. Because the cuckoo egg was slightly incubated, I believe that the chat may have attempted to incubate this large alien egg for a brief time before deserting her nest. The nest and five eggs have been deposited in the collection of the U.S. National Museum of Natural History.

ACKNOWLEDGMENTS

Roger Clapp of the U.S. Fish and Wildlife Service suggested that I submit this note to *The Raven* and kindly took the picture of the nest. Bonnie Farmer at the Smithsonian Institution confirmed the identification of the cuckoo egg. Johan Ingels and Mort and Phyllis Isler have also been helpful to me in this study. John B. and Wilva Trent financially partially support my research. To all of them I am grateful.

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TWO INSTANCES OF NEST-PARASITISM OF PARIDS BY THE BROWN-HEADED COWBIRD

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During the summer of 1991 I maintained more than 400 bird houses in the northern Virginia Piedmont and along the Blue Ridge in Prince William, Loudoun, Fauquier, and Clarke counties. During this period I recorded instances of parasitism by the Brown-headed Cowbird (*Molothrus ater*) on both Carolina Chickadee (*Parus carolinensis*) and Tufted Titmouse (*Parus bicolor*).

As I checked boxes on the Clarke County side of the Blue Ridge on 29 May, I was astonished to discover in one box seven two-thirds grown chickadee young (primaries erupted about 1/3") and a young cowbird, more than twice their size. While I banded the young chickadees, the cowbird flew from the nest to a branch about 10 feet up and 30 feet away. While I was debating with myself whether to return the bird to the nest, it flew another 80 feet and disappeared in the grass where I was unable to find it.

On my previous visit on 18 May the nest contained small naked young, evidently very recently hatched. I had noted a fair disparity in the size of the young, but had not looked close enough to discern the cowbird. On 2 May the box had contained eight fresh chickadee eggs, but, a female cowbird evidently had removed one of the chickadee eggs and laid one her own shortly thereafter. The cowbird incubation period (10-13 days) is typically shorter than that of the chickadee (11-12 days).

In most parasitized nests the incubation period of the cowbird is significantly shorter than that of the host and allows the cowbird young to hatch enough in advance of the host eggs so that the young cowbird may prevent the host eggs hatching. Alternatively such parasitism often results in the death of the young of the host, very much smaller than the cowbird when they hatch (as happened in one of my Eastern Bluebird (*Sialia sialis*) nests that was parasitized in 1991). That all the chickadee young were present and healthy suggests that the cowbird egg was deposited when the chickadee eggs had been incubated for at least four or five days. These chickadees were banded and presumably fledged judging from the condition of the nest on 13 June.

In the other instance of parasitism, a Tufted Titmouse was found on 14 May with a nest near Lenah, Loudoun County, in a box that contained five fresh or near fresh eggs and one cowbird egg. On 23 May, 9 days later, the box still contained five titmouse eggs, but another cowbird egg had been added to the clutch. On 1 June, the box contained only four medium-sized titmouse young, with no indication of what had happened to the remaining titmouse egg or the cowbird eggs. Judging from the condition of the nest on 13 June these young all fledged successfully.

Papers by Friedmann (1963, 1966, 1971), Friedmann et al. (1977) and Friedmann and Kiff (1985) provide a thorough summary of host records for these parids that is based on both the published literature and museum collections. Both the titmouse and the chickadee are uncommon to rare hosts. There are only four listed previous records

of parasitism for the Carolina Chickadee: two from Maryland, one from North Carolina and one from Louisiana (Friedmann and Kiff 1985). There are only six previous reports for the Tufted Titmouse: two from Illinois, two from Pennsylvania, one from Ohio, and one at an unknown locality (Friedmann 1963).

I have now had an incidence of parasitism of 2.2% for chickadees (one of 46 chickadee nests found 1991-1994) and 3.8% for the titmouse (1 of 28 titmouse nests during the same period). This startlingly high incidence is doubtless because all but two (chickadee) nests were in nest-boxes with holes of 1 5/8" or greater. The titmouse was actually nesting in a box designed for Great Crested Flycatcher (*Myiarchus crinitus*).

Both species usually nest in cavities whose entrance holes are too small to admit cowbirds, but entrances to natural titmouse nests tend to be somewhat larger than those of the chickadee (pers. obs.). Jackson M. Abbott (ms. notes) saw female cowbirds entering a titmouse nest hole near Alexandria, Virginia; thus these species may be readily subject to nest parasitism when entrance holes are larger.

The incidence of parasitism here is in striking contrast to that found in Eastern Bluebirds in the same area. Only 3 in over 800 nesting attempts 1991-92 were parasitized by cowbirds. The approximate proportion (0.4%) is markedly less, by about an order of magnitude, than for that recorded for the parids. Presumably the difference results from the relative inability of these species to defend their nest-sites from cowbirds or, indeed, because they are normally so infrequently parasitized that they defend the nest much less vigorously than the usually more frequently parasitized bluebird. Robertson and Norman (1977) reported that host aggression towards models of Brown-headed Cowbirds is positively correlated with the rate of parasitism. In addition, Eastern Bluebirds are subject to intraspecific egg dumping with as many as 10% of the young in one population in South Carolina hatching from dumped eggs (Gowaty and Wagner 1988). Female, and to a lesser extent male, bluebirds aggressively defend nests against other females (Gowaty and Wagner 1988). This aggressiveness may increase the bluebirds' response to cowbirds and lead to lowered rates of parasitism as compared with the parids using the same sort of sites (bird-boxes).

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RAVEN CORRIGENDA

In volume 66, number 2, the following corrections should be noted:

On page 87, under records being evaluated by the VSO Records Committee, the California Gull at Fort Story, Virginia Beach, was seen on 3 January 1992, not 1991.

On page 94, in the table of Williamsburg spring bird counts, the number of Roseate Terns seen in May 1990 was 0, not 1.

On page 101, under the May 1989 column of the table of Williamsburg spring bird counts, the following entries should be changed to read:

Pine Siskin:	0
American Goldfinch:	272
Evening Grosbeak:	0
House Sparrow:	149

SOME FOODS OF THE RUSTY BLACKBIRD IN THE GREAT DISMAL SWAMP REGION

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In the course of intermittent field work in the Great Dismal Swamp region of Virginia from 1957 to 1994, I made observations on the fall food habits of the Rusty Blackbird (*Euphagus carolinus*), an omnivorous and opportunistic feeder.

Although generally associated with swamps, the Rusty Blackbird also forages in marshes, upland woods and fields, and in cattle and hog feed lots. In the fall in the Dismal Swamp area I often encountered them feeding in peanut (*Arachis hypogaea*) fields bordering the west side of the Swamp, and on acorn mast, pine seeds, and fruits of various trees and shrubs.

One of the favorite foods in the fall is acorn mast of the willow oak (*Quercus phellos*). Mast is available to the Rusty as a result of the feeding activity of the Common Grackle (*Quiscalus quiscula*) in the trees and on the ground beneath these oaks (Meanley 1972 and 1992).

At four locations in the fall, one in the Dismal Swamp, I have observed Common Grackles feeding on acorns in willow oak trees at the same time that Rusty Blackbirds were picking up bits of acorn mast beneath the same trees.

The seeds of loblolly pine (*Pinus taeda*) are another food taken by Rusty Blackbirds, and also Red-winged Blackbirds (*Agelaius phoeniceus*) in southeastern Virginia and elsewhere in the South. H. L. Stoddard (1978) reports that "Rustys are very fond of pine mast, and flock into several species of pines with other blackbirds where they extract the nutritious seeds from the partially opened cones." In reference to such feeding activity by the Red-winged Blackbird, Stoddard (ibid) says "The discarded wings from the seeds catch the observer's eye as they spin earthward in the sunlight, bringing attention to the silently feeding birds." Male and female Rusty Blackbirds are approximately the same size and both extract pine seeds from cones in the trees. I have seen only the male Red-winged Blackbird engaged in this activity, apparently because the male has a longer and more pointed bill than the smaller female (Meanley 1962).

On 4 April 1991, I noted a small flock of Rustys in the Dismal Swamp probing into the opened cones of a loblolly pine. I could not ascertain if they were finding any seeds, which seemed to be beyond the season for pine seed production.

Fruits or berries upon which I have seen Rustys feeding in the Swamp in fall include American holly (*Ilex opaca*), Hercules club (*Aralia spinosa*), dogwood (*Cornus florida*), and black gum (*Nyssa sylvatica*). On 15 November 1991, I saw 12 Rustys and several robins (*Turdus migratorius*) in a black gum tree feeding on berries at a height of an estimated 60-70 feet.

Stoddard (ibid) reported that on his plantation in Georgia, the Rusty Blackbird is "partial to gum ponds, where it may be seen perched in flocks in trees or walking about

on the ground at the water's edge." Mr. Stoddard was referring to ponds encircled by black gum trees, which I have seen on my visits to his lands.

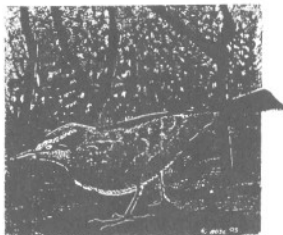
The use of the fruit of woody plants by Rusty Blackbirds as fall food in the Dismal Swamp is of interest when compared to the extensive food habits data reported by Martin, Zim, and Nelson (1954). Their data indicate that Rusty Blackbirds were mainly feeding on agricultural crops, and that woody plant fruit formed less than 2% of the food of birds from the Northeast and was not reported from Southeastern birds. The food habits reported in this paper from Dismal Swamp Rusty Blackbirds probably reflects a more natural feeding pattern in the eastern United States before this area had been so drastically changed by human agricultural practices.

In the Spring, Rusty Blackbirds spend much of their time foraging for aquatic animal life in the shallower flooded areas of the Swamp. This may be due to the reduced abundance of woody fruits and agricultural crop residues at this time.

I would like to thank Matthew C. Perry of the Patuxent Wildlife Research Center and Gorman M. Bond, formerly of the U.S. National Museum for reviewing this paper.

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**MIGRATION PATTERNS OF MERLINS AT
KIPTOPEKE, VIRGINIA,
SEPTEMBER THROUGH NOVEMBER 1992-1994**

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Merlins (*Falco columbarius*) are regular migrants along the East Coast, from September through November. A few have been recorded moving southward in late August and some probably migrate into December, but this study does not address those periods. Only 16 Merlins were recorded at Kiptopeke in November 1992-1994, so there are certainly few birds passing through that area in December. Adult males, or "Blue-backs," as they are sometimes called, are rarely seen at Kiptopeke. The brownish immatures or adult females, which are virtually indistinguishable from each other in flight, generally pass the Kiptopeke hawk-watch area in numbers of less than 10 per day. Merlins were recorded on 138 of the 204 observation days, during September-November 1992-1994.

The observation area for 1992 was on the traditional grassy hillside, used since 1977, just east of the old ferry terminal, in Kiptopeke State Park. In 1993 and 1994, the observation site was the newly-constructed observation platform, situated approximately 50 yards to the east of the hillside.

There were only 13 days during September-November 1992-1994, when 20 or more Merlins were recorded at the station in a single day. These "big days" are shown in Table 1. The 20 September 1992 total represents the largest single-day passage of Merlins at Kiptopeke since 1977, when records began to be regularly kept. These "big days" accounted for 60% of the season's Merlin totals for 1992, 48% for 1993, and 59% for 1994. For the three seasons, the 13 "big days" accounted for 57% of the Merlins occurrences.

TABLE 1. Days on which more than 20 Merlins were recorded at Kiptopeke.

Date	Number of birds	Date	Number of birds
20 September 1992	214	18 September 1994	53
5 October 1992	40	25 September 1994	36
19 September 1993	27	1 October 1994	105
1 October 1993	55	2 October 1994	28
2 October 1993	59	3 October 1994	60
3 October 1993	33	15 October 1994	32
17 September 1994	63		

The window of time in which the "big days" occurred is quite small. With one exception, they were between 17 September and 5 October. One of the Merlin migration strategies, or patterns, appears to be a dash through an area in large numbers, in a restricted time frame. This method, though perhaps effectively evolved over eons of time, could be dangerous to a population if man-made or natural disasters were encountered. Also, if habitat loss led to a sharp decrease in prey items in an area, such a large number of predators, concentrated together could find competition for food fierce.

For eight days during this period, I tracked all migrating raptors, rounding off to the nearest minute of their passing, to examine grouping patterns, if there were any. These were dawn-to-dusk recordings, except for one day which was rain-shortened at 2:30 p.m. Whole days of observation are needed in order to determine what the birds are doing and to avoid missing any individuals. Except for the rain-shortened day, the observations averaged 11.5 hours per day.

I wanted to see if Merlins came singly, flew together in Merlin groups, or if they flew with other species of raptors. I arbitrarily and conveniently defined flying within one minute of each other as flying together, as long as the birds appeared to be moving along at the same pace and in the same direction. Birds one minute apart or less would be easily able to keep in touch with one another and could be construed as travelling together. Of course, it is possible that the birds may have separated or come together after passing the observation station. The birds recorded were all flying at the same level. If any birds had passed within a minute of each other, but had been flying at very different altitudes or very different paces, I would not have concluded that they were traveling together, even though, with their keen eyesight, they may, in fact, have been keeping in touch. More research from a variety of sites would be helpful in drawing conclusions about how Merlins tend to stay together or apart during migration. Table 2 shows how often Merlins came singly and in same-species groups.

TABLE 2. *Single and group appearances of migrating Merlins for eight days, 1992-1994.*

Groups	Number of occurrences
Singly	62
In twos	8
In threes	5
In fours	1

Table 2 illustrates the movements of 97 Merlins during the eight days. The 97 birds represent 7% of the total Merlins during September-November 1992-1994. There were twice as many birds moving as singles (62) as there were birds in groups of twos and threes combined (31). Interestingly, three of the five groups of three and the only group of four occurred within about a 45-minute time-frame, from 5 to 6 p.m. on the same day.

I also wanted to examine whether Merlins flew together with other species of raptors. There were 41 instances, on these eight days, of Merlins flying within one minute of other species of raptors. The pace of the Merlins, however, was significantly different from that of the other species of raptors. Though the appearances of the birds were within one minute, I concluded that the times were coincidental and that they did not travel with other raptors on these days. For several years, I have been recording the times

of arrival of migrating raptors, at various sites, to determine whether they are flying alone or not. I have often found mixed-species groups of migrating raptors that appeared to be traveling together, though I have not found this to be the case with Merlins.

During these eight days of observation, I also paid particular attention to the manner in which Merlins passed the observation station. Only twice were they seen to soar or pass rather lazily. The rest passed just above or just below treetop level. They moved steadily along a direct line, at a fast pace, gliding occasionally, only for short periods. Because of the woods to the north and south of the observation area, which limits visibility and because of the fast, low-level flight of the Merlins, the time of observation of the birds was usually only a few seconds. Several Merlins were caught at the nearby banding station during these eight observation days, though their fast pace put them almost in the nets before I saw them.

I also researched data about hourly movements of Merlins, or daily "migration rhythm." Table 3 shows the daily migration rhythm for 1423 Merlins, during September-November 1992-1994. Though the time measurement of hours means nothing to Merlins, it is a convenient way of noting their passage throughout the day. The times given are Eastern Standard Time. The percent of total Merlins is rounded to the nearest whole number.

The table shows that the 1 to 5 p.m. time period accounted for 51% of the Merlins. Activity during these four hours was remarkably consistent and was quite different from that of the hour preceding and the hour following this block of time. While this is a significant percentage total and is consistent with what observers generally state to be true for Merlins, the four hours from 9 a.m. to 1 p.m. accounted for 33% of the total number of Merlins. Observers at Kiptopeke sometimes half-jokingly state that Merlins do not begin flying until 3:30 p.m. (actually 2:30 p.m. for this data, which is recorded in Eastern Standard Time), but this indeed often seems to be the case. The table shows, however, that actually less than half of the Merlins in this study flew over the station from 2:00 p.m. to the end of the day. The middle eight hours of the day accounted for 84% of the Merlins counted. The remaining 16% of the birds was scattered over the first three and last two hours of the day. If any Merlins were migrating in the dark they were missed for obvious reasons.

TABLE 3. *Daily migration rhythm of Merlins September-November 1992-1994.*

Time of migration	Number of Merlins	% of Merlins
6-7 a.m.	23	2
7-8 a.m.	50	3
8-9 a.m.	69	5
9-10 a.m.	108	8
10-11 a.m.	107	8
11 a.m.-12 p.m.	123	9
12-1 p.m.	112	8
1-2 p.m.	177	12
2-3 p.m.	188	13
3-4 p.m.	201	14
4-5 p.m.	175	12
5-6 p.m.	89	6
6-7 p.m.	1	0
Total	1423	100

Table 4 shows the daily migration rhythms for Merlins for September-November 1994, compared to those of the two most common species of migrant raptors at Kiptopeke, for 1994, the Sharp-shinned Hawk (*Accipiter striatus*) and the American Kestrel (*Falco sparverius*). Also included in the table are the percentages of the total number of each species seen during the hour represented. The 12,064 Sharp-shinneds, American Kestrels, and Merlins accounted for 62% of all migrating raptors recorded at Kiptopeke during September-November 1995.

TABLE 4. Daily migration rhythm of Merlins, American Kestrels, and Sharp-shinned Hawks at Kiptopeke, September-November 1994.

Times of observations	Numbers of Sharp-shinned Hawks seen	Percentage of total Sharp-shinned Hawks seen	Numbers of American Kestrels seen	Percentage of total of American Kestrels seen	Numbers of Merlins seen	Percentage of total Merlins seen
5-6 a.m.	48	1	59	1	0	0
6-7 a.m.	260	4	68	1	8	1
7-8 a.m.	590	9	294	6	34	5
8-9 a.m.	730	12	588	11	40	6
9-10 a.m.	1037	17	679	13	41	7
10-11 a.m.	865	14	432	8	50	8
11 a.m.-noon	1001	16	719	14	52	8
noon-1 p.m.	691	11	941	18	39	6
1-2 p.m.	473	7	579	11	73	12
2-3 p.m.	303	5	423	8	83	13
3-4 p.m.	163	3	239	4	83	13
4-5 p.m.	42	1	144	3	80	13
5-6 p.m.	2	0	59	1	51	8
6-7 p.m.	0	0	0	0	1	0
Totals	6205	100	5224	100	635	100

The daily migration rhythm for Merlins for 1994 was very similar to that for 1992 through 1994. A comparison of tables 3 and 4 shows that the percentages of the total Merlins represented by each hour were all within 1 or 2%. Table 4 reveals that 35% of the Merlins passed before noon. In contrast, 73% of the Sharp-shinned Hawks and 54% of the kestrels passed the observation station in the morning.

Interestingly, the most active hours for the three species were all different with 16% of the Sharp-shinned Hawks passing by between 11 a.m. and noon, and 18% of the American Kestrels between noon and 1 p.m. The most active hours for Merlins were from 2 to 3 p.m., 3 to 4 p.m., and 4 to 5 p.m., each hour representing 13% of the total number of Merlins passing by the station.

Examining how the percentages change by hour throughout the day reveals a basic trend for all three species which builds gradually, then declines. Numbers of Sharp-shinneds increased until mid- or late morning. The numbers of American Kestrels increased until early afternoon, while Merlin numbers increased until late afternoon.

Merlins showed two consistently sustained periods of movement, with a different volume of birds for each period. One period was from 7 a.m. to 1 p.m., when the percentages of the total Merlins varied only slightly—from 5 to 8. The second period was from 1 p.m. to 5 p.m., when the percentages of total Merlins almost doubled from an average of 7 to 13, but varied only from 12 to 13% during the four hours. Neither Sharp-shinneds nor American Kestrels showed sustained periods of movement as consistent as the Merlins.

Curiously, there is one dip in the percentages for each of the three species that is contrary to the gradual building trend. For Sharp-shinneds, the dip occurred between 10 a.m. and 11 a.m., when the percentage fell from 17 to 14, then rose to 16 during the next hour. For American Kestrels, the dip also occurred between 10 a.m. and 11 a.m. when the percentage fell from 13 to 8, then rose to 14 during the next hour. For Merlins, the dip occurred between noon and 1 p.m., when the percentage fell from 8 to 6, then rose to 12 during the next hour.

After 4 p.m., 21% of the Merlins passed the observation station, compared to only 5% of the American Kestrels and only 1% of the Sharp-shinneds. Before 7 a.m., there were no significant movements of these three species. After 6 p.m., there was only a single migrating raptor, a Merlin.

Table 5 shows a comparison, by hour, of migrating Merlins to the combined total of migrating Merlins, Sharp-shinneds and American Kestrels for September-November 1994. Though Merlins comprised only 5% of the total of these three species for the season, the table clearly illustrates how conspicuous they were from 4 p.m. to 6 p.m., when they comprised about one third of these three species. During the seven morning hours, Merlins averaged about 3% of the total of the three species.

TABLE 5. *The hourly percentage of Merlins comprising the total number of Merlins Sharp-shinned Hawks, American Kestrels, and Merlins counted at Kiptopeke during September-November 1992-1994.*

Mourning hours of migration	Percentage of Merlins	Afternoon hours of migration	Percentage of Merlins
5-6 a.m.	0	12-1 p.m.	2
6-7 a.m.	2	1-2 p.m.	7
7-8 a.m.	4	2-3 p.m.	10
8-9 a.m.	3	3-4 p.m.	17
9-10 a.m.	2	4-5 p.m.	30
10-11 a.m.	4	5-6 p.m.	33
11 a.m.-12 p.m.	3	6-7 p.m.	100

SUMMARY

During this study period, Merlins migrated past Kiptopeke mostly from mid-September to the first week in October. Adult males were rarely seen. Merlins flew usually as singles and did not appear to fly together with other species of raptors. Merlins

generally passed the observation station rapidly and on a direct line just above or just below the treetops.

A few "big days" each season accounted for more than half of the total migrant Merlins.

A study of migration rhythm, by hour, for September-November 1992-1994, showed that the hours of 1-5 p.m. accounted for 5% of the Merlins. The hours of 9 a.m.-1 p.m. accounted for 33% of the Merlin numbers passing by the station.

When compared to the two most numerous species of raptors migrating past Kiptopeke during September-November 1994, Merlins were found to comprise about one third of the total Sharp-shinned Hawks, American Kestrels, and Merlins passing by from 4 p.m. to 6 p.m., even though they comprised only 5% of the total number of the three species for the season. Merlins appeared to be migrating during a time when the two most numerous raptor species showed a marked decrease in movement.

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I would like to thank Bill Williams, the Kiptopeke hawk-watch coordinator, for allowing me to examine data from the daily tally sheets. I also thank all of the other dedicated volunteers who contributed to the observations.



FALLOUT OF WARBLERS AND OTHER NEOTROPICAL MIGRANT PASSERINES ON AFTON MOUNTAIN, AUGUSTA AND NELSON COUNTIES, WITH NOTES ON OTHER NOCTURNAL MIGRANTS

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On 6 September 1994 the writer spent several hours, from 7:30 to 9:55 a.m. (eastern standard time) with Brian Patteson, Mozelle Henkel, and Ruth Knight, and from 4 p.m. to 5:10 p.m. with Allen Hale, and alone, observing large flocks of migrant warblers feeding in and moving through the deciduous woodland and brambles of Rt. VA 610 (near and along the boundary between Nelson and Augusta counties) and along Skyline Drive. In total, we observed over 500 warblers, with many other migrant passerines in evidence as well. Several of these species have been recorded only on rare occasions in these counties, but for the most part, the flocks were comprised of very common eastern warblers, chief among them Black-throated Green (*Dendroica virens*), Magnolia (*D. magnolia*), Blackburnian (*D. fusca*), and Chestnut-sided Warbler (*D. pensylvanica*) warblers, species whose ranges coincide considerably. The totals for particular species follow:

Tennessee Warbler (<i>Vermivora peregrina</i>)	13
Orange-crowned Warbler (<i>Vermivora celata</i>)	1
Nashville Warbler (<i>Vermivora ruficapilla</i>)	6
Northern Parula Northern Parula (<i>Parula americana</i>)	3
Chestnut-sided Warbler (<i>Dendroica pensylvanica</i>)	47
Magnolia Warbler (<i>Dendroica magnolia</i>)	79
Cape May Warbler (<i>Dendroica tigrina</i>)	6
Black-throated Blue Warbler (<i>Dendroica caerulescens</i>)	5
Black-throated Green Warbler (<i>Dendroica virens</i>)	118
Blackburnian Warbler (<i>Dendroica fusca</i>)	76
Pine Warbler (<i>Dendroica pinus</i>)	1
Prairie Warbler (<i>Dendroica discolor</i>)	4
Bay-breasted Warbler (<i>Dendroica castanea</i>)	8
Blackpoll Warbler (<i>Dendroica striata</i>)	7
Cerulean Warbler (<i>Dendroica cerulea</i>)	1
Black-and-white Warbler (<i>Mniotilta varia</i>)	18
American Redstart (<i>Setophaga ruticilla</i>)	22
Worm-eating Warbler (<i>Helmitheros vermivorus</i>)	1
Ovenbird (<i>Seiurus aurocapillus</i>)	1
Northern Waterthrush (<i>Seiurus noveboracensis</i>)	1
Common Yellowthroat (<i>Geothlypis trichas</i>)	4
Hooded Warbler (<i>Wilsonia citrina</i>)	3
Wilson's Warbler (<i>Wilsonia pusilla</i>)	6
Canada Warbler (<i>Wilsonia canadensis</i>)	10
Bay-breasted /Blackpoll Warbler	4
warbler, sp.	1

Total:

549 warblers, 24 species

Also observed travelling with the warbler flocks were small numbers of other migrants: 4 White-eyed Vireos (*Vireo griseus*), 3 Solitary Vireos (*V. solitarius*), 1 Yellow-throated Vireo (*V. flavifrons*), 20 Red-eyed Vireos (*V. olivaceus*), 1 Indigo Bunting (*Passerina cyanea*), 7 Eastern Wood-Pewees (*Contopus virens*), 1 Alder/Willow Flycatcher (*Empidonax alnorum/traillii*), 1 Yellow-bellied Flycatcher (*E. flaviventris*), 1 Rose-breasted Grosbeak (*Pheucticus ludovicianus*), 23 Northern Orioles (*Icterus galbula*), and 17 Scarlet Tanagers (*Piranga olivacea*). Over the course of the day, 16 Ruby-throated Hummingbirds (*Archilochus colubris*) were seen migrating high over the hawk-watch site at the Holiday Inn at Rockfish Gap. During the course of the week, Golden-winged (*Vermivora chrysoptera*) and Blue-winged (*V. pinus*) warblers and an Olive-sided Flycatcher (*Contopus borealis*) were also seen in the vicinity. Palm (*Dendroica palmarum*), Yellow-rumped (*D. coronata*), and Connecticut (*Oporornis agilis*) warblers were recorded in mid-month. Among the migrants, the only unusual birds were a somewhat late Cerulean Warbler (*Dendroica cerulea*) (typically an August migrant) and a very early *lutescens* Orange-crowned Warbler (*Vermivora celata*) (typically an October or November migrant), a species for which there exist only three previous Augusta County records (Larner 1988, 1994).

New peak counts for Virginia were established for Black-throated Green and Blackburnian Warblers, while peak counts for the Mountains and Valleys Region in the Commonwealth were set for Magnolia Warbler and Northern Oriole (Kain 1987). Also, fall peak counts in this Region, as well as in Augusta County, were set for Black-and-white, Wilson's (current state high count is 7), Chestnut-sided and Canada warblers, with fall peak counts in Augusta County for Ruby-throated Hummingbird, Nashville Warbler, and Scarlet Tanager (Kain 1987, Larner 1988, 1994). The Mountain and Valleys' peak count for American Redstart was set here on 24 September 1994, with 64 counted along VA 610.

It is interesting to note that whereas the high counts of Blackburnian and Chestnut-sided warblers correspond very precisely to the peak time of passage recorded by George Hall (1981) at the Allegheny Front Migration Observatory in northern West Virginia, the very high count of Black-throated Green Warblers occurred two weeks prior to the average peak passage window found there. Likewise, American Redstart was found in greatest numbers in the final week of September, a period in which the species was well past (10 days) its peak in Hall's study. Less significant is the one week discrepancy noted for Magnolia Warbler, which peaked in the second week in September in the late 1970s study.

A relatively mild low pressure system passing through western Virginia in the early morning hours of 6 September (*fide* National Weather Service) was clearly responsible for the congregation of migrating passerines, which had arrived in the predawn and dawn hours. During the course of the day, these birds continued to congregate into larger and larger associations of rapidly moving birds. Although many birds continued their migration along the ridge diurnally, some warblers paused briefly to feed on lepidopteran larvae present in the many trees, but particularly abundant in the tulip trees (*Liriodendron tulipifera*) along road edges. Diurnal migration and intense flocking behavior are phenomena frequently observed at sites that concentrate neotropical migrant passerines.

Rockfish Gap and adjacent ridges of Afton Mountain and Calf Mountain have a long history of migrant fallouts. For the most part, however, these fallouts have been associated with dense ridge-top fogs in the autumn that disorient migrants, causing many to meet their deaths in collisions with the Holiday Inn sign, the building itself, an adjacent water tower, or large parked vehicles on the motel lot (Baxter 1971; Y. Larner, M. Henkel, pers. comm.). In the spring, Stephen C. Rottenborn has recorded several early-May fog-induced fall-outs, with several hundred neotropical migrants lingering in the vicinity of the parking lot. These flocks disperse immediately as the fog dissipates (Rottenborn, pers. comm.).

Foggy conditions tend to bring migrants down to lower altitudes, which can also provide good opportunities for censusing the night's migration aurally. On 22 September 1994, I counted more than 200 Swainson's Thrushes (*Catharus ustulatus*) passing over this site, while on 10-11 October 1994, a *minimum* of 2000 Gray-cheeked (*Catharus minimus*) and 500 Swainson's (*C. ustulatus*) thrushes passed overhead. Totals were estimated by dividing the number of calls counted (with a manual clicker) by four. These are the highest counts yet recorded of both species in the state, although regular nocturnal censuses of migrant thrushes, such as have been conducted in New York State since 1988 (W. R. Evans, in ms.), should reveal such passage on an annual basis. Virginia's only previous counts of *Catharus* thrushes in the thousands were recorded at Falls Church, on the night of 21-22 September 1953, when 400 Swainsons' per hour and 250 Gray-cheeks per hour were tallied (Kain 1987). It is not clear whether this tally reflects calls per hour or estimated birds per hour. The tendency for passerines to call more frequently in nights with poor visibility (Clemens 1978, Dorka 1979, Ogden 1960, Gauthreaux 1972) means that all estimations must remain rough: from over 10,000 Gray-cheeked Thrush nocturnal flight calls I estimated a maximum of five calls per individual within aural range. In all likelihood, this makes my estimate very conservative.

The capacity for nocturnally migrating passerines to focus on and concentrate along ridges is a well-known, but little researched phenomenon, particularly in light of the wealth of data on diurnally migrating raptors, waterfowl, and passerines along ridges of the eastern United States. Much of the data gathered on such "fallouts" has come from coastal points such as Cape May, New Jersey (Kerlinger 1989) and Cape Hatteras, North Carolina (Sykes [1986] is the only comprehensive study), as well as from points along the Gulf of Mexico (a good synopsis of findings for birders is found in Duncan [1994]).

In Switzerland, however, Bruno Bruderer and others have charted individual long-distance (nocturnal) migrant passerines in the Alps (Bruderer 1971, 1975, 1977, 1978; Bruderer and Steidinger 1972; see also Laty 1972). Their findings indicate that passerines and nocturnally migrating waders respond in complex manners to different wind and weather conditions, but that their responses to massive topographic features (especially prominent Alpine ridges, peaks, and passes) are "astonishingly constant." They hypothesize "an evolutive adaptation of the flight paths crossing the region of the Alps and their forelands" (Bruderer 198x).

Although findings are still somewhat preliminary, it may indeed be the case that migratory birds have genetically stored information on major topographic features.

More and more nuanced information on relations between specific weather patterns and the arrival of large numbers of migrant passerines on interior ridges will hopefully be available in years to come.

More accessible to study by amateurs is the relation between weather systems and songbird migration. In investigating factors such as wind speed and direction, visibility and cloud cover, barometric pressure, and precipitation via on-line meteorological services, I was able to determine that the night of 5-6 September was marked by low but rising barometric pressure (a high pressure area flanked the front to the west), low to moderate wind speeds at all altitudes, wind directions predominantly from the north and northwest in Virginia and regions to the north and west, and clear skies. The moon was new on 5 September. These are precisely the conditions found to elicit departure of nocturnal migrant landbirds from Southeast Farallon Island, California (Pyle et al. 1993), an island that often harbors many passerines that typically nest and migrate through eastern North America (see also Able 1973, Gauthreaux and Able 1970).

I speculate that the bulk of migrants, stimulated by appropriate meteorological conditions in areas several hundred miles to the north of these ridges, arrived in the predawn hour at this latitude, landing *en masse* from their positions just posterior to the leading edge of this weak frontal system. How and why the birds were concentrated along these east-side ridges (rather than on the west-facing ridges or in the valleys), however, is not as easily theorized. I would expect that the appropriateness of the ridges' habitats, the warming of east-facing ridges by the morning sun (and hence the greater activity of insects on this side), and perhaps the effects of north-northwest winds on the northeast-southwest orientation of the Blue-Ridge here (an important factor in the diurnal migration of raptors here) all came into play in the phenomenon observed on 6 September.

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THE 1994 FORAY TO NORTHERN VIRGINIA

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The Virginia Society of Ornithology's (VSO) 1994 Breeding Bird Foray was held from 7 through 12 June in Frederick and Clarke counties, the northernmost part of the state. Headquarters was the Shoneys Inn in Winchester, at the intersection of Interstate 81 and VA 7. Twenty-two participants submitted field lists accumulating 122 species of birds and 233 party-hours.

The purpose, as for other recent forays, was to assess the status of breeding birds at another of the geographic extremities of the state. Just as the 1992 Lee County foray concentrated on western species, the focus of this foray was on northern species at the southern limit of their range, as well as southern species at the northern limit of their range. Though not as remote as Lee County, this area is somewhat isolated and unknown to most members of the VSO. Other than a few random records, the only recent documented coverage in the breeding season has been the Virginia Atlas Project (1984-1989) and the U.S. Fish & Wildlife's Star Tannery Breeding Bird Survey (13 years from 1977-1993). The one previous foray in this area was the 1967 "VSO foray to the Lower Valley." Adjacent areas were covered by the VSO's Loudoun County foray in 1978, and by forays of the Brooks Bird Club in West Virginia in 1949, 1957, 1967, 1977, 1982, 1985, and 1989.

All of the foray area lies in the "Mountains and Valleys" province of Virginia. It is bound on the east by the Blue Ridge, which ranges from 900 to 1850 feet elevation along the Clarke County line, and on the west by Cacapon Mountain and Great North Mountain, which reaches 2843 feet along the West Virginia line. This northernmost part of the Mountains and Valleys province is unique in other respects. It reaches its lowest elevation of 360 feet where the Shenandoah River flows northeast into West Virginia, and its closest approach to the Fall Line, only 43 miles east of the Blue Ridge crest. This part of the Blue Ridge is capped by igneous rocks and a moist woodland, very different from the dry shale/sandstone ridges to the West. The limestone underlying the Shenandoah valley forms some extensive outcrops, but most of the valley has rich soil and prosperous farms. Orchards are perhaps the single largest land use, but these are fairly sterile and devoid of birdlife. There is a rapidly expanding urban corridor along Interstate 81/US 11, and the city of Winchester, which is the oldest in Virginia west of the Blue Ridge, has a population of about 22,000. The Frederick/Clarke county foray area is subdivided into ten sectors which are frequently referred to in the annotated species list. The

numbers of the ten sectors listed below correspond to the numbers on the map in Figure 1 below.

The ten foray sectors:

- 1 - Southwest Frederick (George Washington National Forest , Vances Cove, VA 55, Rt. 609)
- 2 - West Frederick (North Mountain, Shawneeland, Cove Lake, VA 259)
- 3 - North Frederick (Lake Holiday, Cacapon Mountain, Back Creek)
- 4 - Central Frederick (Winchester, Interstate 81/US 11 corridor)
- 5 - Southeast Frederick (Lake Frederick, area east of Interstate 81 and south of VA 277)
- 6 - Northwest Clarke (all area North of VA 7 and West of US 340/Rt. 611)
- 7 - Northeast Clarke (Long Marsh Run, Broadace Lake, area North of VA 7 and East of US 340/Rt. 611)
- 8 - Shenandoah River (Rts. 603, 606, 621, 622 and 638)
- 9 - Blue Ridge (Rts. 601, 604, 605 and 606, Frogtown, Appalachian Trail)
- 10 - South Clarke (Berryville, Boyce, Blandy Farm - State Arboretum)

FIGURE 1. *The Frederick/Clarke County foray sectors.*



The procedure followed on this foray was similar to that used in prior years. Choice areas were covered by different parties on successive days to compensate for variations in the weather (which was not a factor on this foray), time of day and ability of observers. The participants were provided with maps, field checklists and a detailed prospectus of the most promising birding sites. Separate checklists were also kept for elevations above 1000 feet, which included Vances Cove, North Mountain and the adjacent ridges, Cacapon Mountain, and the Blue Ridge. Thirty-two daily field lists, including over 100 individual area lists, went into the compilation. These data were entered into a database that could be sorted by party, area, elevation, date and time of day. Still, there is much duplication with this format, and the only meaningful measure of relative abundance is provided by the high count of a species by one party in one day. Some of the observers spent a few hours at dusk listening for goatsuckers, but none in the early morning, and the only owl records were of birds seen or heard during daylight hours. So once again, the nocturnal species are severely underrepresented.

The Frederick/Clarke county area has changed in a number of ways in the 27 years since the last VSO Breeding Bird foray conducted there, and these changes in habitat can mask the true abundance of a particular species. The growing human population and the numerous artificial lakes and ponds are obvious differences, but perhaps the largest impact on woodland songbird populations has been the spraying of insecticides to control the gypsy moth (*Porthetria dispar*). High tree mortality along the ridges from past infestations was apparent, and the resultant opening of the canopy is probably detrimental to the nesting success of many of the forest birds. Spraying of insecticides in the George Washington National Forest was begun the first week of May 1994 to coincide with the hatching of the larvae, and no evidence of gypsy moth larvae or defoliation of trees was seen during the foray. Several observers noted, however, that the road into Vances Cove was virtually devoid of bird song, most notably the Red-eyed Vireo (*Vireo olivaceus*), American Redstart (*Setophaga ruticilla*) and Scarlet Tanager (*Piranga olivacea*). These species, which feed mostly by gleaning insect larvae from leaves, should have been among the most common in Vances Cove. Seemingly unaffected were the flycatchers, woodpeckers and ground-foraging birds such as Ovenbird (*Seiurus aurocapillus*) and Rufous-sided Towhee (*Pipilo erythrophthalmus*). An appreciation of the Forest Services dilemma in their battle against the gypsy moth is found in a quote from the results of the 1989 Brooks Bird Club foray in adjacent Hampshire County, West Virginia: "...when we walked in the woods, we would see many holes in the leaves of the trees, and the droppings from the larvae feeding sounded like rain falling on the forest floor. Everywhere there were larvae hanging by silk threads waiting to be dispersed by the winds." (Bush 1990).

Of the 122 species found on the 1994 foray, 110 were found in Frederick County and 105 were found in Clarke County, and 117 were presumed or confirmed to be breeding in the area. Comparisons between the 1994 and 1967 forays are often made in the annotated list appended to this article. While such comparisons can be useful, note that there were distinct differences in the amount of coverage and the area covered between the 1967 and 1994 forays. The 1967 foray also covered Warren County and the northern half of Shenandoah County, including elevations up to 3200 feet, in about 100 party-hours, of which only 40 were spent in Frederick and Clarke counties. Species found on only one of the two forays to this area are listed in Table 1 on page 25.

TABLE 1. Species found on only one of the two forays in the Frederick/Clarkecounty area.

Species report in 1994 but not in 1967	Species report in 1967 but not in 1994
Double-crested Cormorant (<i>Phalacrocorax auritus</i>)	Pied-billed Grebe (<i>Podilymbus podiceps</i>)
Great Blue Heron (<i>Ardea herodias</i>)	American Black Duck (<i>Anas rubripes</i>)
Mute Swan (<i>Cygnus olor</i>)	Osprey (<i>Pandion haliaetus</i>)
Canada Goose (<i>Branta canadensis</i>)	Least Flycatcher (<i>Empidonax minimus</i>)
Blue-winged Teal (<i>Anas discors</i>)	Bewick's Wren (<i>Thryomanes bewickii</i>)
Ruddy Duck (<i>Oxyura jamaicensis</i>)	Nashville Warbler (<i>Vermivora ruficapilla</i>)
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Chestnut-sided Warbler (<i>Dendroica pensylvanica</i>)
Northern Harrier (<i>Circus cyaneus</i>)	Black-throated Green Warbler (<i>Dendroica virens</i>)
Sharp-shinned Hawk (<i>Accipiter striatus</i>)	Blackburnian Warbler (<i>Dendroica fusca</i>)
Cooper's Hawk (<i>Accipiter cooperii</i>)	Canada Warbler (<i>Wilsonia canadensis</i>)
Red-shouldered Hawk (<i>Buteo lineatus</i>)	Dickcissel (<i>Spiza americana</i>)
Ring-necked Pheasant (<i>Phasianus colchicus</i>)	Henslow's Sparrow (<i>Ammodramus henslowii</i>)
Rock Dove (<i>Columba livia</i>)	
Barn Owl (<i>Tyto alba</i>)	
Willow Flycatcher (<i>Empidonax traillii</i>)	
Tree Swallow (<i>Tachycineta bicolor</i>)	
Brown Creeper (<i>Certhia americana</i>)	
Blue-winged Warbler (<i>Vermivora pinus</i>)	
Yellow-throated Warbler (<i>Dendroica dominica</i>)	
Savannah Sparrow (<i>Passerculus sandwichensis</i>)	
Bobolink (<i>Dolichonyx oryzivorus</i>)	
House Finch (<i>Carpodacus mexicanus</i>)	

The Canada Goose, Tree Swallow and House Finch have each undergone dramatic range expansions, and were three of the most common species on the 1994 foray. Others that may be expanding their range are the Bald Eagle, Northern Harrier, Willow Flycatcher, Blue-winged Warbler, Savannah Sparrow and Bobolink. Although four Bewick's Wrens were found on the 1967 foray, that species is now rarely found anywhere in the state. Other species looked for but not found included King Rail (*Rallus elegans*), Virginia Rail (*Rallus limicola*), Spotted Sandpiper (*Actitis macularia*), Upland Sandpiper (*Bartramia longicauda*), Great Horned Owl (*Bubo virginianus*), Bank Swallow (*Riparia riparia*), Veery (*Catharus fuscescens*) and Dark-eyed Junco (*Junco hyemalis*).

The twenty-two participants on the 1994 foray were: Robert Barbee, John Bazuin, Roger Clapp, John Dalmas, Thelma Dalmas, John Dillard, Bettye Fields, Dan Graybeal, Charles Hansrote, Melva Hansrote, Kerrie Kirkpatrick, Valerie Kitchens, YuLee Lerner, Steve Manff, Mike Nichols, Isabel Obenschain, Steve Parks, Larry Robinson, Julie Simpson, Charles Stevens, Walt Thomas, and B.J. Westervelt. Thanks is extended to all the participants, especially Charles Stevens for his participation on 21 of the 24 VSO forays to date (and the only participant on both the 1967 and 1994 forays), and to Roger

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ANNOTATED LIST OF SPECIES FOUND DURING THE FORAY

DOUBLE-CRESTED CORMORANT (*Phalacrocorax auritus*). Three reports of single birds from Lake Frederick, Frederick County on 8 June (Dillard and Robinson), from Lake Holiday, Frederick County on 10 June (Dalmases) and from the Shenandoah River at Calmes Neck, Clarke County, on 12 June (Kitchens).

GREAT BLUE HERON (*Ardea herodias*). A few scattered reports, with a high count of two birds in Clarke County on 9 June (Bazuin and Fields).

GREEN HERON (*Butorides virescens*). Uncommon. This species appeared on 20 of the 32 daily lists. The maximum of five birds, including one highly agitated pair, was found along Frederick County Rt. 608 on 8 June (Hansrotes).

MUTE SWAN (*Cygnus olor*). Several domestics were seen, but Clapp reported one bird on 8 June in a small creek along Clarke County Rt. 644 which could have been feral, as there were no nearby buildings.

CANADA GOOSE (*Branta canadensis*). Very common. Perhaps nowhere in the state is the southern range expansion of this species more obvious. It was not found on the 1967 foray (Scott 1967). The first breeding record for the state was from Clarke County in 1975 (Kain 1987). On the 1994 foray, there were at least 27 broods found, and a maximum one-day count of 115 birds (Clapp). Oddly enough, it has never been recorded on the Star Tannery Breeding Bird Survey (Peterjohn, pers. comm.).

WOOD DUCK (*Aix sponsa*). Fairly common, with a maximum of 22 birds including three different broods found on the Shenandoah River, Clarke County on 11 June (Dalmases). At least 11 other broods were found during the foray.

MALLARD (*Anas platyrhynchos*). Fairly common. The maximum count of 57 individuals included one group of 47 birds, including three broods, on a pond off Frederick County Rt. 671 (Clapp). Five other broods were also found at scattered locations over the foray area.

BLUE-WINGED TEAL (*Anas discors*). One report. A pair was flushed from a marshy spring feeding Long Marsh Run, Clarke County, on 9 June (Hansrotes and Thomas).

RUDDY DUCK (*Oxyura jamaicensis*). A male in breeding plumage, presumed to be a late migrant, was found at a pond in Clear Brook Park, a few miles northeast of Winchester in Frederick County, on 11 June (Kirkpatrick and Westervelt). This bird apparently stayed in the area all summer (R. Simpson, pers. comm.).

BLACK VULTURE (*Coragyps atratus*). Scarce, with only seven reports and a maximum of 13 birds in Clarke County on 9 June (Bazuin and Fields). There were no reports of this species from Frederick County.

TURKEY VULTURE (*Cathartes aura*). Fairly common. The high count was 21 birds in Clarke County on 9 June (Bazuin and Fields).

BALD EAGLE (*Haliaeetus leucocephalus*). Two reports. One bird was seen in Frederick County on 10 June soaring over the ridge east of VA 259 about a mile from Lehew (Bazuin and Fields). An adult and two immatures were seen along Clarke County Rt. 621 across from Calmes Neck on 11 June (Dalmases), the same area Kitchens had seen an immature on 29 May 1994. Previous summer records for this area include three sightings in 1980 (Hall 1980) and one bird which stayed all summer in 1992 (Hall 1992). This species has become a frequent summer visitor to the area in the past five years (R. Simpson, pers. comm.).

NORTHERN HARRIER (*Circus cyaneus*). One report, of an adult female hunting at dusk over a cultivated field off Clarke County Rt. 612 near the West Virginia border, on 10 June (Dalmases).

SHARP-SHINNED HAWK (*Accipiter striatus*). Only two reports, one in each county, on 9 June and 11 June (Bazuin and Fields).

COOPER'S HAWK (*Accipiter cooperii*). Only one report, of a single bird seen along Frederick County Rt. 704 about 4 miles southwest of Gore (Bazuin and Fields).

RED-SHOULDERED HAWK (*Buteo lineatus*). One report. Two birds were heard calling, and one was seen flying, near a cattail-filled pond off Frederick County Rt. 608 on 9 June (Clapp).

BROAD-WINGED HAWK (*Buteo platypterus*). Six widely scattered reports of single birds by four parties, one each day from 6 June through 11 June.

RED-TAILED HAWK (*Buteo jamaicensis*). Uncommon. There were only 14 reports and a total of 24 birds reported. The high count was five in Clarke County on 9 June (Hansrotes and Thomas). The Hansrotes also reported an adult carrying prey along US 50 near Hayfield, Frederick County, on 8 June.

AMERICAN KESTREL (*Falco sparverius*). Uncommon, with only 12 reports, a total of 20 birds and a maximum one-day count of three, on 11 June (Kirkpatrick and Westervelt).

RING-NECKED PHEASANT (*Phasianus colchicus*). The only report for the foray period was a bird heard calling on 11 June along Clarke County Rt. 603, about two miles north of VA 7 (Clapp). Another had been seen along Clarke County Rt. 639 near Broadace Lake on 16 May (Dalmases).

RUFFED GROUSE (*Bonasa umbellus*). Five scattered reports, all from Frederick County. The high count of two birds was from the Cove Lake area on 9 June (Stevens and Barbee).

WILD TURKEY (*Meleagris gallopavo*). There were only four reports, all from Frederick County. The maximum count of three was recorded along the road into Vances Cove on 7 June (Hansrotes).

NORTHERN BOBWHITE (*Colinus virginianus*). Fairly common in the lowlands. The high count of 20 birds was recorded along the US 11 corridor through Frederick County, and in northern Clarke County, on 10 June (Dalmases).

KILLDEER (*Charadrius vociferus*). Fairly common. The maximum count of 16 birds was on 12 June in Clarke County (Graybeal, Manff and Nichols). Four nests were found, one in Clarke County and three in Frederick County (Clapp). Three of the nests contained four eggs each, and the fourth had one dead young, but a live chick plus both adults in distraction display were seen nearby.

AMERICAN WOODCOCK (*Scolopax minor*). One record. One bird was flushed from scant shrub cover at the edge of a calcareous marsh feeding Long Marsh Run, Clarke County on 10 June (Stevens and Barbee).

ROCK DOVE (*Columba livia*). Locally common to abundant. The high count of 85 birds was mostly from the Clear Brook area, Frederick County, on 9 June (Clapp). Also on 9 June, an apparently active nest was found under the Rt. 657 bridge over Opequan Creek (Bazuin and Fields), and Clapp found one abandoned nest plus one with two eggs under the Rt. 600 bridge near Hayfield, Frederick County.

MOURNING DOVE (*Zenaida macroura*). Very common. The high count was 71 birds in Clarke County on 12 June (Graybeal, Manff and Nichols). Several sightings of fledged or near-fledged young were noted in both counties.

BLACK-BILLED CUCKOO (*Coccyzus erythrophthalmus*). Only one record, a bird seen near Lake Frederick, Frederick County on 9 June (Larner and Obenschain).

YELLOW-BILLED CUCKOO (*Coccyzus americanus*). Uncommon but widely distributed throughout the foray area. The peak count of nine birds was from Clarke County on 9 June (Bazuin and Fields).

BARN OWL (*Tyto alba*). One record. A single adult bird and four young were found in a silo at Clermont Farm, Berryville, Clarke County on 11 June (Kitchens, Robinson and J. Simpson). Two adults flushed from this silo the following morning were seen by many of the foray participants.

EASTERN SCREECH-OWL (*Otus asio*). Clapp had two daylight records. One individual responded at about 9:30 a.m. on 10 June to a taped call along Frederick County Rt. 699. Another gray-morph bird, found perched alongside Clarke County Rt. 663 at about 7 a.m. the next day, paid no attention to the taped call and flew off.

BARRED OWL (*Strix varia*). Three records. One bird was heard calling along Frederick County Rt. 671 on 8 June at about 8:20 a.m. (Hansrotes), and along the road to Vances Cove the next day at about 6 a.m. (Dalmases). One was also found at about

7:30 a.m. on 12 June perched in a tree beside the Shenandoah River, Clarke County (Clapp).

COMMON NIGHTHAWK (*Chordeiles minor*). Uncommon and local. There were only four reports, but a high count of 13 birds in downtown Winchester the evening of 9 June (Dalmases). Each of the other records were daylight-hour reports from the farmlands north of Winchester in both northeastern Frederick and northwestern Clarke counties, suggesting the existence of "natural" nesting sites among the numerous limestone outcrops.

WHIP-POOR-WILL (*Caprimulgus vociferus*). Four records, all from Frederick County, totaling only five birds. One of these was flushed from the woods near Cove Lake Campground on 9 June at 12:30 p.m. (Stevens and Barbee).

CHIMNEY SWIFT (*Chaetura pelagica*). Fairly common to locally abundant. The high count was of 80 birds in Winchester the evening of 9 June (Dalmases).

RUBY-THROATED HUMMINGBIRD (*Archilochus colubris*). Rare, only four reports, with the maximum of three along Clarke County Rt. 606 on 12 June (Clapp).

BELTED KINGFISHER (*Ceryle alcyon*). Surprisingly uncommon for such a well-watered area. There were only 12 reports, eight of single birds and four of two birds each.

RED-HEADED WOODPECKER (*Melanerpes erythrocephalus*). Rare but widely distributed in Clarke County, with only one of the eight reports from Frederick County. The high count was three birds in Clarke County on 9 June (Hansrotes and Thomas), including two calling along Rt. 639. On 12 June, Bazuin found a bird flycatching in this same area from a power pole, which had a suitable-sized nest hole about 35 feet up.

RED-BELLIED WOODPECKER (*Melanerpes carolinus*). Fairly common and widespread. The high count was of 14 birds on 9 June in Clarke County (Bazuin and Fields). One was seen carrying food on 12 June (Graybeal, Manff and Nichols).

DOWNY WOODPECKER (*Picoides pubescens*). Fairly common and widespread, with high counts of 14 individuals in Clarke County on 12 June by two parties (Clapp; Graybeal, Manff and Nichols). The Hansrotes found a pair with two young along Frederick County Rt. 671 on 8 June.

HAIRY WOODPECKER (*Picoides villosus*). Rare but widespread. There were nine reports of single birds except for one of three in the Cove Lake area, Frederick County on 9 June (Stevens and Barbee).

NORTHERN FLICKER (*Colaptes auratus*). Fairly common. The high count of 14 birds was from northern Frederick County on 8 June (Hansrotes) and 11 June (Bazuin and Fields). Lerner and Obenschain saw a bird carrying food to a nest hole 30 ft. up in an ornamental spruce (*Picea sp.*) at Blandy Farm, Clarke County on 8 June. On 11 June along Frederick County Rt. 600, Bazuin and Fields found an active nest hole 25 feet up in a sycamore snag (*Platanus occidentalis*).

PILEATED WOODPECKER (*Dryocopus pileatus*). Fairly common. The high count of 15 birds was made in northern Frederick County on 11 June (Bazuin and Fields). On

7 June along Frederick County Rt. 604, Clapp observed a young bird in a nest hole which was about 25 feet up in a large deciduous tree.

EASTERN WOOD-PEWEE (*Contopus virens*). Common, especially along the Blue Ridge. The peak count was of 34 birds on 8 June in eastern Clarke County (Clapp). On 9 June just northwest of Winchester, an adult was seen flying to a nest 40 feet up in an oak tree (*Quercus* sp.).

ACADIAN FLYCATCHER (*Empidonax virescens*). Common in wooded areas and especially along the Blue Ridge. The high count of 29 birds, however, was from the valley west of North Mountain, Frederick County, on 10 June, including a bird on a nest 18 feet up in a 3-inch hornbeam (*Carpinus caroliniana*) at the bottom of the canopy along Rt. 604 (Bazuin and Fields).

WILLOW FLYCATCHER (*Empidonax traillii*). This rare species was found in four similar brushy habitats within five miles of the West Virginia line. In Frederick County, the birds were found on 9 June in the US 11 corridor, one singing near the junction of Rt. 669 (Clapp) and two singing birds along Rt. 662 (Dalmases). In Clarke County, singing birds were also found in a marshy area feeding Long Marsh Run on 9 June (Hansrotes) and 10 June (Stevens and Barbee), and along Rt. 663 on 11 June (Clapp). It was not found on the 1967 foray (Scott 1967).

EASTERN PHOEBE (*Sayornis phoebe*). Fairly common. The high count of 18 birds was recorded in Clarke County on 11 June and again on 12 June (Clapp). Clapp also found at least 24 nests, nine with eggs, four with young and 11 old nests, mostly under bridges throughout the area.

GREAT CRESTED FLYCATCHER (*Myiarchus crinitus*). Fairly common, with an exceptionally high count of 26 birds along Frederick County Rt. 600 on 11 June (Bazuin and Fields). An adult carrying food was also observed in the Winchester area on 9 June (Larner and Obenschain).

EASTERN KINGBIRD (*Tyrannus tyrannus*). Fairly common. The high count was the 25 birds recorded in Clarke County on 12 June (Graybeal, Manff and Nichols). Along Frederick County Rt. 682, the Hansrotes found a bird on a nest 35 feet up in a sycamore (*Platanus occidentalis*). From Frederick County Rt. 654, Clapp observed a pair nest-building 60 feet up in a white oak (*Quercus alba*).

HORNED LARK (*Eremophila alpestris*). Much less common than might have been expected, this species appeared on only nine lists, with a maximum count of three birds from Clermont Farm, Clarke County on 12 June (Bazuin et al.).

PURPLE MARTIN (*Progne subis*). Generally, there seemed to be very few martin nest boxes in the foray area. There were only 11 reports, and the high count of 12 was recorded in Clarke County on 9 June (Bazuin and Fields) and again on 11 June (Kitchens and Robinson). The Hansrotes saw an adult carrying food into a nest box at Blandy Farm, Clarke County on 10 June.

TREE SWALLOW (*Tachycineta bicolor*). Fairly common. This is another species which has expanding its range south in the past 20 years. None was found on the 1967 foray (Scott 1967). The high count was 11 birds, 10 of these in Frederick County, on 9

June (Larner and Obenschain). Dillard and Robinson had a count of 20 birds in Sky Meadows State Park, Fauquier County, just east of the foray area. Nests in at least 11 bluebird boxes were seen throughout the foray area.

NORTHERN ROUGH-WINGED SWALLOW (*Stelgidopteryx serripennis*). Uncommon. Reported on 18 lists, with a maximum of 16 birds in Clarke County on 9 June (Bazuin and Fields). Nests were found in both counties, three with eggs and two with young (Clapp), and fledged young were also seen (Larner and Obenschain).

CLIFF SWALLOW (*Hirundo pyrrhonota*). Locally common. One colony with 44 nest cups, of which 19 were active, was found under the westbound lanes of the Castlemans Ferry bridge, where VA 7 crosses the Shenandoah River (Clapp). This colony was also seen by several other parties, and was comprised of at least 27 adult birds. Several of the nest cups had been appropriated by House Sparrows, but no other swallows were seen at this site. By 25 July, most of the swallows had gone, but there was one nest with a large young (Clapp, pers. comm.). Only six birds were seen at two other sites, each with a large population of Barn Swallows (Dalmases).

BARN SWALLOW (*Hirundo rustica*). Very common. The high count of 63 birds was in northwestern Clarke County on 12 June (Graybeal, Manff and Nichols). Clapp found several colonies, including eight nests with eggs under the US 340 bridge over Long Marsh Run, Clarke County and four nests, two with eggs and two with young, in an abandoned house on Frederick County Rt. 734. Breeding was also confirmed at three other sites.

BLUE JAY (*Cyanocitta cristata*). Common. The highest count of 35 birds was in Clarke County on 9 June (Bazuin and Fields). The only breeding evidence was an adult carrying food, northwestern Clarke County, on 12 June (Graybeal, Manff and Nichols).

AMERICAN CROW (*Corvus brachyrhynchos*). Very common, with the high count of 56 birds tallied by two different parties. Adults with fledged young were noted in several places in both counties.

FISH CROW (*Corvus ossifragus*). Scarce. The high count was six birds along the Shenandoah River on 11 June (Kitchens and Robinson). All of the reports of this species were from Clarke County, with the exception of one along Frederick County Rt. 610 on 10 June (Bazuin and Fields).

COMMON RAVEN (*Corvus corax*). Only one record, a bird in the Cove Lake area, Frederick County, on 9 June (Stevens and Barbee).

BLACK-CAPPED CHICKADEE (*Parus atricapillus*). Fairly common in Vances Cove but virtually absent elsewhere. There were only four reports, but a maximum of 15 birds on 7 June (Clapp). A bird found along Frederick County Rt. 617 near the West Virginia line on 10 June (Kitchens and Robinson) was the only one recorded elsewhere. Virtually all of the chickadees reported in the adjacent West Virginia counties during the Brooks Bird Club forays were this species (Bell 1968, 1978; Laitsch 1983; Temple 1986; Bush 1990).

CAROLINA CHICKADEE (*Parus carolinensis*). Common, especially in the Blue Ridge. The maximum count was 38 birds in Clarke County on 12 June (Graybeal, Manff

and Nichols). Clapp found birds of all ages in nest sites he monitored, including (a) one nest under construction, (b) one nest with eggs, (c) one nest with large young, (d) adults with fully fledged young, and (e) one used nest, at sites in both counties.

CHICKADEE HYBRID (*Parus atricapillus x carolinensis*). Recent genetic studies of the chickadees in the area of range overlap in the northern Mountains and Valleys province of Virginia have confirmed a high rate of hybridization (Sattler 1994). Although many chickadees found on the 1994 foray were simply not identified to species, the only bird specifically reported as a probable hybrid was a bird singing a three-note song in Vances Cove on 7 June (Clapp).

TUFTED TITMOUSE (*Parus bicolor*). Common and very uniformly distributed in wooded areas. The maximum one-day count was the 24 birds reported on 8 June from northern Frederick County (Hansrotes). The Hansrotes also saw an adult feeding a fledged young in Vances Cove on 7 June, and Clapp saw a pair 12 June with begging fledged young along Clarke County Rt. 606.

WHITE-BREASTED NUTHATCH (*Sitta carolinensis*). Fairly common in wooded areas. The high count of 14 birds was reported on 12 June from eastern Clarke County (Clapp).

BROWN CREEPER (*Certhia americana*). One report, a bird seen in Vances Cove on 9 June at an elevation of about 1400 feet (Dalmases).

CAROLINA WREN (*Thryothorus ludovicianus*). Surprisingly uncommon, averaging only three birds per 8-hour party day. The high count of 12 birds was tallied in northern Frederick County on 10 June (Clapp). No breeding evidence was noted.

HOUSE WREN (*Troglodytes aedon*). Common and widespread. The high count of 19 birds was recorded by Graybeal, Manff and Nichols in Clarke County on 12 June. Clapp found three nests in boxes, one with six young on 7 June at Gravel Springs Church, Frederick County, one with six eggs 11 June at Salem Church, Frederick County and one with three eggs 12 June along Clarke County Rt. 605. Larner and Obenschain saw a bird going into a hole 20 feet up in the Blandy Farm curators house on 8 June.

BLUE-GRAY GNATCATCHER (*Poliophtila caerulea*). Fairly common. The high count of 21 birds was from western Frederick County on 10 June (Bazuin and Fields).

EASTERN BLUEBIRD (*Sialia sialis*). Common and evenly distributed throughout the area. The maximum count was 22 birds on 11 June (Clapp). Clapp also found nest boxes with birds in virtually every stage of development: nest building—1, finished nest—1, nests with eggs—6, nest with young—1, old nest and/or fledged young—4.

WOOD THRUSH (*Hylocichla mustelina*). Common, especially along the Blue Ridge. The high one-day count of 28 birds on 8 June included 18 along five miles of Clarke County Rt. 601 (Clapp).

AMERICAN ROBIN (*Turdus migratorius*). Abundant. Two different parties had the high count of 137 birds in Clarke County on 9 June (Bazuin and Fields) and on 12 June

(Graybeal, Manff and Nichols). Breeding was confirmed on 22 separate occasions by seven parties; Clapp found 15 of these, 14 in Frederick County.

GRAY CATBIRD (*Dumetella carolinensis*). Common, especially along the Shenandoah River. The high count of 35 birds was recorded in eastern Clarke County on 8 June (Clapp). Adults were seen carrying food on 9 June (Stevens and Barbee), 10 June (Hansrotes) and 12 June (Graybeal, Manff and Nichols), and Clapp found a fresh nest in a multiflora rose bush (*Rosa multiflora*) along Clarke County Rt. 622 on 8 June.

NORTHERN MOCKINGBIRD (*Mimus polyglottos*). Very common, with an extraordinary high count of 92 birds, including an adult carrying food and one juvenile, in Clarke County on 12 June by Graybeal, Manff and Nichols. Fledged young were also noted near Winchester on 10 June (Kitchens and Robinson). Clapp found seven nests, one fresh, three with eggs, two with young and one old nest, mostly in Frederick County.

BROWN THRASHER (*Toxostoma rufum*). Uncommon. The maximum count was 12 birds on 9 June in Clarke County (Bazuin and Fields). Adults were seen carrying food in Clarke County on 10 June (Hansrotes) and 12 June (Graybeal, Manff and Nichols).

CEDAR WAXWING (*Bombycilla cedrorum*). Fairly common. The high count was 30 birds in Frederick County on 11 June (Kirkpatrick and Westervelt). A bird on a nest near the top of a 15-foot sassafras (*Sassafras albidum*) was seen along Frederick County Rt. 704 on 8 June (Dalmases), and another near Winchester was seen carrying food on 9 June (Larner and Obenschain).

LOGGERHEAD SHRIKE (*Lanius ludovicianus*). Only three records. A pair was found along Frederick County Rt. 662 on 7 June (Dalmases), but neither bird was seen on return trips on 9 and 10 June. On 9 June, one bird was seen along Frederick County Rt. 654 (Clapp) and one was seen along Clarke County Rt. 620 (Larner and Obenschain).

EUROPEAN STARLING (*Sturnus vulgaris*). At almost 70 birds per party-day, the most abundant species in the foray area. Fledged young were seen regularly throughout the foray area.

WHITE-EYED VIREO (*Vireo griseus*). Rare. There were two reports, one of three birds in northern Frederick County (Bazuin and Fields), and one of two singing birds along US 11 south of Stevens City (Clapp), both on 11 June. The scarcity of this species, considering the abundance of suitable habitat, is puzzling but not unexpected; there were only two reports of single birds on the 1967 foray (Scott 1967), only one report in 13 years of the Star Tannery Breeding Bird Survey (Peterjohn, pers. comm.), and it was found in only four of 18 quads during the five years of work on the Virginia Atlas Project (Ridd 1989).

SOLITARY VIREO (*Vireo solitarius*). Two reports. One was found in Vances Cove on 7 June (Clapp), and one was found on Cacapon Mountain near the northernmost point of Virginia on 8 June (Stevens and Barbee). There appears to be very little habitat for this species in the foray area.

YELLOW-THROATED VIREO (*Vireo flavifrons*). Fairly common along the Shenandoah River, rare elsewhere. The maximum of five birds was reported along the river on

11 June (Dalmases) and on 12 June (Clapp). There were no reports of this species from the higher elevations.

WARBLING VIREO (*Vireo gilvus*). Very common along the Shenandoah River; uncommon elsewhere in the lowlands. Clapp's count of 36 birds on 8 June, all but one along the river, may be a new peak count for Virginia, eclipsing the old record of 34 set on the 1967 foray (Scott 1967, Kain 1987). Also along the river, a bird was seen carrying food on 12 June (Graybeal, Manff and Nichols). Much more common than in 1962, when only seven singing birds were found on 2 June on a canoe trip covering the entire length of the river in Clarke County (Scott 1962).

RED-EYED VIREO (*Vireo olivaceus*). Common in area woodlands, but well below the normal abundance of this, the most abundant bird species in eastern North America. The high count was 36 birds along the Blue Ridge and down to the Shenandoah River, Clarke County, on 8 June (Clapp). In two days of coverage on foot in the Cacapon Mountain and Cove Lake areas, Stevens and Barbee recorded only 12 of these birds, and remarked on the incredible scarcity of this and other woodland species.

BLUE-WINGED WARBLER (*Vermivora pinus*). This species was found at four different sites in Frederick County. Clapp had one responding to taped calls of this and the next species in Vances Cove on 7 June. A pair of what appeared to be typical Blue-winged Warblers was seen at this site on 9 June (Dalmases), but no vocalizations were heard. The Hansrotes found a bird at the first of three northern Frederick County sites along Rt. 608 on 8 June. Two birds were also reported on 10 June by Clapp, one singing along Sleepy Creek, Rt. 734, and one which responded to a screech owl tape at the Rt. 703 bridge over Isaacs Creek. The only other report was of a bird in G. Richard Thompson Wildlife Management Area, in Fauquier County just southeast of the foray area, on 9 June (Dillard and Robinson).

GOLDEN-WINGED WARBLER (*Vermivora chrysoptera*). A bird singing the typical song of this species was heard in Vances Cove on 7 June (Clapp), but taped calls of both this and the Blue-winged Warbler attracted only the latter species as noted above. Although the identification to species is therefore uncertain, the bird making this call must have been either this species or one of the Golden-winged/Blue-winged Warbler hybrids. It is possible that one or both of the birds in "Blue-winged" plumage seen at this site were hybrids.

NORTHERN PARULA (*Parula americana*). Rare, only three reports. Birds were reported at two sites on 8 June, one along the Shenandoah River and one on Rt. 601 on the crest of the Blue Ridge (Dillard and Robinson). Another was heard along the river on Rt. F-709 on 11 June (Kitchens). It was considered rather common on the 1967 foray (Scott 1967), and common in 1962 when 22 birds were counted (Scott 1962).

YELLOW WARBLER (*Dendroica petechia*). Common along the Shenandoah River, uncommon to rare elsewhere. The high count was ten birds along the river on 11 June (Dalmases).

YELLOW-THROATED WARBLER (*Dendroica dominica*). Only one report, a bird along the Shenandoah River on 8 June (Dillard and Robinson). This species was not found on the 1967 foray (Scott 1967), and was reported from just one quad for the

Virginia Atlas Project (Ridd 1989). The rarity of this species in what appears to be superb habitat along the river is most perplexing. Scott found four singing birds along the river in Clarke County on 2 June 1962 (Scott 1962).

PINE WARBLER (*Dendroica pinus*). Very uncommon, appearing on only 12 daily lists. Surprisingly, this species was most common at higher elevations, especially in Vances Cove. The highest one-day counts of five birds were both on 8 June, one from the Shawneeland/North Mountain area (Dalmases) and one from northern Frederick County (Hansrotes). The only report from Clarke County was of three birds in the Blue Ridge on 11 June (Dalmases). This underscores the findings of the 1967 foray, where there was only one record from the valley floor (Scott 1967).

PRAIRIE WARBLER (*Dendroica discolor*). Fairly common in Frederick County, appearing on 13 daily lists with a high count of 14 birds on 7 June in southwestern Frederick County (Clapp). There were only three reports of single birds from Clarke County.

CERULEAN WARBLER (*Dendroica cerulea*). Uncommon at the higher elevations, appearing on only six lists. Three parties had the high count of three, along the Blue Ridge on 8 June (Clapp; Dillard and Robinson) and on Rt. 609 up the North Mountain Ridge on 9 June (Dalmases).

BLACK-AND-WHITE WARBLER (*Mniotilta varia*). Rare, reported on only five lists, and only from the higher elevations in western Frederick County. The maximum count was the two birds in Shawneeland on 8 June (Dalmases).

AMERICAN REDSTART (*Setophaga ruticilla*). Common in the Blue Ridge, where Clapp had the high count of 20 birds on 8 June. Less common on the other mountain ridges, and only a few records from the lower elevations.

PROTHONOTARY WARBLER (*Protonotaria citrea*). Only two records, both along the Shenandoah River on 8 June. One bird was found along Clarke County rts. 622/621 (Dillard and Robinson), and the other was a singing bird along Rt. 606 (Clapp). Much less common than in 1967, when seven birds were found by three parties along the river east of Front Royal (Scott 1967), or in 1962 when 12 singing birds were found along the river in Clarke County (Scott 1962). Despite recent declines, the rarity of this species on the 1994 foray was still unexpected (R. Simpson, pers. comm.).

WORM-EATING WARBLER (*Helmitheros vermivorus*). Locally common in the mountains and ravines of Frederick County, appearing on 11 lists with a high count of eight birds on 8 June along Rts. 682/671 (Hansrotes). There was only one report from Clarke County, two birds found in the Blue Ridge along Rt. 605 on 6 June (Clapp).

OVENBIRD (*Seiurus aurocapillus*). Common at the higher elevations, especially in Vances Cove, where Clapp reported 27 birds on 7 June. This was the most common warbler species on the 1994 foray.

LOUISIANA WATERTHRUSH (*Seiurus motacilla*). Fairly common. The high count was nine birds found along the Shenandoah River on 11 June (Dalmases). On 12 June along Clarke County Rt. 606, an adult was being pursued by two juvenile cowbirds begging food (Graybeal, Manff and Nichols).

KENTUCKY WARBLER (*Oporornis formosus*). Fairly common only along the Blue Ridge, where the high count of five birds was reported along Clarke County Rts. 601 and 605 on 8 June (Clapp). Much less common in the western mountains, to rare in the lowlands. Quite the opposite impression is given by the results of the 1967 foray, when birds were found only on the valley floor. There appears to have been, however, little coverage of the Blue Ridge on that foray (Scott 1967).

COMMON YELLOWTHROAT (*Geothlypis trichas*). Uncommon. Reported on 20 of 32 daily lists, with a high count of eight birds in Frederick County on 10 June (Clapp).

HOODED WARBLER (*Wilsonia citrina*). Rare. Two birds were found in the Blue Ridge along Clarke County Rt. 601 on 8 June (Dillard and Robinson). One bird was found in Frederick County in the Cove Lake area on 9 June (Stevens and Barbee). They were not common on the 1967 foray, but the 11 birds found then in approximately 100 party-hours (Scott 1967) is about nine times as many as the 1994 foray. From 1984 and 1988, this species was found on only two quads of the 1994 foray area during work on the Virginia Atlas Project (Ridd 1989).

YELLOW-BREASTED CHAT (*Icteria virens*). Very scarce, appearing on only 12 lists with a high one-day count of five birds in northern Frederick County on 8 June (Hansrotes). There were only two reports of single birds from Clarke County. This species was considered fairly common during the 1967 foray.

SUMMER TANAGER (*Piranga rubra*). One record, of one bird along Clarke County Rt. 657 just south of Berryville (Bazuin and Fields).

SCARLET TANAGER (*Piranga olivacea*). Common woodland species, especially at the higher elevations. The highest one-day count was 36 birds in western Frederick County on 10 June (Bazuin and Fields).

NORTHERN CARDINAL (*Cardinalis cardinalis*). Common throughout, especially in the farmlands of northern Clarke County, where the high count of 50 birds, including one juvenile, was tallied on 12 June (Graybeal, Manff and Nichols). Clapp found a fresh nest 4 feet from the ground in a 20-foot white spruce (*Picea glauca*) at White Post Church, Clarke County on 8 June, and saw a male feeding a fledged young cowbird on 12 June along Clarke County Rt. 605. Kitchens and Robinson saw an adult carrying food on 10 June along Frederick County Rt. 617.

ROSE-BREASTED GROSBEAK (*Pheucticus ludovicianus*). Uncommon in the very limited amount of suitable habitat, this species was reported from only five locations in Frederick County. There were two reports of two birds from Shawneeland at about 2000 feet on 8 June (Dalmases), one of which was a female carrying food, and on 10 June (Kitchens and Robinson). Two singing males were found on 8 June on the east slope of Cacapon Mountain at 1900 and 2000 feet (Stevens and Barbee). The Dalmases also found a singing male at about 2000 feet on North Mountain on Rt. 609 on 9 June, and Stevens and Barbee found another in the Cove Lake area on 9 June at an elevation of no more than 1500 feet.

BLUE GROSBEAK (*Guiraca caerulea*). Uncommon and local, this species was reported on only four lists, but there was one count of six birds along Frederick County Rt. 734 south from US 522 on 10 June (Clapp). Considering the ample habitat and the

numerous records from the area during the Virginia Atlas Project, it is surprising that this species was not more widespread. There was, however, only one report during the 1967 foray (Scott 1967).

INDIGO BUNTING (*Passerina cyanea*). Very common throughout the area. The high count was 74 birds from Frederick County on 8 June (Hansrotes).

RUFIOUS-SIDED TOWHEE (*Pipilo erythrophthalmus*). Common, especially at the higher elevations. The high count was the 57 birds found on 8 June, mostly along the ridgetop in Shawneeland (Dalmases).

CHIPPING SPARROW (*Spizella passerina*). Common and rather evenly distributed over the foray area. The maximum of 44 was found in Clarke County on 12 June (Graybeal, Manff and Nichols). There were several records of fledged young as well as adults carrying food. Clapp found one fresh nest on 11 June seven feet up in a 13-foot red cedar (*Juniperus virginiana*) near Friendship Chapel in southeastern Frederick County.

FIELD SPARROW (*Spizella pusilla*). Fairly common, with a high count of 18 birds in Clarke County on 12 June (Graybeal, Manff and Nichols).

VESPER SPARROW (*Poocetes gramineus*). Uncommon in fields with limestone outcrops, especially in northern and central Clarke County. The high count of four birds was reported from the Blandy Farm area on 10 June (Hansrotes). There was only one report from Frederick County, a single bird found west of Stevens City on 7 June (Clapp). An adult was seen carrying food in northwestern Clarke County on 12 June (Graybeal, Manff and Nichols).

SAVANNAH SPARROW (*Passerculus sandwichensis*). One record. The Dalmases found two singing birds on 8 June in a meadow along Frederick County Rt. 615, just south of Hayfield. These birds could not be relocated on subsequent days of the foray. Clapp reported a singing bird on 27 June at Sky Meadows State Park, in Fauquier County about a half-mile east of the Clarke County line, but the field was mowed and the bird was not found again.

GRASSHOPPER SPARROW (*Ammodramus savannarum*). Common to locally abundant in the fields of northwestern Clarke County, where the high count of 59 birds, including one young bird begging food, was made on 12 June (Graybeal, Manff and Nichols). On 9 June in the same area, two adults were seen carrying food to a nest in the grass (Larner and Obenschain).

SONG SPARROW (*Melospiza melodia*). Fairly common in the lowlands of Frederick County to common in the lowlands of Clarke County. The high count of 14 birds was made in Clarke County on 8 June (Clapp).

BOBOLINK (*Dolichonyx oryzivorus*). Rare, three records. One bird was seen singing and displaying in a field off Frederick County Rt. 608 about a mile south of Mountain Falls on 7 June, and another singing bird was found in a pasture along Clarke County Rt. 603 on 11 June (Clapp). One other singing male was observed at Clermont Farm just east of Berryville on 12 June (Bazuin et al.). Not recorded on the 1967 foray, but found on two quads during the Virginia Atlas Project. The author is unaware of previous

summer records in Frederick County, but a singing bird found north of Wardensville, West Virginia on the 1985 Brooks Bird Club foray, only ten miles west of the Mountain Falls site, was the first summer record for Hardy County (Temple 1986).

RED-WINGED BLACKBIRD (*Agelaius phoeniceus*). Abundant in the lowlands, especially along the Interstate 81-US 11 corridor, where 169 of the one-day high of 208 birds were found—including an adult feeding four fledged young—on 10 June (Dalmases). An adult was seen carrying nesting material into a marshy area at Blandy Farm on 10 June (Hansrotes). Clapp confirmed breeding at two Frederick County sites: 9 June—four nests, two fresh and two with eggs, in cattails near the Junction of Rts. 608 and 681; 10 June—nest with one egg in cattails, plus two fledged young at Redland Church, Whiteacre.

EASTERN MEADOWLARK (*Sturnella magna*). Very common. The high count was 99 birds in Frederick County on 10 June, mostly along the US 11 corridor (Dalmases). Adults were seen carrying food at two Clarke County sites on 9 June, one along Rt. 633 (Kitchens) and one along Rt. 657 (Bazuin and Fields).

COMMON GRACKLE (*Quiscalus quiscula*). Abundant. There were four one-day counts of over 100, with the maximum of 317 from Clarke County on 12 June (Graybeal, Manff and Nichols). Fledged young and adults carrying food were noted at numerous sites.

BROWN-HEADED COWBIRD (*Molothrus ater*). Common and uniformly distributed over the area, with the exception of one very high count of 81 in northern Frederick County on 11 June (Bazuin and Fields). Numerous breeding records were noted. Besides those already mentioned under "Louisiana Waterthrush" and "Northern Cardinal," there was a young in a nest with three young Eastern Phoebe under a bridge on Clarke County Rt. 659, and three different parasitized House Finch nests (Clapp). One of these, an abandoned nest with three(!) cowbird eggs at Mt. Olive Church, White Post, attested to the frustration surely felt by one unfortunate pair of House Finches.

ORCHARD ORIOLE (*Icterus spurius*). Uncommon but widely distributed. The high count was the seven birds reported from Clarke County on 9 June (Bazuin and Fields).

Baltimore Oriole (*Icterus galbula*). Common along the Shenandoah River and fairly common elsewhere in the lowlands. The high count was 14 birds in northern Frederick County on 11 June (Bazuin and Fields). Clarke County breeding records included (1) an adult carrying food to a nest 40 feet up in an ash tree (*Fraxinus sp.*) along Rt. 622 on 8 June (Larner and Obenschain), (2) an adult at the nest in a sycamore (*Platanus occidentalis*) off Rt. 632 on 9 June (Kitchens), (3) an adult male carrying food near Long Marsh Run on 9 June (Hansrotes and Thomas), and (4) a pair and juveniles observed along the river on 12 June (Graybeal, Manff and Nichols). Frederick County breeding records included (5) a nest 15 feet up in an oak (*Quercus sp.*) on 8 June (Hansrotes) and (6) a pair feeding two begging bob-tailed young in a black locust (*Robinia pseudoacacia*) on 10 June at the entrance to Cove Lake Campground (Clapp).

HOUSE FINCH (*Carpodacus mexicanus*). Common in the lowlands. The high count was the 46 birds reported from Frederick County on 9 June (Clapp), which included 34 in one flock. Clapp also found 12 nests in the two counties, of which six contained

eggs, five were used and one was abandoned (also see "Brown-headed Cowbird"). Lerner and Obenshain found an adult feeding a fledged young at Blandy Farm on 8 June.

AMERICAN GOLDFINCH (*Carduelis tristis*). Common throughout the area. The highest count was the 58 birds reported from Clarke County on 12 June (Graybeal, Manff and Nichols).

HOUSE SPARROW (*Passer domesticus*). Common in the lowlands, especially near feedlots. The high count was 63 birds in Clarke County on 12 June (Graybeal, Manff and Nichols). Clapp found one failed nest 10 feet up in a 13-foot red cedar (*Juniperus virginiana*) along Clarke County Rt. 672, and a nest with four eggs in a nest box at Riding Chapel, Frederick County, both on 11 June. Several of the Cliff Swallow nests under the VA 7 bridge over the river had been appropriated by this species (see "Cliff Swallow").

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A SUMMARY OF THE 1994 BEACH-NESTING AND COLONIAL WATERBIRD SURVEY OF THE VIRGINIA BARRIER ISLANDS

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The twentieth consecutive annual beach-nesting and colonial waterbird survey of the Virginia barrier islands was completed 19-22 June 1994. The field work encompassed all of the islands from the southern tip of Assawoman Island on the north through Fishermans Island on the south. Due to channel siltation on the western side of Assawoman Island and an impassable inlet on its southern end, only the first 100 meters of Assawoman Island's southern tip could be reached for observation. Access to Fishermans Island was provided by staff from the Eastern of Virginia National Wildlife Refuge. We were assisted by William Stolzenberg, Associate Editor of the *Nature Conservancy* magazine, and photographer Linda Richardson.

April 1994 exited with the distinction of being the warmest April in recorded history. May and June 1994 were meteorologically uneventful. July, by contrast, exceeded all of its historical predecessors in total rainfall. This may have exerted significant pressure on beach-nesting species such as the Black Skimmer (*Rynchops niger*) and several tern species which were hatching and/or had downy young the third week in June.

Brown Pelicans (*Pelecanus occidentalis*) continued to increase their barrier island breeding effort, evidenced by 930 nesting birds on Fishermans Island, the survey's only pelican colony location. This year's total was a 30% increase over 1993 (648 adults) (Williams, et al, 1994) and a 78% increase since 1992 (Williams, et al, 1993). For 13 of the last 14 years, we have observed a White Pelican (*P. erythrorhynchos*) in the survey area. This year, a single bird was observed roosting among the Fishermans Island Brown Pelicans, appearing from a distance as if it were sitting on a nest. Our count of Brown Pelican nestlings and eggs on 19 June was as follows: 17 one-egg nests; 131 two-egg nests; 153 three-egg nests; 2 four-egg nests; and 493 downy young not associated with specific nests. Forty-one immature-plumaged pelicans were also at or near the colony site but not counted among those nesting.

Consistent with previous surveys, the herons, egrets and ibis were tending downy to fledgling young. The number of Great Blue Heron (*Ardea herodias*) nesting adults at Fishermans Island, their only barrier island breeding site, increased to 22. Eight were counted the previous year (Williams, et al. 1994). The Snowy Egret (*Egretta thula*) total of 240 was the lowest in the survey's history. Black-crowned Night Heron (*Nycticorax*) numbers were the second lowest since the all-time survey low of 169 was recorded in 1990 (Williams, et al. 1991). Each year the team searches the dense vegetation of the heronry on Fishermans Island for active White Ibis (*Eudocimus albus*) nests. This year one was found. It held three large fledglings actively soliciting food from returning adults.

Of very special interest was an unusual heron observed in the Wreck Island heronry that appeared to be a probable Little Blue Heron (*Egretta caerulea*) X Snowy Egret hybrid. It had the white neck, head, and breeding plumes of the Snowy Egret, dark legs and feet and a snowy-type bill. Its coloration was "calico heron-like".

Wilson's (*Charadrius wilsonia*) and Piping (*C. melodus*) plovers showed no significant departures, numerically, from previous surveys. Of the 63 Wilson's, 46 were found on Cedar (24) and Metompkin (22) Islands. Similarly, 93 of the 134 Piping Plovers came from these two islands.

American Oystercatchers (*Haematopus palliatus*) continued a four-year downward trend registering their second lowest total since data gathering for this species was initiated in 1979. Note that 145 (23%) of this year's total were found on Metompkin Island.

Laughing Gull (*Larus atricilla*) numbers were the second lowest since 1975 when 3730 were counted (Williams 1976). This species is also in a four-year downward trend on the barrier islands. Herring (*L. argentatus*) and Great Black-backed Gull (*L. marinus*) numbers remained consistent with previous censuses.

Among the tern species, Royal (*Sterna maxima*) and Common (*S. hirundo*) terns registered their second lowest survey totals ever. Fifty-four percent (722), of the Common Terns were found on the southern end of Wreck Island. Least Tern (*S. antillarum*) numbers were up after a two-year decline.

Black Skimmers showed no signs of recovery, continuing a six-year decline. Downy young were seen, though it is unknown whether there was successful fledgling. The southern end of Wreck Island harbored 815 (47%) of this survey's total. Cedar Island's sandbar extension off its north end had 492 skimmers, 28% of the survey's total.

It is interesting to note in Table 1 on pages 42-43 that Wreck Island had the greatest diversity of colonial and beach-nesters with 21 species this year. Fishermans Island's 18 species was a close second. In 1975, Wreck Island had only 13 colonial and beach-nesting species (Williams 1976). By comparison, Metompkin Island with 19 species in 1975 had the highest diversity that year. This year, only ten species were found there, a reflection of habitat change and the absence of breeding herons, ibis and egrets found on the island when the surveys commenced.

TABLE 1. Total number of adult birds found on each island during the 19-22 June 1994 Virginia barrier islands survey.

[illegible][illegible]

Over the last few years, we have tried to point out probable or potential predator signs on the islands. This year there was significant evidence of raccoon (*Procyon lotor*) presence, in the form of tracks, noted on both Smith and Myrtle islands.

Every survey produces a number of special bird sightings that add spice to our field work. This year, the species of note included a Mute Swan (*Cygnus olor*) and an immature Great Cormorant (*Phalacrocorax carbo*) on Fishermans Island, 19 June. Also present there were two Pied-billed Grebes (*Podilymbus podiceps*). Wreck Island had 555 Black-bellied Plovers (*Pluvialis squatarola*), 20 June and two Marbled Godwits (*Limosa fedoa*) greeted us each morning at the Machipongo Station on Hog Island, our home away from home, 20-22 June. Six Wilson's Storm Petrels (*Oceanites oceanicus*) were seen, three in Wachapreague Inlet 21 June, one in Machipongo Inlet, 21 June and two in Cobb Island Bay, 20 June.

A very sincere thanks goes to our wonderful survey family, Jackie and Charlie Farlow, who make our field days comfortable and Barry Truitt who excellently does the heavy duty work of ferrying us to and from our islands, making the survey logistically possible. We are grateful to Barry and the Virginia Coast Reserve for allowing us to do this work. Mr. Walkley Johnson granted us permission to survey the northeast portion of Fishermans Island.

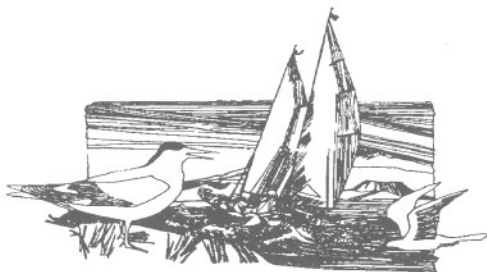
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VIRGINIA CHRISTMAS BIRD COUNTS—1993-94 SEASON

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Three new counts, Chancellorsville, Washington's Birthplace, and Walkerton, were added to the Virginia Christmas bird count (CBC) roster in 1993-94. In a sense, these three counts are not new in the true sense of the word. All have roots that stretch back a decade or more. The "youngest" of these resurrected counts is Chancellorsville. Its center is located about 10 miles west of Fredericksburg at Chancellorsville Battlefield. A count by the same name was conducted in approximately the same area from 1978 through 1982.

The Washington's Birthplace circle center is located just east of the Rappahannock River at Horners. It includes Westmoreland State Park, Stratford Hall, Leedstown, Montross, parts of the Potomac and Rappahannock rivers, and, of course, Washington's Birthplace National Historical Park. A census, also called Washington's Birthplace was held almost every year during the period from 1935 through 1940 and it encompassed most of the same areas included in the modern-day count, but on a much smaller scale.

The origins of the Walkerton count are truly ancient. In fact, it was one of the first three counts ever held in Virginia. It was conducted from 1910 through 1912 on a King William County farm just south of Beulahville by Elizabeth Hawes Ryland. The newly established Walkerton count almost certainly encompasses the old farm site Ryland covered, along with stretches of the Mattaponi and Pamunkey rivers, the town of Walkerton, Zoah State Forest, and the state fish hatchery located in King and Queen County.

Five of the 48 counts—Darlington Heights, Lynchburg, Claytor Lake, Bristol, and Nickelsville—which were submitted to *The Raven*, were not sent to the National Audubon's *Audubon Field Notes* this year. In Table 1 on pages 46-71, counts are generally arranged in order of distance inland from the coast. Counts 1 through 14 are located in the Coastal Plain; Counts 15 through 28 are in the Piedmont; Counts 29 through 48 are in the Mountains and Valleys region.

There were no new species added to the cumulative list again this year. A total of 201 species, one morph, and one subspecies were recorded, along with three birds that could be identified only as "alcid, sp." Two other species were seen during count week, but not on count day.

Approximately 853 field observers and feeder watchers participated in the counts this year. Of that number, 109 individuals took part in two counts, 33 in three counts,

(Summary continued on page 72)

TABLE 1. (on the following 26 pages) The 1993-94 Christmas bird counts in Virginia. The bold, underlined figures indicate an unusual species or an unusual number of individuals for that particular count. "CW" indicated that the species was seen during count week, but not on count day.

	Red-throated Loon	Common Loon	Pied-billed Grebe	Horned Grebe	Northern Gannet	American White Pelican	Brown Pelican	Great Cormorant	Double-crested Cormorant
1. Chincoteague	6	82	29	63	1	2	...	...	7
2. Wachapreague	16	28	...	9	1	...	...	...	85
3. Cape Charles	11	53	38	21	52	...	1	11	31
4. Little Creek	5	42	74	18	67	...	34	18	1000
5. Back Bay	52	154	22	6	680	...	3	...	32
6. Dismal Swamp	1	...	...	...	...	...	...
7. Newport News	2	60	32	39	...	...	5	...	3174
8. Mathews	7	904	11	66	...	...	...	...	11
9. Williamsburg	...	3	25	19	...	...	...	...	377
10. Hopewell	7	...	...	...	...	...	596
11. Walkerton
12. Wash. Birthplace	4	7	...	4	...	...	...	...	1
13. Brooke	13	...	...	...	...	...	...
14. Fort Belvoir	...	3	5	2	...	...	...	...	1
15. Manassas-B.R.	12	...	...	...	...	...	...
16. Nokesville	1	...	...	...	...	...	...
17. Chancellorsville	...	1	16	...	...	...	...	...	...
18. Lake Anna	...	9	30	9	...	...	...	...	...
19. Gordonsville	2	...	...	...	...	...	...
20. Charlottesville	...	2	5	...	...	...	...	...	...
21. Warren
22. Darlington Heights	2	...	...	...	...	...	...
23. Kerr Reservoir	...	55	13	19	...	...	...	...	33
24. Banister WMA	...	2	2	...	...	...	...	...	3
25. Lynchburg	10	...	...	...	...	...	...
26. Danville	2	...	...	...	...	...	...
27. Martinsville	1	...	...	...	...	...	...
28. Philpott Res.	2	...	...	...	...	...	...
29. Calmes Neck	4	...	...	...	...	...	...
30. N. Shen. Valley	3	...	...	...	...	...	...
31. Shen. NP-Luray
32. Big Flat Mtn.
33. Rockingham Co.	1	...	...	...	...	...	...
34. Augusta Co.
35. Waynesboro
36. Lexington
37. Peaks of Otter
38. Clifton Forge
39. Fincastle	2	...	...	...	...	...	...
40. Roanoke	...	1	4	...	...	...	...	...	...
41. Blacksburg	2	...	...	...	...	...	...
42. Claytor Lake	15	...	...	...	...	...	...
43. Tazewell	2	1	...	...	...	...	...
44. Glade Spring	2	...	...	...	...	...	...
45. Bristol	...	1	19	1	...	...	...	...	...
46. Nickelsville
47. Breaks I.S. Park	2	...	...	...	...	...	...
48. Wise County	2	...	...	...	...	...	...
Total individuals	103	1407	413	277	801	2	43	29	5351

American Bittern	Great Blue Heron	Great Egret	Snowy Egret	Little Blue Heron	Tricolored Heron	Green Heron	Black-crowned Night-Heron	Glossy Ibis	Tundra Swan	Mute Swan	Snow Goose (blue form)
1	58	69	2	5	12	...	4	...	496	1	46
...	65	2	...	...	2	1	15	...	2	...	...
5	81	5	...	...	29	...	11	1	207	...	2
1	246	170	7	...	...	...	16	...	100	...	...
2	30	3	...	...	1	1	2	...	890	...	3
...	36	...	...	...	...	...	...	...	8	...	...
...	72	33	...	...	1	...	7	...	75	...	...
...	63	...	...	...	...	...	...	...	469	...	...
...	79	4	...	...	...	...	2	...	21	7	...
...	97	...	...	...	...	...	...	...	...	...	...
...	2	...	...	...	...	...	...	...	2	...	...
...	23	...	...	...	...	...	...	...	821	...	...
...	59	...	...	...	...	...	...	...	590	12	...
...	273	...	...	...	...	...	...	...	381	6	...
...	2	...	...	...	...	...	...	...	...	1	...
...	24	1	...	...	...	...	...	...	CW	...	1
...	4	...	...	...	...	...	...	...	...	1	...
...	19	...	...	...	...	...	...	...	2	...	...
...	12	...	...	...	...	...	...	...	...	...	...
...	11	...	...	...	...	...	...	...	...	...	...
...	4	...	...	...	...	...	...	...	...	...	...
...	4	...	...	...	...	...	...	...	...	...	...
...	50	...	...	...	...	...	...	...	...	...	...
...	22	...	...	...	...	...	...	...	...	...	...
...	12	...	...	...	...	...	...	...	...	...	...
...	8	...	...	...	...	...	...	...	...	...	...
...	1	...	...	...	...	...	...	...	...	...	...
...	5	...	...	...	...	...	...	...	...	...	...
...	18	...	...	...	...	...	...	...	...	...	...
...	41	...	...	...	...	...	...	...	1	2	...
...	21	...	...	...	...	...	3	...	1	...	...
...
...	17	...	...	...	...	...	...	...	...	4	...
...	17	...	...	...	...	...	...	...	...	...	...
...	4	...	...	...	...	...	...	...	...	...	...
...	2	...	...	...	...	...	...	...	...	...	...
...
...	2	...	...	...	...	...	...	...	...	...	...
...	8	...	...	...	...	...	...	...	...	...	...
...	13	...	...	...	...	...	...	...	...	...	...
...	18	...	...	...	...	...	...	...	...	...	...
...	2	...	...	...	...	...	...	...	1	...	...
...	1	...	...	...	...	...	...	...	...	...	...
...	16	...	...	...	...	...	...	...	...	...	...
...	26	...	...	...	...	...	...	...	...	...	...
...	2	...	...	...	...	...	...	...	...	...	...
...
...	4	...	...	...	...	...	...	...	...	...	...
9	1574	287	14	5	45	2	60	1	4067	34	52

Blue-winged Teal	Northern Shoveler	Gadwall	American Wigeon	Canvasback	Redhead	Ring-necked Duck	Greater Scaup	Lesser Scaup	scaup. sp.	Common Eider
4	1038	302	227	...	...	...	7	...	...	...
...	1	8	4	...	...	...	...	...	8	...
2	26	477	400	5	11	154	1	3	1	...
...	1000	406	915	42	3	371	9	155	45	1
10	106	133	19	...	...	...	36	26	40	...
...	...	...	...	...	...	8	...	...	...	...
...	...	83	470	277	65	71	38	8	...	...
...	...	...	21	...	1	...	...	19	1	...
...	...	2	12	604	1	146	...	2	...	...
...	...	...	...	...	...	1	...	12	...	...
...	...	...	...	...	...	3	...	...	...	...
...	...	25	17	7000	...	8	...	7707	...	...
...	14	206	525	2500	3	900	...	200	...	...
...	14	206	41	454	9	38	274	3715	4643	...
...	...	3	...	...	...	16	...	...	...	...
...	...	7	3	...	...	...	...	...	...	...
...	...	...	...	...	...	84	...	3	...	...
...	...	1	2	...	...	67	...	1	...	...
...	...	4	...	...	...	14	...	...	...	...
...
...	...	3	...	...	...	...	...	5	...	...
...	3	39	72	...	...	...	...	...	...	...
...	...	2	2	18	2	400	...	...	...	...
...	...	...	...	...	...	4	...	5	...	...
...	...	22	...	...	...	CW	...	...	...	...
...
...	...	4	...	...	...	...	...	...	...	...
...
...	2	...	...	...	...	2	...	...	...	...
...	...	5	4	...	...	...	...	...	...	...
...
...
...	5	4	28	...	...	...	...	...	...	...
...	...	1	2	...	...	...	...	...	...	...
...	...	1	...	...	...	...	...	...	...	...
...
...
...	...	2	...	...	...	...	...	...	...	...
...	...	2	...	...	...	...	...	20	...	...
...	...	2	...	...	...	...	...	...	10	...
...
...	14	...	...	...	...	...	...	...	...	...
1	2	19	1	...	...	18	...	50	...	...
...
...
...
17	2225	1969	2829	10,900	95	2305	365	11,931	4748	1

	King Eider	Harlequin Duck	Oldsquaw	Black Scoter	Surf Scoter	White-winged Scoter	scoter, sp.	Common Goldeneye	Bufflehead
1. Chincoteague	53	76	148	20	...	4	311
2. Wachapreague	13	36	95	2	190	2	332
3. Cape Charles	41	379	1076	59	1240	17	612
4. Little Creek	1	...	127	7	152	51	85	3	875
5. Back Bay	9	1	253	16	96	1	4
6. Dismal Swamp
7. Newport News	127	7	27	5	...	262	686
8. Mathews	133	6	445	7	...	178	1241
9. Williamsburg	1	...	...	...	...	16	198
10. Hopewell	17
11. Walkerton	CW	...
12. Wash. Birthplace	10	...	36	...	...	527	183
13. Brooke	42	56
14. Fort Belvoir	31	...	2	16	...	65	747
15. Manassas-B.R.	1
16. Nokesville	2
17. Chancellorsville	54
18. Lake Anna	...	CW	...	...	...	...	...	1	85
19. Gordonsville	5
20. Charlottesville	2	2
21. Warren	14	...
22. Darlington Heights
23. Kerr Reservoir	34
24. Banister WMA	3
25. Lynchburg
26. Danville
27. Martinsville	8
28. Philpott Res.	5
29. Calmes Neck	1
30. N. Shen. Valley
31. Shen. NP-Luray
32. Big Flat Mtn.
33. Rockingham Co.
34. Augusta Co.
35. Waynesboro
36. Lexington
37. Peaks of Otter
38. Clifton Forge
39. Fincastle
40. Roanoke	3
41. Blacksburg	1	48
42. Claytor Lake	18
43. Tazewell	1	...
44. Glade Spring
45. Bristol	63
46. Nickelsville
47. Breaks I.S. Park
48. Wise County
Total individuals	1	...	545	512	2234	176	1611	1136	5594

	Hooded Merganser	Common Merganser	Red-breasted Merganser	Ruddy Duck	duck, sp.	Black Vulture	Turkey Vulture	vulture, sp.	Osprey	Bald Eagle	Northern Harrier	Sharp-shinned Hawk
74	9	204	141	4075	99	101	...	...	...	1	10	7
110	...	78	...	...	14	111	...	...	1	5	33	7
319	...	740	29	...	38	243	...	...	...	8	54	12
1345	4	252	122	...	2	12	...	...	6	3	6	7
16	...	830	16	...	26	20	...	...	...	1	44	8
20	...	...	...	11	20	140	...	...	...	3	2	8
81	2	99	37	13	...	2	...	...	...	4	5	13
38	23	198	10	8	...	46	...	...	...	6	11	16
140	...	30	2833	...	16	127	...	...	...	14	3	10
18	158	...	...	...	22	52	...	...	...	35	5	8
2	...	...	...	...	8	30	...	...	...	...	2	1
66	15	...	1858	...	40	257	...	...	...	68	6	2
19	98	37	1260	...	23	40	...	...	...	13	...	1
245	1333	8	35	...	...	14	...	...	...	91	2	16
30	...	...	...	...	4	66	...	...	...	...	8	5
31	...	...	CW	...	71	279	...	...	...	3	13	7
22	...	41	...	...	10	42	...	...	...	...	...	3
1	...	...	5	...	15	25	...	...	...	1	...	2
40	...	...	...	...	7	123	...	...	...	...	3	1
9	...	...	...	...	102	331	...	...	...	...	1	5
15	14	...	...	...	27	90	...	...	...	1	1	4
...	...	...	...	...	15	41	...	...	...	...	9	2
89	4	CW	13	...	20	34	...	...	...	13	9	6
12	3	...	1	...	70	132	...	...	...	1	2	1
9	...	...	2	...	81	167	...	...	...	CW	...	7
3	...	...	...	...	2	7	...	...	...	...	CW	1
11	...	...	...	...	19	59	...	...	...	...	...	2
7	...	...	...	3	7	24	90	...	...	...	...	1
3	...	...	...	...	45	55	...	...	...	1	4	9
1	...	...	...	...	104	227	...	...	...	1	8	7
...	3	...	...	...	154	906	...	...	...	...	16	7
...	...	...	...	...	...	2	...	...	...	...	...	1
...	...	...	...	...	10	275	...	...	...	CW	...	2
...	...	...	...	...	40	390	...	...	...	...	2	10
...	...	...	...	...	5	8	...	...	...	...	2	2
2	...	...	...	...	75	65	...	...	...	1	...	2
...
...	...	...	...	...	...	81	...	...	...	...	2	...
7	...	...	...	...	61	120	...	...	...	...	1	7
26	...	...	...	...	31	14	...	...	...	...	...	5
57	...	...	1	...	383	27	...	...	...	...	1	4
...	...	...	...	...	32	32	...	...	...	...	2	1
...
...
162	...	...	...	...	32	10	...	...	...	...	CW	3
...	...	...	...	...	4	13	...	...	...	1	2	3
...	...	...	...	...	4	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	1	...
...
3030	1666	2517	6363	4110	1738	4840	90	7	275	270	226	

	Cooper's Hawk	Northern Goshawk	Accipiter, sp.	Red-shouldered Hawk	Red-tailed Hawk	Rough-legged Hawk	Buteo, sp.	American Kestrel	Merlin
1. Chincoteague	1	...	...	3	9	...	...	15	...
2. Wachapreague	1	...	...	1	23	1	...	58	1
3. Cape Charles	4	2	1	3	53	1	...	42	2
4. Little Creek	4	1	...	4	34	...	...	27	CW
5. Back Bay	1	1	...	7	15	...	...	60	3
6. Dismal Swamp	...	...	...	14	23	...	...	7	...
7. Newport News	3	...	...	6	21	...	1	20	2
8. Mathews	5	...	...	13	24	...	1	6	...
9. Williamsburg	...	...	2	14	21	...	...	13	...
10. Hopewell	2	...	...	11	34	...	...	18	...
11. Walkerton	CW	...	...	2	3	CW	...	1	...
12. Wash Birthplace	...	...	...	7	29	...	...	13	...
13. Brooke	1	...	...	16	14	...	...	6	...
14. Fort Belvoir	4	...	...	38	35	...	...	15	...
15. Manassas-B.R.	2	...	...	13	46	1	...	12	...
16. Nokesville	7	...	...	19	56	...	...	65	...
17. Chancellorsville	...	...	...	9	8	...	...	1	...
18. Lake Anna	1	...	...	7	5	...	...	5	...
19. Gordonsville	...	...	2	6	19	...	...	11	...
20. Charlottesville	...	...	...	4	20	...	...	7	...
21. Warren	...	...	...	5	37	...	...	14	...
22. Darlington Heights	1	1	...	5	16	2	...	11	...
23. Kerr Reservoir	4	...	...	9	31	...	...	19	...
24. Banister WMA	...	...	...	3	19	...	...	10	...
25. Lynchburg	4	...	...	...	17	...	...	11	...
26. Danville	2	...	...	...	19	...	...	9	...
27. Martinsville	5	...	...	...	8	...	...	5	...
28. Philpott Res.	...	...	...	...	15	...	...	6	...
29. Calmes Neck	2	...	...	3	82	1	...	48	...
30. N. Shen. Valley	9	...	...	2	72	1	...	51	...
31. Shen. NP-Luray	5	...	...	2	100	3	...	27	...
32. Big Flat Mtn.	...	...	...	...	1	...	...	...	...
33. Rockingham Co.	3	...	...	...	26	...	...	45	...
34. Augusta Co.	2	...	1	1	42	...	...	54	...
35. Waynesboro	2	...	1	2	15	...	...	11	...
36. Lexington	...	...	1	1	7	1	...	2	...
37. Peaks of Otter	...	...	...	...	2	...	...	...	...
38. Clifton Forge	1	...	...	1	6	...	...	5	...
39. Fincastle	1	...	...	1	28	...	...	29	...
40. Roanoke	7	...	...	2	14	...	...	16	...
41. Blacksburg	5	...	...	1	15	...	...	8	...
42. Claytor Lake	2	...	1	1	22	1	...	12	1
43. Tazewell	3	...	...	...	8	...	...	8	...
44. Glade Spring	1	...	2	1	6	...	...	18	...
45. Bristol	7	...	...	...	19	...	...	51	...
46. Nickelsville	...	...	...	6	4	...	...	12	...
47. Breaks I.S. Park	...	...	...	...	...	...	...	...	...
48. Wise County	1	...	...	...	6	...	...	3	...
Total individuals	103	5	11	243	1129	12	2	887	9

Peregrine Falcon	hawk, sp.	Ring-necked Pheasant	Ruffed Grouse	Wild Turkey	Northern Bobwhite	Clapper Rail	King Rail	Virginia Rail	rail, sp.	Sora	Common Moorhen
1	27	3	...	...	...	...	...
CW	27	46	...	13	...	...	...
3	60	24	...	6	1	...	2
...	39	30	...	2	...	1	...
...	...	1	...	1	49	2	16	10	...	4	7
...	3	...	...	...	...	...	...
1	2	...	...	...	4	11	...	...	...	1	...
...	23	15	15	...	...	...	...	...
1	...	1	...	26	46	20	...	...	...	1	...
...	27	31	...	...	...	...	...	...
...	1	...	...	...	...	...	...	...
...	61	CW	...	...	...	...	...	...
...	1	22	...	...	...	...	...	...
...	1	8	...	...	...	...	...	...
...
...	4	1	...	...	...	...	...	...
...	...	1	...	1	2	...	...	...	...	...	...
...	6	...	...	...	...	...	...
...	1	...	...	...	...	...	...	...
...	1	1	...	...	...	...	...	...
...	1	6	...	...	...	...	...	...
...	4	18	...	...	...	...	1	...
...	2	...	...	4	...	...	...
...	10	16	...	...	...	...	...	...
...	14	3	...	...	...	...	...	...
...
...	1	11	...	...	...	...	...	...
...	1	...	...	...	...	...	...	...
...	...	4	9	8	28	...	...	...	...	...	...
...	...	1	3	...	40	...	...	...	...	...	...
...	7	39	...	...	...	...	...	...	...
...	2	...	...	...	...	...	...	...	...
...	10	5	...	...	...	...	...	...	...
...	9	...	...	...	...	...	...
...	2	...	...	CW	6	...	...	...	...	...	...
...	3	...	...	...	...	...	...	...
...
...	4	...	...	...	...	...	...
...	13	1	...	...	...	...	...	...
...	1	23	15	...	...	...	...	...	...
...	4	1	13	...	...	...	...	...	...
...
...	1	...	...	...	...	...	...	...	...
...	1	...	...	...
...	1	...	...	...	...	...	...	...	...
...	4	1	...	...	...	...	...	...	...
6	4	8	42	272	513	151	16	36	1	8	9

	American Coot	Black-bellied Plover	Semipalmated Plover	Killdeer	American Oystercatcher	American Avocet	Greater Yellowlegs	Lesser Yellowlegs	yellowlegs, sp.
1. Chincoteague	4	124	10	108	56	...	80	8	10
2. Wachapreague	...	150	1	32	128	...	61	1	2
3. Cape Charles	56	444	8	564	182	...	394	24	1
4. Little Creek	415	27	...	448	47	...	12	2	...
5. Back Bay	11	13	2	600	...	...	54	16	...
6. Dismal Swamp	1	...	...	153	...	...	...	...	...
7. Newport News	39	35	...	103	...	...	5	...	...
8. Mathews	1	...	...	90	...	...	12	...	...
9. Williamsburg	...	...	...	28	...	1	...	...	...
10. Hopewell	...	...	...	30	...	...	1	...	...
11. Walkerton	...	...	...	8	...	...	...	...	...
12. Wash. Birthplace	...	...	...	7	...	...	...	...	...
13. Brooke	900	...	...	14	...	...	...	...	...
14. Fort Belvoir	9	...	...	70	...	...	...	...	...
15. Manassas-B.R.	...	...	...	3	...	...	...	...	...
16. Nokesville	...	...	...	52	...	...	...	...	...
17. Chancellorsville	72	...	...	...	...	...	...	...	...
18. Lake Anna	77	...	...	1	...	...	...	...	...
19. Gordonsville	...	...	...	20	...	...	...	...	...
20. Charlottesville	...	...	...	19	...	...	...	...	...
21. Warren	...	...	...	7	...	...	...	...	...
22. Darlington Heights	...	...	...	1	...	...	...	...	...
23. Kerr Reservoir	3	...	...	67	...	...	...	...	...
24. Banister WMA	12	...	...	29	...	...	...	...	...
25. Lynchburg	20	...	...	9	...	...	...	...	...
26. Danville	...	...	...	21	...	...	...	...	...
27. Martinsville	...	...	...	8	...	...	...	...	...
28. Philpott Res.	...	...	...	5	...	...	...	...	...
29. Calmes Neck	...	...	...	12	...	...	...	...	...
30. N. Shen. Valley	...	...	...	1	...	...	...	...	...
31. Shen. NP-Luray	...	...	...	30	...	...	...	...	...
32. Big Flat Mtn.	...	...	...	...	...	...	...	...	...
33. Rockingham Co.	...	...	...	8	...	...	...	...	...
34. Augusta Co.	...	...	...	5	...	...	...	...	...
35. Waynesboro	...	...	...	3	...	...	...	...	...
36. Lexington	...	...	...	1	...	...	...	...	...
37. Peaks of Otter	...	...	...	...	...	...	...	...	...
38. Clifton Forge	...	...	...	...	...	...	...	...	...
39. Fincastle	...	...	...	4	...	...	...	...	...
40. Roanoke	9	...	...	9	...	...	...	...	...
41. Blacksburg	...	...	...	3	...	...	...	...	...
42. Claytor Lake	43	...	...	1	...	...	...	...	...
43. Tazewell	...	...	...	...	...	...	...	...	...
44. Glade Spring	...	...	...	3	...	...	...	...	...
45. Bristol	47	...	...	80	...	...	...	...	...
46. Nickelsville	...	...	...	...	...	...	...	...	...
47. Breaks I.S. Park	...	...	...	...	...	...	...	...	...
48. Wise County	...	...	...	28	...	...	...	...	...
Total individuals	1719	793	21	2685	413	1	619	51	13

[illegible]

	Dunlin	peep, sp.	sandpiper, sp.	Short-billed Dowitcher	dowitcher, sp.	Common Snipe	American Woodcock	Laughing Gull	Common Black-headed Gull
1. Chincoteague	559	...	35	...	1	20	3	...	...
2. Wachapreague	2588	...	...	1	...	2	1	...	...
3. Cape Charles	3394	1	...	117	...	17	570	1	...
4. Little Creek	170	...	...	...	...	10	1	5	...
5. Back Bay	25	...	...	...	...	60	2	2	1
6. Dismal Swamp	...	...	...	...	...	11	5	...	...
7. Newport News	649	...	...	...	...	3	...	30	...
8. Mathews	694	50	...	...	2	...	2	...	...
9. Williamsburg	1	...	...	...	...	1	4	55	...
10. Hopewell	...	...	...	...	...	...	1	1	...
11. Walkerton	...	...	...	...	...	24	...	...	...
12. Wash. Birthplace	...	...	...	...	...	3	...	...	...
13. Brooke	...	...	...	...	...	...	3	...	...
14. Fort Belvoir	...	...	...	...	...	57	4	3	...
15. Manassas-B.R.	...	...	...	...	...	...	...	...	...
16. Nokesville	...	...	...	...	...	13	2	1	...
17. Chancellorsville	...	...	...	...	...	...	...	...	...
18. Lake Anna	...	...	...	...	...	...	...	...	...
19. Gordonsville	...	...	...	...	...	...	5	...	...
20. Charlottesville	...	...	...	...	...	11	...	...	...
21. Warren	...	...	...	...	...	1	...	...	...
22. Darlington Heights	...	...	...	...	...	...	...	...	...
23. Kerr Reservoir	1	...	...	...	...	12	1	...	...
24. Banister WMA	...	...	...	...	...	6	3	...	...
25. Lynchburg	...	...	...	...	...	...	2	...	...
26. Danville	...	...	...	...	...	...	...	...	...
27. Martinsville	...	...	...	...	...	...	...	...	...
28. Philpott Res.	...	...	...	...	...	...	...	...	...
29. Calmes Neck	...	...	...	...	...	9	1	...	...
30. N. Shen. Valley	...	...	...	...	...	12	...	...	...
31. Shen. NP-Luray	...	...	...	...	...	...	...	...	...
32. Big Flat Mtn.	...	...	...	...	...	...	...	...	...
33. Rockingham Co.	...	...	...	...	...	15	...	...	...
34. Augusta Co.	...	...	...	...	...	1	...	...	...
35. Waynesboro	...	...	...	...	...	...	...	...	...
36. Lexington	...	...	...	...	...	...	...	...	...
37. Peaks of Otter	...	...	...	...	...	...	...	...	...
38. Clifton Forge	...	...	...	...	...	...	1	...	...
39. Fincastle	...	...	...	...	...	...	1	...	...
40. Roanoke	...	...	...	...	...	...	...	...	...
41. Blacksburg	...	...	...	...	...	2	...	...	...
42. Claytor Lake	...	...	...	...	...	...	...	...	...
43. Tazewell	...	...	...	...	...	...	...	...	...
44. Glade Spring	...	...	...	...	...	12	...	...	...
45. Bristol	...	...	...	...	...	2	...	...	...
46. Nickelsville	...	...	...	...	...	...	...	...	...
47. Breaks I.S. Park	...	...	...	...	...	...	...	...	...
48. Wise County	...	...	...	...	...	...	...	...	...
Total individuals	8081	51	35	118	3	304	612	98	1

Bonaparte's Gull	Ring-billed Gull	Herring Gull	Iceland Gull	Lesser Black-backed Gull	Glaucous Gull	Great Black-backed Gull	gull, sp.	Forster's Tern	tern, sp.	Black Skimmer	large alcid, sp.
...	564	659	...	...	...	109	...	...	...	...	...
...	1312	2535	...	...	...	136	225	1	...	...	...
7	2044	9902	...	...	...	682	...	14	1	...	...
2840	26,200	5610	<u>1</u>	5	<u>1</u>	1390	...	60	...	...	3
521	4400	285	<u>1</u>	<u>3</u>	<u>1</u>	163	...	149	...	1	...
...	1762	215	...	<u>1</u>	...	144	...	...	...	...	...
1	6961	1376	...	...	...	632	1050	10	1	...	...
12	2552	1165	...	...	...	59	...	9	...	...	...
5	863	135	...	...	...	44	...	72	...	...	...
3	4648	221	...	...	...	29	...	2	...	...	...
...	CW	...	...	...	...	...	...	...	...	...	...
...	234	27	...	...	...	...	...	...	...	...	...
...	3600	200	...	<u>2</u>	...	127	...	...	...	...	...
18	5607	1313	...	<u>1</u>	...	227	...	<u>1</u>	...	...	...
...	456	23	...	...	...	1	...	...	...	...	...
...	4399	353	<u>1</u>	...	...	44	71	...	...	...	...
...	54	10	...	...	...	...	...	...	...	...	...
10	430	41	...	<u>1</u>	...	8	...	...	...	...	...
...
...
...
290	2400	15	...	...	...	...	...	...	...	...	...
...	39	...	...	...	...	...	...	...	...	...	...
...	4	...	...	...	...	...	...	...	...	...	...
...	84	1	...	...	...	...	...	...	...	...	...
...	18	...	...	...	...	...	...	...	...	...	...
...	20	...	...	...	...	...	...	...	...	...	...
...	1	...	...	...	...	...	...	...	...	...	...
...	1	...	...	...	...	...	...	...	...	...	...
...
...
...
...	1	...	...	...	...	...	...	...	...	...	...
...
...
...
...	115	...	...	...	...	...	...	...	...	...	...
...	319	...	...	...	...	...	...	...	...	...	...
...	237	5	...	...	...	...	...	...	...	...	...
...
...
3	237	7	...	...	...	...	...	...	...	...	...
...
...
3710	69,562	24,098	3	13	2	3795	1346	318	2	1	3

	Rock Dove	Mourning Dove	Monk Parakeet	Barn Owl	Eastern Screech-Owl	Great Horned Owl	Barred Owl	Long-eared Owl	Short-eared Owl
1. Chincoteague	168	503	...	...	2	3	...	...	...
2. Wachapreague	188	943	...	...	27	6	...	...	1
3. Cape Charles	537	516	...	...	4	3	1	...	...
4. Little Creek	1550	805	4	...	12	6	1	...	...
5. Back Bay	180	525	...	...	10	3	8	...	...
6. Dismal Swamp	426	149	...	...	8	1	8	...	...
7. Newport News	723	1113	...	...	4	3	...	...	1
8. Mathews	46	290	...	...	6	15	1	...	...
9. Williamsburg	102	326	...	...	1	4	3	...	...
10. Hopewell	92	251	...	3	1	4	4	...	...
11. Walkerton	...	70	...	...	...	1	3	...	...
12. Wash. Birthplace	2	135	...	CW	4	4	5	...	1
13. Brooke	133	194	...	...	...	...	...	...	...
14. Fort Belvoir	161	606	...	1	8	27	9	...	...
15. Manassas-B.R.	205	266	...	...	...	1	...	...	...
16. Nokesville	279	768	...	13	8	9	6	...	...
17. Chancellorsville	...	63	...	...	1	1	...	...	...
18. Lake Anna	32	84	...	...	2	1	1	...	...
19. Gordonsville	35	56	...	1	3	...	...	...	...
20. Charlottesville	72	337	...	...	2	1	1	...	...
21. Warren	181	350	...	...	7	26	1	...	...
22. Darlington Heights	13	117	...	...	2	1	1	...	...
23. Kerr Reservoir	74	205	...	...	...	6	3	...	...
24. Banister WMA	118	87	...	...	2	6	1	...	...
25. Lynchburg	560	578	...	...	22	10	1	...	...
26. Danville	207	241	...	...	...	...	1	...	...
27. Martinsville	124	201	...	...	4	1	...	...	...
28. Philpott Res.	115	86	...	...	2	1	1	...	...
29. Calmes Neck	794	1890	...	...	16	6	5	...	...
30. N. Shen. Valley	1059	968	...	2	16	9	2	1	...
31. Shen. NP-Luray	953	1144	...	1	14	8	6	...	...
32. Big Flat Mtn.	...	6	...	...	...	...	1	...	...
33. Rockingham Co.	873	524	...	...	1	4	...	...	...
34. Augusta Co.	739	1016	...	...	2	1	1	...	...
35. Waynesboro	76	131	...	...	1	...	...	...	...
36. Lexington	136	78	...	...	7	1	...	...	...
37. Peaks of Otter	...	...	...	...	3	...	2	...	...
38. Clifton Forge	251	60	...	...	...	...	...	...	...
39. Fincastle	138	264	...	...	9	2	...	...	...
40. Roanoke	629	416	...	2	8	5	2	...	...
41. Blacksburg	276	887	...	...	9	5	CW	...	...
42. Claytor Lake	218	117	...	2	...	...	...	...	2
43. Tazewell	26	63	...	...	1	...	...	...	...
44. Glade Spring	206	291	...	...	6	3	CW	...	...
45. Bristol	276	391	...	...	7	4	...	...	...
46. Nickelsville	94	135	...	...	...	...	...	...	...
47. Breaks I.S. Park	...	15	...	...	...	...	...	...	...
48. Wise County	202	337	...	...	4	4	3	...	...
Total individuals	13,269	18,598	4	25	246	196	82	1	5

	hummingbird, sp.	Belted Kingfisher	Red-headed Woodpecker	Red-bellied Woodpecker	Yellow-bellied Sapsucker	Downy woodpecker	Hairy Woodpecker	Northern Flicker	Pileated Woodpecker	woodpecker, sp.	Eastern Phoebe	Horned Lark
...	16	...	40	5	45	18	108	12	...	...	4	114
...	45	...	36	5	33	6	81	8	...	...	19	9
...	21	...	43	7	52	3	108	5	...	...	20	293
...	45	1	39	10	55	7	82	29	...	...	4	2
...	23	...	66	15	77	4	103	28	...	...	23	...
...	27	...	105	14	95	42	61	65	...	...	29	...
...	58	...	51	5	65	8	118	21	...	...	2	9
...	44	...	58	14	48	2	116	21	...	...	3	1
...	30	3	56	12	38	12	115	22	...	...	23	...
...	13	1	86	31	61	2	159	19	...	...	31	...
...	4	CW	8	4	12	4	8	3	...	...	1	...
...	7	5	28	10	12	2	29	21	...	...	8	14
...	17	24	101	22	85	11	113	35	...	...	7	...
...	51	2	349	41	252	51	261	91	...	...	11	...
...	5	2	39	2	58	9	39	19	...	...	...	...
...	9	4	84	16	62	14	91	21	...	...	4	131
...	2	1	17	3	20	6	19	14	...	...	5	...
...	3	5	5	1	1	2	14	7	...	...	2	...
...	3	1	19	12	21	6	32	11	...	...	19	...
...	28	1	69	40	56	7	89	49	...	...	26	...
...	13	36	88	49	96	12	91	49	...	...	26	29
...	3	8	22	6	28	5	30	24	...	...	24	2
...	14	9	20	24	39	6	52	5	...	...	59	5
...	8	61	22	8	32	4	19	10	...	...	15	...
...	23	9	103	50	102	11	128	53	...	...	29	...
...	2	...	22	4	15	7	29	2	...	...	6	60
...	3	...	18	7	13	2	19	9	...	...	5	...
...	9	...	12	15	30	16	22	23	...	...	21	4
...	16	12	214	68	276	48	187	85	...	...	5	...
...	44	12	145	32	157	55	124	72	...	...	10	24
...	26	3	50	21	81	14	60	47	...	...	15	190
...	...	...	16	12	18	2	9	12	...	...	3	...
...	10	5	31	2	28	4	24	10	...	...	2	8
...	8	...	43	4	62	3	38	18	...	...	1	...
...	1	1	16	8	28	1	7	13	...	...	4	167
...	7	1	12	8	31	2	9	12	...	...	5	...
...	2	...	9	8	16	2	6	8	...	...	...	...
...	1	1	8	8	25	2	8	9	...	...	10	...
...	9	4	28	13	46	6	32	20	...	...	11	...
...	13	...	47	40	78	7	61	28	...	...	14	...
...	12	1	33	8	80	16	29	27	...	...	13	...
...	6	...	15	10	25	4	18	11	...	...	5	28
...	2	...	2	2	6	1	1	...	...	...	1	...
...	13	...	6	2	31	1	5	9	...	...	7	...
...	18	...	21	12	25	1	25	24	...	...	15	2
...	5	...	7	...	24	4	16	13	...	...	...	...
...	...	...	...	...	4	...	3	4	...	...	...	...
...	4	1	7	1	34	8	9	15	...	...	1	...
Total individuals	1	723	214	2316	691	2578	460	2834	1113	2	548	1092

	Tree Swallow	swallow, sp.	Blue Jay	American Crow	Fish Crow	crow, sp.	Common Raven	Black-capped Chickadee	Carolina Chickadee
1. Chincoteague	57	141	36	...	...	...	97
2. Wachapreague	14	...	51	692	18	306	...	...	227
3. Cape Charles	1	...	91	479	47	40	...	...	163
4. Little Creek	177	227	542	...	...	...	193
5. Back Bay	199	265	9	...	...	...	172
6. Dismal Swamp	48	257	...	...	...	...	255
7. Newport News	149	319	3	45	...	...	252
8. Mathews	205	823	...	...	...	...	224
9. Williamsburg	158	223	2	14	...	...	204
10. Hopewell	80	340	279	27	...	...	171
11. Walkerton	14	56	...	...	...	...	25
12. Wash. Birthplace	43	485	3	...	...	...	22
13. Brooke	260	340	34	...	...	...	245
14. Fort Belvoir	463	1635	194	426	...	...	1023
15. Manassas-B.R.	236	502	18	171	...	...	249
16. Nokesville	408	714	500	421	...	...	323
17. Chancellorsville	100	125	43	...	...	...	...
18. Lake Anna	184	227	CW	...	...	...	48
19. Gordonsville	144	858	...	...	...	...	81
20. Charlottesville	293	1170	197	...	5	...	249
21. Warren	420	597	5	...	5	...	212
22. Darlington Heights	80	305	...	...	...	...	87
23. Kerr Reservoir	156	450	...	...	...	...	133
24. Banister WMA	119	207	...	...	...	...	51
25. Lynchburg	520	799	CW	...	4	...	301
26. Danville	115	210	...	...	...	...	49
27. Martinsville	91	294	...	...	1	...	42
28. Philpott Res.	66	367	...	...	1	...	41
29. Calmes Neck	569	744	7	...	6	38	619
30. N. Shen. Valley	937	1695	1	...	23	233	660
31. Shen. NP-Luray	501	2130	5	...	64	23	432
32. Big Flat Mtn.	1	19	...	...	5	...	22
33. Rockingham Co.	198	548	26	...	3	16	109
34. Augusta Co.	554	627	44	68	1	8	203
35. Waynesboro	127	371	23	324	7	...	123
36. Lexington	161	541	...	...	6	56	46
37. Peaks of Otter	23	45	...	...	3	19	13
38. Clifton Forge	57	210	...	...	5	29	77
39. Fincastle	246	925	...	...	11	10	113
40. Roanoke	229	437	...	...	4	28	226
41. Blacksburg	...	2	239	924	...	...	2	13	204
42. Claytor Lake	86	530	...	...	1	...	65
43. Tazewell	56	218	...	...	1	...	51
44. Glade Spring	47	203	...	...	...	...	75
45. Bristol	152	1091	...	...	1	...	131
46. Nickelsville	268	276	...	...	6	...	66
47. Breaks I.S. Park	39	35	...	...	...	2	4
48. Wise County	122	985	...	...	5	...	162
Total individuals	15	2	9539	25,661	2036	1842	170	475	8540

	chickadee, sp.	Tufted Titmouse	Red-breasted Nuthatch	White-breasted Nuthatch	Brown-headed Nuthatch	Brown Creeper	Carolina Wren	House Wren	Winter Wren	Sedge Wren	Marsh Wren	Golden-crowned Kinglet
...	37	2	2	23	15	134	2	32	5	...	...	63
...	30	2	...	15	3	131	8	3	...	...	8	58
...	38	16	1	4	13	232	3	17	10	...	8	48
...	101	5	16	21	14	107	1	11	...	...	...	136
...	75	17	33	20	5	137	5	9	32	15	...	81
...	73	...	20	...	8	170	4	39	...	...	...	132
...	105	4	8	13	3	136	1	3	...	...	1	89
...	154	1	1	18	7	161	2	2	...	...	1	17
...	132	2	70	10	5	123	...	5	...	...	1	30
...	72	4	27	...	6	165	1	8	...	...	...	65
...	7	...	1	...	2	17	...	5	...	...	...	11
...	15	...	1	...	1	34	...	3	...	...	...	29
...	156	10	62	...	13	145	2	9	...	...	...	62
...	906	45	223	...	54	606	1	29	...	...	...	212
...	194	7	51	...	16	71	...	1	...	...	...	50
...	173	35	43	...	18	148	...	17	...	...	...	70
...	29	2	28	...	5	26	...	...	...	...	...	42
...	45	8	3	...	1	11	...	2	...	...	...	16
...	41	8	26	...	3	46	...	...	...	...	...	41
...	120	33	69	...	17	173	...	12	...	...	...	123
...	84	19	41	...	9	181	...	9	...	...	...	84
...	20	5	10	2	...	62	...	2	...	...	...	58
...	63	22	21	31	20	99	3	20	...	...	...	122
...	23	3	24	4	12	43	...	10	...	...	...	35
...	272	36	80	...	17	193	1	12	...	...	...	144
...	40	...	11	1	4	63	...	...	...	...	...	45
...	3	34	10	6	2	44	...	2	...	...	...	19
64	59	19	31	8	1	53	...	3	...	...	...	67
...	448	5	205	...	62	162	...	10	...	...	...	92
...	319	22	169	...	49	173	...	9	...	...	3	65
...	261	4	95	...	38	142	...	25	...	...	...	113
...	17	1	12	...	4	13	...	9	...	...	...	25
...	89	6	26	...	10	29	...	3	...	...	...	14
...	116	13	44	...	7	63	...	1	...	...	...	7
...	74	11	24	...	8	22	...	7	...	...	...	44
26	39	3	15	...	3	35	...	...	...	...	...	123
...	33	1	10	...	3	16	...	1	...	...	...	19
...	83	1	34	...	1	9	...	2	...	...	...	20
...	60	7	32	...	4	73	...	5	...	...	...	54
...	115	19	48	...	19	142	...	8	...	...	...	155
158	225	12	88	...	15	129	...	17	...	...	...	98
...	52	...	15	...	4	42	...	4	...	...	...	9
...	63	4	31	...	1	12	...	2	...	...	...	3
...	50	...	16	...	1	41	1	2	...	...	...	38
...	74	4	42	...	4	51	...	9	...	...	...	18
...	32	...	12	...	2	11	...	...	...	...	...	16
...	10	...	7	...	...	2	...	3	...	...	...	...
...	119	5	77	...	6	38	...	8	...	...	...	37
Total individuals	251	5377	433	1911	176	515	4716	35	390	50	37	2899

	Ruby-crowned Kinglet	Eastern Bluebird	Hermit Thrush	Catharus, sp.	American Robin	Gray Catbird	Northern Mockingbird	Brown Thrasher	American Pipit
1. Chincoteague	13	78	34	...	372	5	28	24	21
2. Wachapreague	18	239	9	...	68	13	95	3	...
3. Cape Charles	46	78	33	...	76	12	88	15	1646
4. Little Creek	47	75	23	...	1130	1	86	20	145
5. Back Bay	62	51	57	...	421	53	94	56	372
6. Dismal Swamp	100	42	201	...	1941	91	25	14	121
7. Newport News	46	59	1	...	81	1	155	11	...
8. Mathews	33	667	22	...	646	4	154	30	33
9. Williamsburg	66	216	8	...	37	1	63	7	3
10. Hopewell	46	177	10	...	91	...	57	2	102
11. Walkerton	6	25	23	...	254	...	10	2	1
12. Wash. Birthplace	23	103	6	...	2	...	34	4	30
13. Brooke	19	260	16	...	78	...	93	4	...
14. Fort Belvoir	35	275	67	...	202	6	242	4	8
15. Manassas-B.R.	3	195	4	...	152	...	87	2	...
16. Nokesville	6	292	16	...	241	...	149	...	1
17. Chancellorsville	5	71	8	...	27	...	26	1	15
18. Lake Anna	22	74	5	...	8	...	41	...	...
19. Gordonsville	6	123	4	...	476	...	58	...	...
20. Charlottesville	36	147	23	...	359	...	58	1	...
21. Warren	39	210	31	...	421	1	85	1	...
22. Darlington Heights	22	210	6	...	550	1	45	...	41
23. Kerr Reservoir	118	342	34	...	105	...	77	11	200
24. Banister WMA	14	106	11	...	123	...	30	19	...
25. Lynchburg	73	310	34	...	107	1	125	1	...
26. Danville	2	172	2	...	325	...	45	1	...
27. Martinsville	23	53	13	...	188	...	20	2	...
28. Philpott Res.	23	122	23	...	6357	...	17	...	...
29. Calmes Neck	9	424	30	...	348	2	198	...	...
30. N. Shen. Valley	14	449	6	...	501	...	348	...	20
31. Shen. NP-Luray	26	345	13	...	317	2	136	1	...
32. Big Flat Mtn.	2	6	8	...	1	...	...	...	...
33. Rockingham Co.	7	87	1	...	60	...	51	...	...
34. Augusta Co.	7	146	1	...	265	...	180	...	...
35. Waynesboro	9	33	20	...	26	...	42	1	5
36. Lexington	10	40	17	...	106	...	29	...	...
37. Peaks of Otter	...	5	4	...	110	...	2	...	...
38. Clifton Forge	6	21	2	...	10	...	15	...	...
39. Fincastle	12	161	12	...	100	...	70	...	1
40. Roanoke	42	157	19	...	281	...	80	1	...
41. Blacksburg	11	40	14	1	48	...	93	1	...
42. Claytor Lake	5	62	1	...	163	...	35	...	...
43. Tazewell	...	29	7	...	...	...	3	...	...
44. Glade Spring	...	47	3	...	1	...	14	...	...
45. Bristol	5	54	15	...	13	...	68	1	...
46. Nickelsville	5	39	3	...	55	...	12	4	...
47. Breaks I.S. Park	...	2	...	...	4	...	...	...	...
48. Wise County	...	41	3	...	63	...	18	5	...
Total individuals	1122	6960	903	1	17,310	193	3481	249	2765

	Cedar Waxwing	Loggerhead Shrike	European Starling	White-eyed Vireo	Solitary Vireo	Orange- crowned Warbler	Yellow-rumped Warbler	Yellow-throated Warbler	Pine Warbler	Prairie Warbler	Palm Warbler
35	...	...	2355	...	...	...	1242	...	11	1	22
25	...	...	4780	...	...	...	691	...	6	...	12
27	...	...	4876	...	1	2	2126	...	14	...	63
236	...	...	4380	...	2	1	714	...	36	...	5
123	...	...	1850	...	2	9	7390	...	23	...	2
27	...	...	1001	3	5	2	93	...	15	...	...
42	...	...	3950	...	...	...	872	...	11	...	...
577	...	...	1421	...	...	...	1285	...	4	...	...
29	...	...	904	...	...	...	607	...	22	...	...
425	...	...	3908	...	...	...	65	...	12	...	...
360	...	...	319	...	...	...	3	...	1	...	...
72	...	...	483	...	...	...	25	...	...	...	...
153	...	...	1600	...	...	...	33	...	...	...	...
234	...	...	2435	...	...	...	70	1	...	...	1
130	...	...	20,445	...	...	...	78	...	...	...	...
159	1	...	22,906	...	...	...	136	...	4	...	...
27	...	...	375	1	...	...	30	...	1	...	...
...	...	...	...	...	...	...	9	...	...	...	...
46	1	...	426	...	...	...	94	...	...	...	...
260	1	...	1801	...	...	...	102	...	2	...	1
244	1	...	6733	...	...	...	137	...	...	...	...
96	2	...	1036	...	...	...	59	...	10	...	...
128	7	...	165	...	...	...	112	...	113	...	...
176	...	...	712	...	...	...	31	...	11	...	...
312	...	...	2622	...	...	...	43	...	8	...	...
164	...	...	776	...	...	...	9	...	1	...	...
27	...	...	1725	...	...	...	13	...	4	...	...
50	...	...	1080	...	...	...	7	...	10	...	...
322	4	...	8304	...	...	...	15	...	...	...	...
963	2	...	33,895	...	...	...	1153	...	2	...	...
270	2	...	12,111	...	...	...	187	...	6	...	...
12	...	...	...	...	...	...	...	...	...	...	...
14	...	...	3719	...	...	...	9	...	...	...	...
64	3	...	13,576	...	...	...	59	...	...	...	...
21	...	...	637	...	...	...	7	...	...	...	...
30	3	...	10,079	...	...	...	149	...	...	...	...
...	...	...	53	...	...	...	3	...	...	...	...
69	...	...	599	...	...	...	...	...	...	...	...
59	3	...	2999	...	...	...	68	...	...	...	...
263	...	...	3498	...	...	...	10	...	1	...	...
45	...	...	2433	...	...	...	66	...	...	...	...
10	1	...	6974	...	...	...	28	...	...	...	...
3	...	...	260	...	...	...	...	...	...	...	...
...	1	...	846	...	...	...	6	...	...	...	...
46	1	...	1607	...	...	...	26	...	...	...	...
125	...	...	352	...	...	...	26	...	...	...	...
...
11	...	...	573	...	...	...	1	...	...	...	...
6511	33	197,579	4	10	14	17,889	1	328	1	106	

	Ovenbird	Common Yellowthroat	Summer Tanager	Northern Cardinal	Blue Grosbeak	Dickcissel	Rufous-sided Towhee	American Tree Sparrow
1. Chincoteague	182	...	...	21	...
2. Wachapreague	240	...	...	11	9
3. Cape Charles	...	1	...	393	...	...	40	6
4. Little Creek	186	...	...	44	...
5. Back Bay	...	16	...	218	...	...	164	1
6. Dismal Swamp	2	5	...	71	...	...	81	1
7. Newport News	223	...	...	26	...
8. Mathews	285	...	...	61	...
9. Williamsburg	...	1	...	239	...	...	23	7
10. Hopewell	209	...	...	13	...
11. Walkerton	30	...	...	20	...
12. Wash. Birthplace	72	...	...	14	...
13. Brooke	234	...	...	16	1
14. Fort Belvoir	...	1	...	609	...	...	42	3
15. Manassas-B.R.	303	...	...	29	...
16. Nokesville	1	371	...	...	26	1
17. Chancellorsville	57	...	...	22	...
18. Lake Anna	25	...	...	9	1
19. Gordonsville	79	...	...	6	...
20. Charlottesville	185	1	...	23	7
21. Warren	210	...	...	49	...
22. Darlington Heights	67	...	...	15	5
23. Kerr Reservoir	...	2	...	152	...	...	62	...
24. Banister WMA	82	...	...	41	...
25. Lynchburg	264	...	...	62	5
26. Danville	55	...	...	8	...
27. Martinsville	94	...	...	16	...
28. Philpott Res.	89	...	...	17	...
29. Calmes Neck	806	...	...	3	46
30. N. Shen. Valley	474	...	...	3	32
31. Shen. NP-Luray	277	...	...	...	5
32. Big Flat Mtn.	4	...	...	...	...
33. Rockingham Co.	109	...	...	...	...
34. Augusta Co.	210	...	4	6	3
35. Waynesboro	109	...	...	4	3
36. Lexington	68	...	...	20	1
37. Peaks of Otter	18	...	...	7	...
38. Clifton Forge	68	...	...	2	4
39. Fincastle	159	...	...	11	...
40. Roanoke	241	...	...	26	...
41. Blacksburg	203	...	...	15	...
42. Claytor Lake	89	...	...	4	...
43. Tazewell	53	...	...	8	...
44. Glade Spring	108	...	...	15	...
45. Bristol	210	...	...	29	...
46. Nickelsville	76	...	...	30	...
47. Breaks I.S. Park	9	...	...	2	...
48. Wise County	138	...	...	12	...
Total individuals	2	26	1	8653	1	4	1158	141

Chipping Sparrow	Field Sparrow	Vesper Sparrow	Savannah Sparrow	Savannah Sparrow (Ipswich race)	Le Conte's Sparrow	Sharp-tailed Sparrow	Seaside Sparrow	Fox Sparrow	Song Sparrow	Lincoln's Sparrow	Swamp Sparrow
39	8	6	211	...	...	6	2	21	463	...	204
4	40	...	36	2	...	61	15	4	179	...	66
79	72	40	462	7	...	129	68	236	766	2	389
8	25	...	42	2	...	7	2	6	98	...	40
102	78	...	397	5	6	1	1	11	472	...	540
40	28	...	10	...	...	...	...	36	120	...	605
7	38	...	25	1	...	...	...	5	236	...	10
75	59	...	14	...	...	...	...	15	245	...	4
10	127	...	41	...	...	...	...	6	202	...	40
...	84	...	55	...	...	...	...	3	336	...	17
2	2	...	...	...	...	...	...	...	46	...	6
...	10	...	8	...	...	...	...	1	32	...	3
...	63	...	...	...	...	...	...	...	98	...	12
...	70	...	12	...	...	...	...	6	622	...	68
...	41	...	...	...	...	...	...	3	80	...	1
2	52	1	85	...	...	...	...	1	191	...	8
2	14	...	...	...	...	...	...	3	31	...	3
...	19	...	3	...	...	...	...	1	26	...	8
1	12	...	...	...	...	...	...	...	35	...	...
1	124	...	3	...	...	...	...	2	204	...	4
...	86	...	4	...	...	...	...	8	416	...	22
...	28	...	...	...	...	...	...	1	134	...	6
29	128	2	127	...	...	...	...	26	281	...	182
18	13	...	6	...	...	...	...	2	68	...	122
1	71	...	...	...	...	...	...	5	160	...	2
...	22	...	4	...	...	...	...	CW	71	...	60
1	14	...	...	...	...	...	...	3	128	...	16
...	47	...	...	...	...	...	...	3	249	...	...
...	26	...	2	...	...	...	...	...	185	...	1
1	50	...	1	...	...	...	...	1	175	...	10
...	76	...	...	...	...	...	...	2	185	...	7
...	2	...	...	...	...	...	...	...	12	...	...
...	1	...	...	...	...	...	...	...	57	...	...
...	38	...	...	...	...	...	...	4	97	...	...
CW	30	...	1	...	...	...	...	3	63	...	...
...	68	...	...	...	...	...	...	3	64	...	1
...	41	...	...	...	...	...	...	1	17	...	...
...	3	...	...	...	...	...	...	...	35	...	...
5	75	1	1	...	...	...	...	9	138	...	...
...	135	...	...	...	...	...	...	4	196	3	7
3	92	...	...	...	...	...	...	10	227	...	8
...	13	...	...	...	...	...	...	2	78	...	4
...	29	...	...	...	...	...	...	...	41	...	3
1	27	...	...	...	...	...	...	...	82	...	...
2	60	...	6	...	...	...	...	2	196	...	...
...	5	...	...	...	...	...	...	1	30	...	...
...	32	...	...	...	...	...	...	...	1	...	...
...	...	...	...	...	...	...	...	1	151	...	...
433	2178	50	1556	17	6	204	88	451	8019	5	2479

	White-throated Sparrow	White-crowned Sparrow	sparrow, sp.	Dark-eyed Junco	Lapland Longspur	Snow Bunting	Red-winged Blackbird	Eastern Meadowlark	Yellow-headed Blackbird
1. Chincoteague	678	4	...	273	...	55	4797	159	...
2. Wachapreague	309	...	...	255	...	12	482	197	...
3. Cape Charles	820	1	...	460	10	4	53,404	306	...
4. Little Creek	176	2	...	178	...	10	13,100	53	...
5. Back Bay	601	4	...	644	...	...	3660	211	...
6. Dismal Swamp	818	...	...	421	...	...	3793	12	1
7. Newport News	221	...	2	294	...	2	1143	66	...
8. Mathews	270	...	...	928	...	...	521	119	...
9. Williamsburg	270	...	...	600	...	...	1451	75	...
10. Hopewell	548	...	...	387	...	...	860	204	...
11. Walkerton	162	...	...	171	...	2	75	16	...
12. Wash. Birthplace	136	...	...	161	...	...	679	38	...
13. Brooke	575	...	...	890	...	...	1250	1	...
14. Fort Belvoir	1098	4	...	1160	...	...	468	6	...
15. Manassas-B.R.	294	33	...	655	...	...	48	1	...
16. Nokesville	379	119	...	990	...	...	1282	97	...
17. Chancellorsville	105	9	...	152	...	...	...	14	...
18. Lake Anna	62	1	...	140	...	5	...	9	...
19. Gordonsville	222	51	...	596	...	...	1	1	...
20. Charlottesville	777	7	...	600	...	...	1	...	...
21. Warren	957	183	...	771	...	...	163	99	...
22. Darlington Heights	132	...	...	257	...	...	1	101	...
23. Kerr Reservoir	540	27	...	793	...	...	900	117	...
24. Banister WMA	322	8	...	419	...	...	169	52	...
25. Lynchburg	571	32	...	955	...	...	8	17	...
26. Danville	176	...	...	270	25	...	15	33	...
27. Martinsville	186	...	...	383	...	...	39	11	...
28. Philpott Res.	198	...	10	315	...	...	7	8	...
29. Calmes Neck	515	153	...	972	...	...	29	30	...
30. N. Shen. Valley	431	165	...	1321	...	...	28	69	...
31. Shen. NP-Luray	621	213	...	1236	...	...	126	77	...
32. Big Flat Mtn.	180	...	...	172	...	...	...	...	...
33. Rockingham Co.	171	85	...	281	...	...	...	26	...
34. Augusta Co.	210	122	...	668	...	...	...	29	...
35. Waynesboro	138	231	...	519	...	...	2	10	...
36. Lexington	489	37	...	613	...	...	11	5	...
37. Peaks of Otter	25	...	...	143	...	...	...	...	...
38. Clifton Forge	46	...	...	256	...	...	1	...	...
39. Fincastle	369	76	...	846	...	...	240	42	...
40. Roanoke	316	13	...	399	...	...	2	...	...
41. Blacksburg	275	159	...	476	...	...	...	9	...
42. Claytor Lake	77	31	...	109	...	...	...	160	...
43. Tazewell	28	...	...	91	...	...	1	...	...
44. Glade Spring	115	42	...	55	...	...	...	4	...
45. Bristol	212	117	...	508	...	...	...	55	...
46. Nickelsville	60	...	...	95	...	...	...	5	...
47. Breaks I.S. Park	4	...	...	14	...	...	...	...	...
48. Wise County	69	5	...	120	...	...	...	2	...
Total individuals	15,954	1934	12	23,012	35	90	88,757	2546	1

	Rusty Blackbird	Brewer's Blackbird	Boat-tailed Grackle	Common Grackle	Brown-headed Cowbird	blackbird, sp.	Northern Oriole	Northern Oriole (Bullock's race)	Purple Finch	House Finch	Common Redpoll
2	489	146,645	622	...	...	...	3	394	...
...	196	188	159	30	...	...	2	539	...
94	2	247	118,400	6479	...	...	...	...	30	249	1
1	...	71	6800	755	...	...	...	...	9	380	...
7	...	146	903	307	...	...	...	...	15	250	...
3	3408	62	5160	1	...	...	4	32	...
...	...	94	1283	93	90	...	...	...	2	218	...
...	...	155	512	21	...	...	...	...	2	517	...
...	412	220	...	...	...	...	2	185	...
...	48	26	...	...	...	...	...	588	...
...	75	1	...	...	...	...	...	32	...
...	1081	3	...	...	...	...	3	19	...
60	625	...	...	...	...	...	9	400	...
31	529	112	...	...	...	...	27	461	...
2	397	363	...	...	...	...	...	259	...
...	24	...	12,552	548	332	...	...	...	5	492	...
...	71	...	...	...	...	14	76	...
...	1	...	...	...	...	...	1	83	...
...	4	...	...	...	...	...	1	248	...
...	802	...	...	...	...	...	25	451	...
...	1626	157	10,000	...	...	...	23	1000	...
...	97	...	...	...	...	...	5	227	...
15	90	81	2500	...	...	...	3	302	...
43	23	...	...	...	...	...	11	187	...
...	14	16	...	...	...	...	30	1486	...
...	31	15	...	...	...	...	37	89	...
4	25	...	...	...	...	17	169	...
...	28	...	7	...	...	...	4	88	...
...	5	16	...	...	...	...	4	378	...
2	3221	68	...	...	...	...	113	1899	...
...	30	90	...	...	...	...	49	1217	...
...
...	6	...	...	...	...	...	69	375	...
12	6683	10	...	...	...	...	24	890	...
...	682	50	...	...	...	...	50	...
5	12	17	...	...	...	...	50	322	...
...	1	5	...
...	40	...	...	...	...	...	18	67	...
437	500	74	...	...	...	...	36	868	...
3	16	316	...
...	4	...	...	...	...	71	656	...
...	2	187	...
...	1	...	...	...	...	...	3	10	...
...	200	...	...	...	...	...	...	152	...
...	3	2	...	...	...	...	12	237	...
...	1	...	...	...	...	...	5	8	...
...
...	10	22	8	...	...	...	15	220	...
721	26	1398	307,286	11,121	18,177	2	...	...	772	17,278	1

	Pine Siskin	American Goldfinch	Carduelis, sp.	Evening Grosbeak	House Sparrow	Total number of species	Total number of individuals
1. Chincoteague	...	113	...	...	106	136	192,807
2. Wachapreague	...	219	...	13	31	131	28,090
3. Cape Charles	10	300	...	10	111	161	228,825
4. Little Creek	...	97	...	4	168	150	82,627
5. Back Bay	100	265	...	...	209	150	37,117
6. Dismal Swamp	19	179	...	CW	43	90	23,517
7. Newport News	...	50	30	...	238	122	31,557
8. Mathews	...	279	...	...	78	108	20,816
9. Williamsburg	...	127	...	1	44	110	16,428
10. Hopewell	...	160	...	2	13	92	32,140
11. Walkerton	...	4	...	...	11	64	2181
12. Wash. Birthplace	...	84	...	...	...	87	29,414
13. Brooke	...	260	...	...	51	87	21,881
14. Fort Belvoir	38	765	...	27	400	115	52,051
15. Manassas-B.R.	...	160	...	...	98	71	28,209
16. Nokesville	1	170	...	3	447	94	53,294
17. Chancellorsville	...	21	...	5	63	75	3439
18. Lake Anna	...	12	...	12	41	81	2677
19. Gordonsville	...	10	...	32	5	65	5483
20. Charlottesville	22	158	...	19	23	81	10,471
21. Warren	...	87	...	1	22	79	28,497
22. Darlington Heights	...	81	...	4	11	70	4300
23. Kerr Reservoir	...	234	...	5	218	100	14,122
24. Banister WMA	...	56	...	14	74	88	4795
25. Lynchburg	11	327	...	4	101	80	12,478
26. Danville	...	85	...	...	50	63	3968
27. Martinsville	10	137	...	32	44	70	4537
28. Philpott Res.	...	106	...	44	51	64	10,586
29. Calmes Neck	...	487	...	3	324	84	23,636
30. N. Shen. Valley	10	439	...	5	341	94	56,382
31. Shen. NP-Luray	...	232	...	94	117	81	26,272
32. Big Flat Mtn.	...	2	...	2	...	36	616
33. Rockingham Co.	1	100	...	8	281	68	9086
34. Augusta Co.	15	137	...	5	339	72	28,482
35. Waynesboro	14	87	...	1	187	66	4858
36. Lexington	21	91	...	38	30	70	14,009
37. Peaks of Otter	...	2	...	...	...	38	681
38. Clifton Forge	13	69	...	39	138	57	2549
39. Fincastle	...	167	...	43	30	75	10,108
40. Roanoke	11	196	...	...	26	77	9565
41. Blacksburg	2	198	...	50	540	78	11,288
42. Claytor Lake	...	31	...	34	41	69	10,100
43. Tazewell	16	42	...	1	61	50	1452
44. Glade Spring	...	256	...	CW	184	60	3835
45. Bristol	...	126	...	13	79	83	8081
46. Nickelsville	...	74	...	4	18	47	2051
47. Breaks I.S. Park	...	5	...	...	...	23	179
48. Wise County	4	178	...	CW	106	59	4055
Total individuals	318	7465	30	572	5593	201	1,213,592

(See explanation of symbols for water conditions and weather on page 72.)

Date	Time in field (a.m. to p.m.)	Water/snow conditions	Inches of snow on the ground	Skies (a.m.)	Skies (p.m.)
29 Dec	0745-1730	SWF, MPO	2-5	SNO	CLD, FOG, LGS
18 Dec	0645-1715	WOP	...	CLR	CLD
30 Dec	0500-1730	SPF, MWO	0.5-1	CLR	CLR
31 Dec	0545-1800	WFZ	...	CLR	CLR
29 Dec	0500-1730	WPF	...	LRS, SLE	LRS, SLE
2 Jan	0630-1750	SPF, MWO	...	CLD, FOG	CLR
18 Dec	0500-1715	WOP	...	CLD	CLD
2 Jan	0430-1715	SPF, MWO	1	PCR	PCR
19 Dec	0500-1700	WOP	...	CLR	CLR
19 Dec	0500-1745	WOP	...	CLD	PCD
31 Dec	0715-1700	SWF, MPF	5	CLR	CLR
18 Dec	0500-1700	WOP	...	CLD	CLD, LGR
20 Dec	0630-1700	SPF, MWO	...	CLR	PCD
2 Jan	0500-1730	SWF, MPF	2-3	PCD	PCD
1 Jan	0800-1700	SWF, MPO	...	PCD	CLD
19 Dec	0400-1730	WOP	...	PCD	CLR
2 Jan	0630-1730	WPF	2	CLR	CLD
2 Jan	0700-2100	SPF, MWO	1-3	CLR	CLD
19 Dec	0700-1700	SPF, MWO	...	CLR	CLR
19 Dec	0630-1730	WOP	...	CLR	CLR
2 Jan	0445-1730	SPF, MWO	0-2	CLR	PCR
2 Jan	0600-1630	SWF, MPF	...	FOG, PCR	CLR
19 Dec	0500-1800	WOP	...	PCD	CLR
19 Dec	0700-1730	WOP	...	CLR	PCD
18 Dec	0530-1700	WOP	...	PCD	RAI
18 Dec	0530-1700	WOP	...	CLD	HVR
1 Jan	0330-1700	SPF, MWO	0-2	PCD	CLD
2 Jan	0600-1730	SWF, MWO, DLO	4	PCD	PCD
2 Jan	0500-1730	SWF, MPF	2	CLD	CLD
18 Dec	0400-1800	WOP	...	PCD	PCD
19 Dec	0530-1730	WOP	...	PCR	PCR
26 Dec	0630-1645	WOP	1-4	CLR	PCR
18 Dec	0800-1700	WOP	...	PCD	PCD
18 Dec	0545-1700	SPF, MWO	...	PCD	PCD
30 Dec	0720-1700	SWF, MPF	2-5	CLR	CLR
26 Dec	0530-1630	SPO, MPF	3	CLR	PCD
28 Dec	0600-1400	SWF, MPO	4	CLD	CLD, RAI
18 Dec	0800-1700	WOP	...	CLD, FOG	PCR
19 Dec	0530-1630	WOP	...	PCR	PCR
18 Dec	0500-1600	WOP	...	PCD, FOG, LHR	PCD, FOG, LHR
18 Dec	0245-1730	WOP	...	CLD, FOG, LGR	PCD, LGR
27 Dec	0700-1730	SMF, MWO, DLO	0-2	PCD	MCR
30 Dec	0700-1700	SWF, MWO	...	CLR	PCR
18 Dec	0600-1730	WOP	...	CLD, LGR	CLD, FOG, LGR
26 Dec	0700-1700	WPF	...	CLD	CLR
19 Dec	0730-1530	SWF, MPF	...	CLD	PCD
18 Dec	0700-1500	WOP	...	PCD, FOG, RAI	CLD, LGR
18 Dec	0600-1730	WOP	...	PCD, LGR	CLD, LGR

	Temperatures (° Fahrenheit)	Wind direction	Wind speed (miles/hour)	Number of field observers	Number of field parties (non-owling)	Number of feeder observers	Number of hours at feeders
1. Chincoteague	24-33	W	3-6	17	11	...	...
2. Wachapreague	27-50	S	5-10	16	112	...	...
3. Cape Charles	22-30	NW	15-30	30	9-23	...	...
4. Little Creek	16-38	SW	0-15	26	11-16	...	...
5. Back Bay	29-38	NE-NW	5-12	27	10-19	...	...
6. Dismal Swamp	43-54	SW	5-10	20	7-10	...	...
7. Newport News	27-50	calm	...	39	13	...	...
8. Mathews	36-49	SW-NW	0-10	39	11	2	0.50
9. Williamsburg	40-50	NW	10-15	15	9	1	7.00
10. Hopewell	31-52	W	0-21	27	9-14	...	...
11. Walkerton	17-42	SW	0-5	4	1	...	...
12. Wash. Birthplace	32-50	SW	0-10	18	5-8	1	4.00
13. Brooke	26-43	SW	0-10	21	9-11	...	...
14. Fort Belvoir	30-45	calm	...	83	29	3	16.00
15. Manassas-B.R.	30-40	cam	...	29	6-9	...	...
16. Nokesville	40-48	NW	5-15	42	16	1	1.00
17. Chancellorsville	32-45	W	0-15	12	4	...	...
18. Lake Anna	26-47	WNW	5-10	7	3	...	...
19. Gordonsville	35-56	W-NW	5-12	15	6	...	...
20. Charlottesville	32-50	W	0-15	16	16-17	...	...
21. Warren	30-51	E	0-10	18	12	...	...
22. Darlington Heights	32-56	SW	0-10	16	5	1	0.50
23. Kerr Reservoir	32-52	NW	0-15	16	8-9	...	...
24. Banister WMA	28-42	NW	0-5	8	6	...	...
25. Lynchburg	32-43	SW	0-10	45	15-22	5	21.00
26. Danville	40-50	calm	...	9	6	1	8.00
27. Martinsville	20-40	N	0-10	6	3	4	4.00
28. Philpott Res.	36-52	W	0-8	12	5-6	2	2.00
29. Calmes Neck	32-46	NW	0-5	40	19	...	...
30. N. Shen. Valley	33-48	S	0-10	49	20	...	...
31. Shen. NP-Luray	30-45	NW	0-15	40	20	5	13.00
32. Big Flat Mtn.	18-30	NW	10-30	2	2	...	...
33. Rockingham Co.	32-46	NW	0-5	25	6-8	...	...
34. Augusta Co.	30-47	W-SW	0-10	34	12	2	11.50
35. Waynesboro	10-29	W-NW	10-30	14	7	...	...
36. Lexington	14-31	WNW	5-25	11	7	2	2.00
37. Peaks of Otter	29-34	calm	...	6	3	...	...
38. Clifton Forge	33-37	E	0-5	7	7	2	6.00
39. Fincastle	35-46	NW	15	23	12	...	...
40. Roanoke	31-51	W	2	24	13	2	4.00
41. Blacksburg	37-43	W	0-15	30	15	20	30.25
42. Claytor Lake	22-39	SE	10	12	4	...	...
43. Tazewell	9-19	W	6-10	7	4	3	9.00
44. Glade Spring	36-44	E	5	10	5	...	...
45. Bristol	15-43	W	5-30	20	6	...	...
46. Nickelsville	28-44	calm	...	4	2	...	...
47. Breaks I.S. Park	37-46	W	1-5	1	1	...	...
48. Wise County	38-52	NW	10-20	20	9	5	24.00
Totals	...	...	...	1012	431-487	62	163.75

Hours owling	Miles owling	Hours on foot	Hours by car	Hours by boat/canoe	Total hours (excludes owling and feeder hours)	Miles on foot	Miles by car	Miles by boat/canoe	Total miles (excludes owling miles)
...	...	52.00	21.00	...	73.00	35.00	150.00	...	185.00
1.50	3.00	49.00	35.00	7.00	91.00	38.00	302.00	10.00	350.00
3.50	20.00	96.75	36.25	3.00	136.00	89.50	236.00	10.00	335.50
4.00	13.00	83.00	36.00	...	119.00	51.00	461.00	...	512.00
5.00	22.00	95.00	33.00	3.00	131.00	55.00	328.00	12.00	395.00
...	...	37.50	28.50	...	66.00	28.00	160.00	...	188.00
2.50	20.00	56.00	50.00	...	106.00	44.00	444.00	...	488.00
7.25	34.50	40.00	49.75	...	89.75	43.75	352.00	...	395.75
3.00	12.00	38.50	37.25	...	75.75	25.50	275.50	...	301.00
2.50	21.00	64.50	32.00	3.00	99.50	48.50	3221.00	18.00	387.50
2.00	0.25	6.25	3.50	...	9.75	3.25	57.00	...	60.25
3.50	13.00	23.25	23.50	3.00	49.75	13.50	186.00	42.00	241.50
0.50	1.00	58.00	31.00	...	89.00	46.00	208.00	...	254.00
14.50	72.50	179.50	35.00	...	214.50	147.00	345.00	...	492.00
3.50	4.00	21.00	26.00	...	47.00	41.00	335.00	...	376.00
6.50	52.00	62.75	57.00	...	119.75	64.50	548.00	...	612.50
1.50	9.00	19.00	15.25	...	34.25	15.00	176.00	...	291.00
1.00	5.00	6.50	19.25	...	25.75	3.00	224.00	...	227.00
3.00	10.00	17.00	33.00	...	50.00	18.50	347.00	...	365.50
1.00	2.50	75.00	13.50	6.50	95.00	73.00	140.00	5.00	218.00
4.75	33.00	69.00	16.25	...	85.25	61.50	149.00	...	210.50
1.00	12.00	18.50	24.50	...	43.00	16.50	314.00	...	330.50
3.00	15.00	20.00	50.00	...	70.00	12.50	472.50	...	485.00
2.00	6.00	21.00	21.50	...	42.50	19.50	187.00	...	206.50
11.00	62.00	54.00	56.00	...	110.00	40.00	448.00	...	488.00
2.00	4.00	12.50	35.00	...	47.50	24.00	215.50	...	239.50
3.00	45.00	3.00	21.00	...	24.00	3.00	278.00	...	281.00
1.00	6.00	11.50	26.25	...	37.75	10.00	234.00	...	244.00
5.75	23.50	82.00	84.75	...	166.75	74.25	674.75	...	749.00
9.00	28.50	79.50	105.00	12.50	197.00	76.00	1020.50	15.00	1111.50
5.00	9.00	72.75	74.75	5.00	152.50	110.00	711.00	5.00	826.00
0.50	0.50	17.00	...	...	17.00	26.00	...	...	26.00
1.00	2.50	17.25	40.25	...	57.50	21.50	292.50	...	314.00
2.00	20.00	24.50	64.00	...	88.50	18.25	558.25	...	576.50
...	...	22.50	26.50	...	49.00	17.25	318.50	...	335.75
0.50	12.00	26.00	7.50	...	33.5	26.00	111.00	...	137.00
1.00	1.00	14.00	3.00	...	15.00	8.00	9.00	...	17.00
...	...	30.00	18.50	...	48.50	25.00	205.00	...	230.00
2.00	10.00	41.00	23.00	...	64.00	30.00	74.00	...	104.00
7.00	12.00	48.00	34.00	3.00	82.00	31.00	332.00	5.00	363.00
4.25	20.00	64.75	35.00	...	99.75	69.75	250.75	...	320.50
...	...	13.25	20.25	...	33.50	16.00	230.00	...	246.00
...	...	3.00	28.00	...	31.00	2.00	147.00	...	149.00
2.00	1.00	11.00	26.00	...	37.00	14.50	280.00	...	294.50
3.00	10.00	27.00	28.00	...	55.00	16.00	466.00	...	482.00
...	...	...	7.00	...	7.00	...	129.00	...	129.00
...	...	3.50	4.50	...	8.00	3.00	44.00	...	47.00
3.00	33.00	32.00	29.00	...	61.00	36.00	356.00	...	392.00
140.00	680.75	1919.00	1525.25	46.00	3485.25	1690.50	17,002.80	122.00	16,010.75

9 in four, 1 in five, and 2 in six counts. Those numbers are fairly consistent with figures from the previous two or three years. The total number of participants statewide does not increase as much as might be expected, even though more counts are being conducted than ever before. This is probably due to the fact that many people take part in multiple counts. When a new count is established many of the dedicated birders simply arrange their days to attend the new, as well as the long-standing counts.

Weather conditions were generally more severe in 1993 than had been experienced in previous years. More than half the counts reported frozen water to one degree or another. Snow was on the ground in depths of 0.5 to 5.0 inches in 16 areas. Precipitation in the form of snow or rain were reported on eleven counts. Fog was present on seven counts and was especially prevalent in the Mountains and Valleys region. Table 2 explains the abbreviations used on page 68 in Table 1 to describe weather and water conditions experienced during the counts.

COUNT HIGHLIGHTS

For the past several years, research has revealed huge rafts of Common Loons (*Gavia immer*) commonly wintering off the shore of the Chesapeake Bay. This year's conditions during the count period were ideal for observing this phenomenon. From the shoreline of the Mathews County, more Common Loons were seen on that count (904) this year than were counted state-wide in previous years except in 1985 when 997 individuals were reported from 11 counts. This year's tally of 1407 birds far exceeds any previous CBC state-wide total.

After two years of phenomenally high counts of Pied-billed Grebe (*Podilymbus podiceps*) at Brooke, numbers slipped back to normal with only 13 found, compared to last year's 289. Tazewell recorded its first Pied-billed since 1979. Four counts tallied

TABLE 2. *Explanation of abbreviations used in the table on page 66.*

Abbreviations used to describe weather conditions		Abbreviations used to describe water conditions	
CLD	= cloudy	DLO	= deep lake open
CLR	= clear	MPF	= moving water partly frozen
FOG	= foggy	MPO	= moving water partly open
HVR	= heavy rain	MWO	= moving water open
LGR	= light rain	SPF	= still water partly frozen
LGS	= light snow	SPO	= still water partly open
LHR	= light/heavy rain	SMF	= still water mostly frozen
LRS	= light rain/snow	SWF	= still water frozen
MCR	= mostly clear	WPF	= water partly frozen
PCD	= partly cloudy	WOP	= water open
PCR	= partly clear	WFZ	= water frozen
RAI	= rain		
SLE	= sleet		
SNO	= snow		

all-time high counts of Double-crested Cormorant and the combine state total of 5351 was a record.

There was a smattering of unusual ducks. A Blue-winged Teal (*Anas discors*) appeared for the first time on the Bristol count. The state total of 2225 Northern Shovelers (*Anas clypeata*) was an all-time high with Chincoteague and Little Creek recording very high numbers. The two birds that showed up at Calmes Neck were a first for that count. Gadwall (*Anas strepera*) numbers were a good deal higher than normal for recent years, but in spite of Cape Charles, Little Creek, Back Bay, and Lynchburg reporting all-time highs, the state total of birds no where near approaches the all-time high of 12,324 set in 1974. The total of 900 Ring-necked Ducks (*Aythya collaris*) at Brooke far exceeded the previous all-time high of 250 found there in 1963.

Both a Common (*Somateria mollissima*) and a King Eider (*S. spectabilis*) were found at Little Creek where both species occur quite regularly during the winter months, but the Harlequin Duck (*Histrionicus*) present during count week at Lake Anna was a first record for the Piedmont region. This record will be sent to the records committee for evaluation. A photograph of the bird was obtained and will be included with the documentation to be reviewed. Hooded Merganser (*Lophodytes cucullatus*) numbers continued to climb with a state all-time high of 3030 individuals.

For the eighth straight year Ospreys (*Pandion haliaetus*) have appeared Little Creek, the six at Little Creek this year represented the most ever for that count and the state. Two Rough-legged Hawks (*Buteo lagopus*) were new for Darlington Heights, and a Merlin at Claytor Lake was the first-ever sighting for that count.

A Ring-necked Pheasant (*Phasianus colchicus*) was found at Back Bay, but one must wonder about the origins of the bird. And speaking of this species, for all intents and purposes, it would seem that the Japanese Green Pheasant (a sub-species of the Ring-neck) has been wiped out from its stronghold on the Eastern Shore. It has not been recorded on any of the shore counts in the past eight years. Wild Turkeys (*Meleagris gallopavo*), however, continue to increase with five areas reporting all-time high counts of this species.

Killdeer (*Charadrius vociferus*) numbers were way up with Cape Charles, Little Creek and Back Bay reporting record numbers, boosting the state total to 2685. The American Avocet (*Recurvirostra americana*) at Williamsburg was the first reported on any count since 1981. The Dunlin (*Calidris alpina*) at the Kerr Reservoir was a first for that count, and a Spotted Sandpiper (*Actitis macularia*) was new for both Mathews and Rockingham County. Red Knot (*Calidris canutus*) numbers were the highest state-wide since 1983 with 23 of the total 25 individuals found at Wachapreague. Pectoral Sandpiper (*Calidris melanotos*) was reported at Cape Charles during count week, but none could be found on count day.

American Woodcocks (*Scolopax minor*) seemed to be everywhere this year. Cape Charles reported an incredible 570 individuals, perhaps an all-time high count nationally. At least eight other counts throughout Virginia reported all-time highs, including several in the Mountains and Valleys region where they are usually scarce.

Little Creek and Back Bay seemed to corner the market on unusual gulls in 1993, both reporting an Iceland (*Larus glaucooides*) and a Glaucous (*L. hyperboreus*) gulls. Back Bay's fourth CBC record of a Common Black-headed Gull (*L. ridibundus*) was the only one found in the state, while Nokesville reported its second CBC Iceland Gull. The only unusual tern was a Forster's (*Sterna forsteri*) at Fort Belvoir, a first for that count. Three unidentified alcids at Little Creek were cause for interesting speculation on just what species they might be.

Twenty-six Great Horned Owls (*Bubo virginianus*) at Warren far exceeded any previous tally of that species on the Warren count and two Barred Owls (*Strix varia*) were somewhat unusual at Peaks of Otter.

A hummingbird at Clifton Forge was a first for that area, but no details were submitted, leaving one to ponder which species it might have been. Almost all winter reports of hummingbirds in the Mountains and Valleys region in the past few years have been of the genus, *Selasphorus*, and it is probable that the Clifton Forge bird fell into that category.

Two swallows appearing along the New River on the Blacksburg count were thought to be Northern Rough-wingeds (*Stelgidopteryx serripennis*), but given the extreme rarity of this species in the winter, it was felt there were not enough details given to support identification any more specific than swallow, sp.

Nineteen counts reported a total of 2765 American Pipits (*Anthus rubescens*), the most since 1985. Cape Charles, Little Creek, Back Bay, Mathews, Hopewell, Northern Shenandoah Valley, and Bristol all found this species in numbers higher than usual.

The alarming event of the 1993 CBC season was the precipitous drop in Loggerhead Shrike (*Lanius ludovicianus*) numbers for the second year in a row. This year's state total of 33 found on 15 of the 48 counts was the lowest number reported since 1952 when 9 of 21 counts recorded 25 shrikes. Together with last year's low count of 47, this sudden two-year plunge in bears watching.

As happens every year, a few vireos, warblers, and sparrows showed up in various locations around the state. A White-eyed Vireo (*Vireo griseus*) at Chancellorsville was highly unusual. After last year's unprecedented total of 30 Solitary Vireos (*V. solitarius*) found statewide, numbers of this species dropped back to normal levels in 1993 with only 10 appearing on four counts.

A Yellow-throated Warbler (*Dendroica dominica*) was a first-ever sighting on the Fort Belvoir CBC, and a Prairie Warbler (*Dendroica discolor*) was the fourth CBC record for Chincoteague.

A rather well-described Summer Tanager (*Piranga rubra*) was reported from Nokesville, but that record will have to pass through Records Committee before evaluation to decide if it can be officially listed. If accepted, it would be only the second winter sighting of this species in the state. Winter records of Blue Grosbeaks (*Guiraca caerulea*) are almost as rare as tanagers and the one found at Charlottesville will also need to be evaluated. A little less rare were Dickcissels on the Augusta County CBC, but the high count of four individuals is the most ever found in a single year. Even though Common Redpolls (*Carduelis flammea*) were unusually prevalent in Virginia

during much of the 1993-94 winter months, the only one found was single bird on the Cape Charles count.

Five American Tree Sparrows (*Spizella arborea*) were a second record for Darlington Heights. Three Lincoln's Sparrows (*Melospiza lincolni*) were a first-time ever occurrence on the Roanoke count. For the third year in a row Le Conte's Sparrow (*Ammodramus leconteii*) was discovered at Back Bay, but the six individuals tallied were the most ever found on a Virginia Christmas count. They probably occur more regularly in southeastern Virginia during the winter than records indicate. It is likely that more will turn up as birders become more adept at locating their wintering habitats. The 61 Sharp-tailed Sparrows (*A. caudacutus*) at Wachapreague almost quadrupled that count's previous all-time high, and the 236 Fox Sparrows (*Passerella iliaca*) were the most found at Cape Charles since 1970.

Birders at Danville struck a bonanza when they found 25 Lapland Longspurs (*Calcarius lapponicus*) in the grassy areas along the runway of the municipal airport. The birds were so cooperative that other observers found the birds a few days later to confirm the sightings.

Common Grackle (*Quiscalus quiscula*) numbers were up considerably, due mostly to the influx of thousands on Eastern Shore during the Cape Charles and Chincoteague counts. Overall totals, however, do not begin to approach those of years past when millions of grackles were counted every year in the southeastern section of the state.

There are always some species usually found somewhere in the state that are completely missed during a count period. This year's notable absentees were:

Red-necked Grebe (*Podiceps grisegena*), Eared Grebe (*Podiceps nigricollis*), Cattle Egret (*Bubulcus ibis*), Eurasian Wigeon (*Anas penelope*), Golden Eagle (*Aquila chrysaetos*), Piping Plover (*Charadrius melodus*), Royal Tern (*Sterna maxima*), Blue-gray Gnatcatcher (*Polioptila caerulea*), Black-and-white Warbler (*Mniotilta varia*), Yellow-breasted Chat (*Icteria virens*), and Red Crossbill (*Loxia curvirostra*).

Special note should be made of Piping Plovers. In the 1970s, this species appeared on the Eastern Shore counts every year. Sometimes over 15 were found. In the 1980, they became more sporadic, turning up only four years of that decade. In the 1990s the picture is even more dismal. So far, only two individuals have been recorded at Cape Charles, those in 1990. Let's hope the vigorous efforts to protect this bird's breeding habitat are successful and a turn-around in numbers will be realized in the near future.



CHRISTMAS COUNT DESCRIPTIONS

(Observers are listed for Darlington Heights, Lynchburg, Claytor Lake, Bristol, and Nickelsville—counts which do not appear in *American Birds*.)

1. CHINCOTEAGUE NATIONAL WILDLIFE REFUGE. 37°58'N 75°22'W
Center: 2 miles north of center of Chincoteague in Accomack County.
Compiler: Teta Kain (7083 Caffee Creek Lane, Gloucester VA 23061)
2. WACHAPREAGUE. 37°40'N 75°42'W
Center: Jct. 789 and 715 in Accomack County.
Compiler: Irvin Ailes (6479 Myrtle Lane, Chincoteague VA 23336)
3. CAPE CHARLES. 37°12'N 75°56'W
Center: 1.5 miles southeast of Capeville Post Office in Northampton County.
Compiler: Henry Armistead (523 E. Durham St., Philadelphia PA 19119)
4. LITTLE CREEK. 36°51'N 76°06'W
Center: 3.8 miles northeast of Kempsville in Virginia Beach.
Compiler: Paul Sykes, Jr. (1080 Forest Rd., Watkinsville GA 30677)
5. BACK BAY NATIONAL WILDLIFE REFUGE. 36°39'N 76°00'W
Center: 1.5 miles east of Back Bay NWR.
Compiler: Paul Sykes, Jr. (1080 Forest Rd., Watkinsville GA 30677)
6. DISMAL SWAMP. 36°40'N 76°29'W
Center: Jct. of Middle and Jericho Ditches in Great Dismal Swamp NWR.
Compilers: Don Schwab (1411 Planters Dr., Suffolk, VA 23434) and
Tom M. Gwynn, III (1640 Morris Ave., Norfolk, VA 23509)
7. NEWPORT NEWS. 37°05'N 76°25'W
Center: Northern corner of Magruder & Cmdr. Shepard Blvds in Hampton.
Compiler: Teta Kain (7083 Caffee Creek Lane, Gloucester VA 23061)
8. MATHEWS. 37°25'N 76°18'W
Center: 0.5 mile east of Beaverlett Post Office in Mathews County.
Compiler: Mary Pulley (HCR 75, Box 356, Hudgins, VA 23076)
9. WILLIAMSBURG. 37°17'N 76°42'W
Center: Colonial Williamsburg Information Center in Williamsburg.
Compiler: Lee Schuster (209 Cherwell Court, Williamsburg, VA 23188)
10. HOPEWELL. 37°23'N 77°17'W
Center: Curles Neck in Henrico County.
Compiler: Larry Robinson (3320 Landria Dr., Richmond VA 23225)
11. WALKERTON. 37°46'N 77°02'W
Center: Jct. 633 and 634 in King and Queen County.
Compiler: Rob Breeding (Rt. 1, Box 820, Hanover, VA 23069)
12. WASHINGTON'S BIRTHPLACE. 38°07'N 76°57'W
Center: Horners in Westmoreland County.
Compiler: Bill Portlock (23195 Mt. Cloud Rd., Bowling Green VA 22427)

13. BROOKE. 38°22'N 77°20'W
Center: At center road 3 miles east southeast of Brooke in Stafford County.
Compiler: David Stewart (10715 Midsummer Dr., Reston VA 22091)
14. FORT BELVOIR. 38°41'N 77°12'W
Center: Pohick Church at Colechester Rd. and Jefferson Davis Hwy. in eastern Fairfax County
Compiler: David F. Abbott (43579 Plantation Terr., Ashburn, VA 22011)
15. MANASSAS-BULL RUN. 38°50'N 77°26'W
Center: Centreville in western Fairfax County.
Compiler: Steven Edwards (1335 Calvin Forest Dr., Vienna VA 22182)
16. NOKESVILLE. 38°37'N 77°33'W
Center: Fleetwood Dr. (Rt. 611) at Cedar Run in Prince William County.
Compiler: Ken Bass (12604 Valley View Dr., Nokesville VA 22123)
17. CHANCELLORSVILLE 38°16'N 77°40'W
Center: Chancellorsville Battlefield, 10 miles west of Fredericksburg in Spotsylvania County.
Compiler: John Perez (National Park Service, 120 Chatham Ln., Fredericksburg, VA 22405)
18. LAKE ANNA. 38°05'N 77°49'W
Center: Center of bridge over Lake Anna on SR 208 at the Spotsylvania-Louisa county-line.
Compiler: Michael R. Boatwright (307 Sugar Mill Dr., Amherst VA 24521)
19. GORDONSVILLE. 38°09'N 78°12'W
Center: Jct. of US 15 & 33 north of the town of Gordonsville in Orange County.
Compiler: T. G. Scott, Jr. (12493 Spicewood Rd., Orange, VA 22960)
20. CHARLOTTESVILLE. 38°04'N 78°34'W
Center: Near Ivy in Albemarle County.
Compiler: Charles Stevens (615 Preston Pl., Charlottesville VA 22903)
21. WARREN. 37°51'N 78°33'W
Center: At Keene Albemarle County.
Compiler: Charles Stevens (615 Preston Pl., Charlottesville, VA 22903)
22. DARLINGTON HEIGHTS. 37°12'N 78°37'W
Center: Darlington Heights Post Office in Prince Edward County.
Compiler: Carolyn Wells (204 Fayette St., Farmville, VA 23901)
Observers: Vera Copple, John Dalmas, Thelma Dalmas, Dale Hodges, Jane Holman, Teresa Hunt, Jane Jobe, Judy McCann, Bill Pollari, Cathy Pollari, John Rice, Robin Schmitz, David Spears, Randy Thrasher, Sue Thrasher, and Carolyn Wells.
23. JOHN H. KERR RESERVOIR. 36°36'N 78°18'W
Center: East end of John H. Kerr Dam in Mecklenburg County.
Compiler: Brian Patteson (PO Box 1135, Amherst, VA 24521)

24. BANISTER RIVER WILDLIFE MANAGEMENT AREAS. 36°43'N 78°48'W
Center: At Banister River Wildlife Management Areas in Halifax County.
Compiler: Jeffrey Blalock (103 Elizabeth Court, South Boston VA 24592)
25. LYNCHBURG. 37°24'N 79°11'W
Center: Lynchburg College in Lynchburg.
Compiler: John Dalmas (502 Rainbow Forest Dr., Lynchburg VA 24502)
Observers: Mike Boatwright, Glenn Buck, Glenn Burroughs, Ed Calvert, John Dalmas, Thelma Dalmas, Virginia Delaney, Betty Epperson, Robert Epperson, Bob Eubank, Charles Hansrote, Melva Hansrote, Teri Hatcher, Mike Hayslett, Cindy Hurt, Victor Kehrer, Cindy Lane, Gail McCormack, Jenna McCrary, Melvin Mitchell, James H. Montague, Mrs. James H. Montague, Gene Moore, Myriam Moore, Wyatt Murphy, Vicki Oblinger, Brian Patteson, Myrna Patteson, Carol Peters, Keith Peters, Taylor Piephoff, Claudia Puckette, Dan Puckette, Dick Ricketts, Joan Ricketts, Norma Jean Rist, James Scranton, Barbara Shedd, Doug Shedd, Macon Smith, Marek Smith, Susan Stanton, Ed Theisinger, Randy Thrasher, Sue Thrasher, Judy Walker, Mac Williamson, Susan Wingfield, Jo Wood, and Bill Woods.
26. DANVILLE. 36°34'N 79°25'W
Center: Ballou Park in Danville.
Compiler: Russell C. Brachman (139 Pendleton Rd., Danville VA 24541)
27. MARTINSVILLE. 36°44'N 79°49'W
Center: South end of dam at Martinsville Reservoir #2 in Henry County.
Compiler: James S. Beard (401 Hairston St., Martinsville, VA 24112)
28. PHILPOTT RESERVOIR. 36°53'N 80°03'W
Center: Near intersection Rts. 605 and 623 in Franklin County.
Compiler: Clyde Kessler (PO Box 3612, Radford VA 24143)
29. CALMES NECK. 39°07'N 77°54'W
Center: Castleman's Ferry Bridge, SR 7 and the Shenandoah River in Clarke County.
Compiler: Frances Endicott (Rt. 1, Box 448, Bluemont, VA 22012)
30. NORTHERN SHENANDOAH VALLEY. 39°03'N 78°10'W
Center: Jct. Crooked Run and Rt. 606 in Frederick County.
Compiler: Rob Simpson (Rt. 1, Box 154-B, Stephens City, VA 22655)
31. SHENANDOAH NATIONAL PARK—LURAY. 38°35'N 78°28'W
Center: Hershberger Hill near Stanley in Page County.
Compiler: Marsha McCabe (Rt. 4, Box 348, Luray, VA 22835)
32. BIG FLAT MOUNTAIN. 38°11'N 78°43'W
Center: On Pasture Fence Mountain in Albemarle County.
Compiler: Charles Stevens (615 Preston Pl., Charlottesville, VA 22903)

33. ROCKINGHAM COUNTY. 38°26'N 79°02'W
Center: Ottobine in Rockingham County.
Compiler: Max Carpenter (Rt. 1, Box 396, Dayton VA 22821)
34. AUGUSTA COUNTY. 38°12'N 78°59'W
Center: Jct. CR 780 and 781 in Augusta County.
Compiler: John Mehner (Mary Baldwin College, Staunton VA 24401)
35. WAYNESBORO. 37°59'N 78°57'W
Center: Sherando at jct. of Rts. 610 and 664 in Augusta County.
Compiler: Crista Cabe (400 Walnut Ave., #2, Waynesboro, VA 22980)
36. LEXINGTON. 37°51'N 79°29'W
Center: Big Spring Pond in Rockbridge County.
Compilers: Robert O. Paxton (460 Riverside Dr., #72, New York NY 10027)
and George Tolley (Rt. 7, Box 25, Lexington, VA 24450)
37. PEAKS OF OTTER. 37°27'N 79°36'W
Center: Peaks of Otter Visitor Center in Bedford County.
Compiler: Barry Kinzie (PO Box 446, Troutville VA 24175)
38. CLIFTON FORGE. 37°49'N 79°46'W
Center: Jct. Rts. 42 and 60 in Alleghany County.
Compiler: Allen LeHew (76 Allegeny, Clifton Forge VA 24422)
39. FINCASTLE. 37°31'N 79°52'W
Center: North of Fincastle near jct. of Rts. 220 and 679 in Botetourt County.
Compiler: Barry Kinzie (PO Box 446, Troutville VA 24175)
40. ROANOKE 37°18'N 79°56'W
Center: Oakland Blvd. and Williamson Road in Roanoke.
Compilers: Peggy Spiegel (303 Market St., Roanoke VA 24011) and
Michael Donahue (4814 Bandy Rd. SE, Apt. 4, Roanoke VA 24014)
41. BLACKSBURG. 37°14'N 80°25'W
Center: Jct. Rts. 685 and 657 near Linkous Store in Montgomery County.
Compiler: Clyde Kessler (PO Box 3612, Radford VA 24143)
42. CLAYTOR LAKE 37°03'N 80°44'W
Center: Jct. Rt. 611 and Norfolk & Southern Railroad in Pulaski County.
Compiler: Clyde Kessler, (PO Box 3612, Radford VA 24143)
Observers: Robert Abraham, Mary Ann Bentley, Stan Bentley, Kelly Brennan,
Ken Cooper, Alan Kessler, Clyde Kessler, Linda Myers, Betsy Palmer,
Mary Ratliff, Shane Ratliff, Curt Roane.
43. TAZEWELL. 37°08'N 81°30'W
Center: Fourway in Tazewell County.
Compiler: Sarah Cromer (Box 765, North Tazewell VA 24630)
44. GLADE SPRING. 36°47'N 81°47'W
Center: Jct. Rts. 750 and 609 in Glade Spring.
Compiler: Steven L. Hopp (Box ii, Emory VA 24327)

45. BRISTOL. 36°36'N 82°07'W

Center: Jct. Rts. 647 and 654, east of Bristol TN in Washington County, VA.

Compiler: Richard P. Lewis (407 V. I. Ranch Road, Bristol, TN 37620)

Observers: Wallace Coffey, Jane Fleenor, Pat Galliher, Bert Hale, Ken Hale, Loraine Hale, Ron Harrington, Lloyd Jones, Rick Knight, Jeff Larson, Tom Laughlin, Phillip Lewis, Richard Lewis, Larry McDaniel, Rick Phillips, Karen Quesenberry, Bob Quillen, Steve Tester, Jimmy Watkins, Ramsey White.

46. NICKELSVILLE. 36°45'N 82°25'W

Center: Nickelsville in Scott County.

Compiler: Betsy McConnell (PO Box 293, Coeburn VA 24230)

Observers: Betsy McConnell, Charles Stallard, Claudia Stallard, Lisa Stallard.

47. BREAKS INTERSTATE PARK. 37°15'N 82°13'W

Center: 4.5 miles n.e. of Haysi in Buchanan County.

Compiler: D. Scott Ferrell (PO Box 67, Breaks, VA 24607)

48. WISE COUNTY 36°57'N 82°39'W

Center: At Dorchester in Norton City.

Compiler: Richard Peake (Clinch Valley College, College Ave., Wise VA 24293)



INFORMATION FOR CONTRIBUTORS

The following information should be of help to anyone wishing to submit articles to be considered for inclusion in future editions:

The Raven, the official journal of the Virginia Society of Ornithology, functions to publish original contributions and review articles in ornithology, not published elsewhere, mostly relating to the birdlife of Virginia. *The Raven* may also rarely reprint an article published elsewhere if it appears to be of particular interest to VSO members. Although most bird papers published in this journal concern the distribution, abundance, and migration of birds in Virginia, other aspects of ornithology are also covered, such as historical and bibliographic reviews and life-history and behavioral notes, especially when these are based on observations in Virginia. The activities of various public and private organizations engaged in biological and conservation work in Virginia is also of interest to the readership of *The Raven*. In addition, the journal serves to publish the official proceedings of the Society and other formal items pertaining to all aspects of the Society's activities. It may also print articles pertaining to the activities of VSO chapters and the various public and private organizations engaged in biological and conservation work in Virginia.

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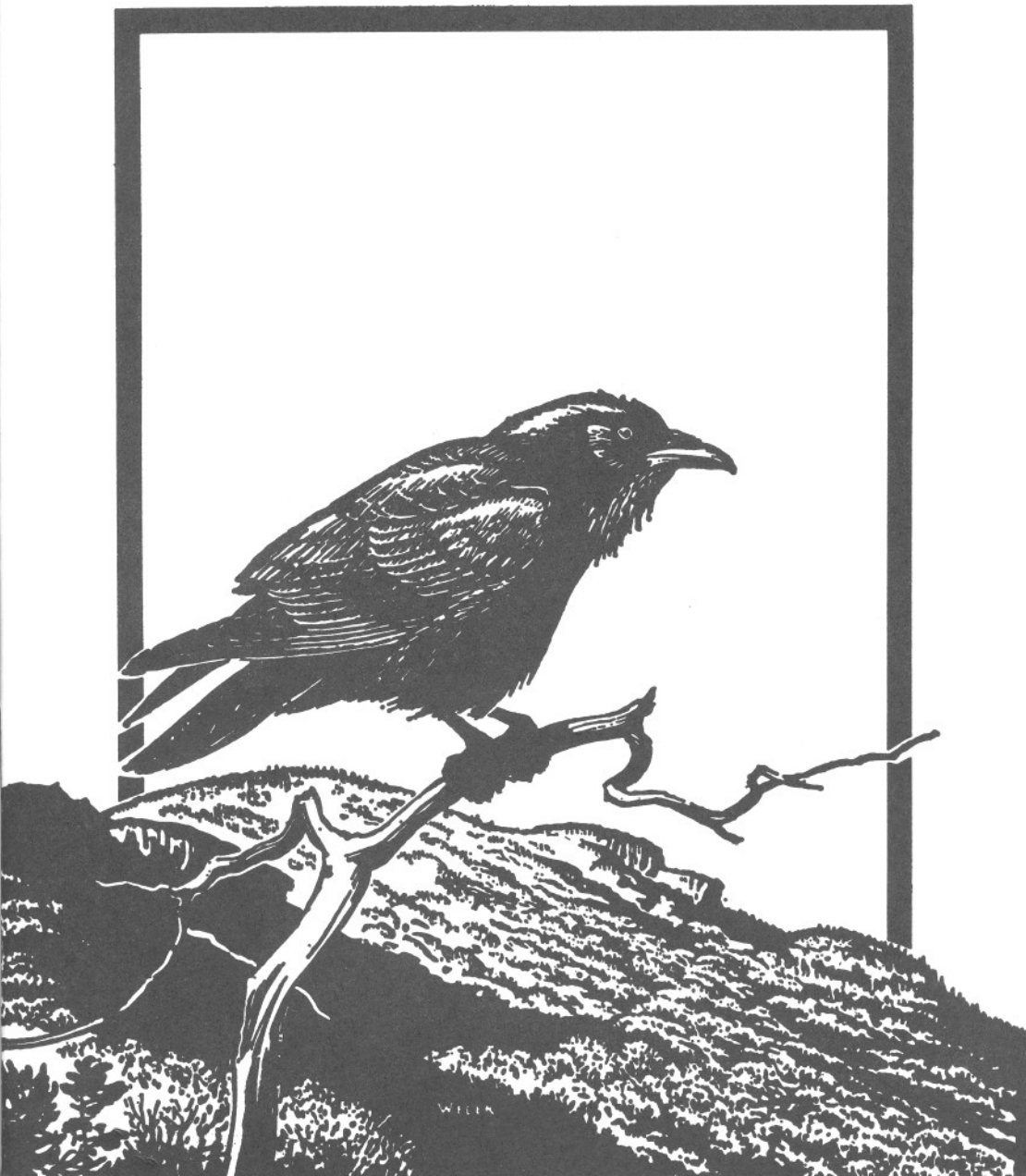
The Raven

JOURNAL OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

Volume 66

Number 2

1995



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

Activities undertaken by the Society include the following:

1. An annual meeting (usually in the spring), held in a different part of the state each year, featuring talks on ornithological subjects and field trips to nearby areas.
2. Other forays or field trips lasting a day or more and scheduled throughout the year so as to include all seasons and to cover the major physiographic regions of the state.
3. A journal, *The Raven*, published yearly, containing articles about Virginia ornithology, as well as news of the activities of the Society and its chapters.
4. A newsletter, published quarterly, containing current news items of interest to members and information about upcoming events and pertinent conservation issues.
5. Study projects (nesting studies, winter bird population surveys, etc.) aimed at making genuine contributions to ornithological knowledge.

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

Those wishing to participate in any of the above activities, or to cooperate in advancing the objectives of the Society, are cordially invited to join. Annual dues are \$15.00 for active members, \$25.00 for sustaining members, \$50.00 or more for contributing members, \$400.00 for life members, and \$20.00 for family members (limited to husband, wife and their dependent children).

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WINTER ABUNDANCE OF VULTURES IN VIRGINIA 1965-1993

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INTRODUCTION

The abundance of vultures in Virginia recently has received attention because of reports of alleged attacks on domestic animals and because some people apparently have felt threatened by them. There has been support for killing vultures in an effort to thin local aggregations. While damage by vultures and their threat to humans generally appear to be exaggerated (Bent 1937), vultures may have become more abundant in winter either due to real population increases or because of less migration in mild winters. To test the hypothesis of increases in winter vulture populations, I have examined population trends of both Turkey Vultures (*Cathartes aura*) and Black Vultures (*Coragyps atratus*) from all Virginia Christmas Bird Counts from 1965 through 1993 (*The Raven*; volumes 36-65).

METHODS

For purposes of analysis, all raw counts were divided among three geographic regions: coastal plain, piedmont, and mountain (see Butcher 1990). Data analyses followed methods of Butcher (1990) and Butcher and McCulloch (1990) who caution that researchers who use CBC data should be aware of: (1) methodological counting biases (also see Arbib 1981; Bock and Root 1981), (2) habitat biases, (3) the effect of inclement weather on counts, and (4) the effect of counting effort. In the present instance points (1) and (2) are not problematic, since all such biases should operate in roughly equal fashion every year, or at least should not affect counts in an increasing or decreasing manner over time. However, the effect of weather and count effort are problems of interest. The number of participants in CBC counts and the number of counts themselves have increased significantly. Furthermore, winter temperatures as indicated by local weather stations have increased over the past decade (Blem, unpubl. data).

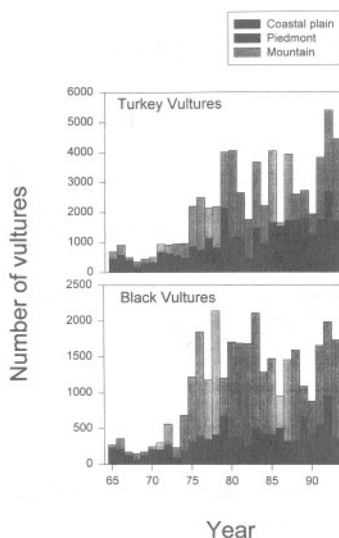
In the present study I analyzed raw regional counts for correlations between number of vultures and number of counts and/or party-hours in the count. The number of counts do not contribute to prediction of abundance of vultures when party hours are included as a covariate in such models. In all regions the number of vultures counted always was a positive significant function of the number of party-hours. For this reason, in all subsequent analyses I included party-hours as a covariate to correct for the influence of this variable on vulture counts. To test potential weather influences, I used regression analysis to test for significant effect of December temperature and precipitation of the region on number of vultures counted. Weather conditions of the count day for each individual count, while potentially influential,

could not be reconstructed for these analyses and were not tested. All calculations were performed by computer using the Statistical Analysis System (SAS 1989; PROC GLM).

RESULTS

Raw counts of both species of vultures have increased significantly in all regions and statewide since 1965 (Fig. 1). This observation is supported by significant positive correla-

FIGURE 1. CBC vulture counts 1965-1993.



tions and regression equations for all regions and both species. However, analyses of population trends using party-hours as a covariate produce different results. Equations in which party-hours are included as covariates indicated significant increases of both Turkey and Black Vultures only in the coastal plain and Turkey Vultures only in the piedmont (Table 1). Mountain counts of both species significantly declined over time and total vulture counts have decreased but the trend is not significant. Total coastal plain and piedmont vulture counts have significantly increased, but mountain decreases offset these increases so that there is no significant overall change in statewide vulture counts.

Table 1. Slope of change in vulture counts vs time.*

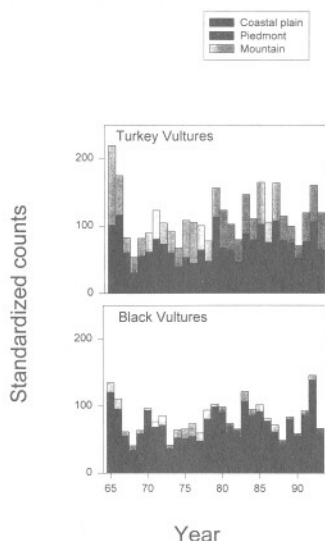
Region	Turkey Vultures	Black Vultures	Total Vultures
Coastal plain	19.8 **	5.9*	25.7**
Piedmont	29.0**	4.6	33.6**
Mountains	-16.4*	-40.0*	-9.6
Totals	29.9	-37.9*	-8.0

*Change corrected for effect of party-hours, but counts not standardized by Butcher and McCulloch (1990) method.

P < 0.05; *P < 0.01.

When I applied Butcher and McCulloch's (1990) technique to standardize counts, all trends were rendered nonsignificant (Fig. 2). Although there are considerable variations in numbers of vultures from year to year, analyses of variance indicate no significant effect of either December temperature ($F=0.8$) or precipitation ($F=0.2$) during the counts.

FIGURE 2. CBC vulture counts standardized to 100 party-hours effort (Butcher and McCulloch, 1990).



I computed estimates of total winter populations of vultures in Virginia by correcting raw counts for the total area of geographic regions and the state. Over the 29 years of data, these estimates ranged from 1,403 to 14,534 for Black Vultures and 3,285 to 28,284 for Turkey Vultures. Total vultures for the entire state were lowest in 1969 (4,688) and highest in 1981 (39,123). Maximum counts of total vultures indicated that maximum statewide vulture abundance was less than one bird per square mile.

DISCUSSION

While impressive local aggregations of vultures do form around rich food sources, particularly landfills, the present study suggests that there is little evidence to support the hypothesis that wintering vulture populations have increased statewide in Virginia, or even to a very great degree regionally. While local flocks may seem to pose a threat to some people, fear of vultures mostly seems unwarranted, given the little evidence of their predation on large animals. Vultures are falconiform birds specializing on eating dead animals. Their claws are generally too weak for capture of live prey, but Black Vultures have fairly powerful beaks and have been known to attack small animals such as baby pigs and skunks under extreme conditions (Bent 1937). Black Vultures also have been reported feeding on placentas, still-born calves, and (perhaps) newborn calves (Bent 1937). There are no records of attacks on humans. Killing vultures as a means of population regulation should be considered as equiva-

lent to controlled removal of other falconiforms, including hawks and eagles, and for these reasons should be discouraged.

ACKNOWLEDGEMENTS

These analyses were part of a university course in field ecology and classroom discussion focused much of the preliminary work. I thank Leann Blem for her comments on an earlier version of the manuscript.

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EXAMPLES OF ABNORMAL WHITE FEATHERING IN VIRGINIA BIRDS

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It is extremely rare to find wild birds with white feathers on parts of the body where feathers are normally of another color. After 20 years of active birding, mostly in the Williamsburg area, I have seen only 19 examples of this feature in Virginia. All were clearly observed with seven- or ten-power binoculars, in good light conditions, at distances of less than 100 feet.

One cause of white feathering is albinism, which is typically due to the absence of the enzyme that influences production of melanin, a dark-colored pigment. In total albinism, there is a complete absence of melanin from feathers, eyes and skin. Imperfect albinism occurs when pigment formation is reduced in feathers, eyes and skin, but is not completely lacking in any area. Incomplete albinism results when pigment formation is completely absent from either the feathers, eyes or skin, but not from all three areas. Partial albinism, the most common form, is characterized by complete or partial loss of pigment within local parts of the body. Features of partial albinism are often symmetrical, or equally balanced on opposite sides of the body (Pettingill 1985). In addition to albinism, white feathering may be caused by injury, physiological disorders, circulatory problems and dietary deficiencies (Pettingill 1985).

Washed-out, or abnormal pale plumage, may result from a type of imperfect albinism, known as schizochroism (Van Tyne and Berger 1971). This may have been responsible for the condition of four birds I have seen. The first was an all-buffy House Sparrow (*Passer domesticus*), seen on the ground in a downtown Charlottesville parking lot in May 1980, in a small flock of House Sparrows. The second was an Evening Grosbeak (*Coccothraustes vespertinus*), one of a flock at a feeder, on 26 January 1981, near Williamsburg (York Co.). This bird, seen flying and sitting, was white-headed and white underneath and on the back. There was pale yellow on the nape and dark brown in the wings. The third bird was an all-buffy Mourning Dove (*Zenaida macroura*), seen flying and on the ground, in a flock of Mourning Doves, in a fallow field near Jamestown (James City Co.), on 4 November 1992. The final bird was an all-buffy Willet (*Catoptrophorus semipalmatus*), seen on the mud flats at Craney Island, in the City of Portsmouth, on 23 July 1994.

The only apparent total albino I have seen was a Tree Swallow (*Tachycineta bicolor*), which was sitting on a power line with more than a thousand other Tree Swallows, at Gloucester Point (Gloucester Co.), on 3 October 1980. The bird was entirely white, though the eye color was difficult to distinguish.

Partial albinism was probably the condition of the other 14 birds I encountered. All displayed symmetry in the white feather patterns, except for a Wilson's Storm-Petrel (*Oceanites oceanicus*), seen flying over the ocean, about 70 miles east of the City of Virginia Beach on 16 August 1986. This bird's seventh or eighth primary on the right wing was white.

The first apparent partial albino was a brown-plumaged Indigo Bunting (*Passerina cyanea*), seen perched at the Williamsburg Airport (James City Co.), in October 1977. Its throat showed a clearly-defined white patch, similar to that of a White-throated Sparrow (*Zonotrichia albicollis*), and its tail was white. A Field Sparrow (*Spizella pusilla*), seen on the ground and

at a platform feeder on 11 November 1981 at Gloucester Point (Gloucester Co.), also showed a solid white tail, as did a Northern Mockingbird (*Mimus polyglottos*), seen flying on 14 May 1990, in James City County. These three birds looked otherwise normal.

Two birds that displayed similar abnormal head and neck patterns were a Pileated Woodpecker (*Dryocopus pileatus*), seen on the side of a tree at Jamestown Island (James City Co.), in December 1978 and a Song Sparrow (*Melospiza melodia*), seen perched at Hog Island Refuge (Surry Co.), on 2 January 1989. Both birds had mostly white heads and some whitish markings around the neck and upper back.

A Common Grackle (*Quiscalus quiscula*), seen on the ground, 3 February 1990, in James City County had one white outer tail feather on each side. This is similar to the pattern of a European Starling (*Sturnus vulgaris*), seen on the ground near Capeville (Northhampton Co.), on 11 November 1991, which had two white outer tail feathers on each side. The starling was part of a flock of tens of thousands of birds on the ground, in which there was another bird with white feathering, a Common Grackle, with a broad, white cheek patch on each side of the head. I also saw a House Finch (*Carpodacus mexicanus*), with white cheeks and a white nape, at a feeder in James City County on 29 December 1993.

Two Red-tailed Hawks (*Buteo jamaicensis*) seen at Hog Island Refuge (Surry Co.), were white-headed and extensively blotchy-white on the back and upperwing coverts. The pattern was similar to the Krider's form of Red-tailed Hawk, except for the white tail, which showed no rufous or pinkish wash and no tail band. The underparts were uniformly whitish. The birds were seen on 24 March 1990 and 12 June 1992, the first time perched, the second time flying. A House Sparrow, seen on the ground, in a downtown Williamsburg parking lot, in June 1980, showed extensive white feathering over about half of the upperparts and was normally colored on the underparts.

The final apparent partial albino was an American Kestrel (*Falco sparverius*), seen flying low past the hawk observation area at Kiptopeke State Park (Northhampton Co.), on 10 October 1992. The three outer primaries on each wing were white, making a striking impression.

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NOTES ON THE NESTING OF RED-SHOULDERED HAWKS IN CHARLOTTESVILLE, VIRGINIA

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For four years (1992-1995) Red-shouldered Hawks (*Buteo lineatus*) nested successfully within the city limits of Charlottesville. The five nestings were in the Meadowcreek Heights/Greenbrier area of the northern part of the city, about 2.5 square miles of heavily wooded terrain which is more suburban than urban in character. The area is bisected by Meadow Creek which flows from west to east through a narrow 15 acre nature park and empties into the Rivanna River. The southern part (Meadowbrook Heights) of the area is cut by several ravines with intermittent drainage into Meadow Creek.

Our data have come primarily from interested home owners who have had the hawks nesting in their backyards. Four of the Red-shouldered Hawks (RSH) nestings (Nests 1 - 4) were in the Greenbrier area. Two nestings (5 and 6) were in the Meadowbrook Heights area, about 0.6 mile to the south of the Greenbrier nests. The results are given below.

Nest 1 (1992) was in a tuliptree (*Liriodendron tulipifera*) 35 yards behind a residence at an elevation of about 45 feet. Two RSH young fledged, but their exact fledging date was not determined.

Nest 2 (1993) was in a red maple (*Acer rubrum*) at an elevation of about 60 feet. It was located 60 yards to the west of nest 1 and 50 yards behind a residence. Two RSH young fledged on June 5.

Nest 3 (1994) was in the same spot as nest 1. Three RSH young hatched and two were seen on the ground prior to fledging and apparently did not survive. The third young fledged on May 11.

Nest 4 (1995) was nest 3 rebuilt. By May 1 three RSH chicks were visible on the nest. On May 22 one young was on the ground prior to fledging and was found dead on May 23. The other two young fledged on May 22.

Nest 5 (1992) was in a hickory tree (*Carya sp.*) at an elevation of about 50 feet. It was in the front yard of a residence, 20 feet from the house and 15 feet from the street. Two adult RSH were observed building it, but it was not used.

Nest 6 (1995) was in a tuliptree at an elevation of about 50 feet and was about 60 yards from several homes. Two young fledged on May 23. A third young, the smallest, was last seen on the nest May 31 and its fledging status was not determined. This nest site was 0.2 mile from nest 5.

The nestings of various species of raptors in urban/suburban areas has been recorded for

many years. The earliest reference that we are aware of is from E. H. Forbush (1925) who stated, "The great Red-tailed hawk was one of the common birds of my boyhood. Then they nested in numbers over all New England wherever big timber grew. In the '60s and '70s of the nineteenth century we found their nests about the cities even within city limits." At that time the city limits were probably moving out into the hawks' normal nesting areas. There is now increasing evidence that the process is being reversed, and raptors are moving into urban/suburban areas. In addition, the cities are still moving out into raptor nesting areas. For example, Oliphant (1978) reported numerous nestings of the Merlin (*Falco columbarius*) in the city of Saskatoon, Saskatchewan in 1971-74, and Valentine (1974) reported that Red-tailed Hawks (*Bufo jamaicensis*) nested successfully in an urban subdivision near Detroit, Michigan in 1976.

Minor and Minor (1981) and Minor, et al. (1993) documented nestings of Red-tailed Hawks and Great Horned Owls (*Bubo virginianus*) in an urban/suburban area in central New York State during the years of 1980-89. In that area those two species were found nesting in suburban backyards, near urban factories, on golf courses and even in the city of Syracuse. In 1995, in the ultimate urban hawk nest, a Red-tailed Hawk nested on Fifth Avenue and 74th. St in New York City, and fledged three young according to The Wall Street Journal of 20 June 1995.

Nestings of the Peregrine Falcon (*Falco peregrinus*) in urban areas have been well documented in the popular press and seem to be on the increase. D. Crumb (pers. comm.) reports that a pair of Peregrines have taken up residence in Syracuse, N.Y. during the summer of 1995. E. Schriver (1995) has reported that there have been several nestings of Red-shouldered Hawks and Cooper's Hawks (*Accipiter cooperii*) in suburban areas near Pittsburg, Pa. In two cases RSH adults have been very aggressive towards homeowners.

One of the most recent incursions of raptors into an urban environment is that of the Cooper's Hawk into the city of Tucson, Arizona. C. Boal of the University of Arizona reports (pers. comm.) that approximately 30 pairs of this normally shy hawk nested in that city in 1995, probably attracted by an abundance of nesting sites, water and avian prey species.

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We are indebted to Beverly and Lou Kocotas for data on the Greenbrier nestings, to Dr. and Mrs. Benjamin Sturgill for data on the Meadowbrook Heights nesting and to Dee Henderson and Patsy Kitchin for information about the unused nest in 1992.

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BANDING RESULTS AT KIPTOPEKE BEACH-1994

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The thirty-first year of bird banding in the Kiptopeke area began on September 3 and ran through October 28. The station operated for 54 days with only two days down due to rain. Total birds banded (3616) dropped by 20% due to less personnel but birds per 100 net hours remained constant at 48. A total of 88 species were banded. Two birds were trapped that were banded elsewhere and eight that were banded at Kiptopeke in previous years were retrapped. The station, which overlooks Chesapeake Bay at the southern tip of the Eastern Shore of Virginia, is operated by the Migratory Birds Committee of the Virginia Society of Ornithology.

The species most commonly banded in 1993 and 1994 are listed below.

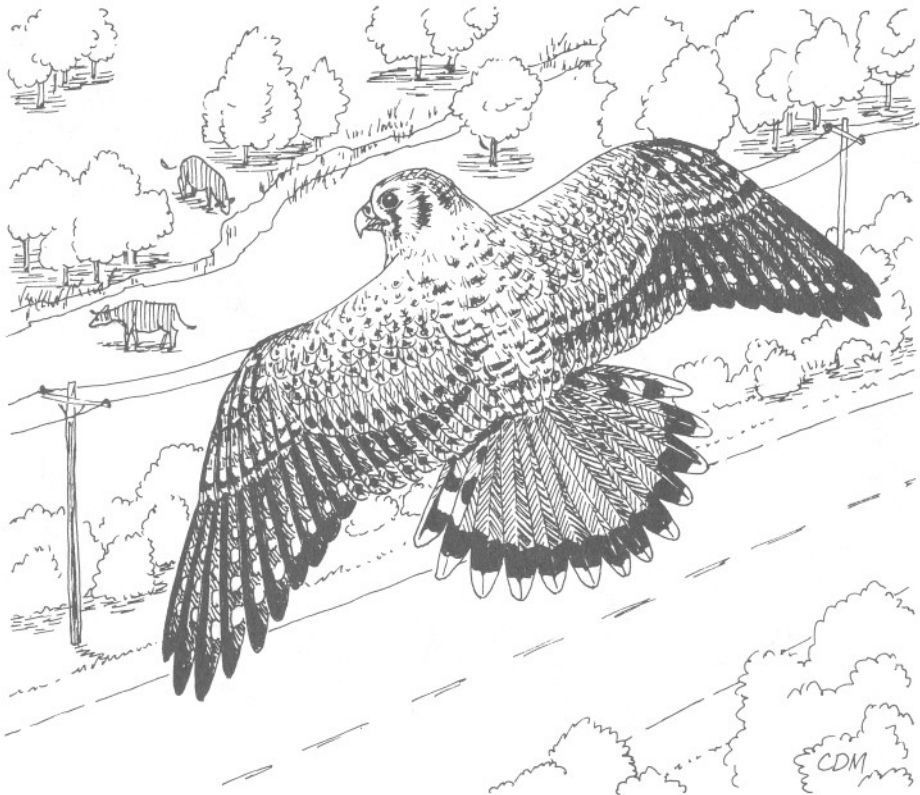
Species	1993		1994	
	No. Birds	Birds/Net Hr.	No. Birds	Birds/Net Hr.
Yellow-rumped Warbler	1890	20	1263	17
American Redstart	348	4	402	5
Common Yellowthroat	223	2	329	4
Western Palm Warbler	124	1	163	2
Gray Catbird	181	2	141	2
Black-throated Blue Warbler	158	2	132	2
Song Sparrow	54	1	83	1
Field Sparrow	80	1	78	1
House Wren	56	1	65	1
Ovenbird	53	1	63	1

The following observations are offered in comparing 1994 banding results with previous years.

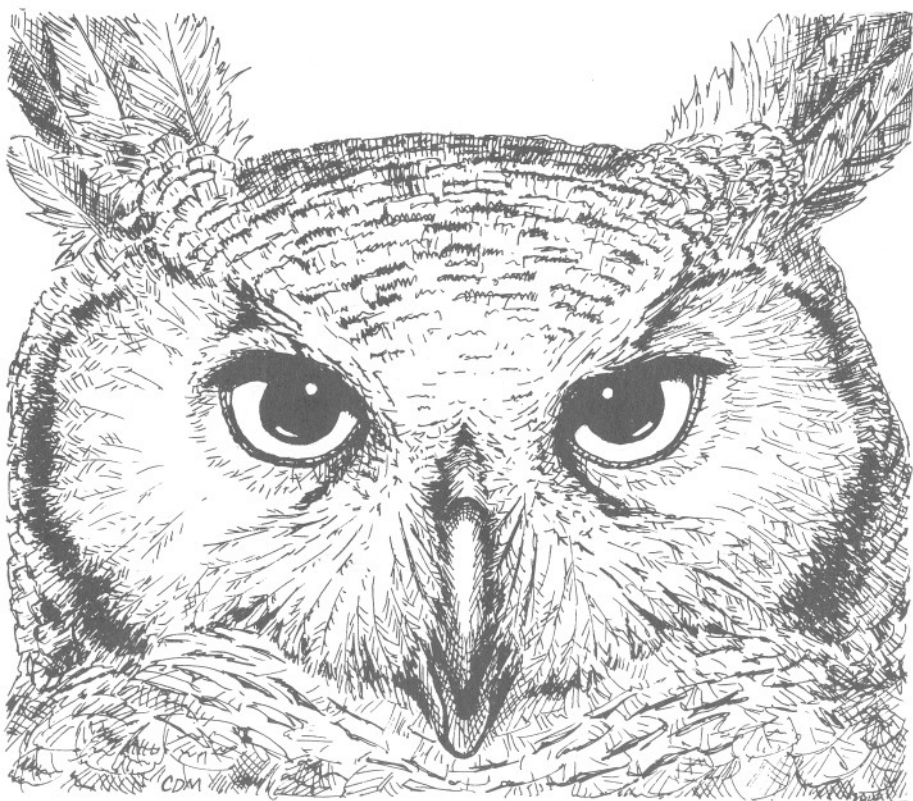
1. The five Clay-colored Sparrows banded in 1994 is the highest count since the station was founded. The previous high was three in 1988.
2. The banding of two Fish Crows added the 159th species to our station list.
3. The Lark Sparrow banded in 1994 was the first since 1972.
4. This year's Henslow's Sparrow was the first since 1983.
5. The ten Northern Cardinals banded was the lowest number since 1985.
6. No Great-crested Flycatchers were banded for the fifth consecutive year. Prior to 1990, an average of five were trapped annually.
7. The eight Sharp-shinned Hawks trapped was half as many as in the past three years. Prior to that time, a hawkbanding station was operated and the results were included in banding station numbers.

8. For the first ten days of the banding season and the last 14 days, winds were from the northern quadrant which helped move the birds. Between these times, cold fronts were strong and added impetus to migration.

Licensed banders in charge of the station for varying periods of time were David Leake, Don Schwab, Walter Smith, Bryan Watts, and John Dillard. Other banders and assistants played a vital role in the success of the station and their help was greatly appreciated. Interpretive assistance was provided by Mary Arginteanu, Fred Adams, Jamerson Hook and others. This was needed because the station was visited by 55 school and festival groups comprising 1100 people. On site support was provided by Scott Flickinger, Park Manager, and his staff.



CDM



1995 REPORT OF THE VSO RECORDS COMMITTEE

TETA KAIN

7083 Caffee Creek Lane
Gloucester, Virginia 23061

For the first time since the inception of the VSO Records Committee (VARCOM), a meeting for past and present members was held in March to discuss issues that are difficult to resolve by mail and to establish procedures that will facilitate the evaluation of records in the future.

One of the items discussed was the definition of the term "adjacent ocean" as applied to the bylaws in Section II, B. The present description of "that area extending eastward for 200 statute miles from the coastline" was thought to be too ambiguous. It was changed to read "that area bounded on the north by latitude 38°02'00", on the south by latitude 36°33'05", and on the east by all points 200 statute miles from the nearest point on the Virginia coastline."

Another change involved the fourth affirmation round of reviews. Records show that since the committee was organized in its present form in 1988, no fourth affirmation round has changed the final outcome of an evaluation. Too, it often lengthens the review process by several months. In view of these facts, committee members elected to eliminate the round altogether. This change, along with the recommendation to re-define the term "adjacent ocean" was approved by the VSO Board of Directors at their regular March meeting.

The committee decided to hold future meetings of VARCOM on an irregular basis to discuss issues and formulate solutions to problems as they arise.

The 1995 VARCOM members, as elected by the VSO board at their November 1994 meeting, are:

Non-voting members;

Chairman: Teta Kain

Secretary-compiler: Charlotte Friend

Voting members

Three-year term: David Abbott, Ned Brinkley, Grayson "Butch" Pearce

Two-year term: Robert Hilton, Bill Portlock, Don Schwab

One-year term: Fenton Day, Brian Taber, Carolyn Well

(Kerrie Kirkpatrick, who has one more year to serve on the committee was unable to continue her term in office due to time constraints. Carolyn Wells of Farmville was appointed to take Kirkpatrick's place for the remainder of the term.)

No new species have been added to the cumulative state checklist since the last VARCOM report appearing in *The Raven* 65:84-87. The total still stands at 422. The following list is a summary of records evaluated by the VSO Records Committee from 1 August 1994 through 31 July 1995:

ACCEPTED RECORDS:

(Documentation was submitted by the person(s) whose name(s) appear(s) in brackets)

LITTLE EGRET (*Egretta garzetta*). A bird of this species was again found at Chincoteague NWR by [Paul DeBenedictis] on 18 August 1993. It may have been the same individual found at the same location in May 1992. This is the second state and second Coastal Plain record.

ROSS' GOOSE (*Chen rossii*). One individual was sighted at Nelsonia in Accomack County on the Eastern Shore by [Edward S. Brinkley] on 3 January 1994 and becomes the fourth state and fourth Coastal Plain record.

SWAINSON'S HAWK (*Buteo swainsoni*). [Jesse J. Fulton, Kenneth H. Kelly, and Kerrie Kirkpatrick] recorded this third state and first Mountains and Valleys record at the Snickers Gap hawk-watching station on the Clarke-Loudoun County line on 29 October 1993.

LONG-BILLED DOWITCHER (*Limnodromus scolopaceus*). [Jan J. Hansen] submitted details on a bird found at Stuarts Draft, Augusta County on 16 October 1992 for the fifth Mountains and Valleys record of this species.

POMARINE JAEGER (*Stercorarius pomarinus*). An individual at Beaverdam Reservoir in Loudoun County was sighted on 18 July 1993 by [Jeffrey Kitchens, Valerie B. Kitchens, D. Michael Reyman, and Linda F. Reyman] and remained in the area for some time thereafter. Photographs were obtained and many observers saw the bird. This is a first record for the Piedmont region.

CALIFORNIA GULL (*Larus californicus*). One bird photographed on the Chesapeake Bay Bridge-Tunnel by [Edward S. Brinkley and Brian Patteson] on 16 March 1991 becomes the third state and third Coastal Plain record.

CALIFORNIA GULL (*Larus californicus*). An individual, observed at Fort Story in Virginia Beach by [Edward S. Brinkley] on 3 January 1992, becomes the fourth state and fourth Coastal Plain record.

GLAUCOUS GULL (*Larus hyperboreus*). One individual found on a reservoir in Henrico County on 22 January 1994 by [Brent Tarter] is only the second Piedmont record.

NORTHERN SHRIKE (*Lanius excubitor*). The third Piedmont record of this species was recorded at Lucketts in Loudoun County from 6 to 8 November 1993 by [David F. Abbott and Valerie B. Kitchens]. The bird remained in the area for some time and was seen by many other birders.

KIRTLAND'S WARBLER (*Dendroica kirtlandii*). [Richard H. Peake] first heard a Kirtland's Warbler singing in Wise County on 7 May 1994 and recorded the bird's song two days later. This is the first Mountains and Valleys record and the only documented occurrence in the state since 1974.

INDIGO BUNTING (*Passrina cyanea*). One individual found during the 14 December 1992 Darlington Heights Christmas Bird Count in Prince Edward County by [David Spears] is the second Piedmont winter record.

UNACCEPTED RECORDS, identification questionable:

BULWER'S PETREL (*Bulweria bulwerii*). Several observers were not in total agreement about fieldmarks of an individual seen during a pelagic trip 80 miles off the coast on 15 August 1993, and no photographs were obtained of the bird which is an extremely rare species in U.S. waters.

WHITE-TAILED KITE (*Elanus leucurus*). Details about an individual seen at Riverbend Park, Fairfax County, on 20 September 1992 were not complete enough to accept this sighting.

SWAINSON'S HAWK (*Buteo swainsoni*). A photograph of an individual thought to be a Swainson's Hawk at Chincoteague National Wildlife Refuge, Accomack County, on 7 December 1993 proved to be that of an immature Bald Eagle.

WILLOW FLYCATCHER (*Empidonax traillii*). Not enough definitive details were given to ensure that this bird was the Willow Flycatcher that was heard at Emporia on 4 June 1991 during the VSO foray to that area, nor was there evidence that it was a breeding bird.

VARIOUS OTHER RECORDS FOR WHICH REVIEW HAS BEEN COMPLETED:

WESTERN/CLARK'S GREBE (*Aechmophorus*, sp.). One individual photographed at Craney Island on 3 November 1973 was previously accepted as a Western Grebe. Because Western Grebe was split into two species-Clark's [*clarkii*] and Western [*occidentalis*] – several years ago, the photograph was re-reviewed to determine whether the bird could be definitely identified as either species as now defined. Reviewers decided that it could not.

REDDISH EGRET (*Egretta rufescens*). Although identification of the species is certain, details noted in the slide submitted raise questions as to whether the bird was actually photographed at Craney Island in Portsmouth. The date of February 1975 is also doubtful because there are virtually no records of this species wandering as far north as Virginia during the winter months.

TRUMPETER SWAN (*Cygnus buccinator*). The identification of this swan first seen at Huntley Meadows in Fairfax County on 22 January 1990 was not in question, but the bird sported wing tags, proving that it was a released or an escaped individual and therefore, not eligible to be included on the state checklist.

RUFOUS HUMMINGBIRD (*Selasphorus rufus*). A hummingbird regularly visiting a feeder at Charlottesville between 7 and 11 October 1991 [Teresa W. Shaner] could be identified only to the genus level. It is the second occurrence of a *Selasphorus* hummingbird in the Piedmont.

YELLOW-RUMPED (AUDUBON'S) WARBLER (*Dendroica coronata*). The Audubon race of this species was photographed at Radford on 10 April 1994 by [Alan Kim and Christopher VanCantford].

DARK-EYED (OREGON) JUNCO (*Junco hyemalis*). An individual of this race of the Dark-eyed Junco appeared at a backyard feeder on several occasions in Crozet. It was first seen on 25 February 1993 by [Marlene Condon] who subsequently photographed it. This is the second occurrence of this subspecies in the Piedmont.

RECORDS NOW UNDER EVALUATION BY THE COMMITTEE:

PACIFIC LOON (*Gavia pacifica*). Chesapeake Bay Bridge-Tunnel, 27 November 1993.
WHITE-TAILED TROPICBIRD (*Phaethon lepturus*). Norfolk Canyon, 21 August 1993.
REDDISH EGRET (*Egretta rufescens*). Craney Island, Portsmouth, 25 August 1994.
BARROW'S GOLDENEYE (*Bucephala islandica*). Chesapeake Bay Bridge-Tunnel, 29 January 1994.

MARSH HARRIER (*Circus aeruginosus*). Chincoteague, 4 December 1994.
MISSISSIPPI KITE (*Ictinia mississippiensis*). Greenville County, 8 June 1991.
SWAINSON'S HAWK (*Buteo swainsoni*). Rockfish Gap, 9 September 1992.
FERRUGINOUS HAWK (*Buteo regalis*). Eastern Shore National Wildlife Refuge, Northampton County, 11 January - 6 March 1995.

BAR-TAILED GODWIT (*Limosa lapponica*). Chincoteague National Wildlife Refuge, 7 September 1991. Identification of photo only, the written documentation was previously accepted (See Raven 64:107).

PARASITIC JAEGER (*Stercorarius parasiticus*). Smith Mountain Lake, Franklin County, 5-6 September 1993.

THAYER'S GULL (*Larus thayeri*). Henrico County, 16 January 1994.
THAYER'S GULL (*Larus thayeri*). Chesapeake Bay Bridge-Tunnel, 21 March 1988.
THAYER'S GULL (*Larus thayeri*). Chesapeake Bay Bridge-Tunnel, 26 December 1994.
ICELAND GULL (*Larus glaucoides*). Henrico County, 22 January 1994.
BURROWING OWL (*Speotyto cunicularia*). Fishermans Island National Wildlife Refuge, 11 January 1994.

WESTERN/PACIFIC SLOPE FLYCATCHER (*Empidonax difficilis*). Eastern Shore National Wildlife Refuge, Northampton County, 12-28 November 1993.

SAY'S PHOEBE (*Sayornis saya*). Caledon Natural Area, King George County, 11 March 1995.

EASTERN KINGBIRD (*Tyrannus tyrannus*). Nelson county, 25 February 1995.
VERMILION FLYCATCHER (*Pyrocephalus rubinus*). Woodbridge, Prince William County, 13 December 1994-1 January 1995.

GRAY KINGBIRD (*Tyrannus dominicensis*). Chincoteague, Accomack County, 24 September 1994.

GRAY KINGBIRD (*Tyrannus dominicensis*). Kiptopeke, Northampton County, 12-13 November 1994.

SCISSOR-TAILED FLYCATCHER (*Tyrannus forficatus*). Nottoway County, 2 June 1993.

BEWICK'S WREN (*Thryomanes bewickii*). Chesapeake Bay Bridge-Tunnel, 8 May 1994.
NORTHERN SHRIKE (*Lanius excubitor*). Lucketts, Loudoun County, 9 November 1994-10 March 1995.

KIRTLAND'S WARBLER (*Dendroica kirtlandii*). Shenandoah National Park, 16 May 1992.

HOARY REDPOLL (*Carduelis hornemanni*). Highland County, 26 February-15 March 1994.

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LOCAL CHAPTERS OF THE VSO

The list of local chapters, compiled by VSO Membership Committee (Larry Lynch, Chairman) has been revised to August 1995. The number in parentheses after the chapter name is the approximate number of members in that chapter.

1. Augusta Bird Club (141), Staunton-Waynesboro
2. Bristol Bird Club (40), Bristol
3. Cape Henry Audubon Society (450), Norfolk
4. Clinch Valley Bird Club (20), Tazewell
5. Cumberland Nature Club (10), Wise
6. Eastern Shore Bird Club (45), Accomack
7. Fairfax Audubon Society (5000), Vienna
8. Foothills Bird Club (25), Martinsville
9. Hampton Roads Bird Club (75), Newport News-Hampton
10. Lynchburg Bird Club (200), Lynchburg
11. Margaret H. Watson Bird Club (50), Farmville
12. Marion Bird Club (15), Marion
13. Monticello Bird Club (170), Charlottesville
14. Montpelier Naturalists (25), Gordonsville-Orange County
15. New River Valley Bird Club (80), Blacksburg
16. Northern Neck of Virginia Audubon Society (356), Kilmaarnock-White Stone
17. Northern Shenandoah Valley Audubon Society (500),
Winchester-Strausburg-Front Royal
18. Northern Virginia Chapter (700), Arlington-Fairfax
19. Richmond Audubon Society (1350), Richmond
20. Roanoke Valley Bird Club (150), Roanoke-Salem
21. Rockbridge Bird Club (30), Lexington
22. Rockingham Bird Club (70), Harrisonburg
23. Virginia Beach Audubon Society (650), Virginia Beach
24. Westmoreland Bird Club (69), Montross
25. Williamsburg Bird Club (120), Williamsburg

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