

# The Raven

JOURNAL OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

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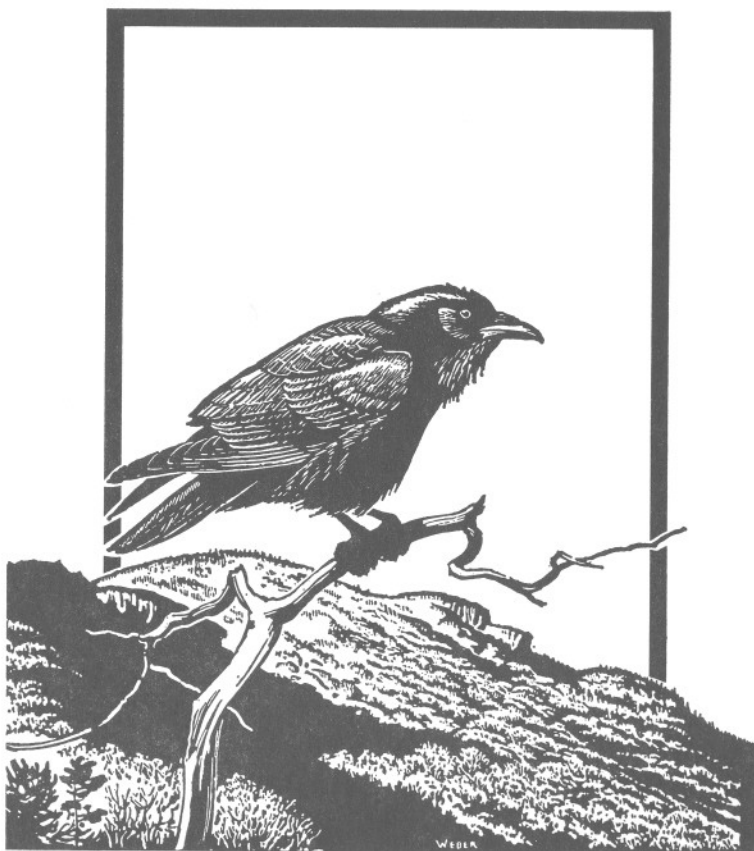


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Edited by  
Teta Kain, Chairman of the *Raven* Recovery Team  
under the direction of  
The Virginia Society of Ornithology  
Board of Directors

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

Activities undertaken by the Society include the following:

1. An annual meeting (usually in the spring), held in a different part of the state each year, featuring talks on ornithological subjects and field trips to nearby areas.
2. Other forays or field trips lasting a day or more and scheduled throughout the year so as to include all seasons and to cover the major physiographic regions of the state.
3. A journal, *The Raven*, published 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 and 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 \$5.00 for active members, \$7.50 for sustaining members, \$15.00 or more for contributing members, \$150.00 for life members, and \$9.00 for family members (limited to husband, wife and their dependent children).

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## CONTENTS

A Black-headed Grosbeak Specimen from Virginia .....	1
Roger B. Clapp	
A White-winged Crossbill in Westmoreland County .....	4
J. Enoch Johnson	
Nest Chronology of Common Ravens in Virginia .....	5
Richard Conner	
Oystercatcher attempt nesting in Northumberland County .....	12
Joyce Russell	
1984 Breeding Bird Foray at the Breaks of the Big Sandy .....	13
Richard H. Peake	
Scissor-tailed Flycatcher in Westmoreland County .....	28
J. Enoch Johnson	
Parasitic Jaeger and Hudsonian Godwit at Alexandria, Virginia .....	29
Jackson M. Abbott	
Gyr Falcon in Rockingham County .....	31
YuLee Lerner	
A Mini-Skyland Foray .....	32
Jackson M. Abbott	
Autumn Migration of Common Nighthawks in the Virginia Piedmont .....	36
Charles R. Blem and Robert I. Blem	
Virginia Christmas Bird Counts - 1985-86 Season .....	39
Teta Kain	
Christmas Count Descriptions .....	63
The 1986 VSO Annual Meeting .....	67
Teta Kain	
Local Chapters of the VSO .....	70
Officers and Committees of the VSO, 1986-87 .....	71
1986 Virginia Breeding Bird Atlas Project Results .....	72
Sue Ridd	
Operation Recovery-Kiptopeke .....	73
Walter P. Smith	
1986 Banding Results at Kiptopeke Beach .....	76
Walter P. Smith	
Turkey Vulture Flight at Fisherman Island .....	77
Thomas W. Simpson	
The 1986 Virginia Hawkwatch .....	77
David Holt	
Virginia Hawk Lookout Totals—Fall 1986 .....	80
Virginia Hawk Lookout Locations .....	82
Index to Volume 57 - 1986 .....	83

## A BLACK-HEADED GROSBEAK SPECIMEN FROM VIRGINIA

ROGER B. CLAPP

Although there are 14 previous records of 16 Black-headed Grosbeaks, *Pheucticus melanocephalus*, from Virginia, several of them entailing banded birds, (Table 1), no specimens have been taken previously. Thus it seems worthwhile to record an additional record for Virginia based on a specimen (USNM 565026) now at the National Museum of Natural History. The bird was found dead at the side of the road at Chincoteague National Wildlife Refuge, Chincoteague, Virginia by Dee Ann Houston on 28 November 1971. The bird is a male hatched the preceding summer that has replaced the central rectrices, the innermost tertial and the greater and lesser primary and secondary coverts.

The A.O.U. Checklist (1957) recognized two races for this species. One, *Pheucticus melanocephalus maculatus*, breeds in far western North America from British Columbia south along the Pacific coast to northern Baja California. The nominate race, *P. m. melanocephalus*, breeds east of the Cascades and Sierras from southeastern British Columbia south through Montana, Arizona and western Texas to Guerrero on the Mexican plateau. Variation in plumage is slight (Oberholser 1919) and often unsatisfactory in distinguishing the races. Size differences are more pronounced with the coastal birds having relatively shorter wings and slightly smaller bills than birds from populations to the east. However, the latter character is of use in distinguishing individual specimens only in instances where measurements approach the extremes; the average difference between measurements of the bill between the races is no more than a millimeter (Oberholser 1919). To further confuse the issue, specimens from central Mexico are about the same size as those from coastal California (Oberholser 1919).

The wing of the Virginia specimen is 96.8 mm with a bill depth and culmen length of 12.0 and 16.4 mm respectively. Measurements of six immature males of *maculatus* for wing, culmen and bill depth are 95.8 (92.3-99.5), 16.1 (15.1-16.7) and 11.9 (11.3-12.5) mm respectively. Those of 12 *melanocephalus* from the western United States are 101.4 (99.6-103.4), 16.4 (15.2-17.8) and 12.4 (11.5-13.3) mm respectively. As it seems unlikely that the Virginia bird straggled from Mexico, I assign it to *maculatus* on the basis of its short wing.

The only bird previously examined in comparison with museum specimens was the first seen in Virginia. That bird, examined by Alexander Wetmore, was identified as belonging to the nominate race, *P. m. melanocephalus*, on the basis of its large bill (Peacock 1961). The measurements of this bird were: wing 98.0, mm; culmen, 20.4 mm; depth of bill at base, 13.0 mm; width of bill at base, 10.8 mm.

### Acknowledgements

I am indebted to M. R. Browning for comments on the specimen and to Teta Kain for additional information on other Virginia records. Richard L. Zusi and Richard C. Banks made helpful comments on the manuscript.

TABLE 1. *Chronological List of Black-headed Grosbeak Records from Virginia*

Date	No. of Birds	Locality	Comments	References
24 Dec 1960- 15 Mar 1961	1	Fairfax	Immature male banded and photographed	Peacock 1961, VSO 1979
31 Jan-11- Apr 1971	1	Radford <sup>1</sup>	Male seen at feeder	Stone 1972
16 Oct 1971	1	Kiptopeke Beach	Male banded and photographed	Scott 1972, Scott and Cutler 1972, VSO 1979
28 Nov 1971	1	Chincoteague NWR	Young male found dead	This paper
3-12 Apr 1973	1	Norfolk		VSO 1979
29 Jan- 2 Feb 1974	1	Albemarle County	Second-year male banded	VSO 1979, T. Kain, in litt.
10 May 1975	2	Charlottesville	Males	Scott and Cutler 1975, VSO 1979
28 Jan- 20 Mar 1978	1	Richmond	Subadult male at feeder	Scott 1978a, 1978b, VSO 1979
10 Sep 1978	2	Amherst County <sup>2</sup>		Scott 1979
17-30 Mar 1981	1	Gloucester	Subadult male photographed	Larner and Scott 1982
-- Jan 1984	1	Williamsburg <sup>3</sup>		Armistead 1984a
19 Feb 1984	1	Hog Island, <sup>3</sup> Surry County		Armistead 1984a
-- Jan- 26 Apr 1984	1	Virginia Beach	Immature photographed	Armistead 1984b, T. Kain, in litt.
4 May 1984	1	Norfolk		Armistead 1984b
23-24 Nov 1984	1	Chincoteague NWR		Armistead 1985
<sup>1</sup> A bird reported at Blacksburg from 2 February through 31 March 1971 and seen by many observers (Hall 1971) is certainly the same bird (T. Kain in litt.).				
<sup>2</sup> Record received too late for inclusion in the 1979 checklist (T. Kain, in litt.)				
<sup>3</sup> Armistead (1984b) suggested that these records were of the same bird.				

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1978b. The spring migration; middle Atlantic Coast region. *American Birds* 32: 988-991  
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**Virginia Society of Ornithology Checklist Committee.**

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## A WHITE-WINGED CROSSBILL IN WESTMORELAND COUNTY

J. ENOCH JOHNSON

On the afternoon of 6 April 1985, Bob Furcolow of the Westmoreland Bird Club, called a to report an unusual bird first seen on 5 April at a thistle feeder at his cottage near Oak Grove in Westmoreland County. He did not have a bird guide at hand to check field marks; however his description fit that of a White-winged Crossbill, *Loxia leucoptera*, except that he had not noted the distinctive bill. On 7 April he called to say he had seen the bird again and the bill was indeed crossed.

My wife, Sylvia, and I arrived at the site at 3 p.m. and shortly thereafter a bird appeared on the far side of the thistle feeder which was hanging under the eaves of the porch. We studied it with binoculars at about 15 feet. At first, the only parts of the bird that were visible were the head which was red, and the upper portion of the wing which was black. As it paused in feeding, its bill was seen in silhouette, clearly showing the two curved crossed mandibles. All three of us observed that the upper mandible appeared longer than the lower. After about two minutes, it flew away from us, showing that the head, back, and rump were red. The black wings had two broad white wing bars that were not parallel and the tail was black. During the next hour the bird returned to the feeder three times, giving unrestricted views for confirmation. It appeared somewhat larger than the House Finches and American Goldfinches which were using the same feeder.

Although the overcast sky and screen of the porch made for poor light, we had no problem seeing color well with binoculars. This bird was not seen here again after 7 April. Sylvia and I have seen White-winged Crossbills on several previous occasions, including an adult male that fed in pines in our yard in Annandale for a number of days in January 1964.

Following this, two further sights of White-winged Crossbills in Westmoreland County were reported to us. On 10 and 11 April, two pair appeared at a thistle feeder at the home of Mr. and Mrs. Orville Goldman, Westmoreland Bird Club members. On 14 April, an adult male fed at a thistle feeder of a neighbor of Frank Laudbinger, also a bird club member. Sylvia and I had no opportunity to check these sightings, and the birds did not appear after the above dates.

Route 3, Box 212, Montross Virginia 22520

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## NEST CHRONOLOGY OF COMMON RAVENS IN VIRGINIA

RICHARD N. CONNER

The Common Raven, *Corvus corax*, inhabits areas that are relatively remote from civilization. In addition, the inaccessibility of its cliff nests makes studies on the development of its young very difficult. As a result, only a few studies have reported information on nest building, incubation, feeding young, and fledging of Common Ravens. Using a large aviary, Gwinner (1965) was able to get hand-reared captive ravens in Germany to nest. The proximity of nests to observers enabled many detailed observations on the behaviors of adults and young. Gwinner, however, did not focus on development and changes that took place in the nestlings.

This study is a description of the development of young Common Ravens in Montgomery County near Ironto, Virginia. Although my data are not quantitative (weight and size), they do provide a description of the appearance and behavior of nestlings from hatching through fledging. General observations were made at four different nests, but most data came from one nest that was more accessible than the others. This nest was about 8 m above the ground in a 80 cm deep cave-like crevice. This cave-like nest site also had an overhanging portion of the cliff above it that extended out horizontally and provided additional protection from the elements. This overhanging ledge was quite typical of other raven cliff nests in the area (Hooper 1977). The cliff in which the nest was built was approximately 12 m high and composed largely of travertine (limestone). I observed this nest regularly from mid February to the end of May 1973. I delayed close examination of the site until 26 March to avoid causing abandonment of the nest by the adults. All close observations were made by rappelling over the cliff, photographing young, and taking field notes, while suspended in the air within 0.5 m of the nest.

The adult pair of ravens began to build their nest about the middle of February 1973. Ravens in Pennsylvania also usually started nest building between 7 and 15 February (Harlow 1922). The construction of the nest was very similar to the that described by Gwinner (1965). The main framework of the nest was made of sticks 0.5 to 1.5 cm in diameter. A cup-shaped depression in the center of the assortment of sticks was lined with coarse grass. The adult ravens used fine grass and fur to shape the center cup of their nest. The cup of the nest was about 12 cm deep and the overall nest about 50-70 cm in diameter. The adults finished construction around 7 March.

On 26 March 1973, I rappelled over the nest cliff to find six eggs in the nest (Figure 1). Three to six eggs are usually laid (Goodwin 1976). On this and all subsequent visits to the nest the adult ravens stayed within 30-100 m of the nest and vocalized frequently. If only one of the pair was present when I arrived, its calls soon caused its mate to return to the nest area. Five days later (31 March) one egg showed signs of pipping. Incubation is usually 18-20 days (Harlow 1922, Tyrrell 1945, Gwinner 1965), indicating that egg laying probably started around 11-13 March. Murray (1949) noted that Common Ravens usually lay their eggs in the first half of March and that they typically hatch in early April. Gwinner (1965)



noted that adults usually pulled nest material up around the eggs, probably to aid in keeping them warm. I saw no evidence of this in the nests I examined.



Figure 1.

*Common Raven nest with six eggs.*

hatched eggs. On 7 April the four nestlings were 11 to 12 cm in length. Although all nestlings appeared about the same size, two seemed slightly darker and more active, perhaps because they were older. All four young begged for food if I made a noise near them and in doing so revealed brilliant red mouths.

On 12 April, about 12 days after the first egg hatched, the four young were about 20 cm in length (Figure 3). They were all still naked but had become dark pink in color. Although more filoplumes were present, they still lacked down feathers. Their eyes were open slightly to form narrow slits. Any noise or movement I made near them elicited a vigorous and noisy begging response, permitting me to see that the inside of their mouths was still bright red.

Gray down was beginning to grow on the young ravens on 14 March when they were probably about two weeks old. Primary and secondary flight feather sheaths were 1 cm long and feathers had not yet erupted. The nestlings begged actively and used their legs to lift their bodies up slightly as they begged. Although their eyes were slightly open, I was not sure if they could see clearly yet. On 16 March they opened and closed their eyes at will. The irises of their eyes were a smoky-gray and remained

Four young were in the nest on 3 April (Figure 2). They were pale pink and quite naked with only small filoplume feathers sparsely distributed over their feather tracts. The nestlings were about 7 cm long, had their eyes shut, and still had an egg tooth. No eggs or egg shells were in the nest. Gwinner (1965) reported that the female eats the shells after the young hatch. Apparently, the adults had removed the two un-



Figure 2.

*Newly hatched ravens with egg tooth still present.*



Figure 3.

*Young ravens about 12 days after hatching were dark pink and still quite naked.*

made and begged actively. On 21 April the four nestlings had gray down covering their feather tracts. They had no fear of me, begged actively, and watched my movement as I rappelled down to the nest. The inside of their mouths was still a brilliant red.

By 24 April contour feathers had grown over and covered up many of the gray down feathers (Figure 5). Although the four nestlings were still increasing in size, their growth appeared slower now than at first, perhaps because of the demands of feather production. On close examination, I noticed that one nestling was slightly larger than the two medium sized young and that the nestling deepest in the cave was slightly smaller than its three nest mates.

Only occasional little tufts of gray down feathers were visible on 29 April as contour feathers were almost completely grown. Although the nestlings begged when I made my initial descent, they huddled down in the nest and subsequently would not beg regardless of what sounds or movements I made. All four still watched intently.

that color through when I last saw them. All nestlings still begged if I made a noise or movement.

Primary and secondary flight feathers had erupted through their feather sheaths and extended about 1 cm from the 2 cm shafts on 18 April (Figure 4). Retrices and contour feathers had not yet erupted from 0.7 cm sheaths. The nestlings were now quite alert to my presence and followed my movements. They all still responded to noises I



Figure 4.

*Flight feathers had erupted from their sheaths when the ravens were about 18 days old.*

By 2 May the nestlings would not beg even on my initial descent (Figure 6). They crouched down in the nest, and one nestling even covered up its eye with its wing. Flight feathers were still growing out of the sheaths. Gray down feathers were only visible in a few places on the wings.

On 5 May the young were completely feathered with no gray down showing. They reacted to my presence as though I was a predator. On my arrival at the nest,

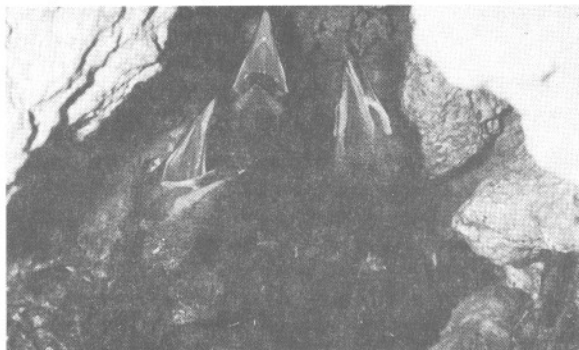


Figure 5.

*When about 24 days old, contour feathers had begun to cover up the gray down feathers.*

three of the young backed toward the edge of the nest and defecated toward me. They bit my hand now when I reached into the nest area to examine them. Several minutes after my arrival the largest nestling stood up and walked to the deepest portion of the nest in the small cave-like crevice.

By 10 May the young were all standing up in the nest and walking around the limited nest area.

They made no vocalizations and responded to me as though I was a threat. One young defecated at me as I rappelled down to a position even with the nest. On 12 May they were very hostile toward me (Figure 7). As on the previous two visits, they backed toward the edge of the nest and defecated at me when I arrived. For the first time they snapped their bills and displayed crown and throat feathers. They vigorously attacked my glove or gloved hand when I extended it toward the nest. While in a threat posture, the young held their bills open about 2 cm, permitting me to see that the inside of their mouths was still red, although somewhat duller than before.



Figure 6.

*Thirty-two day old ravens no longer begged for food when arrived at the nest, and they reacted to me as though I was a predator.*

On 14 May the young were taking turns (one at a time) standing at the entrance to the nest area and exercising their wings. They were all standing

when I arrived and retreated to the back of the cave-like crevice. I noticed that their activity had completely flattened the nest and knocked portions of it and clumps of the fur lining over the edge to the base of the cliff. The young remained silent during my visit but watched my movements carefully.

Two ravens were out of the nest and on ledges 1 and 5 m away from the nest site on 16 May (Figure 8). The other two young were still in the nest. To avoid disturbing the young, I did not rappel over the nest cliff. That evening the two young that were out of the nest flew back to it to spend the night in the nest. The adult pair of ravens was particularly vocal on this visit and flew closer to me than they had before even though I made no attempt to rappel over the nest cliff. The adults continued this very aggressive behavior until all young had fledged. However, they did not physically attack or throw rocks at me as reported by Janes (1976).

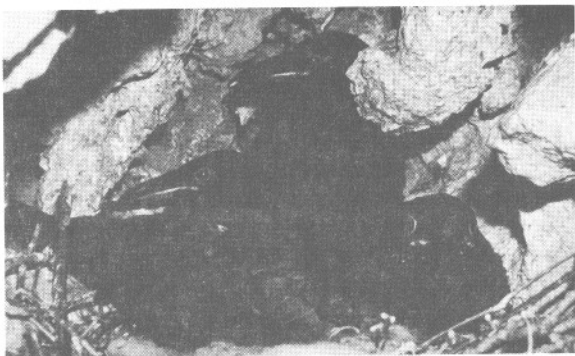


Figure 7.

*When six weeks old, the ravens would peck and bite my hand if I extended it toward them.*

On 18 May only two young remained in the nest area. Both had left the nest and were on ledges near the nest site. Although they were out of sight in the trees above and behind the nest cliff, I heard begging sounds from the young that had fledged earlier. By 19 May all the young had left the nest area and I heard begging sounds from them in the forest area above and behind the nest cliff.

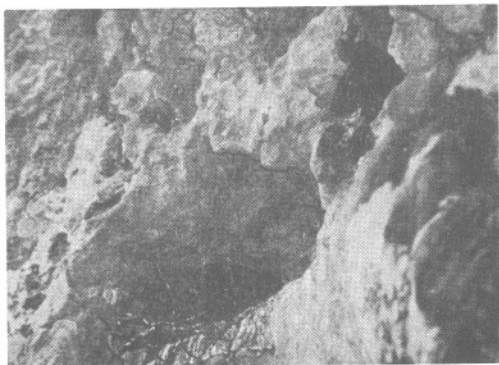


Figure 8.

*The young ravens began to leave the nest when they were about six and one half weeks old.*

On 25 May the young and parents were still near the nest cliff and I watched the young "practice" flying on the air currents above the nest cliff. The adults still gave excited vocalizations when spotting me. By 5 June the family group was still together. Zirrer (1945) also observed families of ravens in late June. Although the family ranged farther away from the nest cliff, it seemed to be the focal point of their home range through the end of August.

I saw only the adults in the nest area from November on into winter. The young had apparently dispersed to join flocks of other immature Common Ravens that ranged widely. I examined the nest area closely on 3 November. Only a small part of the nest remained. There was no sign of the two eggs that did not hatch or of two small young that may have died.

Peiffer (1975) thought that Common Ravens left the nest in about four weeks. Ravens in the nests I observed fledged in about 6 1/2 weeks. This agrees with Gwinner's (1965, Goodwin's (1976), and Wilmore's (1977) observations that young remain in the nest about 6-6 1/2 weeks. Goodwin (1976) also observed a nest with four young, and noted that young left the nest on different days.

I believe that ravens hatch asynchronously. My evidence for this is the size difference of the young I watched grow and the different times when young fledged from the nest. On other nests I visited where only two eggs had been present, I found one newly hatched nestling and one unhatched egg. Several days later two young were present indicating that the second egg hatched late. Goodwin (1976) reported that the female raven lays one egg in the morning on consecutive days. Coombs (1978) noted that ravens occasionally lay eggs on 2-day intervals. However, Gwinner (1965) and Dorn (1972) thought that true incubation, by the female only, began with the penultimate or last egg. In contrast, Stiehl (1978) reported that incubation started when the first egg was laid. This agrees with my observation of asynchronous hatching. Hooper *et al.* (1975) and Coombs (1978) also concluded that hatching was asynchronous.

Raven nests are quite vulnerable to predators and humans from the time the eggs are laid until the young fledge (9 weeks). Although many nests are relatively remote, nesting attempts close to human populations appear to have an increased threat from human activities. Peiffer (1975) regularly observed occasions when young ravens had been shot for "sport" after raven nests were discovered. Because ravens often use the same nest site for many years, there is a need to prevent the formation of trails near nest cliffs. Such trails may only increase the probability of detection and subsequent problems.

I thank Bill Bradley for the privilege of his friendship and comments about ravens, and his permission to make regular nest checks on a Common Raven nest cliff on his property over a six-year period. I also thank Bob Hooper for discussions that sparked my initial interest in ravens.

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## AMERICAN OYSTERCATCHERS ATTEMPT NESTING IN NORTHUMBERLAND COUNTY

JOYCE RUSSELL

In late May of 1985, Mike Craxton, a waterman, repeatedly observed a pair of American Oystercatchers, *Haematopus palliatus*, in the vicinity of one his crab traps on Barnes Creek. Subsequently, he found the "nest," a slight impression in the sand with two eggs in it. He told Bill Moore, an avid birder and member of the Audubon Society about the nesting pair and Mr. Moore relayed the information to me after verifying the site. The exact location is on a large island between Bluff Point and Indian Creek. The nest was on the protected side of the point opposite Bluff Point at the mouth of Barnes Creek in Northumberland County. There are two homes and an airport on the tract which is connected to the mainland by a bridge. By land, it is near Byrdton and the Indian Creek Yacht and Country Club.

My husband, Emerson, and I visited the site on 2 June and saw both birds wading around the area. I took some slides of the birds as well some photos of the eggs and surrounding area. We remained in the vicinity only a few minutes to keep disturbance to the birds at a minimum.

Mr. Moore told me that one egg was missing when he visited the site about a week later and that the birds had moved the other egg up the beach a short way. By the next week, the second egg was gone and the birds were back across the creek on Bluff Point where we had seen them earlier this year and last summer too. We returned to Bluff Point on 7 July, but did not see the birds.

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## **THE 1984 BREEDING BIRD FORAY AT THE BREAKS OF THE BIG SANDY**

**RICHARD H. PEAKE**

The seventeenth breeding bird foray, sponsored by the Research Committee of the Virginia Society of Ornithology, centered on the Breaks Interstate Park and surrounding areas of Buchanan and Dickenson Counties of Virginia as well as some portions of Pike County, Kentucky. The foray headquarters was at Breaks Interstate Park. Ken Markley, the Park naturalist, extended kind help with local arrangements. Directed by Richard Peake, the foray officially began 12 June and ran through 17 June. However, groups were in the field on 11 June and 18 June, and these records are included in the foray results.

Very little field work has been done in this part of Virginia, and this foray account will represent the first substantial published material on the breeding birds of Dickenson and Buchanan Counties. The major emphasis of the field work was upon the Park itself, a strikingly beautiful area which first came to the attention of the public in the short stories of John Fox, Jr. In ornithological groups, the area has best been known as one of the last places that the Peregrine Falcon nested in Virginia before the recent reintroduction of the species.

The Breaks lie at the northern end of what is known as the Cumberland overthrust block, which extends southwestward into Tennessee. It is 125 miles long and 25 wide (McGrain 1975). It is bounded on the southwest by the Jacksboro fault in Tennessee, on the southeast by the Hunter Valley fault in Virginia, on the northwest by the Pine Mountain fault in Kentucky, and on the northeast by the Russell Fork fault. The mountain ridge that resulted from movement of this large mass westward six miles pushed Devonian and Mississippian rocks up to form Pine Mountain, a long ridge which is crested with hard Pennsylvanian sandstone of the Lee formation.

Although Pine Mountain attains elevations over 3000 feet in Letcher and Wise Counties, the area around the Breaks rises no higher than 2800 feet at Cumberland Knob and 2600 feet around Skeggs Gap. The highest elevations within the study area are around Big A Mountain which reaches 3706 feet. The Breaks Park is bisected by the Russell Fork of the Big Sandy River. It follows the fault at the eastern end of the Cumberland overthrust block and then cuts across Pine Mountain and down to Elkhorn City, Kentucky (820 feet). Russell Fork has created a steep, narrow gorge through Pine Mountain, creating the spectacular scenery that is the main feature of Breaks Interstate Park.

Much of the area studied has been subjected to extensive surface mining, but the Park itself still provides much habitat that reflects what Buchanan and Dickenson Counties were like in their pristine state. It is hoped that this will not be destroyed by development, but the Kentucky park system, which co-manages the Breaks, tends to place undue emphasis on development; consequently much of the best habitat in the Park may be lost or compromised the future.



As complete a survey of the area as possible was made during the foray period, with several groups working an area on successive days. Less time was spent working in Buchanan County than in Dickenson. Special attention was given to finding evidence of breeding, and the efforts of the forayers were graced with excellent weather. The days were clear with lows in the fifties and highs in the eighties.

In interpreting the results, one should keep in mind the "common song effect," a term I am using to suggest that common birds whose songs are well known tend to be listed more often than uncommon birds whose songs are less well known to the observers. This is not to say that birds such as the Ovenbird and Hooded Warbler are not common. They are. However, their abundance relative to—say, the Swainson's Warbler—may be exaggerated. To reduce this possibility in the case of the Swainson's Warbler, an effort was made to familiarize all forayers with the Swainson's Warbler song.

In addition to the sightings presented in the annotated list, there were additional reports that were not thought sufficiently documented for inclusion. These are noted here as "hypothetical" for future reference; they are Golden Eagle, Peregrine Falcon, Red-headed Woodpecker, Olive-sided Flycatcher, Cliff Swallow, Western Tanager, and Evening Grosbeak. The foray list, therefore, totaled 108 species plus seven on the hypothetical list. This may seem somewhat low to those who have participated in forays at Mount Rogers and Tazewell, but it is important to keep in mind that the elevations in the Breaks area, except for Big A Mountain, are much lower than those just to the east, yet it is very interesting to find some species generally associated with higher elevations at very low elevations here.

It is interesting also to note some species that were not found. Although Bewick's Wren used to breed in the area, none was found. American Kestrel, American Woodcock, Loggerhead Shrike, Warbling Vireo, Savannah Sparrow, Grasshopper Sparrow, and Northern Oriole also went unrecorded.

Participation in this foray was excellent. The following 44 observers took part: Mary Arginteanu, Betsy Baker, Reba Baker, Robert Barbee, Laura Burrows, Charles Byrd, Jennifer Dalmás, John Dalmás, Thelma Dalmás, Antoine Decker, John Dillard, Gisela Grimm, Virginia Hank, Allen Hale, Jeremy Hale, Charles and Melva Hansrote, Helen Irving, Barry Kinzie, YuLee Lerner, Ken Markley, Clair Mellinger, Norwood Middleton, Dorothy and Mike Mitchell, Gene Moore, Myriam Moore, Isabel Obenschain, Robert Parcelles, Richard Peake, Mike Purdy, David Raines, Larry Robinson, E. E. Scott, Fred Scott, Philip Shelton, Zelda Silverman, Charles Stevens, Aaron Trent, Harry Turner, Robert Watson, Nathan Wright, John Wright, and Marie Zalesky.

For the purpose of this presentation, a list means a list of birds for any given day in the same area by the same party. In the following annotated checklist, observers have been noted by name when parties of two or less made the observation. When observations were made by groups larger than three, often the last name of one observer has been used followed by *et al.*

*Green-backed Heron.* Reported by only two parties on 13 June, this species was found by Kinzie and Purdy in the Cow Fork area of Buchanan County, and by Teuber *et al.* in Dickenson County. From other field work, I would suspect that the species is more common than these records suggest.

*Wood Duck.* Reported by several groups from Laurel Lake in the Breaks: the Mitchells recorded two adults and four young on 13 June, while Arginteanu and Robinson reported one adult and seven immatures. That same day Larner *et al.* discovered one bird at Willowbrook Country Club near the Park. On 16 June the Hansrotes found a bird in the Park and Scott and Dillard reported three females, one with five downy young. On 17 June Peake found an adult with eight young. Beyond the Park, Scott and Dillard found three adults and seven small young near Clintwood on 14 June.

*Mallard.* Two reports: the Mitchells saw a pair in the Park on 13 June, and Kinzie reported one bird along rt. 80 in Dickenson County on 15 June.

*Black Vulture.* One report—Barbee, Peake, and Stevens saw a bird soaring over Skeggs Knob at the Kentucky-Virginia line 16 June.

*Turkey Vulture.* Recorded by 27 groups from 12 to 17 June (17 of one or two birds): the Hansrotes found a high of nine in the Park 15 June and Middleton and Teuber found a kettle of 17 on 16 June in Buchanan County. Except near the Park and Flannagan Dam, vultures were not reported from Dickenson County. Considering the scarcity of vultures in Dickenson County as a whole and nearby Wise County, the numbers recorded on the foray are rather high and possibly reflect the opening of the habitat as a result of surface mining.

*Northern Harrier.* Middleton, Teuber, and Turner reported one bird from Upper Twin in Dickenson County. This is probably the first Dickenson County summer record of this species, which is rare at all seasons in southwestern Virginia County. Increasing numbers of records of harriers in recent years are probably the result of opening of habitat from surface mining.

*Sharp-shinned Hawk.* Three reports: on 13 June Peake found one bird on the Mullins Farm in the Park calling as if near a nest. Scott and Dillard found a bird in the Park on 14 June and Peake made a separate observation on the Prospector's Trail the same day.

*Cooper's Hawk.* One report by Middleton and Teuber, who found a bird in the gorge of the Breaks on 15 June.

*Red-shouldered Hawk.* Twelve reports scattered from 12 to 17 June, all from Dickenson County, suggest that this species has been reduced in Buchanan County by heavy surface mining. Decker *et al.* found a pair near the Flannagan Reservoir at Upper Twin on 14 June.

*Red-tailed Hawk.* Six scattered reports of single birds between 12 and 17 June. Stevens and Barbee saw a bird carrying food in Buchanan County on 17 June.

*Broad-winged Hawk.* Sixteen groups reported this species. All reports except two were of single birds. No group reported more than two birds on any day.

*Ruffed Grouse.* The majority of the 12 reports were from Dickenson County, but Barbee and Stevens found a young bird out of the nest in Buchanan County on 14 June. Markley and Raines reported three young from Garden Hole in the Park 11 June, and Mary Arginteanu and Larry Robinson discovered a high of nine birds, seven of them immature, below Skeggs Gap. Elsewhere they listed two young in the Crane's Nest area on 16 June.

*Northern Bobwhite.* Fourteen reports of Northern Bobwhite were submitted, but only three from Buchanan County. Hank and Irving saw a pair on 13 June on Middle Fork. On 16 June the Dalmases listed a high of seven in Dickenson County. Foray records probably understate the population, for Peake listed eight singing males on a breeding bird survey in Dickenson County on 27 June.

*Wild Turkey.* Since Wild Turkeys are known to be in the Park, it was disappointing that none were reported from there. There were only four reports, only one of which was from Buchanan County, a pair found on Big A Mountain by Markley and Peake on 12 June.

*Virginia Rail.* On 11 June, Middleton, Peake, Teuber, and Turner heard a bird in a marsh on Cow Fork. The bird responded to Virginia Rail tapes for about 15 minutes, but gave the observers no more than a fleeting glimpse as it moved through the marsh grasses. In a cattail marsh a little further up Cow Fork, a rail thought to be of this species responded to clicking rocks on 15 June for Dillard, Peake, Raines, and Scott.

*Killdeer.* Scarce—the Hales found two Killdeer at the high school in Clintwood, and the Dalmases listed eight on rt. 649 in the Caney Ridge area, including two adults with three young.

*Rock Dove.* Eight reports included a high of 21 birds listed 15 June by the Dalmases in Elkhorn City, Kentucky. Elsewhere there was a report of 15 birds near the Flannagan Reservoir on 14 June, although some doubt was expressed about whether these birds were truly feral. Wright listed 10 in Dickenson County on 16 June.

*Mourning Dove.* Thirty-two reports from widely-spread areas included a flock of 12 birds found at the maintenance shed in the Breaks by Peake on 15 June. The Hansrotes recorded a high of 10 in Buchanan County on 14 June.

*Black-billed Cuckoo.* Three reports, one from the Park (Larner *et al.*, 13 June). Two reports came from Buchanan County, one by Barbee and Stevens 17 June, and the other by Markley and Peake from Big A Mountain (below 2500 feet) 12 June.

*Yellow-billed Cuckoo.* Thirty-six field cards listed this species in a large number of areas, with a high of eight recorded on 13 June and 15 June in the Cow Fork area of Buchanan County. A high of three calling birds was heard in the Park.

*Eastern Screech-Owl.* Twelve reports from 11 June through 18 June, two from the Breaks, primarily of calling birds. No group reported more than two birds, but since the calling of this species diminishes during the early summer, these reports from widely scattered areas suggest a fairly sizable population.

*Great Horned Owl.* Three reports, one of a bird heard calling in the park early in the morning in the southeastern corner of the Elkhorn City quadrangle by Peake on 13 June. Parcelles and Zalesky reported one on 14 June from rt. 750 in the Upper Twin area. The only record of a bird from Buchanan County was one found in the Cow Fork area on 14 June (Peake, Teuber *et al.*). Forayers did not make a special effort to find owls; the population of these species is probably larger than these records suggest.

*Whip-poor-will.* There were seven reports 11 June through 16 June, two of which listed three birds. Since no group worked specifically to find this species, these records probably understate the population. Barbee, Peake, and Stevens flushed a bird off a nest containing two eggs at an elevation of about 2200 feet on Pine Mountain on 16 June.

*Chimney Swift.* Thirty-one groups reported this species from throughout the study area. Dillard and Scott listed a high of 7 in Buchanan County on 15 June.

*Ruby-throated Hummingbird.* The twenty-nine reports of this species came primarily from Dickenson County, but this may be a result of more work on foot in this county. The Hansrotes found the foray high of 3 birds in Buchanan on 14 June. The Mitchells recorded a pair in the Park on 13 June, and Markley, Peake, and Raines located a pair at Potter's Flat in the Kentucky portion of the Park on 18 June.

*Belted Kingfisher.* The eleven reports of this species came primarily from Dickenson County, although the Hansrotes found a high of 4 in Buchanan County on 15 June. A local naturalist, Fred Clevinger, reported finding a nest near the Breaks.

*Red-bellied Woodpecker.* Twenty parties listed this species, eight of the reports coming from the Park. Larner *et al.* had a high of 5 on 14 June in the Upper Twin area near Flannagan.

*Downy Woodpecker.* Thirty reports fairly evenly distributed over the study area suggest that this species is fairly common. Kinzie and Purdy found a pair on Cow Fork and Larner *et al.* observed a pair engaged in courtship behavior in the Park on 13 June.

*Hairy Woodpecker.* The large majority of the sixteen reports, all except one of single birds, came from the Park. In the Park, Peake found a bird engaged in nest maintenance on 13 June; Barbee, Peake, and Stevens noted a young bird begging food from an adult on 15 June on Pine Mountain; and the Moores observed a young bird being fed on 16 June.

*Northern Flicker.* Forty-six field cards listed this species, which appeared to be more or less evenly distributed throughout the region where suitable habitat occurred. Dillard and Scott listed a high of six on 15 June in Buchanan County. Ken Markley saw a flicker at a nest cavity in the Park on 13 June, and the Hansrotes and Mitchells saw a bird in Buchanan county carrying food (14 June).

*Pileated Woodpecker.* This species was listed on 42 field cards, but only five reports came from Buchanan County, suggesting a lack of appropriate habitat there, even though the foray high of five was found in the Cow Fork area by Kinzie and Purdy on 13 June. Markley, Peake, and Raines heard a bird drumming at Potter's Flat on 18 June.

*Eastern Wood-Pewee.* Fifty-four parties reported pewees, with a high of 10 singing males on Big A Mt. (12 June, Markley and Peake).

*Acadian Flycatcher.* Represented on 63 field cards, the Acadian Flycatcher was evenly distributed and common in suitable habitat throughout the study area. The Hansrotes and Mitchells listed 27 in Buchanan County 15 June, and Dillard and Scott heard 28 singing males in Dickenson County 13 June.

*Willow Flycatcher.* Seven parties found this species, a high of three being listed in Buchanan County on 16 June (Middleton and Teuber). Other reports were from Middle Fork and Cow Fork in Buchanan and Caney Ridge in Dickenson County.

*Least Flycatcher.* Reports of this species were limited to the Park and nearby Middle Fork. On 13 June (Mitchells) and 14 June (Hansrotes and Mitchells) on Laurel Branch Trail. Dillard, Scott, and Peake heard two singing males on Middle Fork 15 June and Dillard and Scott heard another at a different spot on 16 June. Peake found one bird at the original location on 17 June.

*Eastern Phoebe.* Evenly distributed over the area where suitable habitat exists, the phoebe was reported by 57 parties from 13 through 18 June. Dillard and Scott had a high of 28 singing males in Dickenson County on 13 June, and the Hansrotes and Mitchells listed 27 birds in Buchanan County on 15 June. There were three nesting records all from Buchanan County: Hank and Irving found a nest and an adult carrying food on Middle Fork 13 June; the same day Kinzie and Purdy observed courtship and found a nest on Cow Fork; on 14 June Barbee and Stevens discovered a nest with four eggs at Tug Fork.

*Great Crested Flycatcher.* Forty-seven reports were distributed evenly throughout the study area, with a high of eight in the Park (12 June, Parcelles and Zalesky) and eight singing males on Big A Mountain (12 June, Markley and Peake). A pair was found by the Mitchells in the Park on 13 June and on 14 June by Larner *et al.* in the Upper Twin area. Grimm, Hank, Irving, and Silverman saw a bird gathering nesting material on Middle Fork (14 June).

*Eastern Kingbird.* Of the 11 parties that listed this species, only one reported more than two birds. Wright listed a high of eight birds in Dickenson County (16 June). At Crane's Nest a bird was observed carrying a fecal sac (15 June, Teuber *et al.*).

*Purple Martin.* Three reports, one from Cow Fork (13 June, Kinzie and Purdy) and two from Dickenson County: the Dalmases noted four on rt. 620 on 15 June and observed food being carried to a nest box.

*Northern Rough-winged Swallow.* Forty-seven reports from throughout the area indicate that this is a common breeding bird. On 15 June, Dillard, Peake, and Scott saw 80 birds (presumably adults and young of the year) perched on wires on Middle Fork. Teuber *et al.* saw a bird carrying food to a nest at Flannagan Dam on 13 June. Nearby, Decker *et al.* counted 60 and found a nest at Upper Twin on 14 June. Larner *et al.* discovered a bird on the nest near Grundy 15 June, and Peake observed a pair engaged in courtship on Wolfpen Branch, just outside the Park in Kentucky, on 18 June.

*Barn Swallow.* This species appeared on 30 lists, the high count being the 82 found by the Dalmases on Caney Ridge, where they also observed young being fed. On 13 June, Kinzie and Purdy observed courtship and found three nests on rt. 609 in the Cow Fork area, where Byrd and Watson found an additional nest on 16 June.

*Blue Jay.* Sixty-two reports from all sections of the study area from 11 to 18 June testify that this is a common breeding bird. The high county of 20 was made by Middleton and Teuber in Buchanan County on 16 June. Larner *et al.* found a fledgling in the Park on 13 June.

*American Crow.* The high county from 74 reports was 25, made in the Upper Twin area (Larner *et al.*, 14 June). Peake heard a fledgling calling on Middle Fork (14 June), and Middleton and Teuber found adults with young two miles east of rt. 643 in Buchanan County.

*Common Raven.* Nine reports provided evidence that the Raven is continuing to expand southwestward into what was probably its historical range (no early Kentucky records were accepted by Mengel). The high count was three on Big A Mountain (Markley and Peake, 12 June). On 13 June three groups recorded this species in the Park, where Laura Burrows heard two call.

*Carolina Chickadee.* Sixty-three reports suggest that this species is fairly common, although less common in Dickenson County than Buchanan—a high count of 12 was made 13 June by Kinzie and Purdy at Cow Fork. Larner *et al.* observed courtship and the feeding of young in the Park in the southeastern corner of the Elkhorn City quadrangle on 13 June. On 14 June the Mitchells and Hansrotes noted a pair in Buchanan County while Decker *et al.* discovered a fledgling in Dickenson County at Upper Twin. Peake found a family group of four birds in the Park on 15 June, and Barbee, Peake, and Stevens encountered another on Pine Mountain (16 June). On 16 June Arginteanu and Robinson saw a bird entering a nest hole on rt. 670 near Crane's Nest and another near Counts, where Peake heard a bird give a three-note song (evidence of possible hybridization with the Black-capped Chickadee) 17 June. He heard another on 18 June at Wolfpen Branch, Kentucky.

*Tufted Titmouse.* Seventy-two field cards listed titmice, the Hansrotes noting a high of 28 in Buchanan County on 15 June. They found two adults with two young in the Park on 13 June, and the Hales discovered a family group on 15 June. Barbee, Peake, and Stevens observed a pair engaged in courtship on Pine Mountain (16 June).



*Red-breasted Nuthatch.* Barry Kinzie offered a detailed description of a single bird of this species that he found on 15 June in a stand of conifers on rt. 80 in Dickenson County. Peake was unable to find the bird again on 17 June, suggesting that it was a wanderer.

*White-breasted Nuthatch.* Although no party reported more than five, 29 parties reported this species. The Mitchells found a family group in the park on 12 June.

*Carolina Wren.* This species was listed 65 field cards. High counts of 31 (Dickenson, 13 June) and 39 (Buchanan, 16 June) by Dillard and Scott suggest that this species is common. Courtship and the feeding of young was noted by Kinzie and Purdy in the Cow Fork area on 13 June.

*House Wren.* There were only three reports. On 14 June the Hansrotes found one in Buchanan, and Arginteanu and Robinson located two in Dickenson. At Leemaster, on 15 June, the Hansrotes found two.

*Blue-gray Gnatcatcher.* Forty-six foray parties found gnatcatchers. Wright *et al.* made the high count of 12 in Dickenson County on 16 June.

*Eastern Bluebird.* The high count (19) of 36 reports was made on Caney Ridge in Dickenson on 16 June by the Dalmases, who also observed birds feeding young in the nest. The same day the Moores found three young at the Buchanan airport. The Hansrotes found four young in Buchanan on 15 June. On 14 June, Obenschain *et al.* found a bird on the nest at Upper Twin; Hale observed birds feeding young at Bartlick (rt. 611); and Hank *et al.* observed food being taken to a nest at Willowbrook County Club, where they and Larner *et al.* had noted a pair carrying food on 13 June. Markley and Raines saw young being fed at Lower Twin on 13 June.

*Veery.* Markley and Peak found two Veeries on Big A Mountain on 12 June. There were no other reports.

*Wood Thrush.* Sixty-nine parties listed this species. The high counts being made in Dickenson (56) by Wright *et al.* on 16 June and in Buchanan (55) by the Hansrotes on 15 June. Larner *et al.* heard 27 singing males at Upper Twin on 14 June. The Dalmases observed a bird carrying food in the Park (14 June).

*American Robin.* Of the 65 parties that recorded this species, the Dalmases made a high county of 71 on Caney Ridge on 16 June which included a fledgling. Two fledged young were reported from Middle Fork by Hank and Irving (13 June). The same day Larner *et al.* found a fledgling at Willowbrook and pair in the Park. Dillard and Scott observed the feeding of young near Haysi. On 14 June Hansrote and Mitchell noted a bird carrying food.

*Gray Catbird.* A fairly common summer resident, this species appear on 50 field lists, the records evenly distributed through the study area. Middleton and Teuber recorded a high of 16 in Buchanan on 16 June.

*Northern Mockingbird.* This species was very uncommon, appearing on only seven field lists. Markley and Peake saw a bob-tailed fledgling in Buchanan on 12 June (rt. 602); the other reports were from Dickenson, where Parcelles and Zalesky noted a high of six on 14 June.

*Brown Thrasher.* There were 40 reports of thrashers from throughout the area. Teuber *et al.* encountered an adult with young in Dickenson County on 13 June, and on 14 June, Peake observed a bob-tailed fledgling near Haysi. Larner *et al.* watched nest building in the Upper Twin area (14 June).

*Cedar Waxwing.* Thirty-five parties listed waxwings, the Dalmases making the high count of 21 at Caney Ridge on 13 June. Laura Burrows found a pair in the campground of the Park on 13 June, and the Hansrotes and Mitchells noted a pair in Buchanan on 14 June.

*European Starling.* Of 28 reports, the Dalmases had a high of 36 near Council on 15 June. They also watched a young bird being fed. Larner *et al.* encountered a fledgling at Willowbrook on 13 June. The Hansrotes and Mitchells found another on 14 June and observed a young bird being fed on 15 June elsewhere in Buchanan. At Crane's Nest, Arginteanu and Robinson saw nest building underway on 16 June, and on that date the Dalmases observed a bird going to a nest on Caney Ridge.

*White-eyed Vireo.* Despite 45 lists reporting this species, no confirmed breeding evidence was found. Several groups found as many as 11 birds, Scott *et al.* finding 11 singing males in Buchanan County on 15 June.

*Solitary Vireo.* The 30 records of this species included several confirmed breeding records. The high count of nine was made by Barbee, Stevens and Peake on Pine Mountain (16 June). Peake observed two adults feeding young in a nest just below 1000 feet beyond the Mullins Farm in the Park (13 June); the same day Kinzie and Purdy found two adults feeding fledged young in Middle Fork (elevation 1450 feet).

*Yellow-throated Vireo.* Of the 62 reports, a large number (28) were from the Park. This species was definitely more common in Dickenson than in Buchanan County. Despite the large number of records, no confirmations of breeding were submitted.

*Red-eyed Vireo.* The 82 reports of this species from throughout the area indicate that this is a very common breeding species. Dillard and Scott had a high of 115 singing males in Buchanan County on 13 June. On 12 June Markley and Peake found a Red-eyed Vireo nest on Big A Mountain containing two vireo eggs plus one cowbird egg. Shelton and Mellinger found a bird on the nest at Big A, and Larner *et al.* found an adult feeding young on rt. 611 in the Upper Twin area on 13 June. The Dalmases saw a bird carrying food in the Park and Barbee, Stevens and Kinzie located three young in a nest at Tug Fork in Buchanan on 14 June.



*Blue-winged Warbler.* There were 12 reports, the majority from Buchanan. Dillard, Peake, Raines, and Scott made the high count of 13 singing males in Buchanan on 15 June. David Raines (personal communication) states that this species has been moving into the area since about 1982. It is evidently moving up the drainage of the Big Sandy and is moving up the Pound River to Dickenson and Wise Counties, where it has not previously been recorded during the breeding season. This has serious negative implications from the southwest Virginia population of the Golden-winged Warbler, since, where the two occur and hybridize, the Blue-wing genes tend to submerge the Golden-wing. Teuber *et al.* suspected breeding at Upper Twin on 13 June, and Peake found a pair engaged in courtship behavior in Cow fork on 14 June.

*Golden-winged Warbler.* Eight reports, the majority from Dickenson County, suggest that this species is already feeling the effects of competition with the Blue-wing. On 13 June, Dillard and Scott found a sing male at 1650 feet in Dickenson.

*Brewster's Warbler.* Further evidence for the breeding of both Blue-wing and Golden-wing was obtained by Middleton and Teuber on 14 June on Buchanan rt. 642 when they discovered a Brewster's- type hybrid. Dillard and Scott found the bird again on 17 June still singing a two-note Blue-wing song.

*Northern Parula.* The 61 reports of this species, 27 from the Park, suggest that is a common breeding bird where suitable habitat occurs. Wright made the high county of 23 in Dickenson on 16 June. Larner *et al.* saw a bird carrying food on rt. 609 in Buchanan on 15 June.

*Yellow Warbler.* Of 48 reports from throughout the area, the high count of 17 was made by Middleton and Teuber on 16 June in Buchanan. Though as many as 12 singing males were listed (Scott *et al.*, 15 June), no confirmation of breeding was obtained.

*Chestnut-sided Warbler.* The only reports of this species came from Big A Mountain where Markley and Peake found three on 12 June and Shelton and Melinger found one on 13 June.

*Magnolia Warbler.* Parcelles and Zalesky gave a description of a bird fitting this species that they saw at State Line Overlook on 11 June. They heard the bird singing below the overlook the next day. Markley and Peake hear the bird singing there 15 June. Although this species occurs regularly during the breeding season on Mt. Rogers and Whitetop, this record is certainly unusual.

*Black-throated Blue Warbler.* The 16 reports of this species, many from elevations below 2000 feet, appear somewhat surprising, but this species was probably found commonly at lower elevations before the cutting of the original forest. On 12 June, Markley and Peake reported a high of 21 from Big A Mountain, and Dillard and Scott listed nine singing males at 2500 feet and higher in Dickenson County on 14 June. On 12 June, Peake found six birds at elevations from 1800 to 1600 feet between Clinchco and Haysi. There were four reports from the Park, where elevations range below 1800 feet, and Scott *et al.* found a bird at 1600 feet in Cow Fork 15 June.

*Black-throated Green Warbler.* Twenty-six of the 40 reports came from the Park, and the species becomes less common as one moves eastward from Pine Mountain. Foray records support Mengel's suggestion that the distribution of this bird in the southern Appalachians with cool cove forests, which have been heavily subjected to surface mining in Buchanan and Dickenson. High counts of 15 (Hales, 15 June) and 16 (Peake, 13 June) were made in the Park. Dillard and Scott had two singing males below 1250 feet in Dickenson on 13 June, and Markley, Peake, and Raines had three below 900 feet at Potter's Flat in the Park on 18 June.

*Yellow-throated Warbler.* The Park supplied 24 of the 45 reports of this species, which was commonly found in the pines that lined the upper edge of the gorge escarpment. Dillard and Scott made the high count of nine singing males in Dickenson on 13 June.

*Pine Warbler.* Those unfamiliar with birding in the Cumberlands may find the lack of Pine Warbler strange, but the species is completely absent from much of southwest Virginia. Therefore the fact that there were only three reports of single birds on 13 June is not surprising. Peake heard a singing bird in the Park; Hank and Irving reported one from Middle Fork; and Shelton and Mellinger recorded a bird probably of this species on Big A Mountain.

*Prairie Warbler.* There were 20 reports of this species, the high count being made at Lower Twin by Markley and Raines on 13 June. Arginteanu and Robinson obtained the foray altitude of 2600 feet for this species at Skeggs Gap. Middleton, Teuber, and Turner confirmed breeding for this species on rt. 615 near Upper Twin.

*Cerulean Warbler.* Uncommon—all but four of the 26 reports of this species were from Dickenson County, but Markley and Peake heard five singing males on Big A Mountain on 12 June, and Scott *et al.* heard four elsewhere on 15 June. The majority of the other reports were of single birds.

*Black-and-white Warbler.* The 64 reports from throughout the study area suggest that this is a common breeding bird with high counts of 17 from Buchanan (Middleton and Teuber, 16 June) and 16 from Pine Mountain (Stevens *et al.*). Dillard and Scott had 14 singing males in Dickenson and Lerner *et al.* a pair in the Park on 13 June. Also in the Park, Laura Burrows saw a bird carrying food on 14 June and Markley observed an adult feeding young on 16 June. Raines *et al.* saw a young bird begging for food in Cow Fork 15 June.

*American Redstart.* The high count (11) of 34 reports was made on Big A Mountain 12 June (Markley and Peake), and Dillard and Scott listed 10 singing males in Dickenson on 13 June. The Dalmases observed a bird carrying food on Caney Ridge (16 June).

*Prothonotary Warbler.* Arginteanu and Robinson reported seeing a female of this species on the Garden Creek Trail in the Park. This was probably a wandering bird, although the species is known to have a sparse population in the Holston River drainage in not-to-distant Smyth County.

*Worm-eating Warbler.* This species was included in 45 reports, 25 from the Park where a high of 11 birds was listed by two groups. Scott *et al.* noted five singing males in the Buchanan on 17 June, but the species appeared more abundant in Dickenson County. Mellinger Shelton found a bob-tailed young bird in the Park on 15 June.

*Swainson's Warbler.* Since Mengel has noted the abundance of this species along the Kentucky-Virginia border when he did his field work, a special effort was made to determine its current status. Of the 38 reports, 25 were from the Park with a high of five singing males on 13 June (Peake). Elsewhere Teuber *et al.* found four at Upper Twin on 13 June and noted probable breeding. Parcelles and Zalesky listed six there on 14 June. Though the singing males at Garden Hole and along the rim of the gorge in the Park were heard by many groups on successive days, further evidence of breeding was not obtained. It is obvious that this species is still fairly common in the study area wherever the preferred habitat (steep, humid slopes with hemlock and rhododendron between 1000 and 3000 feet) exists.

*Ovenbird.* This species was represented on an amazing 82 field cards. The high count of 68 was made by Barbee, Peake, and Stevens on Pine Mountain (16 June), who also found a fledgling and a nest with four eggs. Markley and Peake observed a pair displaying on Big A Mountain (12 June), where Mellinger and Shelton discovered a bird on 13 June carrying a fecal sac as well as an adult at a nest with four young. Peake noted two pairs displaying at Garden Hole on 13 June. The Hansrotes discovered a fledgling in Buchanan. In the Park, Dillard and Scott found a fledgling on 14 June, and Scott and Wright observed young being fed the next day.

*Louisiana Waterthrush.* Fifteen of the 30 reports of this species came from the Park, where Arginteanu and Robinson listed a high of four on 16 June. An immature was found in the Park by the Hales on 12 June.

*Kentucky Warbler.* Fairly well distributed over the study area, the 55 reports for this species indicate a greater population density in the Cow Fork area of Buchanan than elsewhere. Kinzie and Purdy recorded 19 singing males there on 13 June; Dillard *et al.* 19 singing males in the same general area on 15 June; and Wright *et al.* listed 17 birds in the area on 17 June. Dillard and Scott found a bird as high as 2600 feet in Dickenson on 14 June.

*Common Yellowthroat.* There were 46 reports of this species, the high county being 17 by Scott *et al.* on 15 June. Markley and Peake found one just below 2500 feet on Big A Mountain (12 June). On 17 June, Dillard, Peake, and Scott observed a male feeding two young on Middle Fork.

*Hooded Warbler.* Rivaling the Ovenbird, this species appeared on 81 lists, 39 of which were from the Park, although this species was found widely throughout the study area. The high count of 30 was made on Big A Mountain on 12 June (Markley and Peake). On 13 June in the Park, the Mitchells found a pair and a bird carrying food, and Peake found a fledgling with head still fuzzy on the Mullins Farm. Also in the Park (15 June) Peake observed a pair copulating.

*Yellow-breasted Chat.* Apparently fairly common where suitable habitat is present, the chat appeared on 50 lists, the high count being 18 singing males on 15 June in the Cow Fork area (Scott *et al.*).

*Summer Tanager.* Surprisingly common in view of its scarcity just to the east at Tazewell, this species appeared on 39 lists. The Hansrotes had a high count of six in Buchanan on 15 June. On 13 June Larner *et al.* noted a pair in the Park; Teuber *et al.* located another pair at Upper Twin; and Kinzie and Purdy found a third at Cow Fork. On 14 June, Decker *et al.* found another pair in the Upper Twin area, and the Dalmases reported downy young in a nest in the Park.

*Scarlet Tanager.* Fairly evenly distributed through the study area, this species was present on 71 field lists. Larner *et al.* made the high count (15 singing males) at Upper Twin on 14 June. On 13 June, Kinzie and Purdy found a pair at Cow Fork, and Hank and Irving watched an adult carrying food at Middle Fork, where they found a fledgling the next day.

*Northern Cardinal.* Sixty-eight lists distributed evenly through the study area noted this species. Middleton and Teuber made the high count of 28 in Buchanan on 16 June. Larner *et al.* found pairs in the Park and nearby at Willowbrook. Dillard and Scott discovered a young bird being fed in Dickenson on 14 June. A bird on the nest was located by Larner *et al.* in Dickenson.

*Rose-breasted Grosbeak.* There were seven reports with a high of four on Big A Mountain (Markley and Peake, 12 June). Mellinger and Shelton listed two on Big A Mountain (13 June), and Stevens *et al.* reported three on Pine Mountain. It was noted at much lower elevations also: the Mitchells found one in the Park (13 June); the Moores listed one on rt. 80 (15 June); Wright noted two at a low elevation on rt. 607 (16 June); and Markley, Peake, and Raines heard three at Potter's Flat (18 June).

*Blue Grosbeak.* All but one of the 11 reports were from Buchanan County. Hank and Irving found a female at Middle Fork (13 June); Teuber *et al.* located a bird there the next day; and Dillard, Peake, and Scott heard a singing male on 15 June and listed a bird there 17 June. On 16 June, Middleton and Teuber found an immature male. The Dalmases noted two birds in the Park on 14 June.

*Indigo Bunting.* The high count among 66 lists was one of 97 made by the Hansrotes in Buchanan on 15 June. Larner *et al.* heard 43 singing males in the Upper Twin area. Markley and Raines found a pair in Middle Fork on 11 June, and Kinzie and Purdy noted another in Cow Fork on 13 June. Middleton and Teuber discovered adults with young in Buchanan on 17 June.

*Rufous-sided Towhee.* Evenly distributed through the study area, the 66 reports of towhees indicate a fairly common breeder. Teuber *et al.* made a high count of 23 in the Upper Twin area on 13 June. The same day Mellinger and Shelton found a pair on Big A Mountain.

*Chipping Sparrow.* There was evidence of breeding in the 54 reports submitted. The high count of 41 was made on 16 June at Caney Ridge, where the Dalmases also witnessed young being fed. Larner *et al.* observed courtship at Willowbrook on 13 June, and the Dalmases watched nest building in the Park the next day. The Hales noted courtship at Middle Fork on 16 June.

*Field Sparrow.* the 31 evenly distributed reports of this species suggest that population is limited by scarcity of suitable habitat. Scott *et al.* made a high count of 14 in Buchanan on 15 June, but no confirmation of breeding was obtained.

*Song Sparrow.* Evidence confirming breeding was supplied by the 61 reports of this species. On 16 June, two groups made high counts of 52 in Dickenson, Wright *et al.* and the Dalmases, who also found a bird building a nest on Caney Ridge. Kinzie and Purdy observed courtship and young being fed in Cow Fork. On 14 June, the Hansrotes and Mitchells noted a bird carrying food in Buchanan. The same day Mellinger and Shelton observed the feeding of young in the Park.

*Dark-eyed Junco.* The only report was from Big A Mountain, where Markley and Peake found three birds on 12 June.

*Red-winged Blackbird.* The 22 reports were scattered throughout the study area. The Dalmases made a high count of 27 on 16 June at Caney Ridge, where they also observed a young bird being fed. Kinzie and Purdy noted a pair at Cow Fork (13 June).

*Eastern Meadowlark.* There were 24 reports of this species, the high count of 26 at Caney Ridge being made by the Dalmases, who also noted adults with young. This species has probably increased as a result of the extensive surface mining in the area.

*Common Grackle.* Sixteen parties submitted lists with this species, which was uncommon. The high count (18) was made at Caney Ridge by the Dalmases, who also noted a bird carrying food, but almost all of the reports were of one or two birds.

*Brown-headed Cowbird.* This species appeared on 47 lists. Kinzie and Purdy made a high count of 12 in Cow Fork, where they also found a pair (13 June). The same day Larner *et al.* found a pair at Willowbrook. On 12 June, Markley and Peake found a Red-eyed Vireo nest (see above) containing a cowbird egg on Big A Mountain.

*Orchard Oriole.* Orioles appeared quite scarce in the study area. There were only nine reports of this species and none of Northern Oriole. A high count of four was made in Cow Fork by Kinzie and Purdy, who found a pair. At Crane's Nest (rt. 637) on 15 June, Hank *et al.* observed a male carrying food.

*House Finch.* There were five reports of single birds, suggesting that this species has not become established this area, although they are well established in nearby Tazewell and Wise. Markley and Peak found one at the foot of Big A Mountain on 12 June, and Markley and Raines located another on Middle Fork the next day. The Dalmases noted one near Council (15 June). Near Haysi, Par-

celles and Zalesky listed a bird on 14 June, and Wright found another in Dickenson (16 June).

*American Goldfinch.* The 51 reports of goldfinches indicate they were still largely in flocks. Markley and Raines made a high count of 20 at Middle Fork on 11 June, and counts of 17 to 19 were common during foray week. Kinzie and Purdy discovered a pair in Cow Fork (13 June).

*House Sparrow.* Ample evidence of breeding was found in the 35 reports of this species. A high count of 55 was made in Buchanan County on 16 June by Middleton and Teuber, who also noted young being fed. On 13 June Lerner et al. saw a fledgling at Willowbrook, and Teuber *et al.* found two nests at Upper Twin. At Caney Ridge on 16 June the Dalmases noted a nest being built. The same day Byrd and Watson saw a bird carrying food to a nest at the Buchanan airport.

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**SCISSOR-TAILED FLYCATCHER IN WESTMORELAND COUNTY****J. ENOCH JOHNSON**

About 10:30 a.m. on 14 June 1985, Frank Laubinger of the Westmoreland Bird Club called to report that his wife, Alice, had just seen a Scissor-tailed Flycatcher, *Tyrannus forficatus*, along a road leading to their home near Oak Grove, Virginia. The sighting was near the intersection of rts. 628 and 705, north of Oak Grove. About noon Mimi Furcolow, also a club member, observed the bird making repeated sorties from a utility wire line in the same area. My wife, Sylvia, and I arrived at the Laubinger home about 4:30 p.m. With Frank Laubinger we drove back to the area along rt. 705 to rt. 628 without seeing the bird. Rt. 605 ran between two barley fields; one had been freshly cut and the other was being cut. We drove further down rt. 628 to a loop road past more fields without success. As we returned to rt. 705, we stopped and I saw the flycatcher fly up beyond a ridge in the cut-over field. The bird repeatedly few up about 10-15 feet into the air and then dropped back to the ground. The bird was light gray, darker on the wings, with pink along the sides and under the wings. As it dropped back to the ground, it spread its tail scissor-like and the tail was black with white feathers along each outer edge. We watched this performance for about ten minutes. Apparently large insects flew up, the flycatcher flew up to get them, then floated back down. In all, five of us, all members of the Westmoreland Bird Club, saw this Scissor-tailed Flycatcher. Several other birds tried to find it over the next few days without success.

**Notes:**

(1) The site of these sightings is about two air miles from the location of the Scissor-tailed Flycatcher observed from 9-12 July 1984 as reported in our 1984 summer season notes to American Birds.

(2) The length of the tail of the 1985 bird was noticeably shorter than that of the 1984 bird, although still spectacular.

Route 3, Box 212, Montross, Virginia 22520

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PARASITIC JAEGER AND HUDSONIAN GODWIT  
AT ALEXANDRIA, VIRGINIA  
JACKSON M. ABBOTT

On 7 September 1985, David Czaplak of Washington, D.C. called me in the early afternoon to say that he had seen a light-phase Parasitic Jaeger, *Stercorarius parasiticus*, that morning in the Potomac River at the south end of National Airport. He said the bird stayed alone, either sitting in the river or making short flights and occasionally chasing a Ring-billed Gull. That afternoon I spent over an hour looking for the jaeger and looked for it again on Sunday with no luck. However, Mr. Czaplak saw it again on Sunday in the Potomac off the U.S. Naval Research Laboratory where he works, about a mile downstream from the airport. Finally, on Monday, 9 September, at 9:20 a.m., I located the jaeger. I was standing on the shore at the south tip of the mouth of Four Mile Run Bay, just east of the Washington Marina, when I heard a unique bird-cry overhead. I looked up and there was the jaeger flying over at about 100 feet elevation, moving up the Virginia shoreline. As it flew away from me, it veered out to the river and landed in the water about 150 yards away. As it landed, it showed extensive white areas at the base of the primaries, a white belly with a dark band across the chest, and considerable barring on the flanks. On the water it superficially resembled an immature Laughing Gull, but had a much thicker neck and smaller bill and a rounded rear end caused by the folded primaries being concealed by the folded secondaries. It was the only bird on the water.

The jaeger worked its way up-river making numerous short flights and floating halts when it picked about aimlessly in the water, never seeming to actually pick anything up. It disappeared from view at the north end of the airport in the vicinity of Hains Point at about 9:30 a.m.

I walked back to the car which I had parked at the marina and found Don Peterson, Valerie Kitchens and Danny Crookston just arriving. I related what I had seen and told them I would drive to the north end of the airport to try to relocate the jaeger. At the north-end parking area I scanned the river and found the jaeger wheeling off the tip of Hains Point, then heading back downstream. I joined the others at the marina. The group now included Jim Schlesinger, Roger Anderson and Ed Weigel. We scanned Four Mile Run Bay and the river for about 15 minutes when, suddenly, the bird appeared, flying low over the airplane landing light structure at the south end of the airport, and landed in the water fairly close to some resting Great Black-backed and Ring-billed Gulls and Caspian Terns. Through a 20x telescope and in direct comparison with nearby gulls, the very thick neck and small bill of the jaeger were distinctive. The black barring on the white flanks was clear and the white area at the base of the tail was evident when the bird cocked its tail up to preen. It made several short flights in the vicinity. In flight it was very falcon-like when flapping, but on the glide, the wings were held bowed downward like a shearwater. Once it chased a Ring-billed Gull for about half a mile, clearly out-maneuvering the gull which was allowed to escape as it had no morsel to give up.



This jaeger was seen daily by David Czaplak, myself and many others through 20 October 1985. It was an unprecedented long stay for this pelagic bird at an inland area (except when breeding). It frequented the seven-mile stretch of the Potomac estuary between Hains Point, D.C. and Hunting Creek Bay at the northeast corner of Fairfax County, Virginia. It was first seen at Hunting Creek Bay on 23 September when it flew in off the river and scattered the 200+ gulls and terns roosting on the mudflat at low tide. Most of the latter circled upward to around 500 feet while the jaeger singled out one, gave it a long chase and then headed back to the river. This behavior was noted once or twice a day and almost daily during the following month, usually at low tide when the gulls, terns, shorebirds and ducks were feeding in the *hydrilla* mat and star grass-covered mudflat. On several occasions the jaeger chased a Ring-billed Gull to the mouth of Hunting Creek and right over the heads of the birders as they stood on the stone bridge crossing the Mount Vernon Parkway over Hunting Creek. These 100-300 foot-range views of twisting, turning chase-flight were stunning and showed viewers all field marks at close range. On one occasion, the gull dropped a small fish which the jaeger deftly picked out of the air and headed riverward; it was closely pursued by a Caspian Tern for nearly a mile before the tern broke off the chase.

At this mudflat on 22 September, my son, David Abbott, found a lone Hudsonian Godwit, *Limosa haemastica*. It was feeding on the grass-covered flat with yellowlegs, Short-billed Dowitchers, Pectoral and Spotted Sandpipers. I found it there that afternoon and found that, even at 120 yards or more distance, it was easy to pick out because of its larger-than-Greater Yellowlegs-size, long upturned, two-toned bill, grayish body, and dark legs. It made several short flights, revealing its white-based, black tail and narrow white wing stripe. Not to be outdone by the long-visiting jaeger, the godwit was seen daily by a host of birders through 21 October. The stone bridge observation post was the best place to see the godwit as it was for spotting the jaeger. Often the godwit flew from the mudflat directly over the bridge to the small flat on the west side of the parkway and would fly by the birders within a few yards.

Both of these species are new records for northern Virginia and the first for Virginia away from the coast.

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## GYRFALCON IN ROCKINGHAM COUNTY YULEE LARNER

On 29 January 1984, Eugene Stevens found a large raptor, injured from gunshot, lying in a field near Elkton, Virginia. He placed the bird in a chicken coop and notified the Rockingham County Society for the Prevention of Cruelty to Animals (SPCA). At about 5 p.m. the bird was picked up by Mrs. Cherry Sharp and transported to the shelter in Harrisonburg where it spent the night.

On 30 January the bird was turned over the Dr. Stuart Porter, veterinarian at Blue Ridge Community College, and a member of the staff of the Shenandoah Valley Wildlife Treat Center. The bullet had severely damaged the right wing and adjoining body tissue and treatment was begun immediately to fight infection.

Both Porter and Ed Clark of the Wildlife Treatment Center realized that the bird was an unusual species and they tried to contact Dr. John Mehner of Mary Baldwin College and Charles Ziegenfus of James Madison University for help in identification. Neither was available at the time, so it happened that on 31 January, Isabel Obenschain, Leonard Teuber and I were the first local birders to see the injured bird. We agreed with Porter and Clark that there was a strong possibility that this was a rare Gyrfalcon, *Falco rusticolus*, a species for which there had never been a previous record in Virginia.

Photographs and measurements were sent to Dr. Mitchell A. Byrd at the College of William and Mary who subsequently sent graduate student, Robert Anderson, and undergraduate, Robin Abbey, on 4 February. At this time the bird was at the Waynesboro Veterinary Hospital with surgery scheduled by Dr. Robert Partridge.

Additional measurements and photographs confirmed the identification. Surgery involved removing infected bone material and rejoining the bone with a pin, but there was additional damage to surrounding muscle and nerve tissue.

Unable to fly again, the Gyrfalcon remains at the Wildlife Treatment Center and is widely used at the Center in educational programs. The Gyrfalcon is species number 409 in the checklist of Birds of Virginia.

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### A MINI - SKYLAND FORAY JACKSON M. ABBOTT

I never had the pleasure of joining in on one of those VSO Blue Ridge forays which were conducted annually in June (usually between the 10th and 20th) from the late 1930s through 1972, and based at what is now Skyland. These forays were summarized in the September issues of *The Raven*.

I finally had an absolutely essential reason to conduct a foray in this same area myself in 1985. Many of the Blue Ridge trails traversed on those old VSO forays are included in map quadrangle 91, "Old Rag Mountain," which is one of the 58 map quadrangles in Virginia Region 2 (for which I am the coordinator) of the Virginia Breeding Bird Atlas Program.

My wife, Smokey, who now serves as my ears for high-pitched bird songs, and I spent the period from noon on 10 June through 10 a.m. on 12 June 1985 doing rather intensive birding in the Skyland area. We covered all the Skyline Drive overlooks from Pinnacle on the north to Dark Hollow on the south and walked most of the trails at the Pinnacle picnic area, Camp Ridge, Shaver Hollow shelter, Stony Man, White Oak Canyon, and Limberlost, as well as roads and trails around the Skyland complex. We overnighted in Apartment 151 in the Hazel Top Lodge at Skyland, apparently a somewhat more modern abode (for \$50 a night with daily maid service) than the rustic quarters the VSO'ers stayed in during previous years, with no daily maid service, occasional dead rodents in their rooms and other out-back "un-nicities," but at \$2.50-\$5.00 per night in the early 1950s.

Our count was 51 species of apparently breeding birds of the 80+ species recorded by the earlier VSO Skyline forays. We did not bird Big Meadows which accounts for about 13 species we did not record. Nor did we list three owls, two flycatchers, and eight warblers found on earlier forays. The warbler miss perplexed me more than any other difference between our list of species and those recorded on earlier forays. We had lots of Chestnut-sided Warblers and American Redstarts but not one single Black-throated Blue Warbler in the rhododendron/laurel thickets, no Blackburnian or Black-throated Green Warblers in the hemlock stands, no Louisiana Waterthrushes along White Oak Canyon Creek, no Northern Parulas, Canada Warblers or Black-and-white Warblers, and only one each of Ovenbird, Black-throated Green, Prairie, Pine, Yellow-throated, and Cerulean Warblers — the latter a species apparently not seen on the earlier forays. Veeries were abundant and Gray Catbirds, Wood Thrushes, Scarlet Tanagers, Rose-breasted Grosbeaks, and Rufous-sided Towhees were common as on previous forays.

We encountered an interesting mixed flock in the low trees along the Skyline Drive near the Limberlost Trail parking lot, just south of the entrance to Skyland, on 11 June. The first bird I looked at in the flock was a Black-capped Chickadee which uttered its slow, low-pitched call and exhibited much white along the folded secondaries. Its large size was immediately apparent when a smaller chickadee, following along behind, flitted into view voicing a typical Carolina Chickadee call. It was followed by five or six more small chickadees which were obviously fledglings. All the birds except the Black-capped uttered the typical Carolina calls.

Having the Black-capped and the Carolina in my binocular field of view at the same time made the size difference obvious; the much more extensive black bib on the sides of the throat of the Black-capped was readily apparent. They acted like a family group and I suspect that they were a Black-capped/Carolina interbred pair with their hybrid progeny.

Trooping along with the chickadees was a mixed bag of species, more typical of a fall flock, which included the only Black-throated Green Warbler and Pine Warbler of our foray, a female American Redstart (one of at least four seen on this foray, but no males!), a Tufted Titmouse, a Red-eyed Vireo, and a female Ruby-throated Hummingbird passing by; a Common Raven croaked as he dive-bombed a Red-tailed Hawk flying over.

A rather unique sighting (to me, at least) was the large number of Brown-headed Cowbirds, not only in the open, grassy areas around the overlooks and at Skyland, but in the heavily wooded areas as well. Along the Stony Man Nature Trail where the foliage is quite dense and the understory rather thick, a troop of 30-40 cowbirds moved through, apparently feeding on a newly hatched crop of insects which they fed on from ground level all the way up into the crowns of the trees. They were noisy while so occupied; their gurgles and high-pitched, prolonged squeaks reminiscent of spring and fall grackle flocks moving through deciduous woodlands. I saw many other cowbirds in the "deep" woods while on this foray, and not just females looking for nests in which to lay eggs, but "pairs" and mixed groups of males and females. On my return trip to this area on 10 July, I did not see a single cowbird!

Our bird list for this foray was as follows:

*Black Vulture.* One or two at Stony Man and Skyland.

*Turkey Vulture.* One to five daily, along the ridge.

*Ruffed Grouse.* A family by the Stony Man nature trail on 10 June and a female with eight-week-old chicks on the Camp Ridge trail.

*Wild Turkey.* At least one clucking in the thick foliage below our lodge at 8 p.m. on 11 June.

*Mourning Dove.* One at Pinnacles picnic grounds 10 June.

*Black-billed Cuckoo.* One calling at Skyland daily.

*Chimney Swift.* Two pairs over Skyland daily.

*Ruby-throated Hummingbird.* Three individuals at three different sites.

*Downy Woodpecker.* Seen and heard at two different sites.

*Hairy Woodpecker.* A pair at Skyland.

*Northern Flicker.* Several heard and seen at three sites.

*Pileated Woodpecker.* At White Oak Canyon 11 June and at Hemlock Springs Overlook 10 July.

*Eastern Wood-Pewee.* Three birds at different sites.

*Acadian Flycatcher*. One at Stony Man Nature trail.

*Great Crested Flycatcher*. 4-5 birds at different sites.

*Barn Swallow*. A pair at their nest at Big Meadows gasoline station.

*Blue Jay*. Three different birds at Stony Man and Skyland.

*American Crow*. Two at Skyland daily.

*Common Raven*. 1-5 at Skyland and Stony Man daily.

*Black-capped Chickadee*. One seen and heard well with apparent Carolina Chickadee mate and hybrid family, 11 June.

*Carolina Chickadee*. See Black-capped Chickadee.

*Tufted Titmouse*. One seen with chickadees on 11 June.

*Red-breasted Nuthatch*. One flew past our porch at Skyland on the evening of 10 June. One was seen carrying food uphill from the Hemlock Springs Overlook on 10 July.

*House Wren*. Pair nesting at our lodge at Skyland. The song of the singing male is much shorter and more melodious than those breeding in Fairfax County, Virginia. I thought, at first, that it was a Bewick's Wren but when I saw the bird, it was an obvious House Wren — perhaps a hybrid?

*Veery*. Abundant in the woods. Mostly heard only their alarm calls; a few sang a phrase of their song, but none were heard singing their entire song.

*Wood Thrush*. Common in the woods. Many heard singing their full song, unlike the Veeries.

*American Robin*. Common at Skyland, Big Meadows and some overlooks.

*Gray Catbird*. Abundant at almost all overlooks, roadside brush, Skyland, etc.

*Brown Thrasher*. A pair at our lodge at Skyland.

*European Starling*. Three flying over Big Meadows and one over Skyland.

*Solitary Vireo*. Singing at Thorofare Mountain Overlook and White Oak Canyon Trail.

*Red-eyed Vireo*. Several heard singing (not more than three) and one seen.

*Chestnut-sided Warbler*. Abundant. One to two pairs at every brush-covered overlook and brushy edges at Skyland, Big Meadows.

*Black-throated Green Warbler*. One male in a mixed flock on 11 June.

*Pine Warbler*. One seen in a mixed flock on 11 June.

*Prairie Warbler*. One singing near the entrance to Big Meadows Motel 12 June.

*Cerulean Warbler*. One male seen and heard singing by the White Oak Canyon stream one-fourth mile from the parking lot.

*American Redstart*. At least four females seen (no males) at various places.

*Ovenbird*. One bird singing at the Pinnacles picnic grounds on 10 June.

*Common Yellowthroat*. One seen by the Limberlost Trail on 11 June.

*Scarlet Tanager*. Common in the woods.

*Rose-breasted Grosbeak*. Common in the woods.

*Indigo Bunting*. Common in brush places and wood edges.

*Rufous-sided Towhee*. Same as for the Indigo Bunting.

*Chipping Sparrow*. Common around Skyland and Big Meadows; seen at several overlooks.

*Dark-eyed Junco*. Uncommon. A pair at Skyland and in the laurel along the White Oak Canyon Trail. Several others heard singing. A family group (two adults and four juveniles) was feeding in the grass at the Pinnacles picnic area on 10 July.

*Brown-headed Cowbird*. Abundant in grassy areas along the Skyline Drive, at overlooks, Skyland, and Big Meadows and throughout the woods in June. None seen on 10 July.

*Orchard Oriole*. One singing in a locust tree at Skyland at 6:30 a.m. on 11 June.

*American Goldfinch*. A pair in the grassy, flower-strewn slope at Spitler Knoll Overlook on 11 June.

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## AUTUMN MIGRATION OF COMMON NIGHTHAWKS IN THE VIRGINIA PIEDMONT

CHARLES R. BLEM and ROBERT I. BLEM

More than 20 years ago (on his honeymoon), the senior author was first impressed by the huge migratory flocks of Common Nighthawks, *Chordeiles minor*, that annually pass through Virginia. His interest in nighthawks has continued (Blem, 1972) and apparently has passed to the next generation.

For several years we have observed the autumnal passage of substantial numbers of nighthawks through the Richmond area. Many of the birds we saw passed through in early September, and it appeared that most migration occurred over only a few days. The meteorological factors involved in days of maximum counts were not obvious, since we really had no objective data. We did become certain that few birds flew during most daylight hours; most individuals were observed in early morning or in the last hour or so before dark. With this in mind, we began a structured count of nighthawks during the migratory period.

All counts were made daily over the same 1.6 km course in western Henrico County. Each count was 60 minutes in length and ended at sundown. During each census we travelled this course repeatedly, being careful not to count each nighthawk more than once. Counts were begun 9 August 1985 and were continued through 30 September 1985. No more nighthawks were seen after 24 September, either during these counts or in casual observations. We noted the direction in which each bird was flying, and divided these into north-flying birds (flying any direction north in the 180° arc from west (270°) to east (90°); and south-flying birds (those flying any direction from 90° to 270°).

A total of 1457 nighthawks were counted throughout the study (an average of 30.4/hour, including 19 days in which none were seen). Maximum counts (see Figure 9) were seen on 29 August (165/hour), 1 September (309) and 5 September (123). More than 60 birds (1/minute) were seen on 10 different dates. Most birds were flying along a straight line; only a few were actively foraging or flying erratically. Most nighthawks came through in loose flocks of 5-30 birds. Single birds were rare. We believe that all birds we counted were migrants; only three nighthawks were seen in the first 11 days of counting, indicating that few, if any, local birds were present. Early in each counting period the number of birds/minute was usually low and these birds often were moving in a northerly direction. North-flying birds were as common on clear evenings as on overcast days, and were more common in August than September. On some clear, still, warm evenings, a few birds were travelling northward throughout the hour. At twilight, all birds were moving southward. We have no way of knowing how much migration occurred after dark, but did observe many birds feeding around lights on nights after large evening flights. No such feeding was observed during daylight hours; it is possible that nighthawks feed and travel more leisurely after dark.

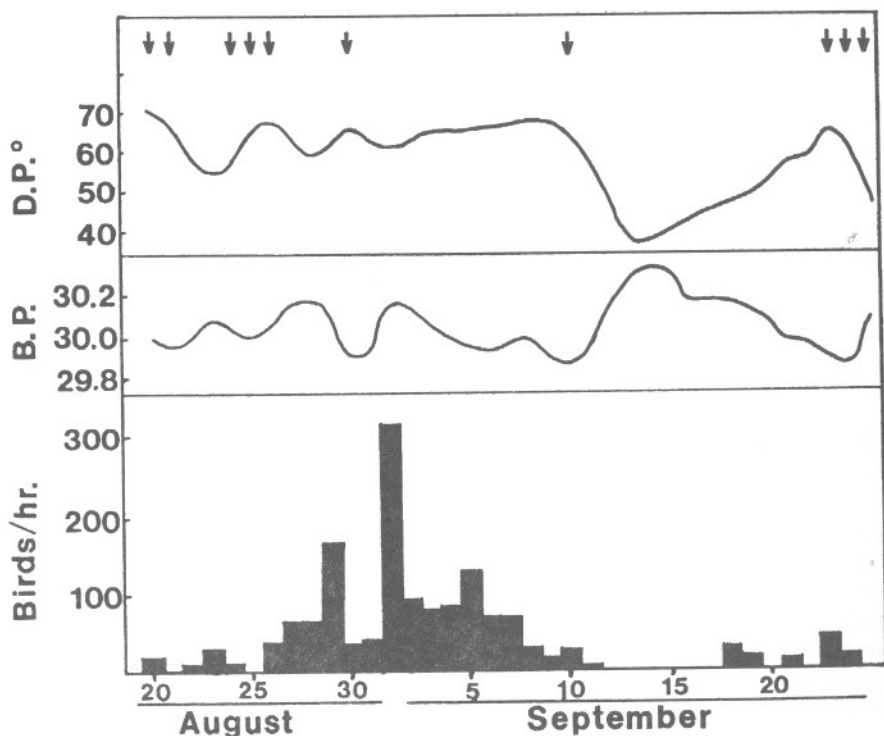


Figure 9.

*Volume of migration of common Nighthawks in western Henrico County, autumn 1985. B.P. is barometric pressure in inches mercury; D.P. is dew point ( $^{\circ}$ F); arrows indicate occurrence of rainfall.*

We obtained a series of meteorological measurements for National Oceanic and Atmospheric Administration (NOAA) data sets (NOAA 1985) and, combining these with our counts, tested for significant relationships between weather conditions and volume of migration. Weather variables that we examined included wind direction and velocity; relative humidity (dew point); barometric pressure; precipitation; high, low and average temperatures; the number of days since the last precipitation and number of days before the next precipitation. Only the last variable was significantly correlated with volume of migration ( $p < 0.05$ ) and then only loosely ( $r = 0.28$ ). Using the more sophisticated technique of multiple regression, relative humidity, barometric pressure, wind direction and precipitation (in order of importance) appear to be significant predictors of volume of migration, but the equation for this:

$$\text{Birds/hour} = 8.0 \text{ relative humidity} + 296.5 \text{ barometric pressure} \\ - 19.3 \text{ wind direction} - 28.2 \text{ precipitation} - 9255.0$$



accounts for only 52 percent ( $R^2 = 0.52$ ) of the variation in volume. In this equation, relative humidity is given as dew point ( $^{\circ}\text{F}$ ), barometric pressure is in inches mercury, wind direction is given in quarters (1 -  $1-90^{\circ}$ ; 2 -  $91-180^{\circ}$ ; 3 =  $181-270^{\circ}$ ; 4 -  $271-360^{\circ}$ ), and precipitation is given as 1 (none), 2 (trace), or 3 (more than a trace).

We expected that wind direction might have a significant effect on nighthawk migration, since 55 percent of the 20 highest counts came on days when the resultant wind direction was from the southwest quarter ( $181-270^{\circ}$ ). Only 5 percent of the high counts (1/20) were obtained when wind direction was southeasterly ( $91-181^{\circ}$ ), but that wind direction only occurred three times during the study period. Volume of migration when winds generally were from the south ( $90-276^{\circ}$ ) was higher (40.1/hour) than when winds were from the north ( $22.1/\text{hour}$ ), but the difference is not statistically significant. Westerly ( $180-360^{\circ}$ ) winds also were associated with higher volumes (44.3/hour) than easterly ( $0-180^{\circ}$ ; 18.6/hour), but again the difference is not statistically significant. We believe the mixed result with regard to wind direction is explained by the following hypothesis: Most nighthawk migration is associated with the passage of cold fronts. These fronts include high barometric pressure, a period of southwesterly winds, high relative humidity, and (usually) rain (see Figure 9). The nighthawks may pass either before or behind such fronts, but seem to be concentrated by them. We also believe that nighthawk migration through Richmond is amazingly regular. We have observed high numbers of birds on 1-3 September for several years. Future counts should be directed toward examination of annual migration.

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## VIRGINIA CHRISTMAS BIRD COUNTS - 1985-86 SEASON

TETA KAIN

Because of new formatting procedures, it is now possible to list more counts in the *Raven* summary than in previous years. This year the summary and accompanying table includes all 36 Christmas counts conducted in the state of Virginia during the 1985-86 season, including the Calmes Neck count which was excluded last year for lack of space. New to the summary are Wachapreague, Danville, and Philpott Reservoir counts. A census was evidently not conducted at Sweet Briar College this year, the only omission from last year's list.

Please note that this year's tables have been reversed from the order of previous years to accommodate the growing number of counts being conducted throughout the state. Count sites are now listed down the page with species placed along the top of the page. The numbers in front of the count sites correspondence with the brief description of count circles which follows this summary and the tables.

Approximately 748 people participated in the state-wide effort, with 160 of those taking part in two or more counts, 46 attending three or more, 14 present on four or more and 3 hardy individuals participating in five counts each. Further added to this dedicated effort, is the fact that one of the persons who attended five counts, also served as compiler for three of them! Only one other birder in the state compiles that many counts--a time consuming and exacting task since all tallies must be correct and submitted to *American Birds* only days after the count period ends.

Birders enjoyed reasonably mild temperatures and weather relatively free of snow and rain. Only Waynesboro and Lexington experienced some light rain in the afternoon of count day; Glade Spring counters saw light intermittent snow showers during early morning hours. Generally, the overall weather pattern of the state displayed lower temperatures preceding the count period than the previous year, causing most fresh water bodies to be at least partially frozen. No significant freezing of salt water was noted on any count. Snow accumulation was negligible in most areas with a maximum of 1 to 3 inches reported at Lynchburg, Glade Spring, and Nickelsville. A chilly 3<sup>o</sup> F. greeted Shenandoah National Park participants on 22 December where the lowest temperature of any count for the year was reported. On the other end of the scale, the highest temperature was a mild

(Summary continued on Page 61)

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Table 2. (following 23 pages). The 1985-86 Christmas counts in Virginia. The bold underlined figures indicate an unusual species or an unusual number of individuals for that particular count.

[illegible][illegible]

		Yellow-crowned Night-Heron	Night-Heron, sp.	Flamingo, sp.	White Ibis	Glossy Ibis	Tundra Swan	Mute Swan	Snow Goose
1. Chincoteague	29 Dec	1	...	1	...	...	400	39	17,510
2. Wachapreague	22 Dec	...	...	...	...	...	...	...	130
3. Cape Charles	30 Dec	...	...	...	4	1	121	...	930
4. Little Creek	31 Dec	...	...	...	...	...	...	...	...
5. Back Bay	29 Dec	...	...	...	...	...	769	...	26,000
6. Newport News	21 Dec	...	16	...	...	...	...	...	...
7. Mathews	5 Jan	...	...	...	...	...	748	...	5
8. Williamsburg	22 Dec	...	...	...	...	...	87	...	...
9. Hopewell	21 Dec	...	...	...	...	...	5	...	37
10. Brooke	18 Dec	...	...	...	...	...	137	...	...
11. Fort Belvoir	4 Jan	...	...	...	...	...	227	3	...
12. Nokesville	28 Dec	...	...	...	...	...	4	...	...
13. Lake Anna	5 Jan	...	...	...	...	...	1	...	...
14. Gordonsville	22 Dec	...	...	...	...	...	...	...	...
15. Charlottesville	29 Dec	...	...	...	...	...	...	...	...
16. Warren	22 Dec	...	...	...	...	...	1	...	3
17. Lynchburg	21 Dec	...	...	...	...	...	...	...	...
18. Danville	1 Jan	...	...	...	...	...	...	...	12
19. Philpott Reserv.	28 Dec	...	...	...	...	...	...	...	...
20. Calmes Neck	28 Dec	...	...	...	...	...	...	...	...
21. N. Shen. Valley	21 Dec	...	...	...	...	...	...	...	...
22. Shen. NP-Luray	22 Dec	...	...	...	...	...	...	...	...
23. Big Flat Mt.	27 Dec	...	...	...	...	...	...	...	...
24. Rockingham Co	21 Dec	...	...	...	...	...	...	...	...
25. Augusta Co.	21 Dec	...	...	...	...	...	...	...	...
26. Waynesboro	31 Dec	...	...	...	...	...	...	...	...
27. Lexington	26 Dec	...	...	...	...	...	...	...	...
28. Peaks of Otter	24 Dec	...	...	...	...	...	...	...	...
29. Clifton Forge	29 Dec	...	...	...	...	...	...	...	...
30. Fincastle	22 Dec	...	...	...	...	...	...	...	...
31. Roanoke	21 Dec	...	...	...	...	...	...	...	...
32. Blacksburg	21 Dec	...	...	...	...	...	1	...	...
33. Tazewell	30 Dec	...	...	...	...	...	...	...	...
34. Glade Spring	21 Dec	...	...	...	...	...	...	...	...
35. Nickelsville	28 Dec	...	...	...	...	...	...	...	...
36. Breaks I.S. Park	4 Jan	...	...	...	...	...	...	...	...

	Small white goose	Snow (Blue) Goose	Brant	Canada Goose	Wood Duck	Green-winged Teal	American Black Duck	Mallard	Black Duck x Mallard	Northern Pintail	Blue-winged Teal	Northern Shoveler
1	48	13,952	1869	...	...	66	2998	542	...	896	...	408
...	...	2206	1352	...	3	15	1805	1607	...	17	1	7
...	4	8030	2028	...	2	28	1869	1651	...	106	...	17
...	...	147	20	...	52	19	105	489	...	12	...	59
...	8	...	370	...	39	10	1280	1080	...	2212	7	292
...	...	205	16	...	17	20	58	996	...	...	...	...
...	...	26	379	...	...	...	1	179	...	...	...	...
...	...	...	1271	...	2	7	99	447	...	53	...	...
...	320	...	6083	773	39	1053	3589	...	...	256	...	...
...	...	...	122	5	...	50	440	...	...	...	...	...
...	...	...	3799	10	234	1275	2399	...	...	71	...	40
...	...	...	344	2	...	13	290	...	...	...	...	...
...	...	...	234	...	3	28	168	...	...	...	...	...
...	...	...	3766	...	...	6	32	...	...	...	...	...
...	...	...	1836	...	1	28	419	...	...	2	...	...
...	1	...	553	1	26	121	378	...	...	...	...	...
...	...	...	67	4	...	13	7	...	...	...	...	...
...	...	...	2	1	...	10	211	...	...	...	...	...
...	...	...	...	...	...	...	20	...	...	...	...	...
...	...	486	...	...	...	50	103	...	...	...	...	...
...	...	...	121	3	6	158	1115	...	...	5	...	3
...	...	...	1	...	1	14	61	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	13	...	...	...	125	...	...	...	...	9
...	...	...	...	...	...	6	53	...	...	...	...	...
...	...	...	224	...	...	8	239	...	...	...	...	...
...	...	...	2	...	...	8	15	1	...	...	...	1
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	1	1	...	52	181	...	...	4	...	...
...	...	...	2	3	2	21	316	...	...	2	...	1
...	...	...	16	...	...	33	139	...	...	...	...	...
...	...	...	...	...	...	15	33	...	...	...	...	...
...	...	...	24	...	7	182	695	...	...	...	...	...
...	...	...	5	2	...	3	12	...	...	...	...	...
...	...	...	...	...	...	1	2	...	...	...	...	...

[illegible][illegible]

		Common Merganser	Red-breasted Merganser	Ruddy Duck	Duck, sp.	Black Vulture	Turkey Vulture	Bald Eagle	Northern Harrier
1. Chincoteague	29 Dec	1	205	8	...	53	221	3	40
2. Wachapreague	22 Dec	...	82	...	50	3	88	...	29
3. Cape Charles	30 Dec	...	279	13	5	18	156	6	59
4. Little Creek	31 Dec	5	66	163	...	9	5	1	2
5. Back Bay	29 Dec	27	179	11	...	17	50	...	39
6. Newport News	21 Dec	3	72	1107	...	1	19	...	10
7. Mathews	5 Jan	2	197	511	...	9	50	3	12
8. Williamsburg	22 Dec	2	...	857	...	31	77	8	6
9. Hopewell	21 Dec	70	11	9	...	5	33	17	18
10. Brooke	18 Dec	21	1	15	...	7	23	10	7
11. Fort Belvoir	4 Jan	1456	31	24	...	3	21	33	2
12. Nokesville	28 Dec	...	...	4	...	51	201	...	21
13. Lake Anna	5 Jan	10	...	...	8	26	149	...	3
14. Gordonsville	22 Dec	...	...	...	...	8	33	...	2
15. Charlottesville	29 Dec	3	...	...	...	80	220	...	16
16. Warren	22 Dec	...	...	1	...	165	71	...	8
17. Lynchburg	21 Dec	...	...	1	...	13	52	...	1
18. Danville	1 Jan	...	...	...	...	7	60	...	...
19. Philpott Reserv.	28 Dec	...	...	...	...	7	34	...	...
20. Calmes Neck	28 Dec	...	...	...	...	24	68	...	6
21. N. Shen. Valley	21 Dec	...	...	...	...	12	99	...	9
22. Shen. NP-Luray	22 Dec	...	...	...	...	148	232	...	6
23. Big Flat Mt.	27 Dec	...	...	...	...	3	10	...	...
24. Rockingham Co	21 Dec	...	...	...	...	12	95	...	1
25. Augusta Co.	21 Dec	...	...	...	...	33	279	...	7
26. Waynesboro	31 Dec	...	...	...	...	32	27	...	3
27. Lexington	26 Dec	...	...	...	...	5	16	...	...
28. Peaks of Otter	24 Dec	...	...	...	...	4	3	...	...
29. Clifton Forge	29 Dec	...	...	...	...	2	4	...	1
30. Fincastle	22 Dec	...	...	...	...	62	113	...	...
31. Roanoke	21 Dec	...	...	1	...	11	66	...	...
32. Blacksburg	21 Dec	...	...	...	...	31	44	...	1
33. Tazewell	30 Dec	...	...	...	...	...	...	1	...
34. Glade Spring	21 Dec	...	...	...	...	54	7	...	...
35. Nickelsville	28 Dec	...	1	...	...	12	4	...	...
36. Breaks I.S. Park	4 Jan	...	...	...	...	...	...	...	...

Sharp-shinned Hawk	Cooper's Hawk	Accipiter, sp.	Red-shouldered Hawk	Red-tailed Hawk	Rough-legged Hawk	Buteo, sp.	Golden Eagle	American Kestrel	Merlin	Peregrine Falcon	Hawk, sp.
11	2	...	4	22	...	...	...	35	2	4	...
8	1	1	2	27	...	...	...	59	...	2	...
18	2	...	5	32	1	...	...	67	5	5	...
17	1	...	4	19	...	...	...	27	4	1	...
6	4	...	12	27	1	...	...	61	1	...	...
14	1	...	3	26	...	...	...	40	...	...	...
6	2	...	7	9	...	...	...	14	...	...	...
6	...	...	13	19	...	...	...	19	1	...	...
5	1	...	17	49	...	...	...	34	...	...	...
6	3	...	8	15	2	...	...	2	...	...	...
15	1	...	31	40	...	...	...	17	...	...	1
7	1	...	8	37	...	...	...	43	...	...	...
3	1	...	1	14	1	1	...	14	...	...	1
2	3	...	8	21	...	...	...	20	...	...	...
8	3	...	7	37	...	...	...	18	...	...	...
4	1	...	3	18	...	...	...	17	...	...	...
6	3	...	...	23	...	...	...	23	...	...	...
1	4	...	3	48	1	...	...	18	...	...	...
7	1	...	3	8	...	...	...	9	...	...	...
1	1	...	...	14	...	...	...	13	...	...	...
6	11	...	3	49	2	...	...	33	...	...	...
12	1	...	3	30	1	2	...	25	...	...	...
...	...	...	...	3	...	...	...	...	...	...	...
1	1	...	...	18	...	...	...	34	...	...	...
3	2	...	1	43	1	...	...	62	...	...	...
7	4	...	1	31	...	...	...	12	...	...	...
2	1	...	2	7	...	...	...	5	...	...	...
...	...	...	...	4	...	...	...	1	...	...	...
...	...	...	1	4	...	...	...	6	...	...	...
5	9	...	...	21	...	...	...	32	1	...	...
2	2	...	1	13	...	...	...	17	...	...	...
4	3	...	1	6	...	...	...	5	...	...	...
1	1	...	...	11	1	...	2	8	...	...	...
2	...	...	...	6	...	...	...	4	...	...	...
2	4	...	5	15	1	...	...	27	...	...	...
...	...	...	1	8	...	...	...	2	...	...	...

		Ring-necked (Green) Pheasant	Ring-necked Pheasant	Ruffed Grouse	Wild Turkey	Northern Bobwhite	Clapper Rail	King Rail	Virginia Rail
1. Chincoteague	29 Dec	...	...	...	...	89	9	...	...
2. Wachapreague	22 Dec	...	...	...	...	44	6	1	...
3. Cape Charles	30 Dec	3	...	...	...	114	76	...	8
4. Little Creek	31 Dec	...	...	...	...	44	10	...	...
5. Back Bay	29 Dec	...	...	...	...	21	...	11	5
6. Newport News	21 Dec	...	...	...	...	38	...	...	1
7. Mathews	5 Jan	...	...	...	...	2	2	...	...
8. Williamsburg	22 Dec	...	1	...	7	54	1	...	...
9. Hopewell	21 Dec	...	...	...	1	31	...	...	...
10. Brooke	18 Dec	...	...	...	...	28	...	...	...
11. Fort Belvoir	4 Jan	...	...	...	...	20	...	1	...
12. Nokesville	28 Dec	...	...	...	1	20	...	...	...
13. Lake Anna	5 Jan	...	...	...	...	32	...	...	...
14. Gordonsville	22 Dec	...	...	...	2	...	...	...	...
15. Charlottesville	29 Dec	...	...	...	2	129	...	...	...
16. Warren	22 Dec	...	...	...	5	2	...	...	...
17. Lynchburg	21 Dec	...	...	...	3	26	...	...	...
18. Danville	1 Jan	...	...	...	5	25	...	...	...
19. Philpott Reserv.	28 Dec	...	...	2	...	3	...	...	...
20. Calmes Neck	28 Dec	...	...	4	12	16	...	...	...
21. N. Shen. Valley	21 Dec	...	...	4	9	100	...	...	...
22. Shen. NP-Luray	22 Dec	...	1	3	...	7	...	...	...
23. Big Flat Mt.	27 Dec	...	...	6	...	6	...	...	...
24. Rockingham Co	21 Dec	...	...	4	...	1	...	...	...
25. Augusta Co.	21 Dec	...	...	...	...	17	...	...	...
26. Waynesboro	31 Dec	...	...	3	...	32	...	...	...
27. Lexington	26 Dec	...	...	5	1	...	...	...	...
28. Peaks of Otter	24 Dec	...	...	...	...	...	...	...	...
29. Clifton Forge	29 Dec	...	...	5	1	7	...	...	...
30. Fincastle	22 Dec	...	...	2	2	55	...	...	...
31. Roanoke	21 Dec	...	...	2	...	7	...	...	...
32. Blacksburg	21 Dec	...	...	2	...	...	...	...	...
33. Tazewell	30 Dec	...	...	1	...	...	...	...	...
34. Glade Spring	21 Dec	...	...	1	...	...	...	...	...
35. Nickelsville	28 Dec	...	...	2	1	14	...	...	...
36. Breaks I.S. Park	4 Jan	...	...	4	9	...	...	...	...

	Sora	Common Moorhen	American Coot	Black-bellied Plover	Semipalmated Plover	Killdeer	American Oystercatcher	Greater Yellowlegs	Lesser Yellowlegs	Willet	Spotted Sandpiper	Whimbrel
...	...	...	677	432	5	45	467	50	37	20	...	...
...	...	...	...	29	1	44	45	19	18	40	...	...
...	...	1	45	596	15	167	302	32	27	151	...	6
...	...	...	121	33	...	51	91	3	...	...	...	...
2	1	25	28	...	159	...	...	5	1	...	...	...
...	...	106	25	...	254	...	...	6	...	...	...	...
...	...	...	12	...	34	1	...	...	...	...	...	...
...	...	1	...	...	47	...	...	...	...	...	...	...
...	...	2	...	...	78	...	...	...	...	...	...	...
...	...	3	...	...	28	...	...	...	...	...	...	...
...	...	733	...	...	95	...	...	...	...	...	...	...
...	...	...	...	...	1	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	8	...	...	...	...	...	...	...
...	...	1	...	...	15	...	...	...	...	...	...	...
...	...	...	...	...	16	...	...	...	...	...	1	...
...	...	7	...	...	6	...	...	...	...	...	...	...
...	...	...	...	...	20	...	...	...	...	...	...	...
...	...	...	...	...	1	...	...	...	...	...	...	...
...	...	1	...	...	4	...	...	...	...	...	...	...
...	...	5	...	...	42	...	...	...	...	...	...	...
...	...	...	...	...	30	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	13	...	...	23	...	...	...	...	...	...	...
...	...	1	...	...	26	...	...	...	...	...	...	...
...	...	1	...	...	33	...	...	...	...	...	...	...
...	...	1	...	...	5	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	2	...	...	...	...	...	...	...
...	...	...	...	...	28	...	...	...	...	...	...	...
...	...	...	...	...	42	...	...	...	...	...	...	...
...	...	...	...	...	10	...	...	...	...	...	...	...
...	...	...	...	...	12	...	...	...	...	...	...	...
...	...	2	...	...	7	...	...	...	...	...	...	...
...	...	2	...	...	10	...	...	...	...	...	...	...
...	...	...	...	...	1	...	...	...	...	...	...	...

[illegible][illegible]



			Herring Gull	Lesser Black-backed Gull	Glaucous Gull	Great Black-backed Gull	Gull, sp.	Royal Tern	Forster's Tern	Black Skimmer
1. Chincoteague	29 Dec	4175	...	...	...	432	...	...	...	...
2. Wachapreague	22 Dec	1518	...	...	...	94	...	...	1	...
3. Cape Charles	30 Dec	2976	...	...	...	278	189	1	2	...
4. Little Creek	31 Dec	18,450	3	1	1730	...	...	9	88	6
5. Back Bay	29 Dec	536	...	...	...	138	...	22	11	...
6. Newport News	21 Dec	1264	...	...	...	128	...	2	20	...
7. Mathews	5 Jan	469	...	...	...	34	1000	...	...	...
8. Williamsburg	22 Dec	165	...	...	...	18	...	...	2	...
9. Hopewell	21 Dec	462	...	...	...	82	...	...	...	...
10. Brooke	18 Dec	500	...	...	...	31	...	...	...	...
11. Fort Belvoir	4 Jan	1350	...	...	...	126	...	...	...	...
12. Nokesville	28 Dec	231	...	...	...	5	...	...	...	...
13. Lake Anna	5 Jan	17	...	...	...	...	30	...	...	...
14. Gordonsville	22 Dec	...	...	...	...	...	...	...	...	...
15. Charlottesville	29 Dec	...	...	...	...	...	...	...	...	...
16. Warren	22 Dec	...	...	...	...	...	...	...	...	...
17. Lynchburg	21 Dec	...	...	...	...	...	...	...	...	...
18. Danville	1 Jan	...	...	...	...	...	...	...	...	...
19. Philpott Reserv.	28 Dec	...	...	...	...	...	...	...	...	...
20. Calmes Neck	28 Dec	...	...	...	...	...	...	...	...	...
21. N. Shen. Valley	21 Dec	...	...	...	...	...	...	...	...	...
22. Shen. NP-Luray	22 Dec	...	...	...	...	...	...	...	...	...
23. Big Flat Mt.	27 Dec	...	...	...	...	...	...	...	...	...
24. Rockingham Co	21 Dec	...	...	...	...	...	...	...	...	...
25. Augusta Co.	21 Dec	...	...	...	...	...	...	...	...	...
26. Waynesboro	31 Dec	...	...	...	...	...	...	...	...	...
27. Lexington	26 Dec	...	...	...	...	...	...	...	...	...
28. Peaks of Otter	24 Dec	...	...	...	...	...	...	...	...	...
29. Clifton Forge	29 Dec	...	...	...	...	...	...	...	...	...
30. Fincastle	22 Dec	...	...	...	...	...	...	...	...	...
31. Roanoke	21 Dec	...	...	...	...	...	...	...	...	...
32. Blacksburg	21 Dec	...	...	...	...	...	...	...	...	...
33. Tazewell	30 Dec	...	...	...	...	...	...	...	...	...
34. Glade Spring	21 Dec	...	...	...	...	...	...	...	...	...
35. Nickelsville	28 Dec	...	...	...	...	...	...	...	...	...
36. Breaks I.S. Park	4 Jan	...	...	...	...	...	...	...	...	...

Rock Dove	Mourning Dove	Common Barn-Owl	Eastern Screech-Owl	Great Horned Owl	Barred Owl	Long-eared Owl	Short-eared Owl	Owl, sp.	Belted Kingfisher	Red-headed Woodpecker	Red-bellied Woodpecker
139	195	...	58	22	3	...	3	...	37	1	32
57	562	...	25	9	...	...	2	...	16	...	11
598	181	1	23	14	...	...	3	...	20	3	41
2475	532	...	9	3	1	...	...	...	30	...	22
135	157	1	13	26	7	...	...	...	16	...	34
838	1048	...	8	6	...	...	...	...	56	...	65
15	360	...	2	6	...	...	...	...	22	...	17
229	209	...	7	10	10	...	...	...	22	15	59
129	210	1	1	3	4	...	...	...	13	4	79
38	170	...	...	...	...	...	...	...	14	...	47
242	1062	...	3	9	8	...	...	1	48	27	297
117	149	...	4	15	11	...	9	...	2	10	64
61	139	...	2	4	1	...	1	...	13	...	29
58	124	...	1	1	1	...	...	...	5	...	26
203	579	...	8	11	1	...	...	...	16	...	78
163	505	...	3	4	...	...	...	...	7	1	73
542	556	...	16	2	2	...	...	...	2	1	61
304	578	...	2	5	3	...	...	...	5	4	35
43	27	...	4	...	...	...	...	1	4	...	11
141	289	...	1	3	4	...	...	...	4	10	90
781	1395	...	13	3	4	2	...	...	18	24	75
429	938	1	12	7	3	...	...	...	23	...	36
...	...	...	...	...	...	...	...	...	...	...	9
299	356	1	1	2	...	...	...	...	6	3	25
248	607	...	1	...	...	...	...	...	9	2	28
599	948	1	2	2	...	...	...	...	13	7	35
65	97	...	6	...	...	...	1	...	8	...	19
...	4	...	1	...	...	...	...	...	1	...	4
192	9	...	1	3	1	...	...	...	...	...	10
445	692	1	29	4	1	...	...	...	15	...	30
354	289	2	12	3	...	...	...	...	15	...	16
458	382	1	1	4	...	...	...	...	10	1	23
23	11	...	1	1	1	...	...	...	5	...	6
148	52	...	4	1	...	...	...	...	8	...	2
84	96	...	4	5	2	...	...	...	9	1	27
28	6	...	7	2	3	...	...	...	5	...	11

		Yellow-bellied Sapsucker	Downy Woodpecker	Hairy Woodpecker	Northern Flicker	Pileated Woodpecker	Eastern Phoebe	Horned Lark	Tree Swallow
1. Chincoteague	29 Dec	11	75	18	160	12	10	92	76
2. Wachapreague	22 Dec	8	28	7	32	2	3	...	...
3. Cape Charles	30 Dec	6	66	10	198	2	5	256	6
4. Little Creek	31 Dec	8	43	1	97	26	2	...	...
5. Back Bay	29 Dec	5	43	4	132	26	4	2	148
6. Newport News	21 Dec	<u>36</u>	45	1	168	13	...	18	1
7. Mathews	5 Jan	4	30	1	91	4	...	...	...
8. Williamsburg	22 Dec	35	46	3	153	34	6	...	...
9. Hopewell	21 Dec	41	48	6	157	25	13	5	...
10. Brooke	18 Dec	11	37	7	55	16	2	...	...
11. Fort Belvoir	4 Jan	43	293	50	333	66	3	...	...
12. Nokesville	28 Dec	6	56	3	96	12	2	11	...
13. Lake Anna	5 Jan	3	28	9	18	6	<u>4</u>	...	...
14. Gordonsville	22 Dec	<u>19</u>	19	2	23	4	...	...	...
15. Charlottesville	29 Dec	35	74	15	97	44	4	110	...
16. Warren	22 Dec	37	62	8	39	30	7	88	...
17. Lynchburg	21 Dec	61	75	12	77	39	5	45	...
18. Danville	1 Jan	11	14	20	63	3	4	30	...
19. Philpott Reserv.	28 Dec	3	24	2	11	12	7	45	...
20. Calmes Neck	28 Dec	22	83	3	48	22	...	...	...
21. N. Shen. Valley	21 Dec	37	96	20	84	32	1	54	...
22. Shen. NP-Luray	22 Dec	17	82	20	48	20	2	213	...
23. Big Flat Mt.	27 Dec	10	14	7	4	15	...	...	...
24. Rockingham Co	21 Dec	6	36	4	9	7	1	204	...
25. Augusta Co.	21 Dec	5	42	5	10	10	...	75	...
26. Waynesboro	31 Dec	16	77	9	39	32	2	21	...
27. Lexington	26 Dec	13	35	3	16	16	2	...	...
28. Peaks of Otter	24 Dec	5	15	4	4	9	4	...	...
29. Clifton Forge	29 Dec	4	28	3	4	12	1	...	...
30. Fincastle	22 Dec	20	39	5	50	22	3	67	...
31. Roanoke	21 Dec	45	49	13	46	25	10	3	...
32. Blacksburg	21 Dec	10	81	11	25	3	4	237	...
33. Tazewell	30 Dec	1	18	1	5	2	...	...	...
34. Glade Spring	21 Dec	2	15	2	3	2	3	<u>63</u>	...
35. Nickelsville	28 Dec	4	37	7	13	<u>16</u>	6	3	...
36. Breaks I.S. Park	4 Jan	1	45	4	11	47	4	...	...

	Northern Rough- winged Swallow	Blue Jay	American Crow	Fish Crow	Crow, sp.	Common Raven	Black-capped Chickadee	Carolina Chickadee	Chickadee, sp.	Tufted Titmouse	Red-breasted Nuthatch	White-breasted Nuthatch
...	65	238	7	1	...	...	...	168	...	41	7	12
...	31	237	7	96	...	...	...	106	...	12	2	2
...	39	204	78	100	...	...	...	227	...	21	33	6
...	65	740	124	...	...	...	...	170	...	55	8	9
...	83	256	13	...	...	...	...	149	...	36	5	12
...	118	500	16	...	...	...	...	<u>357</u>	...	<u>129</u>	<u>38</u>	<u>10</u>
...	46	601	304	...	...	...	...	126	...	55	9	2
...	89	231	11	...	...	...	...	125	...	79	11	45
...	51	178	...	...	...	...	...	157	...	67	3	23
...	265	650	9	...	...	...	...	120	...	78	...	15
1	687	4200	488	...	...	...	4	1143	...	719	...	...
...	341	708	925	...	...	...	...	165	...	175	3	58
...	80	830	...	...	...	...	...	129	...	37	3	10
...	135	540	...	...	...	...	4	32	...	28	4	16
...	261	1441	31	...	2	...	...	293	...	153	12	60
...	97	761	...	...	2	...	...	113	...	55	2	23
...	287	<u>1391</u>	...	...	...	...	...	500	...	168	15	52
...	140	374	...	...	...	...	...	226	...	220	...	42
...	31	560	...	...	4	...	8	98	...	44	6	21
...	289	223	...	...	1	2	...	220	...	143	...	86
...	1052	4364	3	...	4	146	337	...	...	164	6	85
...	<u>693</u>	1100	...	...	29	32	241	35	...	174	19	98
...	14	13	...	...	4	...	30	...	...	26	11	14
...	165	322	2	...	7	10	92	...	...	46	9	30
...	341	2546	40	...	6	9	135	...	...	57	8	32
...	467	1869	303	...	25	2	196	...	...	137	13	65
...	232	965	...	...	7	22	59	76	...	53	1	29
...	9	45	...	...	3	14	36	...	...	30	1	30
...	99	430	...	...	3	2	104	...	...	88	9	35
...	347	531	...	...	7	49	96	...	...	109	16	28
...	244	586	...	...	1	20	184	...	...	89	3	33
...	166	560	...	...	...	11	116	38	...	90	13	61
...	63	208	...	...	20	...	37	...	...	54	4	21
...	75	78	...	...	...	...	41	...	...	41	1	17
...	216	1639	...	...	2	<u>3</u>	206	...	...	97	1	57
...	56	132	...	...	2	...	208	...	...	195	9	73

			Brown-headed Nuthatch	Brown Creeper	Carolina Wren	House Wren	Winter Wren	Sedge Wren	Marsh Wren	Golden-crowned Kinglet
1. Chincoteague	29 Dec	21	15	179	5	26	6	4	48	
2. Wachapreague	22 Dec	...	1	56	...	2	...	...	3	
3. Cape Charles	30 Dec	9	8	238	27	18	12	9	72	
4. Little Creek	31 Dec	29	29	110	1	...	...	...	62	
5. Back Bay	29 Dec	17	10	146	11	3	29	13	13	
6. Newport News	21 Dec	3	16	101	...	2	...	...	68	
7. Mathews	5 Jan	5	12	81	1	2	1	...	12	
8. Williamsburg	22 Dec	11	7	109	4	5	...	1	56	
9. Hopewell	21 Dec	1	21	143	2	8	...	...	55	
10. Brooke	18 Dec	...	4	38	...	2	...	1	10	
11. Fort Belvoir	4 Jan	...	65	357	3	10	...	...	116	
12. Nokesville	28 Dec	...	15	55	...	1	...	...	34	
13. Lake Anna	5 Jan	...	8	30	...	1	...	...	96	
14. Gordonsville	22 Dec	...	2	20	...	...	...	...	8	
15. Charlottesville	29 Dec	...	12	...	232	10	...	...	131	
16. Warren	22 Dec	...	9	107	...	7	...	...	80	
17. Lynchburg	21 Dec	...	14	155	1	16	...	...	155	
18. Danville	1 Jan	14	15	59	...	2	...	...	89	
19. Philpott Reserv.	28 Dec	...	14	66	...	8	...	...	98	
20. Calmes Neck	28 Dec	...	19	40	...	...	...	...	20	
21. N. Shen. Valley	21 Dec	...	11	52	...	7	...	...	10	
22. Shen. NP-Luray	22 Dec	...	8	74	...	3	...	...	99	
23. Big Flat Mt.	27 Dec	...	5	19	...	4	...	...	35	
24. Rockingham Co	21 Dec	...	1	17	...	...	...	...	13	
25. Augusta Co.	21 Dec	...	5	48	...	2	...	...	34	
26. Waynesboro	31 Dec	...	7	96	...	9	...	...	115	
27. Lexington	26 Dec	...	6	60	...	5	...	...	234	
28. Peaks of Otter	24 Dec	...	2	26	...	4	...	...	9	
29. Clifton Forge	29 Dec	...	5	17	...	3	...	...	15	
30. Fincastle	22 Dec	...	5	40	...	2	...	...	101	
31. Roanoke	21 Dec	...	10	105	1	10	...	...	134	
32. Blacksburg	21 Dec	...	8	77	...	8	...	...	58	
33. Tazewell	30 Dec	...	1	18	...	3	...	...	5	
34. Glade Spring	21 Dec	...	1	4	1	...	...	...	2	
35. Nickelsville	28 Dec	...	4	39	...	3	...	...	26	
36. Breaks I.S. Park	4 Jan	...	4	99	...	13	...	...	48	

			Ruby-crowned Kinglet	Blue-gray Gnatcatcher	Eastern Bluebird	Hermit Thrush	American Robin	Gray Catbird	Northern Mockingbird	Brown Thrasher	Water Pipit	Cedar Waxwing	Loggerhead Shrike	European Starling
28	...	145	99	797	33	51	6	142	355	...	1770			
3	...	13	19	32	3	56	3	...	...	...	1529			
40	...	21	130	3763	39	80	9	970	1103	...	4529			
24	1	3	25	4100	1	80	3	202	76	...	7260			
42	...	46	18	3300	29	65	15	267	17	...	3470			
16	...	12	...	181	1	319	3	13	16	...	3208			
13	...	510	8	2899	21	94	5	...	587	...	4546			
40	...	147	24	133	1	55	6	432	154	...	220			
24	1	108	22	252	...	70	13	79	377	1	1444			
6	...	85	6	225	1	67	1	...	400	...	1800			
29	1	174	21	2935	2	269	2	5	1747	...	2224			
8	...	113	7	279	...	68	...	108	106	...	5621			
30	...	134	9	68	...	62	...	...	89	...	1001			
9	...	42	1	375	...	36	...	...	244	1	564			
70	...	143	58	225	1	252	2	...	192	1	931			
14	...	78	16	527	...	125	2	...	155	4	2748			
111	...	119	43	100	...	119	...	...	113	1	1019			
10	...	176	2	54	...	81	...	55	15	...	1335			
45	...	58	33	41	...	14	...	...	37	...	429			
2	...	72	6	72	...	75	...	...	684	2	2149			
1	...	247	5	10,915	...	333	...	...	3732	4	32,951			
24	...	327	18	1551	...	96	...	530	609	4	3891			
4	...	20	10	525	...	1	...	...	151	...	...			
6	...	77	1	2	1	80	...	70	...	4	2613			
10	...	84	...	1	1	179	...	...	2	6	8599			
39	...	112	21	879	...	91	...	...	131	1	4754			
7	...	69	16	20	...	78	2	...	43	2	309			
4	...	62	8	10	...	13	...	...	20	...	...			
5	...	27	4	18	...	7	2	...	74	1	101			
20	...	57	9	119	...	169	...	7	...	7	2012			
18	...	75	22	7	...	112	...	2	7	1	2914			
3	...	100	4	6	...	87	2	292	17	2	1685			
2	...	2	2	22	...	3	1	...	13	...	527			
1	...	26	...	1	...	17	...	...	...	...	1789			
2	...	252	2	22	...	61	2	120	112	3	1492			
1	...	32	18	74	...	1	...	...	32	...	75			

		Solitary Vireo	Orange-crowned Warbler	Yellow-rumped Warbler	Pine Warbler	Palm Warbler	Black-and-white Warbler	Ovenbird	Common Yellowthroat
1. Chincoteague	29 Dec	...	...	10,200	9	10	...	...	2
2. Wachapreague	22 Dec	...	...	474	...	1	...	...	...
3. Cape Charles	30 Dec	1	2	10,177	5	288	1	...	4
4. Little Creek	31 Dec	1	...	770	29	1	...	1	...
5. Back Bay	29 Dec	...	2	5700	15	7	...	...	2
6. Newport News	21 Dec	...	...	1816	34	...	...	...	...
7. Mathews	5 Jan	...	...	1927	2	...	...	...	...
8. Williamsburg	22 Dec	...	...	3618	1	...	...	...	...
9. Hopewell	21 Dec	...	...	102	3	...	...	...	...
10. Brooke	18 Dec	...	...	24	...	...	...	...	...
11. Fort Belvoir	4 Jan	...	...	96	...	...	...	...	2
12. Nokesville	28 Dec	...	...	65	...	...	...	...	...
13. Lake Anna	5 Jan	...	...	59	1	...	...	...	...
14. Gordonsville	22 Dec	...	...	16	1	...	...	...	...
15. Charlottesville	29 Dec	...	...	164	2	...	...	...	...
16. Warren	22 Dec	...	...	75	...	...	...	...	...
17. Lynchburg	21 Dec	...	...	72	2	...	...	...	...
18. Darville	1 Jan	...	...	20	4	...	...	...	...
19. Philpott Reserv.	28 Dec	...	...	3	...	1	...	...	...
20. Calmes Neck	28 Dec	...	...	12	...	1	...	...	...
21. N. Shen. Valley	21 Dec	...	...	116	2	...	...	...	...
22. Shen. NP-Luray	22 Dec	...	...	143	1	...	...	...	...
23. Big Flat Mt.	27 Dec	...	...	1	...	...	...	...	...
24. Rockingham Co	21 Dec	...	...	8	...	...	...	...	...
25. Augusta Co.	21 Dec	...	...	19	2	...	...	...	...
26. Waynesboro	31 Dec	...	...	4	...	...	...	...	...
27. Lexington	26 Dec	...	...	84	...	...	...	...	...
28. Peaks of Otter	24 Dec	...	...	7	...	...	...	...	...
29. Clifton Forge	29 Dec	...	...	4	...	...	...	...	...
30. Fincastle	22 Dec	...	...	54	...	...	...	...	...
31. Roanoke	21 Dec	...	...	21	...	...	...	...	...
32. Blacksburg	21 Dec	...	...	18	...	...	...	...	...
33. Tazewell	30 Dec	...	...	...	...	...	...	...	...
34. Glade Spring	21 Dec	...	...	3	...	...	...	...	...
35. Nickelsville	28 Dec	...	...	43	...	...	...	...	...
36. Breaks I.S. Park	4 Jan	...	...	1	...	...	...	...	...

Yellow-breasted Chat	Northern Cardinal	Rufous-sided Towhee	American Tree Sparrow	Chipping Sparrow	Field Sparrow	Vesper Sparrow	Savannah Sparrow	Savannah (Ipswich) Sparrow	Sharp-tailed Sparrow	Seaside Sparrow	Fox Sparrow
...	153	38	...	...	109	...	136	4	15	3	3
1	88	2	1	3	55	3	81	1	1	...	15
...	227	58	...	7	144	13	242	10	62	56	75
...	99	27	...	...	18	1	10	...	13	2	9
...	80	44	...	30	54	...	73	6	1	...	4
...	401	31	...	5	66	...	138	...	3	...	16
...	149	38	...	11	146	...	33	...	...	1	2
...	205	39	...	6	48	...	21	...	...	...	3
...	272	25	...	...	50	...	51	...	...	...	2
...	200	9	...	...	100	...	40	...	...	...	5
...	779	48	4	...	158	1	7	...	...	...	5
...	114	35	1	...	3	...	59	...	...	...	...
...	129	1	1	...	156	...	10	...	...	...	2
...	105	1	...	...	4	...	7	...	...	...	...
...	484	34	3	1	249	...	3	...	...	...	21
...	301	18	5	...	91	...	7	...	...	...	2
...	362	57	...	1	98	...	1	...	...	...	...
...	141	27	1	11	70	...	...	...	...	...	...
...	109	10	...	...	44	...	...	...	...	...	...
...	285	1	8	...	14	...	...	...	...	...	2
...	299	5	71	...	51	1	6	...	...	...	5
...	313	6	13	...	55	...	1	...	...	...	2
...	32	...	...	...	...	...	...	...	...	...	11
...	153	...	...	...	24	...	...	...	...	...	1
...	257	4	...	...	83	...	...	...	...	...	3
...	248	17	...	...	109	...	...	...	...	...	7
...	283	14	...	...	53	...	...	...	...	...	2
...	22	...	...	...	10	...	...	...	...	...	...
...	66	2	...	2	15	...	15	...	...	...	...
...	282	14	1	...	99	...	31	...	...	...	4
...	266	11	2	...	42	...	1	...	...	...	3
...	376	40	...	6	96	...	...	...	...	...	8
...	62	4	...	...	34	...	...	...	...	...	3
...	91	2	...	13	20	...	...	...	...	...	2
...	349	16	1	...	223	...	...	...	...	...	7
...	177	15	...	...	60	...	...	...	...	...	2

		Song Sparrow	Swamp Sparrow	White-throated Sparrow	White-crowned Sparrow	Sparrow, sp.	Dark-eyed Junco	Lapland Longspur	Snow Bunting
1. Chincoteague	29 Dec	519	438	714	...	...	200	2	...
2. Wachapreague	22 Dec	212	31	262	...	...	386	...	...
3. Cape Charles	30 Dec	780	277	1783	6	2	198	1	...
4. Little Creek	31 Dec	137	48	526	...	...	325	...	21
5. Back Bay	29 Dec	151	122	430	...	...	437	...	...
6. Newport News	21 Dec	293	28	<u>940</u>	...	...	<u>1084</u>	<u>4</u>	2
7. Mathews	5 Jan	110	3	304	...	...	1050	...	...
8. Williamsburg	22 Dec	196	33	665	...	...	745	...	...
9. Hopewell	21 Dec	263	24	1237	1	...	<u>1078</u>	...	...
10. Brooke	18 Dec	175	21	850	14	...	1500	...	...
11. Fort Belvoir	4 Jan	352	64	1370	...	...	1518	...	...
12. Nokesville	28 Dec	78	12	390	85	...	573	...	...
13. Lake Anna	5 Jan	99	9	468	8	...	680	...	1
14. Gordonsville	22 Dec	39	...	561	56	...	767	...	...
15. Charlottesville	29 Dec	405	17	1528	102	...	1234	...	...
16. Warren	22 Dec	460	9	998	95	...	1363	...	...
17. Lynchburg	21 Dec	236	6	<u>1510</u>	3	...	<u>1543</u>	...	...
18. Danville	1 Jan	234	108	423	...	...	1128	...	...
19. Philpott Reserv.	28 Dec	174	1	339	20	...	974	...	...
20. Calmes Neck	28 Dec	29	...	365	75	...	352	...	...
21. N. Shen. Valley	21 Dec	115	7	621	544	...	1784	...	...
22. Shen. NP-Luray	22 Dec	142	1	794	101	...	1316	...	...
23. Big Flat Mt.	27 Dec	1	...	170	...	...	108	...	...
24. Rockingham Co	21 Dec	66	...	548	49	...	574	...	...
25. Augusta Co.	21 Dec	101	1	445	143	...	1424	...	...
26. Waynesboro	31 Dec	237	9	731	60	...	1348	...	...
27. Lexington	26 Dec	112	2	738	12	...	865	...	...
28. Peaks of Otter	24 Dec	21	...	84	...	...	160	...	...
29. Clifton Forge	29 Dec	11	...	63	1	...	128	...	...
30. Fincastle	22 Dec	299	3	588	335	...	1424	...	...
31. Roanoke	21 Dec	211	6	528	25	...	351	...	...
32. Blacksburg	21 Dec	303	6	659	167	...	735	...	...
33. Tazewell	30 Dec	62	4	15	...	...	103	...	...
34. Glade Spring	21 Dec	76	...	118	56	...	129	...	...
35. Nickelsville	28 Dec	193	5	301	94	...	686	...	...
36. Breaks I.S. Park	4 Jan	144	...	162	...	...	<u>320</u>	...	...

[illegible]

		Common Redpoll	Pine Siskin	American Goldfinch	Evening Grosbeak	House Sparrow	Total Species	Total Individuals	Total Party Hours	Number of Observers
1. Chincoteague	29 Dec	...	17	188	5	187	148	244,918	159	35
2. Wachapreague	22 Dec	...	10	49	24	27	122	20,708	79.5	27
3. Cape Charles	30 Dec	...	64	83	107	37	165	75,660	192	47
4. Little Creek	31 Dec	...	30	72	11	231	140	78,335	107	25
5. Back Bay	29 Dec	...	19	101	1	316	142	74,441	110	37
6. Newport News	21 Dec	...	83	173	...	803	119	40,012	154	55
7. Mathews	5 Jan	...	25	390	204	66	106	26,198	83.5	34
8. Williamsburg	22 Dec	...	7	195	14	113	107	13,461	66	18
9. Hopewell	21 Dec	...	30	140	28	28	103	24,548	96	28
10. Brooke	18 Dec	...	2	170	22	110	85	14,465	74.5	19
11. Fort Belvoir	4 Jan	...	193	412	21	508	105	53,589	320	97
12. Nokesville	28 Dec	...	3	63	15	164	82	30,780	64.5	25
13. Lake Anna	5 Jan	...	...	97	25	45	81	7010	62	18
14. Gordonsville	22 Dec	...	...	5	...	18	65	8518	23	7
15. Charlottesville	29 Dec	...	36	211	16	64	86	14,023	133.5	28
16. Warren	22 Dec	...	47	189	114	84	84	11,662	79	16
17. Lynchburg	21 Dec	...	14	229	46	100	79	10,864	102	40
18. Danville	1 Jan	...	4	107	...	107	76	11,260	55.5	18
19. Philpott Reserv.	28 Dec	...	1	36	2	18	65	3691	27.25	13
20. Calmes Neck	28 Dec	...	...	239	30	147	73	7504	63.25	22
21. N. Shen. Valley	21 Dec	...	18	349	64	582	95	67,383	148	47
22. Shen. NP-Luray	22 Dec	1	39	288	55	499	82	18,855	108	39
23. Big Flat Mt.	27 Dec	...	1	13	...	...	39	1326	29	3
24. Rockingham Co	21 Dec	...	...	61	62	693	72	7785	56	26
25. Augusta Co.	21 Dec	...	22	164	18	565	71	17,919	72	30
26. Waynesboro	31 Dec	...	88	244	92	557	76	16,939	100	35
27. Lexington	26 Dec	...	...	123	11	70	72	5258	41	19
28. Peaks of Otter	24 Dec	...	...	7	27	...	41	729	26	9
29. Clifton Forge	29 Dec	...	18	128	185	19	66	2293	33.5	13
30. Fincastle	22 Dec	...	...	141	105	219	79	12,406	80	28
31. Roanoke	21 Dec	...	59	208	102	211	84	8547	126	33
32. Blacksburg	21 Dec	...	11	298	41	300	84	8423	69	33
33. Tazewell	30 Dec	...	...	37	84	98	61	1798	27	9
34. Glade Spring	21 Dec	...	...	91	...	85	61	5279	30.3	10
35. Nickelsville	28 Dec	...	4	207	23	79	79	7651	51	13
36. Breaks I.S. Park	4 Jan	...	...	109	...	71	52	2571	54.7	15

*(Christmas count summary, continued from page 37)*

55° F. at Little Creek, but this was 15 to 20° cooler than the unseasonable highs experienced the year before. The wind pattern was generally from the west, ranging from no wind at all recorded at Glade Springs to a blustery 35 miles per hour at Lake Anna.

Cape Charles was in the lead again with its total of 165 species, followed by Chincoteague's 148 species. In the Piedmont, Charlottesville took the honors with 86 species, and an impressive of 95 total allowed Northern Shenandoah Valley to retain top ranking for the Mountain and Valleys region. An aggregate of 202 species was seen on all counts combined, plus two forms, two exotics, and one hybrid. All though no new species were seen, a great number of censuses reported unusual or high numbers of many species. These are noted in Table 2 in bold type and underlining.

As usual, the counts are arranged in the table in a general east to west direction with Coastal Plains counts listed 1-11; Piedmont, 12-20; and Mountains and Valley counts, 21-36.

### CHRISTMAS COUNT DESCRIPTIONS

1. CHINCOTEAGUE NATIONAL WILDLIFE REFUGE. Center 2 miles N of center of Chincoteague. 29 Dec. Thirty-five observers in 22 parties. Total party-hours, 159 (122.5 on foot, 30.5 by car, 6 by boat) plus 5.25 hours owling; total party-miles, 368.75 (95.75 on foot, 258 by car, 15 by boat) plus 22 miles owling. Compilers: Claudia Wilds and F.R. Scott.

2. WACHAPREAGUE. Center intersection rts. 789 and 715. 22 Dec. Twenty-seven observers in 13 parties. Total party-hours, 79.5 (37.5 on foot, 32 by car, 10 by boat) plus 1 hour owling; total party-miles, 281 (36 on foot, 227 by car, 13 by boat) plus 5 miles owling. Compiler: Karen Terwilliger.

3. CAPE CHARLES. Center 1.5 miles SE of Capeville PO. 30 Dec. Forty-seven observers in 10-23 parties. Total party-hours, 192 (167 on foot, 20 by car, 5 by boat) plus 8 hours owling; total party-miles, 396 (143 on foot, 223 by car, 30 by boat) plus 20 miles owling. Compiler: Henry Armistead.

4. LITTLE CREEK. Center 3.8 miles NE of Kempsville in Virginia Beach. 31 Dec. Twenty-five observers in 11 parties. Total party-hours, 107 (88 on foot, 19 by car) plus 3 hours owling; total party-miles, 459 (46 on foot, 413 by car) plus 35 miles owling. Compiler: Paul Sykes.

5. BACK BAY NATIONAL WILDLIFE REFUGE. Center 1.5 miles E of Back Bay. 29 Dec. Thirty-seven observers in 11 parties. Total party-hours, 110 (89 on foot, 18 by car 3 by boat) plus 6 hours owling; total party-miles, 366 (62 on foot, 289 by car 15 by boat) plus 45 miles owling. Compiler: Paul Sykes.



6. NEWPORT NEWS. Center a point equidistant from NE corner boundary of Thomas Nelson Community College and corner of Magruder (rt. 134) & Cmdr. Shepard Blvds. 21 Dec. Fifty-five observers, 49 in 18 parties, 6 at feeders. Total party-hours, 154 (66.5 on foot, 79 by car, 8.5 on bicycle) plus 12 hours at feeders, 3.5 owling; total party-miles, 688.5 (51 on foot, 616.5 by car, 21 on bicycle) plus 19 miles owling. Compiler: Teta Kain.

7. MATHEWS. Center 0.5 mile E of Beaverlett PO. 5 Jan. Thirty-four observers in 9 parties. Total party-hours, 83.5 (43.5 on foot, 40 by car) plus 2.5 hours owling; total party-miles, 401.5 (37 on foot, 364.5 by car) plus 16 miles owling. Compiler: Mary Pulley.

8. WILLIAMSBURG. Center Colonial Williamsburg Information Center. 22 Dec. Eighteen observers, 15 in 8 parties, 3 at feeders. Total party-hours, 66 (32 on foot, 34 by car) plus 13 hours at feeders, 6.5 owling; total party-miles, 416.5 (36.5 on foot, 380 by car) plus 25 miles owling. Compiler: Bill Williams.

9. HOPEWELL. Center Curles Neck. 21 Dec. Twenty-eight observers in 11 parties. Total party-hours, 96 (68 on foot, 23 by car, 5 by boat) plus 1.5 hours owling; total party-miles, 354 (42 on foot, 282 by car, 30 by boat) plus 7 miles owling. Compiler: John Dillard.

10. BROOKE. Center 3 miles ESE of Brooke. 18 Dec. Nineteen observers in 11 parties. Total party-hours, 74.5 (54 on foot, 20.5 by car); total party-miles, 148 (42.5 on foot, 105.5 by car). Compiler: E.T. McKnight.

11. FORT BELVOIR. Center Pohick Church. 4 Jan. Ninety-seven observers, 95 in 53 parties, 2 at feeders. Total party-hours, 320 (285 on foot, 35 by car) plus 8 hours at feeders, 14 owling; total party-miles, 763 (251 on foot, 512 by car) plus 20 miles owling. Compiler: Jackson Abbott.

12. NOKESVILLE. Center Fleetwood Dr. (rt. 611) at Cedar Run. 28 Dec. Twenty-five observers, 24 in 8 parties, 1 at feeders. Total party-hours, 64.5 (25 on foot, 39.5 by car) plus 2 hours at feeders, 7 owling; total party miles, 396.5 (29.5 on foot, 367 by car) plus 44 miles owling. Compiler: Ken Bass.

13. LAKE ANNA. Center rt. 208 at North Anna River Bridge. 5 Jan. Eighteen observers, 16-17 in 7-8 parties, 1 at feeders. Total party-hours, 62 (32 on foot, 30 by car) plus 4 hours at feeders, 3.5 owling; total party-miles, 319 (37 on foot, 282 by car) plus 27 miles owling. Compiler Jack Mozingo.

14. GORDONSVILLE. Center junctions rts. 15, 33 and 231 in Gordonsville. 22 Dec. Seven observers, 6 in 3 parties, 1 at feeders. Total party-hours, 23 (12 on foot, 11 by car) plus 0.5 hour at feeders, 3 owling; total party-miles, 150 (10 on foot, 140 by car) plus 20 miles owling. Compiler: Jack Mozingo.

15. CHARLOTTESVILLE. Center near Ivy. 29 Dec. Twenty eight observers in 16-17 parties. Total party-hours, 133.5 (118.5 on foot, 15 by car) plus 6 hours owling; total party-miles, 315 (122 on foot, 193 by car) plus 41 miles owling. Compiler: Charles Stevens.



16. WARREN. Center near Keene. 22 Dec. Sixteen observers in 10 parties. Total party-hours, 79 (66 on foot, 13 by car) plus 4 hours owling; total party-miles, 237 (81 on foot, 156 by car) plus 24 miles owling. Compiler: Charles Stevens.
17. LYNCHBURG. Center Lynchburg College. 21 Dec. Forty observers, 39 in 17 parties, 1 at feeders. Total party-hours, 102 (65 on foot, 37 by car) plus 4 hours at feeders, 6 owling; total party-miles, 403 (62 on foot, 341 by car) plus 29 miles owling. Compiler: Myriam Moore.
18. DANVILLE. Center Ballou Park. 1 Jan. Eighteen observers, 16 in 9 parties, 2 at feeders. Total party-hours, 55.5 (39.5 on foot, 16 by car) plus 7 hours at feeders, 3 owling; total party-miles, 320.5 (51.5 on foot, 269 by car) plus 3 miles owling. Compiler: Plumer Wiseman.
19. PHILPOTT RESERVOIR. Center near intersection rts. 605 and 623. 28 Dec. Thirteen observers in 5 parties. Total party-hours, 27.25 (10.5 on foot, 16.75 by car) plus 3 hours owling; total party-miles, 212 (14 on foot, 198 by car) plus 20 miles owling. Compiler: Clyde Kessler.
20. CALMES NECK. Center Castlemans Ferry Bridge, rt. 7 and the Shenandoah River. 28 Dec. Twenty-two observers, 21 in 10 parties, 1 at feeders. Total party-hours, 63.25 (26.75 on foot, 36.5 by car) plus 3 hours at feeders, 2.5 owling; total party-miles, 323.5 (21.5 on foot, 302 by car) plus 25 miles owling. Compiler: Harriet Gilbert.
21. NORTHERN SHENANDOAH VALLEY. Center junction Crooked Run and rt. 606. 21 Dec. Forty-seven observers in 19 parties. Total party-hours, 148 (59 on foot, 83 by car, 6 by canoe) plus 7 hours owling; total party-miles, 847 (60 on foot, 779 by car, 8 by canoe) [miles owling?]. Compiler: Rob Simpson.
22. SHENANDOAH NATIONAL PARK--LURAY. Center Hershberger Hill. 22 Dec. Thirty-nine observers, 31 in 13 parties, 8 at feeders. Total party-hours, 108 (55 on foot, 53 by car) plus 11 hours at feeders, 6 owling; total party-miles, 541 (52 on foot, 489 by car) plus 18 miles owling. Compiler: Dennis Carter.
23. BIG FLAT MOUNTAIN. Center on Pasture Fence Mountain. 27 Dec. Three observers in 3 parties. Total party-hours, 29 (all on foot) plus 1.5 hours owling; total party-miles, 36 (all on foot) plus 3 miles owling. Compiler: Charles Stevens.
24. ROCKINGHAM COUNTY. Center Ottobine. 21 Dec. Twenty-six observers in 13 parties. Total party-hours, 56 (15 on foot, 41 by car) plus 0.5 hour owling; total party-miles, 317 (21 on foot, 296 by car) plus 1 mile owling. Compiler: Max Carpenter.
25. AUGUSTA COUNTY. Center junctions rts. 780 and 781. 21 Dec. Thirty observers, 29 in 12 parties, 1 at feeders. Total party-hours, 72 (24 on foot, 48 by car) plus 5 hours at feeders; total party-miles, 599 (22 on foot, 577 by car). Compiler: John Mehner.

26. WAYNESBORO. Center Sherando at intersection of rts. 610 and 664. 31 Dec. Thirty-five observers, 28 in 14 parties, 7 at feeders. Total party-hours, 100 (55 on foot, 45 by car) plus 10 hours at feeders, 4.5 owling; total party-miles, 510 (63 on foot, 447 by car) plus 41 miles owling. Allen Hale.

27. LEXINGTON. Center Big Spring Pond. 26 Dec. Nineteen observers, 14 in 7 parties, 5 at feeders. Total party-hours, 41 (20 on foot, 21 by car) plus 7 hours at feeders, 2 owling; total party-miles, 213 (21 on foot, 192 by car) plus 15 miles owling. Compilers: Peter Bergstrom and Bob Paxton.

28. PEAKS OF OTTER. Center Peaks of Otter Visitor Center. 24 Dec. Nine observers in 5 parties. Total party-hours, 26 (16 on foot, 10 by car); total party-miles, 58 (20 on foot, 38 by car). Compiler: Barry Kinzie.

29. CLIFTON FORGE. Center junction rts. 42 and 60. 29 Dec. Thirteen observers, 8 in 6 parties, 5 at feeders. Total party-hours, 33.5 (17.75 on foot, 15.75 by car) plus 13 hours at feeders, 1 owling; total party-miles, 206 (27 on foot, 179 by car). Compiler: Allen Lebew.

30. FINCASTLE. Center N of Fincastle near intersection of rts. 220 and 679. 22 Dec. Twenty-eight observers in 14 parties. Total party-hours, 80 (42 on foot, 38 by car) plus 9 hours owling; total party-miles, 388 (51 on foot, 337 by car) plus 39 miles owling. Compiler: Barry Kinzie.

31. ROANOKE. Center Oakland Blvd. and Williamson Rd. 21 Dec. Thirty-three observers in 14 parties. Total party-hours, 126 (60 on foot, 61 by car, 5 by canoe) plus 14 hours owling; total party-miles, 481 (46 on foot, 430 by car, 5 by canoe) plus 21 miles owling. Compiler: Barry Kinzie.

32. BLACKSBURG. Center intersection rts. 685 and 657. 21 Dec. Thirty-three observers, 31 in 15 parties, 2 at feeders. Total party-hours, 69 (38 on foot, 31 by car) plus 10 hours at feeders, 2 owling; total party-miles, 276 (42 on foot, 234 by car) plus 2 miles owling. Compiler: Clyde Kessler.

33. TAZEWEEL. Center Fourway. 30 Dec. Nine observers, 6 in 3 parties, 3 at feeders. Total party-hours, 27 (10 on foot, 17 by car) plus 8 hours at feeders; total party-miles, 110 (15 on foot, 95 by car). Compiler: Sarah Cromer.

34. GLADE SPRING. Center junction rts. 750 and 609. 21 Dec. Ten observers, 9 in 4 parties, 1 at feeders. Total party-hours, 30.3 (12 on foot, 18.3 by car) plus 2 hours at feeders, 1 owling; total party miles, 223.5 (8.5 on foot, 215 by car) plus 6 miles owling. Compiler: Chuck Byrd.

35. NICKELSVILLE. Center Nickelsville. 28 Dec. Thirteen observers in 6 parties. Total party-hours, 51 (7 on foot, 44 by car) plus 4 hours owling; total party-miles, 374 (7 on foot, 367 by car) plus 10 miles owling. Compilers: Betsy McConnell and E.E. Scott.

36. BREAKS INTERSTATE PARK. Center 4.5 miles NE of Haysi. 4 Jan. Fifteen observers, 14 in 7 parties, 1 at feeders. Total party-hours, 54.7 (26 on foot, 28.7 by car) plus 4 hours owling; total party-miles, 306 (24 on foot, 282 by car) plus 3 miles owling. Compiler: Compiler Kenneth Markley.

### THE 1986 VSO ANNUAL MEETING TETA KAIN

The fifty-first Annual Meeting of the Virginia Society of Ornithology was opened at Longwood College in Farmville, Virginia at 7:20 p.m., 23 May 1986 by President Dr. Jerry Via. All attendees were welcomed and Lynchburg Bird Club was extended a round of applause for hosting the meeting.

The business meeting was opened with the 1986 slate of officers being presented to the general membership for approval as follows:

President: Dr. Jerry Via, Blacksburg

Vice President: Mr. Bill Williams, Williamsburg

Secretary: Mrs. Teta Kain, Hampton

Treasurer: Mrs. Thelma Dalmás, Lynchburg

*Raven* Editor: Mr. Fred Scott, Richmond

*Newsletter* Editor: Mr. Allen Hale, Shipman

Board of Directors (for a three-year term ending July 1989)

Mrs. Bettye Fields, Newport News

Mr. Taylor Seay, Kilmarnock

Mr. Charles Ziegenfuss, Harrisonburg

The slate was approved unanimously by the general membership.

Dr. Via recognized outgoing board members Polly Turner, John Dillard and Leonard Teuber and extended special thanks to Myriam Moore, outgoing *Newsletter* Editor, for her continuous VSO work over the past 10 years.

A brief summary of the treasurer's report was presented by Thelma Dalmás: the treasury contained \$14,155 on 1 January 1985 and on 31 December 1985, the amount was \$15,835, a gain of \$1680 for the 1985 calendar year.

The Virginia Commission of Game and Inland Fisheries recently donated \$3000 to the Breeding Bird Atlas Project and \$1000 to the Kiptopeke Banding Station Project. VSO has contributed more data to the project, Biota of Virginia (BOVA) from these two studies than any other project receiving funds from the Commission. VSO is the only organization working with the Commission that is not affiliated with a university or college.

Dr. Via welcomed the newest VSO chapter, Colonial Audubon Society of Grafton, Virginia. That chapter now has 450 members. The President read a letter of application for VSO chapter affiliation from Monticello Bird Club of Charlottesville. A motion was made to accept the club as a chapter. It was seconded and the motion carried unanimously. These two chapters become the 28th and 29th organizations to join VSO.

The Piping Plover is latest edition to the endangered species list of Virginia. The Commission of Game and Inland Fisheries and VSO are working on a cooperative project to study the plight of the bird in this state.

Dr. Via introduced Terry Bryan from Newport News, winner of the logo contest, and awarded her with a free two-year membership in the Society. The business meeting was then concluded.

Myriam Moore opened the program with an introduction of Doris Smith who painted a verbal picture of the Society as it was in its early years.

Teta Kain presented a brief summary of progress on the Annotated Checklist of Virginia Birdlife. Records may be submitted for inclusion in the new edition until September 1986.

Thelma Dalmas described Atlas "block busting" and how to organize such an effort. She also made note of the computerized membership list she had compiled that lists the date that each person joined VSO. Members were asked to make appropriate corrections to the list while it is on display at the exhibit area.

Dr. Jerry Via presented "Challenge for the Future," a preview of VSO activities in the decades to come. He stressed that the organization is on the verge of cosmopolitan birding and concerns about bird populations will reach beyond the boundaries of Virginia to encompass an international scope. He cited actions the Society must take to survive as a respected member of the birding and scientific community:

1. Produce a good project, i.e. Atlas project
2. Be active in conservation measures
3. Continue to increase membership
4. Establish and maintain even higher standards of communication
5. Research Atlas data and act accordingly to findings
6. Produce new and worthwhile products - publications, site guides, records committee decisions, etc.

Dr. Via even projected his vision of VSO in the year 2000:

1. A membership of 2000
2. Successors to the Redbook and Bluebook
3. The *Raven* up to date
4. A book on Virginia Birdlife
5. 430 species listed on the checklist

Dr. Via concluded by urging both chapters and individual members to submit ideas and suggestions to board members for consideration.

Myriam Moore displayed and described the VSO treasure chest into which chapters and some members of long standing have submitted documents and letters. She read a few of the letters, The box will be sealed, not to be opened until some undetermined future date.

Thelma Dalmas gave an eight-minute slide presentation of VSO memories. Immediately following, she reviewed the field trip schedule of the next two days to Appomattox Court House, Twin Lakes State Park, Red Hill Patrick Henry National Monument, and Kerr Dam.

The Friday evening program finished at 9 p.m. and everyone adjourned to the dormitory building to visit the exhibit area and attend the social hour hosted by the Lynchburg Bird Club.

On Saturday afternoon Vice President Bill Williams, presided over the papers session beginning at 2 p.m. Topics presented were:

1. *Central Piedmont Bird Population Survey, Part II*; Melva and Charles Hansrote. A continued study of a two-mile transect in Bedford County. This is an on-going comparison study of today's bird populations in a Bedford County area with those listed by Ruskin Freer in the 1920s.

2. *Atlas Fever: A review of Atlas projects with emphasis on Virginia*; Sue Ridd. A brief review of Atlas projects throughout North America with special emphasis on Virginia was presented.

3. *Caroburon Toxicity in Virginia's Bald Eagles*; Stuart Porter, Warnings of the possible large-scale dangers to Virginia's Bald Eagle population and other avian species was outlined.

4. *Ravens: Yesterday, Today and Tomorrow*; Peter W. Bergstrom, Results were given of three years of studies of the breeding biology of the Common Raven in Rockbridge and Nelson Counties.

5. *Hawks in Flight*; Peter J. Dunne. The nuances of field identification of hawks in flight were explored.

At the conclusion of the paper session John Mehner asked for volunteers to conduct three vacant Breeding Bird Survey routes in the state. Bill Williams adjourned the session at 4:35 p.m.

The Saturday evening banquet was held in the dining hall with a social hour leading off the activities at 6 p.m. Dr. Via commended the Lynchburg Club and the staff of Longwood College for their outstanding efforts to host the 1986 Annual meeting, and he also welcomed seven new members who had joined VSO during the weekend. At the conclusion of the meal, awards were presented:

Jim Watson, chairman of the Conservation Committee, accepted the 1986 Conservation Award for Susan B. Haines for her work to protect the Bald Eagle population at Mason Neck on the Potomac River. Ms Haines was unable to attend the meeting.

The J.J. Murray Award for excellence in studies of bird life in Virginia was given to Michael E. Patterson for his studies on impact of human activities on the Piping Plovers on Assateague Island.

The 1986 James Eike Service awards were presented to Mitchell Byrd, Teta Kain, and Bill Williams.

Numerous doorprizes, including signed and numbered prints by Carter and carvings by Thrasher, were awarded to winners.

Myriam Moore conducted roll call of local chapters. Dr. Via recognized Grace Wilshire, the longest active member of VSO.

Banquet speaker, Peter Dunne, presented a oral and pictorial essay of the birding at Cape May Observatory in New Jersey.

The evening activities concluded at 10 p.m.

### LOCAL CHAPTERS OF THE VSO

This list of local chapters, compiled by Bill Opengari, chairman of the Membership Committee, has been revised to May 1986. The number in parentheses after the chapter name is the approximate number of members in that chapter

1. Alleghany Highlands Bird Club (20), Clifton Forge
2. Augusta Bird Club (110), Staunton-Waynesboro
3. Bristol Bird Club (40), Bristol
4. Cape Henry Audubon Society (450), Norfolk
5. Charlottesville-Albemarle Bird Club (21), Charlottesville
6. Clinch Mountain Bird Club (12), Nickelsville
7. Clinch Valley Bird Club (25), Tazewell
8. Colonial Audubon Society (450), Hampton-Newport News-Yorktown
9. Cumberland Nature Club (16), Wise
10. Eastern Shore Bird Club (40), Accomac
11. Fairfax Audubon Society (1800), Vienna
12. Foothills Bird Club, (Martinsville)
13. Hampton Roads Bird Club (180), Newport News-Hampton
14. Lynchburg Bird Club (300), Lynchburg
15. Marion Bird Club ((25), Marion
16. Monticello Bird Club (40), Charlottesville
17. Montpelier Bird Club (25), Gordonsville-Orange
18. New River Valley Bird Club (30), Blacksburg
19. Northern Neck of Virginia Audubon Society (260),  
Kilmarnock-White Stone
20. Northern Shenandoah Valley Audubon Society (300), Middletown
21. Northern Virginia Chapter (500), Arlington-Fairfax
22. Richmond Audubon society (920), Richmond
23. Roanoke Valley Bird Club (180), Roanoke-Salem
24. Rockbridge Bird Club (10), Lexington
25. Rockingham Bird club (100), Harrisonburg
26. Virginia Beach Audubon Society (300), Virginia Beach
27. Margaret H. Watson Bird Club (20), Darlington Heights
28. Westmoreland Bird Club (60), Montross
29. Williamsburg Bird Club (140), Williamsburg

**OFFICERS AND COMMITTEES OF THE VSO, 1986-1987**

*President:* JERRY W. VIA, Department of Biology, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061

*Vice President:* BILL WILLIAMS, 108 Deerwood Drive, Williamsburg, Virginia 23185

*Secretary:* TETA KAIN, Route 5, Box 950, Gloucester, Virginia 23061

*Treasurer:* THELMA DALMAS, 520 Rainbow Forest Drive, Lynchburg, Virginia 24502

*Raven Editor:* F.R. SCOTT, 115 Kennondale Lane, Richmond, Virginia 23226

*Newsletter Editor:* ALLEN HALE, Route 1, Box 242, Shipman, Virginia 22971

*Immediate Past President:* YULEE LARNER, 1020 West Beverley Street, Staunton, Virginia 24401

*Elected Members of the Board of Directors:*

*Class of 1987*

James L. Ayers, 1028 Sherwood Avenue S.W., Roanoke, Virginia 24015

Charles J. Hansrote, Jr., 24 Greenwell Court, Lynchburg, Virginia 24502

J. Enoch Johnson, Route 3, Box 212, Montross, Virginia 22520

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T. Paul Smith, Route 1, Box 124, Onancock, Virginia 23417

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Bettye Fields, 39 Culpeper Avenue, Newport News, Virginia 23606

Taylor Seay, Route 1, Box 1506, Kilmarnock, Virginia 22482

Charles Ziegenfuss, 332 Franklin Street, Harrisonburg, Virginia 22801

*Committees:*

*Atlas Project:* Sue Ridd, 10718 Almond Street, Fairfax, Virginia 22032

*Circulation:* John Dillard, 7803 Brentford Drive, Richmond, Virginia 23225

*Education:* J. Enoch Johnson, Route 3, Box 212, Montross, Virginia 22520

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*Kiptopeke Review:* 108 Deerwood Drive, Williamsburg, Virginia 23185

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## 1986 VIRGINIA BREEDING BIRD ATLAS PROJECT RESULTS

### SUE RIDD

In its third field season, the Virginia Breeding Bird Atlas Project (VAP) showed remarkable progress.

On the 7 1/2-minute quadrangle level, the number of covered quadrangles rose from 237 to 289, but the number of blocks receiving some coverage increased from 517 to 942 blocks in 1986. This meant that nearly twice as many blocks were covered in 1986 than in 1984 and 1985 combined.

This was partly due to an increase in the number of Atlas volunteers which increased from 200 to approximately 325 individuals. It appeared that the more experienced Atlaser was working in blocks that were further away from home. With these ventures further afield, the database increased again from 25,000 data points to nearly 40,000.

An article in the Atlas newsletter on Common Barn-Owls asked Atlasers to provide information to Chuck Rosenberg who was a graduate student studying this species under Dr. Mitchell A. Byrd at the College of William and Mary. Several sites were reported.

In Region 2, Regional Coordinator Jack Abbott reported some interesting findings. The second nesting of a Double-crested Cormorant was observed as was a second nest of a Yellow-crowned Night-Heron. Two pairs of King Rails bred for the third year while two pairs of Pied-billed Grebes were also confirmed. A second record of a Red-headed Woodpecker was also confirmed for Region 2 and at least one pair (if not two) of Brown Creepers bred. A Hooded Warbler was also reported nesting.

In Region 9, Regional Coordinators John and Thelma Dalmas went to Martinsville in June to blockbust some unknown blocks. The atlased quadrangles included Mount Hermon, Brosville, Ringgold, and Virgilina. These Southside blocks proved to be exciting because they yielded the first confirmed Piedmont record of a Virginia Rail. One adult rail with two young were observed and a Common Moorhen adult with one young was also seen, but reported as a probable breeder. Two pairs of adult Tree Swallows were confirmed feeding young and this record extended the known range 50 miles. Another unusual sighting was a Solitary Vireo. Willow Flycatchers and Cedar Waxwings observed in the Martinsville miniforay were also a first for Region 9.

The third year of the Atlas Project resulted in much coverage and some interesting discoveries.

10718 Almond Street, Fairfax, Virginia 22032

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## OPERATION RECOVERY—KIPTOPEKE

WALTER P. SMITH

It has been said quite often that time passes quickly when we enjoy what we are doing. I suppose, to most people, 1963 seems a long time ago, but to me it is more like yesterday.

That is the year that we started sampling the fall migration of birds in the Atlantic Flyway at a spot on the Eastern Shore of Virginia called Kiptopeke. We have continued this operation every fall since, and by the end of 1985, had banded the amazing total of 200,226 birds of 149 species.

As might be expected, we learned a great deal about bird migration during this period; certainly one of the most surprising things to me was discovering the large number of species passing through our area every fall, many of which we had been completely unaware. As compiler of most of the annual banding summaries, I have pored over this data for years, forever trying to establish patterns in the occurrence of the migrants.

This paper will deal specifically with two facets of bird migration, as reflected in Tables 3 and 4. These tables were compiled from our banding summaries for the years 1967 through 1985. The first facet is the fact that the numbers of birds banded is controlled primarily by the number and strength of cold fronts; this is shown in Table 3. The second facet is that, although the numbers of each species can vary tremendously from year to year, the dates of arrivals, peaks and departures are remarkably consistent; this is shown for 36 selected species in Table 4.

Regarding Table 3, several things should be pointed out. Numbers of birds banded and net hours can be affected by length of operation or numbers of nets used. For example, the years 1983-1985 reflect only about half the number of birds banded that we might have expected. During those years we did use about 30 percent fewer nets, but the nets deleted came from historically poor yield areas and, in 1983, we operated for only four weeks. However, neither of those factors were as significant as the dramatic drop in cold fronts during those years. I might also explain that my criteria for defining a strong cold front is one during which there is a dramatic increase in the birds, usually lasting two days; a weak cold front is one with only a substantial increase, usually lasting only one day.

Regarding Table 4, there are also several points that should be explained. Our normal operation starts the first week in September and runs for seven or eight weeks; since some early migrants start before we open, and some late migrants continue after we close, there is a built-in bias for arrival and departure dates for those species. The great fluctuation in high and low numbers banded annually is readily apparent; since there is no "normal," I have listed the "average" number banded. Four species reflect no peak dates; their numbers were comparatively even throughout the period. The Red-breasted Nuthatch had a particularly interesting pattern since, in approximately 50 percent of the years, the numbers were six or less, while in the other 50 percent they were 29 or more, all with no occurrence patterns

TABLE 3. *Birds banded in relation to weak and strong cold fronts.*

Year	Number of Strong Cold Fronts	Number of Weak Cold Fronts	Number of Net Hours	Number of Days Banding	Number of Birds Banded
1967	6	2	17725	51	8525
1968	8	0	18637	57	12202
1969	6	0	18439	58	10576
1970	6	3	14178	51	13497
1971	7	0	13403	51	9680
1972	5	3	11878	42	7331
1973	4	5	16645	51	7584
1974	7	0	19091	60	15600
1975	7	3	20328	58	9870
1976	6	4	17982	58	12132
1977	6	2	22691	77	12312
1978	4	7	23839	62	8917
1979	3	4	17568	60	11903
1980	4	8	20114	59	11887
1981	5	2	19128	62	12596
1982	7	3	19433	58	12042
1983	1	2	5104	30	4036
1984	0	3	9750	51	4527
1985	0	4	7985	51	4621

TABLE 4. *Normal arrival, peak, and departure dates of 36 selected species; and the high, low and average numbers banded.*

Species	Normal Arrival Date	Normal Peak Dates	Normal Departure Date	High Number Banded (Year)	Low Number Banded (Year)	Average Number Banded
Sharp-Shinned Hawk	19 Sep	28 Sep-19 Oct	25 Oct	288 (1977)	10 (1970)	100
Yell.-bellied Flycatcher.	2 Sep	7 Sep-23 Sep	1 Oct	42 (1974)	6 (1985)	18
Acadian Flycatcher	3 Sep	6 Sep-26 Sep	6 Oct	28 (1968)	3 (1979)	14
Trail's* Flycatcher	1 Sep	5 Sep-17 Sep	26 Sep	120 (1970)	27 (1971)	56
Least Flycatcher	2 Sep	7 Sep-19 Sep	4 Oct	51 (1970)	4 (1985)	18
Eastern Phoebe	28 Sep	5 Oct-17 Oct	24 Oct	38 (1970)	5 (1972)	19
Red-br. Nuthatch	18 Sep	—	22 Oct	78 (1969)	0(1970\79)	22
House Wren	13 Sep	25 Sep- 2 Oct	21 Oct	222 (1969)	78 (1978)	141
Winter Wren	6 Oct	—	21 Oct	102 (1976)	8 (1985)	31
Gold.-crown. Kinglet	4 Oct	12 Oct-22 Oct	26 Oct	572 (1976)	7 (1984)	130
Ruby-crown. Kinglet	19 Sep	8 Oct-22 Oct	25 Oct	695 (1975)	50 (1985)	242
Veery	1 Sep	6 Sep-22 Sep	5 Oct	1070 (1970)	56 (1983)	295
Gray-cheek. Thrush	20 Sep	28 Sep-13 Oct	19 Oct	650 (1968)	30 (1984)	183
Swainson's Thrush	7 Sep	17 Sep- 8 Oct	17 Oct	794 (1968)	29 (1984)	212
Hermit Thrush	6 Oct	12 Oct-24 Oct	25 Oct	440 (1970)	10 (1984)	109
Gray Catbird	13 Sep	24 Sep-13 Oct	22 Oct	1154 (1977)	149 (1984)	467
White-eyed Vireo	1 Sep	1 Sep-19 Sep	1 Oct	44 (1980)	14 (1972)	27
Red-eyed Vireo	1 Sep	8 Sep- 3 Oct	17 Oct	514 (1970)	44 (1983)	190
Northern Parula	8 Sep	19 Sep-11 Oct	19 Oct	162 (1970)	25 (1984)	90
Magnolia Warbler	4 Sep	14 Sep- 8 Oct	18 Oct	270 (1970)	36 (1984)	153
Blk.-thr. Blue Warbler	3 Sep	17 Sep-12 Oct	20 Oct	652 (1969)	110 (1983)	345
Yell.-rump. Warbler	29 Sep	8 Oct-24 Oct	25 Oct	6362 (1932)	440 (1973)	3084
(West.) Palm Warbler	12 Sep	22 Sep-15 Oct	20 Oct	243 (1971)	15 (1985)	96
(Yell.) Palm Warbler	28 Sep	—	20 Oct	116 (1969)	5 (1983)	27
Blackpoll Warbler	9 Sep	22 Sep-16 Oct	25 Oct	171(1974/75)	12 (1984)	66
Blk. & white Warbler	1 Sep	7 Sep-26 Sep	10 Oct	278 (1980)	87 (1984)	182
American Redstart	1 Sep	8 Sep- 1 Oct	16 Oct	2740 (1974)	415 (1983)	1436
Ovenbird	2 Sep	10 Sep- 4 Oct	14 Oct	558 (1974)	52 (1985)	233
N. Waterthrush	2 Sep	8 Sep-27 Sep	10 Oct	189 (1977)	26 (1983)	89
Conn. Warbler	9 Sep	16 Sep- 5 Oct	16 Oct	41 (1967)	4 (1980)	16
C. Yellowthroat	1 Sep	11 Sep-14 Oct	22 Oct	1546 (1970)	421 (1984)	718
Yell.-breasted Chat	1 Sep	8 Sep- 2 Oct	15 Oct	35 (1973)	5 (1983)	20
Indigo Bunting	11 Sep	—	17 Oct	102 (1973)	18 (1984/85)	47
Song Sparrow	1 Oct	9 Oct-23 Oct	25 Oct	116 (1969)	8 (1985)	56
White-thr. Sparrow	27 Sep	7 Oct-24 Oct	24 Oct	405 (1971)	32 (1972)	136
Dark-eyed Junco	28 Sep	9 Oct-24 Oct	25 Oct	440 (1974)	17 (1972)	91

\*Includes both Alder Flycatcher and Willow Flycatcher

## 1986 BANDING RESULTS AT KIPTOPEKE BEACH

WALTER P. SMITH

The twenty-fourth consecutive year of operation of the Kiptopeke Beach Banding Station opened on 30 August 1986 and ran continuously through 18 October, a total of 50 days. Of those 50 days, there were 5 days during which the station was either closed, or open for less than 15 net-hours because of inclement weather.

The station, which overlooks Chesapeake Bay at the southern tip of the Eastern Shore peninsula, is operated by the Research Committee of the Virginia Society of Ornithology. There were 25 nets used for the passerine banding portion of the station, with an additional six nets for the raptor banding portion. The station procedures were essentially similar to those of past years.

During the 1986 season, 3503 new birds of 89 species were banded in 8,019 net-hours. Other results included seven returns of previously banded birds, 131 repeats of birds banded at the station this year and two "foreign recoveries" of birds banded elsewhere.

We have often noted in previous years of operation that the larger numbers of birds banded each season was triggered by the passage of strong cold fronts. This turned out to be a year of few strong cold fronts as witnessed by the fact that we had only two days on which we banded over 300 birds.

The most commonly banded bird this year was, as usual Yellow-rumped Warbler (607), followed by Common Yellowthroat (472), American Redstart (429), Gray Catbird (179) and Black-throated Blue Warbler (166). On the high side, the 7 Peregrine Falcons, 58 Merlins, and 1 Chuck-Will's-Widow were outstanding. On the low side, this was the first year in 24 with no Least Flycatcher banded; hopefully this will prove to be coincidental rather than a trend.

Licensed banders who alternated in charge of the station were Don Schwab, Walter Smith, John Buckalew, Charles Hacker and Fred Scott. As in the past, they were aided by many assistants whose help was greatly appreciated. Permission to use the private land on which the station is located was again kindly extended by John Maddox of Virginia Beach.

3009 Chesapeake Avenue, Hampton, Virginia 23661

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## **TURKEY VULTURE FLIGHT AT FISHERMAN ISLAND**

THOMAS W. SIMPSON

An aggregation of 250 Turkey Vultures, *Cathartes aura*, was sighted on 25 November 1986 over Fisherman Island off the southern tip of the Eastern Shore of Virginia. The vultures were in two groups of approximately equal size, soaring on adjacent thermal columns, with some exchange back and forth. At the top of one kettle were 25 Black Vultures mingling with 10 Red-tailed Hawks, but fairly well separated from the Turkey Vultures. The two groups moved from the Bay across the causeway from west to east during the 10-minute observation period that traffic conditions permitted.

Sutton reported a kettle of 60 Turkey Vultures over nearby Kiptopeke on 23 November 1984. In 1985, counts of Turkey Vultures at Kiptopeke in excess of 100 per day occurred only three times in October and counts between 50 and 99 only six times during October-November, but far exceeded all other counts in the state (Virginia Hawkwatch 1985). In 1986, no counts there were in excess of 50 except for one observation of 202 on 10 November (Virginia Hawkwatch 1986). More Turkey Vultures would have been counted at Rockfish Gap than at Kiptopeke that year had the Fisherman Island flight been missed.

Post Office Box 507, Accomac, Virginia 23301

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## **THE 1986 VIRGINIA HAWKWATCH**

DAVID HOLT

It was a banner year for counting migratory hawks in Virginia. Many sites set new single-season high-count records or had above average counts for other species. If the record counts are combined with the above average counts at selected sites, a consensus on the season should evolve.

The sites selected were Rockfish Gap, Kiptopeke Beach, Harvey's Knob, Mendota, Short Hill Mountain, and Linden. Certain species were excluded because they are not counted or they do not appear in sufficient numbers to establish averages. They are: Black Vulture, Turkey Vulture, Northern Goshawk, and Golden Eagle.

Two species appeared in either record breaking or above average numbers at all of the sites: the Bald Eagle and the Osprey. Five of the six sites reported either above average or record counts of Northern Harrier, Red-shouldered Hawk, and American Kestrel.

Four of the six sites reported increased number of Sharp-shinned Hawk, Cooper's Hawk, Broad-winged Hawk, Merlin, and Peregrine Falcon. The Peregrine Falcon set a new record at Harvey's Knob, Kiptopeke, and Mendota while equalling the existing record at Rockfish Gap!

The consensus is that all species except the Red-tailed Hawk crossed the state of Virginia in record or above average numbers in the fall of 1986. It was a magnificent season by any standard of measure.

As for the Red-tailed Hawk, a closer look is in order. At first glance, it seemed that the decline in Red-tailed sightings was extremely serious. But it was noticed that the average Red-tail figure for Rockfish Gap, where this species had the most pronounced decline, was drawn from only two years of Red-tailed Hawk coverage. Both of those years were outstanding so the average figure may be unrealistically high. We may look back on this statement in the future and have a good laugh but for the present, we decided to discount the Rockfish Gap record from the analysis of this species.

That left Harvey's Knob and Short Hill, both of which have long histories of Red-tail coverage. The Harvey's Knob count of Red-tailed Hawks was 17 percent above average and the Short Hill count was 23 percent below average, so there is no avoiding the fact that there was a decline of Red-tailed sightings this season. Whether this is indicative of a real species decline or only a manifestation of weather vagaries cannot be determined at this time.

By the same token, it is difficult to determine if the increased sightings of a species is a true indication of the status of that species. The earthbound hawkwatcher is far more dependent on weather conditions than the migrating hawk. The hawk will seek and use the weather induced byway that is conducive to effortless flight. The stationary hawkwatcher can only hope this byway will bring the hawk into view while scanning a two-mile patch of territory. Whether the hawk is seen or not, the fundamental question is, "WHY?" When we know why, the rest will be easy.

Therein lies the importance of reported hawkwatches. We made great strides toward answering the fundamental question in the fall of 1986. Some gave that extra hour, some defied weather forecasts and conventional wisdom, and probably neglected some pressing chores to put in time at a hawkwatch site.

The above discussion is based entirely on the data generated at sites logging over fifty hours of hawkwatches. These sites are the main references that generate data to give a first approximation of migratory behavior. The study of hawk migration cannot depend on the data generated by these sites alone. There must be constant experimentation, other sites manned and wide coverage of all areas to provide a larger picture of raptor migratory patterns.

There was a 212-hour effort in experimentation for this season. This was a laudable effort and must be summarized. Spitler Knoll, Timer Hollow, Thornton Gap, Old Rag Overlook, and Big Meadows are all locations along the Skyline Drive in the Shenandoah National Park that were tried by Herman Bohn. Herman is determined to find a viable lookout in Shenandoah National Park, but such a site has eluded him thus far. Pring Davenport did have a good Broad-winged

count at the Loft Mountain visitors' center and there have been other good counts from that location in the past. Loft Mountain deserves more attention in the future.

Allen Hale established the watch at Sugar Loaf which is on the east side of the Blue Ridge in Nelson County. This site has possibilities and could give us valuable insight into how rapidly the concentration of hawks at Rockfish disperses.

Robert Barbee reported over 3000 hawks around 4:30 p.m. on 17 September at Calf Mountain. Five miles downridge at Rockfish Gap nearly the same figures were reported. We now know that this mass didn't form right at Rockfish and can reasonably speculate that other masses don't form there either.

Tom Wieboldt's excellent report from Fort Lewis Mountain coupled with Joyce Holt's report from Mason's Cove (off the west slope of Fort Lewis) leads us to believe that Fort Lewis Mountain may be a leading line for migrants-possibly those leaving Harvey's Knob.

Bruce Davenport's watches at Ivy weren't too successful this season, but in the past he has had good counts of hawks moving due west toward Rockfish. These hawks may be using thermals generated by Interstate Highway 64. It will be interesting to see if future watches can corroborate this theory.

The Pott's Mountain watches by the Holts and Wind Rock watches by Clyde Kessler have confirmed the return of the migrants down the Alleghenies, an aspect of raptor migration that has been in question for several years.

Bill Hunley climbed Dragon's Tooth on Cove Mountain in northwest Roanoke County and was greeted by migrating Broad-winged Hawks! Some of these hawks were probably counted by Clyde Kessler from his site on Brush Mountain which is the next ridge in line with Cove Mountain. Bill also reported a very late "kettle" of Broad-wings over his home in Roanoke on 16 September.

Jo Wood proved that backyard hawkwatches are very valuable when she reported 205 Broad-wings and an Osprey over Lynchburg in 1.8 hours. Add to this, Clyde Kessler's count of 1011 hawks in 12.6 hours over a five-day span in Blacksburg and one immediately understands some exciting finds are available during the migration season just by looking up you have to do is look up during the Broad-winged season.

I hope that the foregoing has shed some light on the value of experimental hawkwatching. I also hope that it has not detracted from the value of established hawkwatches. Both established sites and experimental hawkwatching have equal value and both are necessary to provide the overall coverage that is necessary to establish trends and patterns of migratory hawks. The 1986 Virginia fall hawkwatch was extremely successful on both of these fronts.



	Black Vulture	Turkey Vulture	Osprey	Bald Eagle	Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk	Northern Goshawk	Red-shouldered Hawk
1. Rockfish Gap	61	516	233	9	159	3644	51	3	40
2. Kiptopeke	15	359	1289	33	426	8215	200	2	16
3. Harvey's Knob	51	156	121	11	70	794	71	2	38
4. Short Hill Mt.	...	...	66	11	54	576	43	1	25
5. Mendota	94	41	41	4	18	238	201	1	15
6. Brush Mt.	70	54	4	1	1	86	17	...	8
7. Linden	5	21	22	2	13	177	14	...	7
8. Pott's Mt.	15	2	12	3	1	101	17	1	4
9. Spitler Knoll	...	12	1	...	1	4	2	...	...
10. Sugar Loaf	8	...	6	...	2	21	6	...	1
11. Ivy	13	...	8	...	1	19	...	...	...
12. Calf Mt.	2	3	1	...	...	16	4	...	..
13. Blacksburg	...	...	...	...	...	3	1	...	...
14. Mason's Cove	...	...	2	...	...	2	...	...	...
15. Loft Mt.	6	...	1	...	...	1	1	...	...
16. Wind Rock	...	...	1	...	1	14	7	...	2
17. Timber Hollow	...	...	1	...	...	...	...	...	...
18. Thornton Gap	...	...	...	...	...	...	...	...	...
19. Fort Lewis Mt.	...	...	1	...	4	28	2	...	...
20. Old Rag Ovbk.	...	...	...	...	...	...	...	...	...
21. Wintergreen	13	...	2	...	...	6	1	...	...
22. Lynchburg	3	...	1	...	...	...	...	...	...
23. Massies Mill	13	3	...	...	1	3	...	...	...
24. Big Meadows	...	...	...	...	2	...	...	...	...
25. Dragon's Tooth	...	...	...	...	...	2	...	...	...
26. Roanoke	...	...	...	...	...	...	...	...	...
Totals	369	1167	1813	74	754	13,950	638	10	156

TABLE 5. Virginia hawk lookout totals—fall, 1986.

Broad-winged Hawk	Red-tailed Hawk	Rough-legged Hawk	Golden Eagle	American Kestrel	Merlin	Peregrine Falcon	Unknown	Total-All Stations	Total Hours Station Manned	Total Days Station Manned
27,755	1334	...	5	260	8	5	107	34,190	469.1	73
714	145	...	2	2961	431	215	81	15,104	382.0	57
7480	656	...	7	73	1	10	192	9733	381.9	66
556	707	...	5	10	...	...	52	2106	230.3	46
12,288	31	4	...	22	2	11	93	13,104	123.3	18
659	148	...	...	4	...	1	49	1102	54.2	32
3005	142	...	...	46	...	...	21	3475	54.0	13
2422	8	...	...	12	...	...	24	2622	47.7	10
27	5	...	...	2	...	...	9	63	35.3	7
501	5	...	...	8	...	...	17	575	34.3	8
331	4	...	...	1	...	1	11	389	17.3	7
4719	6	...	...	...	...	...	7	4758	12.7	2
998	3	...	...	...	...	...	6	1011	12.6	5
631	1	...	...	...	...	...	3	639	6.5	1
490	...	...	...	...	...	...	4	503	6.3	1
60	7	...	...	4	...	...	17	113	6.0	1
...	2	...	...	...	...	...	1	4	5.0	1
...	11	...	...	...	...	...	...	11	4.5	1
549	1	...	...	4	...	...	...	589	4.3	1
...	10	1	...	...	...	...	...	11	4.0	1
353	6	...	...	...	...	...	2	383	3.8	1
205	...	...	...	...	...	...	...	209	1.8	2
287	...	...	...	1	...	...	...	308	1.3	1
...	1	1	...	...	...	...	...	4	1.3	1
49	...	...	...	...	...	...	...	51	1.2	1
62	...	...	...	...	...	...	...	62	1.1	2
64,141	3233	6	19	3408	442	243	696	91,119	1907.0	360



### VIRGINIA HAWK LOOKOUT LOCATIONS

*Rockfish Gap:* Crest of the Blue Ridge on Afton Mountain adjacent to Interstate Highway 64.

*Kiptopeke Beach:* At the southern tip of the Eastern Shore peninsula.

*Harvey's Knob:* Crest of the Blue Ridge at milepost 95 on the Blue Ridge Parkway.

*Short Hill Mountain:* Across the Potomac River from Harper's Ferry in Loudoun County.

*Mendota Fire Tower:* Crest of Clinch Mountain near rt. 802 in Washington County.

*Brush Mountain:* On rt. 460 just north of Blacksburg.

*Linden Fire Tower:* Eight miles north of Linden on rt. 638 in Warren County.

*Pott's Mountain:* About five miles north of New Castle in Craig County.

*Spitler Knoll:* Along the Blue Ridge Parkway in Shenandoah National Park.

*Sugar Loaf:* East side of the Blue Ridge in Nelson County.

*Ivy:* Four miles southwest of Ivy, east of the Blue Ridge in Albemarle County.

*Calf Mountain:* Shenandoah National Park five miles north of Rockfish Gap.

*Blacksburg:* City.

*Mason's Cove:* Off the west slope of Fort Lewis Mountain in northwest Roanoke County.

*Loft Mountain:* Visitor's Center in Shenandoah National Park.

*Wind Rock:* Crest of Pott's Mountain in Giles county.

*Timber Hollow Overlook:* At milepost 43.3 on Skyline Drive in Shenandoah National Park.

*Thornton Gap:* Along the Blue Ridge Parkway in Shenandoah National Park.

*Fort Lewis Mountain:* Near Bear Rock Gap in northwest Roanoke County.

*Old Rag Overlook:* Along the Blue Ridge Parkway in Shenandoah National Park.

*Wintergreen Overlook:* In western Nelson County.

*Lynchburg:* City.

*Massies Mill:* In south central Nelson County.

*Big Meadows:* In Shenandoah National Park.

*Dragon's Tooth:* On Cove Mountain in northwest Roanoke County.

*Roanoke:* Parking garage in downtown Roanoke.

## INDEX TO VOLUME 57 – 1986

This index contains all but the most casual reference to bird species (A.O.U. approved English names only) in the narrative text. It does not, however, include reference to species listed in any of the tables.

Abbott, Jackson, Mini-Skyland Foray, 32; Parasitic Jaeger at Alexandria, ;

Bergstrom, Peter, annual meeting paper, 69

Blackbird, Red-winged, Breaks Foray, 26

Blem, Charles, Autumn migration of Common Nighthawks in the Piedmont, 36

Blem, Robert, Autumn migration of Common Nighthawks in the Piedmont, 36

Bluebird, Eastern, Breaks Foray, 20

Bobwhite, Northern, Breaks Foray, 16

Bunting, Indigo, Breaks Foray, 25; at Skyland, 35

Cardinal, Northern, Breaks Foray, 25

Catbird, Gray, Breaks Foray, 20; at Skyland, 34; Kiptopeke, 76

Chat, Yellow-breasted, Breaks Foray, 25

Chickadee, Black-capped, at Skyland, 32, 34

Chickadee, Carolina, Breaks Foray, 19; at Skyland, 32, 34

Chuck-will's-widow, Kiptopeke, 76

Clapp, Roger B., Black-headed Grosbeak specimen and Virginia Records, 1

Conner, Richard, Nest chronology of Common ravens in Virginia, 5

Cormorant, Double-crested, nesting, 72

Cowbird, Brown-headed, Breaks Foray, 26; at Skyland, 33,35

Creeper, Brown, nesting, 72

Crossbill, White-winged, in Westmoreland County, 4

Crow, American, Breaks Foray, 19; at Skyland, 34

Cuckoo, Black-billed; Breaks Foray, 16; at Skyland, 33

Cuckoo, Yellow-billed, Breaks Foray, 16

Dove, Mourning, Breaks Foray, 16; at Skyland, 33

Dove, Rock, Breaks Foray, 16

Dowitcher, Short-billed, in association with Hudsonian Godwit, 30

Duck, Wood, Breaks Foray, 15

Dunne, Peter J., annual meeting paper, 69

Eagle, Bald, Caroburon toxicity, 69; fall, 77

Eagle, Golden, Breaks Foray, 14

Falcon, Peregrine, Breaks Foray, 14; Kiptopeke, 76; fall, 78

- Finch, House, Breaks Foray, 26  
Flicker, Northern, Breaks Foray, 17; at Skyland, 33  
Flycatcher, Acadian, Breaks Foray, 18; at Skyland, 34  
Flycatcher, Great Crested, Breaks Foray, 18; at Skyland, 34  
Flycatcher, Least, Breaks Foray, 18; Kiptopeke, 69  
Flycatcher, Olive-sided, Breaks Foray, 14  
Flycatcher, Scissor-tailed, in Westmoreland County, 28  
Flycatcher, Willow, Breaks Foray, 18  
Foray, 1984, at the Breaks of the Big Sandy, 13  
Foray, Mini-Skyland, 32
- Gnatcatcher, Blue-gray, Breaks Foray, 20  
Godwit, Hudsonian, at Alexandria, 30  
Goldfinch, American, Breaks Foray, 27; at Skyland, 35  
Grackle, Common, Breaks Foray, 26  
Grebe, Pied-billed, nesting, 72  
Grosbeak, Black-headed, specimen and Virginia records, 1  
Grosbeak, Blue, Breaks Foray, 25  
Grosbeak, Evening, Breaks Foray, 14  
Grosbeak, Rose-breasted, Breaks Foray, 25; at Skyland, 35  
Grouse, Ruffed, Breaks Foray, 16; at Skyland, 33  
Gull, Great Black-backed, in association with Parasitic Jaeger, 29  
Gull, Ring-billed, in association with Parasitic Jaeger, 29  
Gyr Falcon, in Rockingham County, 31
- Hansrote, Charles, annual meeting paper, 69  
Hansrote, Melva, annual meeting paper, 69  
Harrier, Northern, Breaks Foray, 15, fall, 77  
Hawk, Broad-winged, Breaks Foray, 15; fall, 78, 79  
Hawk, Cooper's, Breaks Foray, 15; fall, 78  
Hawk, Red-shouldered, Breaks Foray, 15; fall, 77  
Hawk, Red-tailed, Breaks Foray, 15; in association with Turkey Vultures, 77; fall, 78  
Hawk, Sharp-shinned, Breaks Foray, 15; fall, 78  
Heron, Green-backed, Breaks Foray, 15  
Holt, David, 1986 Virginia hawkwatch, 77  
Hummingbird, Ruby-throated, Breaks Foray, 17; at Skyland, 33
- Jaeger, Parasitic, at Alexandria, 29  
Jay, Blue, Breaks Foray, 19; at Skyland, 34  
Johnson, J. Enoch, White-winged Crossbill in Westmoreland County, 4;  
Scissor-tailed Flycatcher in Westmoreland County, 28

- Junco, Dark-eyed, Breaks Foray, 26; at Skyland, 35
- Kain, Teta, Christmas bird counts in Virginia, 39; 1986 Annual Meeting, 67
- Kestrel, American, fall, 77
- Killdeer, Breaks Foray, 16
- Kingbird, Eastern, Breaks Foray, 18
- Kingfisher, Belted, Breaks Foray, 17
- Kiptopeke Studies, 73
- Larner, YuLee, Gyrfalcon in Rockingham County, 31
- Mallard, Breaks Foray, 15
- Martin, Purple, Breaks Foray, 18
- Meadowlark, Eastern, Breaks Foray, 26
- Merlin, Kiptopeke, 76; fall, 78
- Mockingbird, Northern, Breaks Foray, 21
- Moorhen, Common, nesting, 72
- Night-Heron, Yellow-crowned, nesting, 72
- Nighthawk, Common, Autumn migration in Virginia Piedmont, 36
- Nuthatch, Red-breasted, Breaks Foray, 20; at Skyland, 34; at Kiptopeke, 73
- Nuthatch, White-breasted, Breaks Foray, 20
- Oriole, Orchard, Breaks Foray, 26; at Skyland, 35
- Osprey, fall, 77, 78
- Ovenbird, Breaks Foray, 24; at Skyland, 35
- Owl, Great Horned, Breaks Foray, 17
- Oystercatcher, American, attempt nesting in Northumberland County, 12
- Parula, Northern, Breaks Foray, 22
- Peake, Richard H., 1984 Foray at the Breaks, 13
- Phoebe, Eastern, Breaks Foray, 18
- Plover, Piping, listed as endangered species, 67
- Porter, Stuart, annual meeting paper, 69
- Rail, King, nesting, 72
- Rail, Virginia, Breaks Foray, 16; nesting, 72
- Raven, Common, Nest chronology in Virginia, 5; Breaks Foray, 19; at Skyland, 34
- Redstart, American, Breaks Foray, 23; at Skyland, 34; Kiptopeke, 76
- Ridd, Sue, annual meeting paper, 69; Breeding bird atlas project results, 72
- Robin, American, Breaks Foray, 20; at Skyland, 34
- Russell, Joyce, Oystercatchers attempt nesting in Northumberland County, 12

- Sandpiper, Pectoral, in association with Hudsonian Godwit, 30  
Sandpiper, Spotted, in association with Hudsonian Godwit, 30  
Screech-Owl, Eastern, Breaks Foray, 16  
Simpson, Thomas W., Turkey Vulture flight at Fisherman Island, 77  
Smith, Walter P., Operation-recovery, Kiptopeke, 73  
Sparrow, Chipping, Breaks Foray, 26; at Skyland, 35  
Sparrow, Field, Breaks Foray, 26  
Sparrow, House, Breaks Foray, 27  
Sparrow, Song, Breaks Foray, 26  
Starling, European, Breaks Foray, 21; at Skyland, 34  
Swallow, Barn, Breaks Foray, 19; at Skyland, 34  
Swallow, Cliff, Breaks Foray, 14  
Swallow, Northern Rough-winged, Breaks Foray, 19  
Swallow, Tree, nesting, 72  
Swift, Chimney, Breaks Foray, 17; at Skyland, 33
- Tanager, Scarlet, Breaks Foray, 25; at Skyland, 35  
Tanager, Summer, Breaks Foray, 25  
Tanager, Western, Breaks Foray, 14  
Tern, Caspian, in association with Parasitic Jaeger, 29  
Thrasher, Brown, Breaks Foray, 21; at Skyland, 34  
Thrush, Wood, Breaks Foray, 20; at Skyland, 34  
Titmouse, Tufted, Breaks Foray, 19; at Skyland, 34  
Towhee, Rufous-sided, Breaks Foray, 25; at Skyland, 35  
Turkey, Wild, Breaks Foray, 16; at Skyland, 33
- Veery, Breaks Foray, 20; at Skyland, 34  
Vireo, Red-eyed, Breaks Foray, 21; at Skyland, 34  
Vireo, Solitary, Breaks Foray, 21; at Skyland, 34  
Vireo, White-eyed, Breaks Foray, 21  
Vireo, Yellow-throated, Breaks Foray, 21  
Vulture, Black, Breaks Foray, 15; at Skyland, 33; in association with Turkey  
Vultures, 77  
Vulture, Turkey, Breaks Foray, 15; at Skyland, 33; Flight at Fisherman Island, 77
- Warbler, Black-and-white, Breaks Foray, 23;  
Warbler, Black-throated Blue, Breaks Foray, 22  
Warbler, Black-throated Green, Breaks Foray, 23; at Skyland, 34  
Warbler, Blue-winged, Breaks Foray, 22  
Warbler, Brewster's, Breaks Foray, 22  
Warbler, Cerulean, Breaks Foray, 23; at Skyland, 34

- Warbler, Chestnut-sided, Breaks Foray, 22; at Skyland, 34  
Warbler, Golden-winged, Breaks Foray, 22  
Warbler, Hooded, Breaks Foray, 24; nesting, 72  
Warbler, Kentucky, Breaks Foray, 24  
Warbler, Magnolia, Breaks Foray, 22  
Warbler, Pine, Breaks Foray, 23; at Skyland, 33, 34  
Warbler, Prairie, Breaks Foray, 23; at Skyland, 34  
Warbler, Prothonotary, Breaks Foray, 23  
Warbler, Swainson's, Breaks Foray, 24  
Warbler, Worm-eating, Breaks Foray, 24  
Warbler, Yellow, Breaks Foray, 22  
Warbler, Yellow-rumped, Kiptopeke, 76  
Warbler, Yellow-throated, Breaks Foray, 23  
Waterthrush, Louisiana, Breaks Foray, 24  
Waxwing, Cedar, Breaks Foray, 21  
Whip-poor-will, Breaks Foray, 17  
Wood-Pewee, Eastern, Breaks Foray, 18; at Skyland, 33  
Woodpecker, Downy, Breaks Foray, 17; at Skyland, 33  
Woodpecker, Hairy, Breaks Foray, 17  
Woodpecker, Pileated, Breaks Foray, 18; at Skyland, 33  
Woodpecker, Red-bellied, Breaks Foray, 17  
Woodpecker, Red-headed, Breaks Foray, 17; nesting, 72  
Woodpecker, Hairy, at Skyland, 33  
Wren, Carolina, Breaks Foray, 20  
Wren, House, Breaks Foray, 20; at Skyland, 34  
  
Yellowthroat, Common, Breaks Foray, 24; at Skyland, 35; Kiptopeke, 76

## NOTES: