

The Raven

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

Activities undertaken by the Society include the following:

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

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

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

4. A newsletter, published quarterly, containing current news items of interest to members and information about upcoming events and pertinent conservation issues.

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

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

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

Editorial queries and comments may be directed to Douglas H. Shedd, Department of Biology, Randolph-Macon Woman's College, Lynchburg, Virginia 24503.

OFFICERS OF THE VSO

President: J. William Akers, 2808 Woodmont Drive, Midlothian, Virginia 23113-1135

Vice President: Ruth Beck, P.O. Box 270, Barhamsville, Virginia 23011-0270

Secretary: Mary Arginteanu, 3320 Landria Drive, Richmond, Virginia 23225

Treasurer: Barbara Sue Thrasher, 120 Woodbine Drive, Lynchburg, Virginia 24502

Raven Editor: Douglas H. Shedd, Department of Biology, Randolph-Macon Woman's College, Lynchburg, Virginia 24503

Associate Editor: Ronald D. Gettinger, Randolph-Macon Woman's College, Lynchburg, Virginia 24503

Raven Editor Emeritus: F.R. Scott, 404 Beechwood Drive, Richmond, Virginia 23229

Newsletter Editor: Bettye J. Fields, 39 Culpepper Avenue, Newport News, Virginia 23606

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Editor
Douglas H. Shedd

Associate Editor
Ronald D. Gettinger

Editorial Assistant
Barbara L. Shedd

Editor Emeritus
F.R. Scott



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THE 1995 FORAY IN PATRICK AND HENRY COUNTIES

JOHN H. DALMAS
520 Rainbow Forest Drive
Lynchburg, Virginia 24502

The Virginia Society of Ornithology's 1995 Breeding Bird Foray was conducted from 6 June through 11 June in Patrick and Henry Counties, the southwesternmost part of the Virginia Piedmont. Twenty members and guests participated. Headquarters for the Foray was the Innkeeper Motel on US 220 North, Martinsville.

The city of Martinsville is the only urban environment in the Foray area, with a population of about 16,000 within the city limits and about 50,000 in the metropolitan area, including the towns of Bassett, Collinsville, Fieldale and Ridgeway. The remainder of Henry County and all of Patrick County is rural, with a population of less than 40 per square mile. The major highways are US 58 (east - west) and US 220 (north - south). Forest products are the basis for much of the economy of this area, so there is relatively little land under cultivation.

The most interesting geological feature of the area is the steep escarpment on the eastern edge of the Blue Ridge Plateau, an area which was also covered on the 1976 Rocky Knob Foray. Relatively rapid erosion on this side of the plateau has created the spectacular Rock Castle Creek and Dan River gorges, and the sheer rock cliffs of the Pinnacles of Dan and Rock Mountain (Frye 1986). Since the Patrick County line is the drainage divide, all streams in the foray area flow into the Atlantic. The lowlands just east of the escarpment are divided by many steep ridges, such as Bull Mountain and Carter Mountain, which limit access to much of this area. Elevations in the Foray area range from 3572 feet at Rocky Knob to 530 feet where the Smith River flows into North Carolina.

Obviously, it is not possible for a small group of people to cover this entire 877 square mile area in less than a week. The area was therefore subdivided into fourteen sectors (Appendix I) each of which could be covered in four to eight hours. A sampling of features judged as potentially the most productive birding sites within each of these sectors was selected from area topographic maps. This information was then field checked as necessary to prepare a site prospectus. Participants were provided copies of this prospectus, as well as field lists and county maps. Rotating assignments among available parties and sectors for the five-day period thus provided maximum coverage efficiency, and compensated for variables in the weather, time of day and ability of observers. In addition, some of the participants covering the western end of the area worked out of lodgings in Patrick County to minimize commuting time to the most desirable sites. Separate checklists were also kept for elevations above 600 meters (1968 feet), which included Bull Mountain and the Blue Ridge Plateau. Because of the

high probability of duplication with this format, the only meaningful measure of relative abundance is the high count of a species by one party on a given day.

Other than the Virginia Atlas Project (Ridd 1989) and two US Fish and Wildlife Breeding Bird Surveys (Bruce Peterjohn, pers. comm.), virtually the only documented breeding season records of birds from this area are from the 1976 Rocky Knob Foray (Scott 1979) and an article on the birds of the Rocky Knob area (Lord 1949). Birds of the Rocky Knob and Rock Castle Gorge areas are further described by Simpson (1992). These sources concentrate on the birds of the Blue Ridge Plateau, so there is little information on the birds of the Piedmont. Accordingly, the focus of the 1995 Foray was on Henry County, and the lowlands of Patrick County.

The weather, which was a hindrance on the 1976 Foray, was much less of a factor in 1995. The remnants of Hurricane Allison produced a fairly steady rain on 6 June, disrupting nesting birds and displacing vagrants found later in the week. Considering the relatively high precipitation in all areas of the state in June 1995, it was most fortunate that the foray had five consecutive sunny days.

A total of 121 species of birds, of which 109 were suspected or confirmed to be breeding in the area, was found during the Foray, plus another which is almost certainly an escaped bird. Of these 121 species, there were 98 in Henry County and 112 in Patrick County. See Appendix II for the annotated list. A total of 33 daily field lists and a cumulative total of 193 party-hours, plus numerous incidental reports, went into the compilation. There was very little coverage between the hours of 9:00 PM and 5:30 AM, so the nocturnal species were severely under-represented. A summary of the most interesting findings follows:

1. The discovery of Least Bitterns (*Ixobrychus exilis*) at the DuPont settling ponds further extends the range of this rare breeder into the Virginia Piedmont.
2. The Goose Point Park (Philpott Lake) record for Brown-headed Nuthatches (*Sitta pusilla*) represents the westernmost extension of the known breeding range of this species in Virginia.
3. Solitary Vireos (*Vireo solitarius*) were found at three different sites within a three-mile radius just west of Philpott Lake, at elevations of 1000-1100 feet. This could be the largest concentration of the rare Piedmont race anywhere in the state. There have been numerous winter records here as well (C. Kessler, pers. comm.), suggesting this species may be a permanent resident of the area.
4. Least Flycatchers (*Empidonax minimus*) were found at two sites with elevations below 1300 feet, one in Patrick County and one in Franklin County, just north of the Henry County line.

Comparisons with the results of the 1976 Rocky Knob Foray (Scott 1979) are made in the annotated list. Such comparisons can be useful for those areas of western Patrick County which overlap the 1995 Foray area, especially the Meadows of Dan, Rocky Knob and Rock Castle Gorge. Allowing for the numerous variables such as observers, amount of coverage, time of year and weather conditions, certain species appear to have undergone significant population changes. Those showing declines included Northern Bobwhite (*Colinus virginianus*), Downy Woodpecker (*Picoides pubescens*), Northern Flicker (*Colaptes auratus*), Great Crested Flycatcher (*Myiarchus crinitus*), White-eyed Vireo (*Vireo griseus*), Yellow Warbler (*Dendroica petechia*), Field Sparrow (*Spizella pusilla*),

Vesper Sparrow (*Poocetes gramineus*), Song Sparrow (*Melospiza melodia*), Red-winged Blackbird (*Agelaius phoeniceus*), Eastern Meadowlark (*Sturnella magna*), Baltimore Oriole (*Icterus galbula*) and American Goldfinch (*Carduelis tristis*). Those showing increases included Eastern Bluebird (*Sialia sialis*), American Redstart (*Setophaga ruticilla*), Hooded Warbler (*Wilsonia citrina*) and Savannah Sparrow (*Passerculus sandwichensis*). Bluebirds were one of the most abundant species on the Foray, even outnumbering the Common Grackle (*Quiscalus quiscula*). The most abundant species on the 1995 Foray in Patrick and Henry Counties are listed in Table I.

Table 1. The most abundant species on the 1995 Foray in Patrick and Henry Counties.

Species	Average Number per 8-hour Party-day
European Starling (<i>Sturnus vulgaris</i>)	46.1
Indigo Bunting (<i>Passerina cyanea</i>)	42.7
American Robin (<i>Turdus migratorius</i>)	33.0
Red-eyed Vireo (<i>Vireo olivaceus</i>)	31.7
American Crow (<i>Corvus brachyrhynchos</i>)	31.6
Mourning Dove (<i>Zenaida macroura</i>)	28.6
Eastern Bluebird (<i>Sialia sialis</i>)	22.4
Common Grackle (<i>Quiscalus quiscula</i>)	21.9
Barn Swallow (<i>Hirundo rustica</i>)	20.0
Northern Cardinal (<i>Cardinalis cardinalis</i>)	17.8

Species looked for but not found were American Kestrel* (*Falco sparverius*), Ruffed Grouse (*Bonasa umbellus*), King Rail (*Rallus elegans*), Virginia Rail (*Rallus limicola*), Common Moorhen (*Gallinula chloropus*), American Woodcock* (*Scolopax minor*), Barn Owl (*Tyto alba*), Great Horned Owl* (*Bubo virginianus*), Red-headed Woodpecker (*Melanerpes erythrocephalus*), Horned Lark* (*Eremophila alpestris*), Bank Swallow (*Riparia riparia*), Cliff Swallow (*Hirundo pyrrhonota*), Veery (*Catharus fuscescens*), Loggerhead Shrike (*Lanius ludovicianus*), Golden-winged Warbler (*Vermivora chrysoptera*), Canada Warbler* (*Wilsonia canadensis*), Dickcissel (*Spiza americana*) and Dark-eyed Junco (*Junco hyemalis*). All those denoted by asterisks (*) had been found on the 1976 Foray (Scott 1979). Considering the extensive coverage at the higher elevations, the absence of the Kestrel and Ruffed Grouse is especially puzzling. The habitat apparently does not support the more boreal species such as Veery, Canada Warbler and Dark-eyed Junco, although the Veery was once considered fairly common in the area (Lord 1949).

ACKNOWLEDGMENTS

The author gratefully acknowledges the assistance of Clyde Kessler during the planning phase of this Foray, and for his review of this paper. Thanks are also extended to Delsie Horak of DuPont for permission to explore the DuPont Nylon Plant settling ponds, and to local landowners Diane Clark, Roger Tuggle and

Lock Boyce for access to their properties. On behalf of the foray participants, a special thanks is also extended to Polly and Cary Randolph and all of the other members of the Foothills Bird Club for their hospitality, which included an elegant formal dinner at the Museum of Natural History on Saturday evening. This was surely a first for any VSO Breeding Bird Foray!

Foray participants were as follows: Mary Arginteanu, Jim Beard, Ed Calvert, Roger Clapp, John Dalmas, Thelma Dalmas, Tom DeBusk, Stephen Eccles, Bettye Fields, Lisa Hamilton, Robert Hindle, Phyllis Jones, Alan Kessler, Clyde Kessler, Polly Randolph, Larry Robinson, Charles Stevens, Warren Stout, Sue Thrasher, Josephine Wood.

LITERATURE CITED

Frye, K.

1986. *Roadside Geology of Virginia*. Mountain Press Publishing Co., Missoula, Montana.

Lord, W.

1949. Bird check list - Blue Ridge Parkway - Rocky Knob District. *Raven* 20: 17-22.

Ridd, S.

1989. *Virginia's Breeding Birds - An Atlas Workbook*. William Byrd Press, Richmond, Virginia.

Scott, F.R.

1979. The Rocky Knob Foray of June 1976. *Raven* 50: 3-11.

Simpson, M.B., Jr.

1992. *Birds of the Blue Ridge Mountains*. University of North Carolina Press, Chapel Hill, North Carolina.

APPENDIX I

PATRICK/HENRY COUNTY FORAY SECTORS



- | | | |
|-----------------------------|-----------------------------|------------------------------|
| 1. Blue Ridge Plateau | 6. Coves and Hollows | 10. Fairystone/Philpott Lake |
| 2. Rocky Knob | 7. Patrick County Panhandle | 11. Martinsville North |
| 3. Rock Castle Gorge | 8. South Patrick County | 12. Henry County Northeast |
| 4. Upper Smith River Valley | 9. Central | 13. Henry County Southeast |
| 5. Bull Mountain | | 14. Martinsville South |

1. Blue Ridge Plateau — mostly meadows and open fields with patches of woodland, including Meadows of Dan and the Blue Ridge Parkway; elevation 2000 - 3400 feet.

2. Rocky Knob — includes summit and trails from adjacent overlooks, plus the Rocky Knob Campground and Picnic Grounds; elevation 3300 - 3572 feet.

3. Rock Castle Gorge National Recreation Area — cove hardwood forest in deep ravine drained by Rock Castle Creek; elevation 1650 - 3100 feet.

4. Upper Smith River Valley — varied habitats along shallow stream basin with many old fords and two of the remaining seven covered bridges in Virginia.

5. Bull Mountain — massive eroded remnant of the Blue Ridge Plateau, includes surrounding lowlands, town of Stuart and Carter Mountain; elevation 1190 - 3281 feet.

6. Coves and Hollows — includes gorges of the Dan River (Kibler Valley), Rye Cove Creek, South Mayo River and Poorhouse Creek, many dense rhododendron (*Rhododendron maximum*) thickets; elevation 1200 - 1800 feet.

7. Patrick County Panhandle — the westernmost part of the County, including Groundhog Mountain on the Blue Ridge Crest and the Ararat River Valley, the only part of the Foray area with extensive cultivated fields, and the only part not in the Dan River basin; elevation 1150 - 3000 feet.

8. South Patrick — lowlands along the state line, including the South Mayo and Little Dan River valleys and a succession of other major tributaries of the Dan River.

9. Central — lowlands of eastern Patrick and western Henry Co., primarily the North Mayo River.

10. Fairystone/Philpott Lake — includes Fairy Stone State Park, Fairystone Farms Wildlife Management Area and Philpott Reservoir.
11. Martinsville North — most of the areas of interest along Beaver Creek, e.g. Kings Grant, the Industrial Park and Martinsville Reservoir #1, plus farms at the Henry-Franklin County Line.
12. Henry County Northeast — principal feature is Turkeycock Mountain, a state Wildlife Management Area along a low-lying dry ridge at the Henry-Franklin County Line; elevation 830 - 1850 feet.
13. Henry County Southeast — features of primary interest are the Smith River and the large farms near the Pittsylvania Co. line.
14. Martinsville South — includes the DuPont Nylon plant settling ponds and extensive cattail marshes on the opposite side of the Smith River, and all roads paralleling the river above and below the DuPont site.

APPENDIX II

ANNOTATED SPECIES LIST

Common Loon (*Gavia immer*). Two records. Five birds, including one calling and one in breeding plumage, were present on Philpott Lake, Patrick County, from 7-9 June (Arginteanu and Robinson; Stout and Calvert). A single bird was also seen on 7 June on Martinsville Reservoir #1, Henry County (Dalmases).

Pied-billed Grebe (*Podilymbus podiceps*). One record, a single adult on a small farm pond in the Patrick County Panhandle, near the junction of Rts. 614 and 645, on 7 June (Eccles and Hindle). Probably a vagrant, as there is no known breeding habitat in the area.

Double-crested Cormorant (*Phalacrocorax auritus*). One record, a single bird on 7 June on Martinsville Reservoir #6, near Laurel Park, Henry County (Beard and DeBusk).

Least Bittern (*Ixobrychus exilis*). One bird was flushed from a cattail marsh at the DuPont settling ponds on 7 June, by Eccles and Stevens. The DuPont Nylon Plant is located on the Smith River in Henry County just southwest of Martinsville. After unsuccessful searches by other parties for this bird on 8 and 9 June, two birds were found here on 10 June by Wood and Jones. This is believed to be the first county record for this species.

Great Blue Heron (*Ardea herodias*). Surprisingly rare; only two records of single birds. One was seen on 7 June at Philpott Lake in Henry County (Arginteanu and Robinson), and one was seen flying across Va. 57 near the Henry/Pittsylvania County line on 11 June (T. Dalmas). Not found on the 1976 Foray.

Green Heron (*Butorides virescens*). Very scarce, except for the DuPont settling ponds, Henry County, where the high count of six birds was found 6 June (J. Dalmas). No high elevation records.

Black-crowned Night-heron (*Nycticorax nycticorax*). One record. One bird was heard flying over Goose Point Campground, Philpott Lake, Patrick County at about 9:00 PM on 8 June (Arginteanu and Robinson).

Canada Goose (*Branta canadensis*). Locally abundant in the Martinsville area. The high count was of 79 birds on 7 June in Henry County north of Martinsville, mostly at Kings Grant retirement community (Dalmases), including 13 young from at least four different broods. This species was also fairly common in the lower elevations of Patrick County, and young birds were also seen in the Panhandle on 7 June (Eccles). There were no records from the higher elevations.

Wood Duck (*Aix sponsa*). Uncommon. The high count of 12, a pair with ten young, was seen from the Rt. 637 bridge over Ivy Creek, on the Blue Ridge Plateau, Patrick County (Stout and Calvert).

American Black Duck (*Anas rubripes*). Two Henry County records. One was seen at Martinsville Reservoir #1 on 9 June (Dalmases) and on 10 June (Hamilton and Thrasher). Three birds were found at the DuPont settling ponds on 11 June (J. Dalmas, Beard and Fields).

Mallard (*Anas platyrhynchos*). Uncommon. The high count was only eight birds in Henry County on 9 June (Dalmases).

Red-breasted Merganser (*Mergus serrator*). One record. One or two female or immature birds were seen from 6 June through 10 June at Martinsville Reservoir #1, Henry County, by four different parties.

Black Vulture (*Coragyps atratus*). Surprisingly scarce, with three high counts of only three birds each.

Turkey Vulture (*Cathartes aura*). Very common in the Bull Mountain area of Patrick County, fairly common elsewhere. The high count was 34 birds on 8 June (Dalmases).

Sharp-shinned Hawk (*Accipiter striatus*). Two Patrick County records. One was reported from Bull Mountain on 9 June (Hamilton and Thrasher), and one was seen near the North Carolina line on 10 June (Stout and Calvert).

Cooper's Hawk (*Accipiter cooperi*). Three reports. Birds were seen behind the Innkeeper Motel in Henry County on US 220 just north of Martinsville (Arginteanu and Robinson), and in southwest Henry County (Clapp), both on 6 June. Clapp also reported two birds from the Blue Ridge Plateau, Patrick County, on 10 June.

Red-shouldered Hawk (*Buteo lineatus*). Four lowland reports of single birds, two in Patrick County and two in Henry County.

Broad-winged Hawk (*Buteo platypterus*). There were ten reports of this species,

all single birds except for one of three birds in the South Patrick sector on 10 June (Arginteanu and Robinson). A young bird was seen in Henry Northeast on 10 June (Beard).

Red-tailed Hawk (*Buteo jamaicensis*). Very uncommon. This species was reported on eight lists, with four different parties reporting a one-day maximum of two birds.

Ring-necked Pheasant (*Phasianus colchicus*). The only report of this species was of three females off Patrick County Rt. 631 east of the Dan River (Eccles and Hindle). These birds almost surely escaped from the nearby PrimLumber hunting preserve.

Wild Turkey (*Meleagris gallopavo*). Eight reports, including a high count of eight birds, a hen and seven young, in the Patrick County Panhandle on 9 June (Eccles and Hindle). Juveniles were also seen near Rocky Knob on 11 June (Eccles and Hindle), and a hen with three young was seen on the Plateau at the junction of Patrick County Rts. 764 and 609 (Dalmases).

Northern Bobwhite (*Colinus virginianus*). Common in the lowlands; very uncommon at higher elevations. The best count was the 19 birds reported from South Patrick on 10 June (Arginteanu and Robinson). Much reduced in abundance since the 1976 Foray, when it was considered common up to 3300 feet (Scott 1979).

Killdeer (*Charadrius vociferus*). Uncommon. The high count was eight in the Martinsville South sector, Henry County, including two young birds at the Fieldale Sewage Treatment Plant, on 9 June (Dalmases). A young bird was also seen in Henry Southeast on 7 June (Beard and DeBusk).

Spotted Sandpiper (*Actitis macularia*). Two Patrick County records. One bird was seen flying over the Blue Ridge Plateau on 3 June (Clapp). The other was seen sitting on a dock at Philpott Lake on 11 June (Arginteanu and Robinson).

Semipalmated Sandpiper (*Calidris pusilla*). One record, a bird at the Fieldale Sewage Treatment Plant, Henry County, on 9 June (Hamilton and Thrasher).

Ring-billed Gull (*Larus delawarensis*). One record. A bird was found on 7 June at Philpott Lake, Patrick County (Arginteanu and Robinson), and was also seen there the following day (Stout and Calvert).

Rock Dove (*Columba livia*). Surprisingly uncommon; only 12 scattered reports, mostly from the lowlands. The high count was 12 birds from the Patrick County Panhandle on 7 June (Eccles).

Mourning Dove (*Zenaida macroura*). Very common. The high count of 73 was from Henry Northeast on 10 June (Beard).

Black-billed Cuckoo (*Coccyzus erythrophthalmus*). One record. A single bird was found in the Patrick County Panhandle near Bell Spur on 9 June (DeBusk and Kesslers).

Yellow-billed Cuckoo (*Coccyzus americanus*). Very uncommon. Most of the 17 reports were of single birds, although there was one count of six from Henry Southeast on 7 June (Beard and DeBusk).

Eastern Screech-Owl (*Otus asio*). Five individuals were found at scattered locations over the area. In terms of birds per party hour between the hours of 9:00 PM and 5:30 AM, this species was fairly common in the area.

Barred Owl (*Strix varia*). One daylight record, a bird heard calling from the gorge below "The Saddle" overlook, Blue Ridge Parkway, Patrick County on 7 June (Stout and Calvert). This species nested in a hollow tree at the Randolph residence on Henry County Rt. 663 north of Martinsville earlier in the year, but was not seen there during the foray period (Randolph, pers. comm.).

Common Nighthawk (*Chordeiles minor*). Three lowland records. Three birds were seen in Henry County along Va. 57 west of Martinsville on 6 June (DeBusk). Birds were also heard in the early morning hours on 8 and 9 June near downtown Martinsville (Wood, Jones and Fields).

Whip-poor-will (*Caprimulgus vociferus*). Apparently fairly common, with four reports, each of three or more birds. The high count was the six birds found on 9 June in the area of Goose Point Campground, Philpott Lake, Patrick County (Arginteanu and Robinson).

Chimney Swift (*Chaetura pelagica*). Common at low elevations, with a high count of 28 birds along Va. 57, mostly in Henry County, the evening of 6 June (DeBusk).

Ruby-throated Hummingbird (*Archilochus colubris*). Scarce, although there was one high count of six in the Upper Smith River Valley, Patrick County, on 8 June (Arginteanu and Robinson), and one of 11 in Henry County on 11 June, including ten birds at the feeders at the Randolph residence north of Martinsville (Dalmas, Beard and Fields).

Belted Kingfisher (*Ceryle alcyon*). Widespread but very scarce, averaging only one bird per eight-hour party day. There was one high count of four on 11 June in the Philpott Lake area (Arginteanu and Robinson).

Red-bellied Woodpecker (*Melanerpes carolinus*). Uncommon in the lowlands. The high count was six in South Patrick on 8 June (Wood, Jones and Fields). Adults were seen feeding young in the Patrick County Panhandle on 7 June (Eccles and Hindle), and another was seen carrying food in Henry Northeast on 10 June (Beard).

Downy Woodpecker (*Picoides pubescens*). Uncommon. The high count was seven

birds in South Patrick on 10 June (Arginteanu and Robinson). This species was considered common on the 1976 Foray, when the high one-day count was 26 (Scott 1979).

Hairy Woodpecker (*Picoides villosus*). Rare, appearing on only five lists. However, there was a high count of five birds, including two immature birds, in the Rocky Knob area of Patrick County on 9 June (Wood, Jones and Fields).

Northern Flicker (*Colaptes auratus*). Uncommon. The maximum count was of nine birds in Henry Northeast on 9 June (Stout and Calvert). This species was considered common at all elevations on the 1976 Foray (Scott 1979).

Pileated Woodpecker (*Dryocopus pileatus*). Very uncommon. Most records were from Patrick County, and the high count was five birds in South Patrick on 10 June (Arginteanu and Robinson). A pair was seen feeding young in a nest hole off Black Ridge Trail, just south of the Rocky Knob Picnic Area, Floyd County, on 11 June (Eccles and Hindle). This species is probably more common in the area than these few reports suggest (C. Kessler, pers. comm.).

Eastern Wood-Pewee (*Contopus virens*). Common in woodlands. The high count of 33 birds was found in southwestern Patrick County on 9 June (DeBusk and Kesslers).

Acadian Flycatcher (*Empidonax virescens*). Common in woodlands. The high count of 27 birds was recorded in Rock Castle Gorge, Patrick County, on 7 June (Dalmases).

Willow Flycatcher (*Empidonax traillii*). Rare, appearing on only five lists, with a maximum of two singing birds in the Patrick County Panhandle on 9 June (Eccles and Hindle).

Least Flycatcher (*Empidonax minimus*). Rare. Most birds were found in Patrick County on the Blue Ridge Plateau, but there were two lowland records. A singing bird was found near Woolwine in the Upper Smith River Valley, Patrick County, at an elevation of 1290 feet (Clapp). Another was found just north of the Turkeycock Mountain Ridge in Franklin County, at an elevation of 1250 feet (Stout and Calvert).

Eastern Phoebe (*Sayornis phoebe*). Common. The high count of 25 birds was from South Patrick on 10 June (Arginteanu and Robinson). A nest was found in an inaccessible rock face on Patrick County Rt. 771 near the Blue Ridge Parkway, also on 10 June (Dalmases and Fields).

Great Crested Flycatcher (*Myiarchus crinitus*). Very uncommon, except for one very high count of 11 in the Fairystone/Philpott Lake area, Patrick County, on 8 June (Stout and Calvert). This species was common at all elevations on the 1976 Foray (Scott 1979).

Eastern Kingbird (*Tyrannus tyrannus*). Uncommon. The high count of seven birds was from Henry Southeast on 7 June (Beard and DeBusk).

Purple Martin (*Progne subis*). Quite scarce in the lowlands and absent at higher elevations. The high count of ten was from Goose Point Park, Philpott Lake, Patrick County on 7 June (Arginteanu and Robinson). There was one report of young birds from Henry Northeast on 10 June (Beard).

Tree Swallow (*Tachycineta bicolor*). Four reports, with a high count of three birds from the Bull Mountain lowlands, Patrick County, on 9 June (Hamilton and Thrasher). The only other reports were from Martinsville Reservoir #1 and the DuPont settling ponds, Henry County, where a large breeding colony was found in 1986 during the Virginia Atlas Project.

Northern Rough-winged Swallow (*Stelgidopteryx serripennis*). Uncommon in the lowlands. The high count of 11 birds was from South Patrick on 10 June (Arginteanu and Robinson). Three adults and three immature birds were seen along Va. 103, also South Patrick, on 8 June (Wood, Jones and Fields).

Barn Swallow (*Hirundo rustica*). Very common, with a maximum of 68 birds, mostly from the Blue Ridge Plateau, Patrick County, on 9 June (Arginteanu and Robinson). Nests were seen on farm buildings near the junction of Rts. 614 and 645 in the Patrick County Panhandle on 9 June (Eccles and Hindle). Young birds were seen at Philpott Lake, Patrick County on 11 June (Arginteanu and Robinson).

Blue Jay (*Cyanocitta cristata*). Common in the lowlands, where the high count of 19 birds was made in Henry Southeast on 7 June (Beard and DeBusk). An adult was seen feeding young in South Patrick on 8 June (Wood, Jones and Fields).

American Crow (*Corvus brachyrhynchos*). Very common. The highest count was of 76 birds in Henry Northeast on 10 June (Beard). Young birds were seen and heard by several parties at sites in both Patrick and Henry Counties.

Common Raven (*Corvus corax*). Only three reports by Eccles and Hindle from Patrick County. One juvenile with gape still apparent was seen in the westernmost part of the Plateau on 8 June. Three birds were seen on 9 June at low elevations in the Panhandle. Six birds were found on 11 June at garbage bins at the Rocky Knob Picnic Area.

Carolina Chickadee (*Parus carolinensis*). Common, especially in the lowlands. The high count was 42 in South Patrick on 10 June (Arginteanu and Robinson). Beard noted young birds in Henry Northeast on 10 June. A chickadee singing a two-note song was heard in southwestern Henry County on 8 June (Wood, Jones and Fields), far from the known range of *Parus atricapillus* or its hybrids.

Tufted Titmouse (*Parus bicolor*). Fairly common. The high count of 24 birds was from the Fairystone/Philpott Lake area, Patrick County, on 8 June (Stout and Calvert).

Red-breasted Nuthatch (*Sitta canadensis*). One record, a bird heard on the trail around the Rocky Knob Picnic Grounds, Floyd County, on 9 June (Wood, Jones and Fields). There are summer records for this species in Virginia at even lower elevations, but this one was most probably a very late migrant.

White-breasted Nuthatch (*Sitta carolinensis*). Uncommon, although there was one very high count of 23 birds by Stout and Calvert in the Fairystone/Philpott Lake area, Patrick County, on 8 June. No other party had a one-day count of more than eight.

Brown-headed Nuthatch (*Sitta pusilla*). Only four reports. The high count of five was from Henry County north of Martinsville on 10 June (Hamilton and Thrasher). The three birds found near Philpott Lake, Patrick County on 11 June (Arginteanu and Robinson) may represent the westernmost summer population in Virginia. Breeding in this area had been confirmed as early as March 1993, when a pair was seen excavating a nest cavity at Goose Point Park, Patrick County (C. Kessler, pers. comm.).

Carolina Wren (*Thryothorus ludovicianus*). Common throughout the area, with a maximum of 36 birds in Henry Southeast on 7 June (Beard and DeBusk). Three fledged young were found in Rock Castle Gorge, Patrick County, also on 7 June (Dalmases).

House Wren (*Troglodytes aedon*). Uncommon on the Blue Ridge Plateau, where the high count of seven was registered on 9 June (Arginteanu and Robinson). Very scarce elsewhere.

Blue-gray Gnatcatcher (*Poliophtila caerulea*). Common. The highest count by far was the 35 birds, including fledged young, reported by Beard and DeBusk from Henry Southeast on 7 June.

Eastern Bluebird (*Sialia sialis*). Very common. The high count of 67, which included young birds, was from northeastern Henry County on 10 June (Beard). Juveniles were also seen in the Patrick County Panhandle on 7 June (Eccles), and a pair was seen entering a nest box on the Blue Ridge Plateau on 9 June (Eccles and Hindle).

Wood Thrush (*Hylocichla mustelina*). Common. There was one high count of 25 birds in southwestern Patrick County on 9 June (DeBusk and Kesslers). A fledgling, plus one adult carrying nesting material and another carrying food, were noted on the Blue Ridge Plateau in extreme western Patrick County on 8 June (Eccles and Hindle).

American Robin (*Turdus migratorius*). Abundant. There was one count of 115 birds, in Henry Southeast on 7 June (Beard and DeBusk). Several records of fledged young and adults feeding young were noted in both counties.

Gray Catbird (*Dumetella carolinensis*). Fairly common at all elevations. The high

count of 18, including an adult carrying food, was from southwestern Patrick County on 9 June (DeBusk and Kesslers).

Northern Mockingbird (*Mimus polyglottos*). Very common at low elevations, and very scarce at high elevations. The high count of 55 birds was from northeastern Henry County on 10 June (Beard).

Brown Thrasher (*Toxostoma rufum*). Fairly common. The high count of 13 was from the Blue Ridge Plateau, Patrick County, on 7 June (Stout and Calvert).

Cedar Waxwing (*Bombycilla cedrorum*). Common at the higher elevations and uncommon in the lowlands. There was one very high count of 34 birds from southwestern Patrick County on 9 June (DeBusk and Kesslers), but no one else had more than 13 birds. Eccles and Hindle noted a pair visiting a nest about 20 feet up in a pine (*Pinus* sp.) at the junction of the Blue Ridge Parkway and Carroll County Rt. 910.

European Starling (*Sturnus vulgaris*). Although not nearly as common as on other recent VSO Breeding Bird Forays, this was still the most common species of bird on the Foray, at 46 birds per 8-hour party day. The high count was 190 on 8 June (Wood, Jones and Fields). A number of parties noted young birds.

White-eyed Vireo (*Vireo griseus*). Very uncommon in the lowlands. The highest one-day count was only four, in northeastern Henry County on 10 June (Beard). The only high elevation report was from the Blue Ridge Plateau on 8 June (Dalmases). This species was considered fairly common during the 1976 Foray (Scott 1979).

Solitary Vireo (*Vireo solitarius*). Uncommon at high elevations and rare at low elevations. The high count was nine in southwestern Patrick County on 9 June (DeBusk and Kesslers). An adult was seen carrying food in the Rocky Knob area, Patrick County, on 11 June (Eccles and Hindle). All of the low elevation records were from the Fairystone/Philpott Lake area of Patrick County. Clapp had one responding to a Screech Owl tape near Fairystone Lake (el. 1000 feet) on 5 June, and Arginteanu and Robinson noted two singing birds, each at elevations of about 1100 feet, on 8 June. Birds were also found in the Philpott Lake area during the Atlas Project, and there are numerous other unpublished June and July records in this area (C. Kessler, pers. comm.).

Yellow-throated Vireo (*Vireo flavifrons*). Uncommon. The high count of nine was from southwestern Patrick County on 9 June (DeBusk and Kesslers).

Warbling Vireo (*Vireo gilvus*). There were four reports, including two of two birds each, from Martinsville North on 8 June (Clapp) and from South Patrick on 10 June (Stout and Calvert).

Red-eyed Vireo (*Vireo olivaceus*). Very common, especially at the higher elevations. There was one astounding one-day count of 232 birds in southwestern

Patrick County on 9 June (DeBusk and Kesslers); no other party had more than 56. Young birds were seen by several parties.

Blue-winged Warbler (*Vermivora pinus*). One record. Arginteanu and Robinson found a singing bird on 10 June at the junction of Rts. 661 and 741, South Patrick sector.

Northern Parula (*Parula americana*). Uncommon. The best count was of seven birds in the Upper Smith River Valley sector, Patrick County, on 8 June (Arginteanu and Robinson).

Yellow Warbler (*Dendroica petechia*). Scarce. The high count of four was tallied in the Martinsville South sector of Henry County on 7 June (Stevens and Eccles), and in the Rocky Knob area of Patrick County on 9 June (Wood, Jones and Fields). Much less common than in 1976, when there was one count of 20 birds in the Meadows of Dan area (Scott 1979).

Chestnut-sided Warbler (*Dendroica pensylvanica*). Uncommon at high elevations. The high count was of six birds in the Rocky Knob area, Patrick County, including a pair feeding a fledgling, on 11 June (Eccles and Hindle).

Black-throated Blue Warbler (*Dendroica caerulescens*). Locally common on the Blue Ridge Plateau down to surprisingly low elevations in the gorges. There was one very high count of 34 birds in Rock Castle Gorge on 10 June (Eccles and Hindle). Eccles and Hindle also noted a pair with a juvenile in the westernmost part of the Plateau on 8 June. Singing birds were found at 1700 feet elevation in both the Dan River gorge (Stevens) and Rock Castle Gorge (Dalmases).

Black-throated Green Warbler (*Dendroica virens*). Very scarce. There were only seven reports, with a high count of three birds from southwestern Patrick County on 9 June (DeBusk and Kesslers). Virtually all of these birds were found in dry deciduous woods, and none were found in hemlocks (*Tsuga* sp.) as they are in many other parts of the Blue Ridge.

Blackburnian Warbler (*Dendroica fusca*). One report of a probable late migrant, a bird in deciduous second growth at an elevation of 1600 feet on Bull Mountain, Patrick County, on 10 June (Stout and Calvert).

Yellow-throated Warbler (*Dendroica dominica*). Four reports from the Upper Smith River Valley and Philpott Lake, Patrick County, three of three birds each on 7, 8 and 11 June (Arginteanu and Robinson) and one of two birds on 8 June (Stout and Calvert). This habitat is more like the pine bluffs of southwestern Virginia than the more typical riparian habitats of the Piedmont and Coastal Plain.

Pine Warbler (*Dendroica pinus*). Common in the lowlands. The high count of 29 birds was from the Fairystone/Philpott Lake area, Patrick County, on 7 June (Arginteanu and Robinson). Immature birds were noted in the Martinsville North sector, Henry County, on 9 June (Hamilton and Thrasher). There was only

one high elevation report, a bird on Bull Mountain, Patrick County on 9 June (Hamilton and Thrasher). This species was not found on the 1976 Foray (Scott 1979).

Prairie Warbler (*Dendroica discolor*). Uncommon. There was one count of ten birds in the Martinsville North sector, Henry County, on 10 June (Hamilton and Thrasher). There was one high elevation report, a bird on the Blue Ridge Plateau on 10 June (Eccles and Hindle).

Blackpoll Warbler (*Dendroica striata*). One record. A bird was heard singing in the Patrick County Panhandle on 9 June, obviously a late migrant (DeBusk and Kesslers).

Cerulean Warbler (*Dendroica cerulea*). Rare. Only five reports, with none of more than two birds. Most of the birds found were heard from roads ascending the Blue Ridge escarpment.

Black-and-white Warbler (*Mniotilta varia*). Uncommon. Hamilton and Thrasher had the high count of 12 birds on Bull Mountain, Patrick County, on 9 June, including adults feeding young.

American Redstart (*Setophaga ruticilla*). Common in the gorges and on the Blue Ridge Plateau, very scarce elsewhere. There was one excellent count of 25 on the Blue Ridge Plateau, Patrick County, on 9 June (Arginteanu and Robinson). The highest count on the 1976 Foray was only four birds (Scott 1979). Beard and DeBusk noted an adult feeding young in the Henry Southeast sector on 7 June.

Prothonotary Warbler (*Protonotaria citrea*). One record. Clapp found a singing bird on Henry County Rt. 706 along the Smith River, just south of the Martinsville city limits, on 9 June. This is very close to the spot this species was found in 1986 during the Virginia Atlas Project. There are no other known records from Henry County.

Worm-eating Warbler (*Helminthos vermivorus*). Very scarce. There was one high count of seven birds on Bull Mountain, Patrick County, on 9 June (Hamilton and Thrasher), but no other party had more than two birds.

Ovenbird (*Seiurus aurocapillus*). Very common at high elevations and fairly common elsewhere, this was the most common warbler, at over ten birds per eight-hour party day. The high count was 26 birds in southwestern Patrick County on 9 June (DeBusk and Kesslers).

Louisiana Waterthrush (*Seiurus motacilla*). Uncommon. Eccles and Hindle recorded 12 in Rock Castle Gorge, Patrick County, on 10 June, including one juvenile plus an adult carrying food. A pair with a fledgling was also noted at Philpott Lake, Patrick County, on 11 June (Arginteanu and Robinson).

Kentucky Warbler (*Oporornis formosus*). Uncommon at higher elevations, with a

high count of eight from Rock Castle Gorge on 10 June (Eccles and Hindle). Very scarce in the lowlands.

Common Yellowthroat (*Geothlypis trichas*). Fairly common and widespread in the lowlands; scarce at higher elevations. The high count of ten was reported by three different parties.

Hooded Warbler (*Wilsonia citrina*). Common on the Blue Ridge Plateau and uncommon in the lowlands. There was one very high count of 31 in southwestern Patrick County on 9 June (DeBusk and Kesslers). An adult carrying food was noted on 7 June in Rock Castle Gorge, Patrick County (Dalmases). This species seemed more common than on the 1976 Foray, where the peak count was only ten birds (Scott 1979).

Yellow-breasted Chat (*Icteria virens*). Uncommon. The high count was 12 birds in the Henry Southeast sector on 7 June (Beard and DeBusk).

Summer Tanager (*Piranga rubra*). Surprisingly rare, only two reports. Clapp found one along Rt. 622 in extreme southeastern Henry County on 8 June, and the Dalmases found one near the Fieldale Sewage Treatment Plant, Henry County, on 9 June.

Scarlet Tanager (*Piranga olivacea*). Fairly common. The high count was 17 birds, 15 of these on Bull Mountain, Patrick County, on 9 June (Hamilton and Thrasher).

Northern Cardinal (*Cardinalis cardinalis*). Very common, especially in the lowlands. The high count of 59, including one bird carrying nesting material, was from Henry Southeast on 7 June (Beard and DeBusk). Young birds were also noted in northeastern Henry County on 10 June (Beard).

Rose-breasted Grosbeak (*Pheucticus ludovicianus*). Surprisingly rare, only two reports of single birds. One was found along Patrick County Rt. 600, just west of Meadows of Dan, on 6 June (Stout and Calvert). The other was heard from the overlook atop Rocky Knob, Patrick County, on 8 June (Dalmases).

Blue Grosbeak (*Guiraca caerulea*). Uncommon. By far the highest count was the 18 birds reported from southwestern Patrick County on 9 June (DeBusk and Kesslers). No other party had more than seven. A pair with an immature was noted in the same area on 7 June (Eccles).

Indigo Bunting (*Passerina cyanea*). Abundant. The high count of 176 was from southwestern Patrick County on 9 June (DeBusk and Kesslers); there were two other one-day counts of about 100.

Rufous-sided Towhee (*Pipilo erythrophthalmus*). Very common, especially at the higher elevations. The high count was 48 birds in southwestern Patrick County on 9 June (DeBusk and Kesslers).

Chipping Sparrow (*Spizella passerina*). Very common at all elevations. The high count was 58 birds in southwestern Patrick County on 9 June (DeBusk and Kesslers). In the Rocky Knob area of Patrick County, eight immature birds were seen on 9 June (Wood, Jones and Fields), and an adult was seen carrying food on 10 June (Eccles and Hindle).

Field Sparrow (*Spizella pusilla*). Fairly common. The high count of 14 was recorded by Beard and DeBusk in Henry Southeast on 7 June. A young bird was seen in the Rocky Knob area of Patrick County on 10 June (Eccles and Hindle). Much less common than on the 1976 Foray, where there were two high counts of 42 birds (Scott 1979).

Vesper Sparrow (*Pooecetes gramineus*). The only record was of a single bird on Grassy Knoll, in the Rocky Knob area of Patrick County, on 7 June (J. Dalmas). Twelve birds were reported by six parties on the 1976 Foray (Scott 1979).

Savannah Sparrow (*Passerculus sandwichensis*). This species was found on 7 June by two different parties at sites about a mile apart on the Blue Ridge Plateau, Patrick County. A single bird was found along Rt. 764 by Stout and Calvert, and the Dalmases found three birds along Rt. 609, near the junction with Rt. 610. Up to four birds were also seen at the latter site the following day, and birds were also seen at this site by several other parties on 9 and 10 June. This species appears to have significantly expanded its range in this area since 1976.

Grasshopper Sparrow (*Ammodramus savannarum*). Fairly common. The high count of 29 birds was accumulated at various locations, primarily the Bull Mountain lowlands, Patrick County, on 8 June (Dalmases). An adult was seen carrying food on 7 June in the Henry Southeast sector (Beard and DeBusk).

Song Sparrow (*Melospiza melodia*). Common. The high count of 36 birds was recorded in southwestern Patrick County on 9 June (DeBusk and Kesslers). Immature birds were seen on 9 June in the Rocky Knob area, Patrick County (Wood, Jones and Fields). Considerably less common than in 1976, when 109 birds were counted from the Meadows of Dan area (Scott 1979).

Red-winged Blackbird (*Agelaius phoeniceus*). Common, but considerably less so than in 1976. The high count of 34, mostly from along the Beaver Creek marshes in the Martinsville North sector, was tallied on 7 June (Dalmases). This was well below the high of 175 birds on the 1976 Foray (Scott 1979).

Eastern Meadowlark (*Sturnella magna*). Common. The high count of 32 was from the South Patrick sector on 8 June (Wood, Jones and Fields). A female was seen carrying food on the Blue Ridge Plateau, Patrick County, on 9 June (Eccles and Hindle), and adults were seen feeding young in the Martinsville South sector on 10 June (Wood and Jones). Much reduced in abundance in the Meadows of Dan area since the 1976 Foray, when the high count was 91 birds (Scott 1979); the best 1995 count from this area was ten birds on 9 June (Argenteanu and Robinson).

Common Grackle (*Quiscalus quiscula*). Very common. The highest count was the 85 birds found by Beard and DeBusk in Henry Southeast on 7 June. Several parties noted adults feeding young, in both Patrick and Henry Counties.

Brown-headed Cowbird (*Molothrus ater*). Uncommon. The high count of only eight birds was from the Henry Southeast sector on 7 June (Beard and DeBusk).

Orchard Oriole (*Icterus spurius*). Very uncommon in the lowlands. The high count was only five birds in southern Henry County on 9 June (Dalmases). A pair was seen entering a nest site in the Patrick County Panhandle on 7 June (Eccles). Absent at higher elevations.

Baltimore Oriole (*Icterus galbula*). Rare, only three reports. There was one report of two birds, in Henry Southeast on 8 June (Clapp). Single birds were reported from the Upper Smith River Valley, Patrick County, also on 8 June (Arginteanu and Robinson), and from the Patrick County Panhandle on 9 June (Eccles and Hindle). This species was considered fairly common on the 1976 Foray (Scott 1979).

Purple Finch (*Carpodacus purpureus*). One record, a pair still visiting the feeders at the Randolph residence north of Martinsville, throughout the Foray period. These birds remained in the area until the end of June (Randolph, pers. comm.).

House Finch (*Carpodacus mexicanus*). Fairly common. The high count of 27 birds was from the South Patrick sector on 8 June (Wood, Jones and Fields).

American Goldfinch (*Carduelis tristis*). Common. The high count of 38 was tallied by Stout and Calvert on 6 June, on the Blue Ridge Plateau, Patrick County. On the 1976 Foray, the same area produced a high count of 102 birds (Scott 1979).

House Sparrow (*Passer domesticus*). Fairly common, with a high count of 30 in southern Henry County on 9 June (Dalmases). Young birds and adults feeding young were also noted in this area on 7 June (Beard and DeBusk).

STATUS AND DISTRIBUTION OF CLIFF SWALLOWS IN COASTAL VIRGINIA

BRYAN D. WATTS

MITCHELL A. BYRD

MARIAN U. WATTS

*Center for Conservation Biology
College of William & Mary
Williamsburg, Virginia 23185*

INTRODUCTION

Historically, Cliff Swallows (*Hirundo pyrrhonota*) were associated with open cliff faces characteristic of western mountain ranges. Over the past 25 to 50 years this species has expanded its breeding range both south and east, presumably in response to the increased availability of artificial structures used for nesting (Brown and Brown 1995). In the coastal plain of Virginia, the first documented breeding record was in 1979 when 12 occupied nests were discovered in Prince George County (Kain 1987). Since that time, the species has been considered a rare transient within this physiographic region of the state (Kain 1987). In 1991, a status of "special concern" was recommended for Cliff Swallows in Virginia due to perceived threats to breeding sites (Ridd and Hale 1991).

The purpose of this paper is to report the findings of a broad survey of coastal waterways that resulted in the detection of previously unreported breeding locations for Cliff Swallows, and to present an update on the status of all known, coastal breeding locations.

METHODS

During the 1995 breeding season we conducted a study to determine the status and distribution of bank-nesting birds within the lower Chesapeake Bay. All Virginia tributaries of the Bay were surveyed by piloting a small boat parallel to the shoreline and searching exposed banks for Bank Swallow (*Riparia riparia*), Rough-winged Swallow (*Stelgidopteryx serripennis*), and Belted Kingfisher (*Ceryle alcyon*) burrows. All tributaries were followed up to the Fall Line.

During the course of this study, we searched all bridges encountered for evidence of breeding Cliff Swallows. We examined 110 individual bridges during the study. Bridges were initially inspected upon approach by searching through associated birds for Cliff Swallows (the majority of bridges encountered sup-

ported colonies of Barn Swallows (*Hirundo rustica*). Upon detection of either Cliff Swallows or their nests, we systematically searched the bridge to determine colony size. Occupied bridges were searched section by section from below. All nests that were in good condition were counted. Although we recognize that this approach may overestimate colony size if nests survive the winter in good condition but are unused, we believe that this represents a small source of error. We directly observed birds in association with the majority of nests and nearly all nests contained at least some fresh mud. Colonies that contained birds still building upon first detection were revisited to determine peak numbers.

RESULTS

During the course of the study 6 breeding sites were located containing a total of 454 nests (Table 1). All but one of these colonies were associated with bridges. The colony on Little Creek Reservoir was not located during shoreline surveys but was reported to the authors during the breeding season. This colony was located on a brick pumping station that extended out over the water. Nests were placed under an eave of the building on a concrete substrate (Frank and Driscoll pers. comm.). All colonies except one were located on the James River Drainage. The single exception was located on a tributary of the Rappahannock River and was the smallest colony found.

Colony size varied from 2 to 292 nests. In larger colonies, the majority of nests were concentrated in one or two areas. All occupied bridges contained numerous sections with no nests.

DISCUSSION

The Cliff Swallow breeding population in coastal Virginia has increased substantially since its discovery in 1979. This trend is consistent with the range expansion seen throughout the southeast (Brown and Brown 1995) and relatively recent status changes in neighboring states. New colony sites and/or population increases have been documented in recent years for Maryland (Patterson 1981), West Virginia (Igou 1986), North Carolina (McConnell 1981), and Tennessee (Alsop 1981). Given the regional population trend and the apparent availability of suitable bridges, it seems likely that the population in Coastal Virginia will continue to expand in both size and distribution for the foreseeable future.

Currently, a very large portion of the known pairs breeding on the coastal plain nest on bridges. However, only 5 of 110 bridges examined were occupied. Cliff Swallows appear to prefer bridges that have infrastructures with large areas of exposed concrete. Bridges constructed entirely of wood or metal were not used. In addition, swallows avoided metal structures and placed nests on concrete sections when both materials were available within the same bridge. Less than 5% of all nests examined were attached to metal structures. This observation is consistent with patterns observed in the midwest and the suggestion that concrete is preferred by the swallows because mud adheres more readily to it than to other surfaces (Brown and Brown 1995).

Table 1. Location and size of Cliff Swallow colonies.

Location	Drainage Basin	Colony Size ¹
Rt. 156 James River (Charles City/Prince George Co.)	James River	292
I-295 Appomattox River (Prince George/Chesterfield Co.)	James River	73
Rt. 10 Appomattox River (Prince George/Chesterfield Co.)	James River	48
I-295 James River (Henrico/Chesterfield Co.)	James River	35
Little Creek Reservoir (James City Co.)	James River	4
Rt. 17 Mount Landing Creek (Essex Co.)	Rappahannock River	2

¹represents highest nest count.

It is possible that the low number of appropriate concrete bridges may eventually act to limit the Cliff Swallow population in the Coastal Plain. Both I-295 bridges were constructed recently and already support substantial colonies. This rapid colonization suggests that appropriate substrate may have been limiting in this area. However, many concrete bridges were examined across the coastal plain that remain unoccupied. Investigation of additional habitat requirements (e.g. foraging areas) would be necessary to evaluate their suitability. Additionally, because this population is expanding, future surveys are needed to determine what form it will eventually take. Presently, the population is centered on the James River drainage around the site where breeding was first discovered. Current colonies are stable to expanding and appear to be secure. Future colonization events seem likely.

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LITERATURE CITED

Alsop, F. J., III.

1981. The Cliff Swallow (*Petrochelidon pyrrhonota*) in Tennessee. *Migrant* 52: 1-11.

Brown, C. R. and M. B. Brown.

1995. Cliff Swallow (*Hirundo pyrrhonota*). In *The Birds of North America*, No. 149

(A. Poole and F. Gill, eds.), The Academy of Natural Sciences, Philadelphia, and the American Ornithologists' Union, Washington, D. C.

Igou, T. D.

1986. Nesting Cliff Swallows at Beech Fork State Park. *Redstart* 53:137.

Kain, T., ed.

1987. *Virginia's birdlife: An annotated checklist*. Second edition. Virginia Society of Ornithology, Virginia Avifauna 3. McConnell, J. 1981. Cliff Swallows nesting on Fontana Dam, N.C. *Chat* 45:102.

Patterson, R. M.

1981. Range expansion of Cliff Swallows into Maryland coastal plain. *Maryland Birdlife* 37:43-44.

Ridd, S., and A. M. Hale.

1991. Cliff Swallow. Pp. 514-516 in *Virginia's endangered species* (K. Terwilliger, ed.), McDonald and Woodward, Blacksburg, VA.

POTENTIAL PREDATION BY FISH CROWS AT BIRD BOXES

ROGER B. CLAPP

*National Biological Service
National Museum of Natural History
Washington, DC 20560-0111*

While checking my bluebird route along the Snickers Gap Turnpike (State Rt 734, Loudoun County, VA), on the morning of 5 June 1994, I noted a flock of crows investigating some of my bird houses. In this stretch of open farm fields three miles northeast of Middleburg, I have a series of bird boxes on successive telephone poles along the road. These boxes at the time were occupied by both nesting Eastern Bluebirds (*Sialia sialis*) and Tree Swallows (*Tachycineta bicolor*).

As I approached the easternmost box of the string at 0825, I noticed a crow standing on the roof of the second box, peering down towards the entrance hole and attempting to stick its bill inside. Another crow flew from the roof of the third box and hovered in front of it, apparently attempting to land. When this bird flew to the fence paralleling the telephone poles, an adult Tree Swallow dived on it. Shortly thereafter five crows were on the fences by boxes 1 to 3, one at the first and two at each of the others. Only one bird called as it flew over my head but the vocalization was clearly that of a Fish Crow (*Corvus ossifragus*).

On top of Box 4 was also a crow that was being dived upon by a pair of Tree Swallows. When I reached the box 5 more crows were startled into flight. At this point I estimate that five individual birds were involved.

After banding 5 medium-sized bluebird young in the first box (0856), a crow was once again on top of box 3 with two others on the fence opposite. This bird was displaced by a second that walked to the front lip of the roof over the entrance and leaned down to peer inside. Flushed by a passing car, the birds returned to the roofs of boxes 3 and 4, the bird on the latter being repeatedly dived upon by the Tree Swallows. I again heard the distinctive call of the Fish Crow and counted 11 crows in flight and another 2 on the fence by box 3. At least eight were lined up on the fence between boxes 3 and 4 at 0901.

Box 2 contained 5 very slightly incubated bluebird eggs, Box 3, four relatively fresh Tree Swallow eggs, and box 4, three medium-sized Tree Swallow young and two unhatched eggs. The next several boxes, without crows, did not have active nests.

One crow was still on the roof of Box 4 (0906) when I came up to box 3. The crow here responded to the diving Tree Swallows by flicking its wings and gaping at the diving bird. Nine birds had just flown off to the southwest and another 11 crows were in the road and on the fence, suggesting a flock of at least 20 birds.

Although 2 American Crows (*Corvus brachyrhynchos*) called in the far distance, the infrequent vocalizations by the birds along the road were invariably those of Fish Crows, suggesting that the birds were a migratory flock of that species.

On 26 April 1994, I made a similar observation of a crow at Sky Meadows State Park (Fauquier County). When I arrived (0907) at the fishing pond along U.S. Rt 17, a crow was on the Wood Duck (*Aix sponsa*) box on the west side of the pond. Like the birds at the bluebird boxes, this bird leaned over the front of the box and flew hovering in front of the opening. The crow then flew beneath the dilapidated bottom of the box and, inverting itself, clutched some of the protruding nest material. Meanwhile, a European Starling (*Sturnus vulgaris*) was perched on a reed a few feet from the box. After I inadvertently scared the crow away, I went to the box and discovered a massive starling nest that as yet held no contents. The presence of a fresh, unwilted green leaf in the nest indicated that the nest was active at the time and the starling was later seen going into the box.

Although I never identified the crow to species, because it did not vocalize, I have seen migratory flocks of Fish Crows at Sky Meadows at about this time of year and suspect the bird observed was of that species.

Fish Crows are notorious and efficient nest predators, as anyone can attest who has watched them fly search patterns over Eastern Shore flats and marshes as they look for nests of Willet (*Catoptrophorus semipalmatus*; Howe 1978) and Clapper Rail (*Rallus longirostris*; pers. obs.). They also perform such searches over grassy fields in the upper Piedmont that have nesting Eastern Meadowlarks (*Sturnella magna*) and Red-winged Blackbirds (*Agelaius phoeniceus*) (pers. ob.).

Elsewhere these birds are known as major sources of mortality for eggs of coastal-breeding long-legged waders. Fish Crows took from 32 to 44 % of the eggs laid during two years in a White Ibis (*Eudocimus albus*) colony in North Carolina (Shields and Parnell 1986) and caused most of the egg mortality at inland colonies of the Double-crested Cormorant (*Phalacrocorax auritus*) in South Carolina (Post and Seals 1991). This species has also been considered a significant contributor to failure of heron or ibis-heron colonies in coastal South Carolina (Post 1990), Alabama (Dusi and Dusi 1968), and Florida (Maxwell and Kale 1977), and has been suggested as a principal cause of declines of Double-crested Cormorant colonies in North Carolina (Grant 1970).

Information on feeding habits farther inland are more limited, with birds being reported mostly as field feeders (Meanley 1981) and scavengers of refuse (Bailey 1913), particularly bread (McNair 1984). I also have had them feeding on bread and suet at my home in Aldie (Loudoun Co.), not far from where the birds were seen investigating bird boxes. I have found no report in the literature of behavior like that reported here. Subsequent observations at the bluebird boxes indicated no loss to the crows, presumably because of their inability to reach inside the boxes. Such apparent hunting behavior at two well-spaced sites (about 17 miles apart) suggests it may be fairly frequent where nest-boxes are common.

LITERATURE CITED

Bailey, H. H.

1913. *The birds of Virginia*. J. P. Bell Co., Lynchburg.

Dusi, J., and R. T. Dusi.

1968. Ecological factors contributing to nesting failure in a heron colony. *Wilson Bull.* 80(4): 456-466.

Grant, G. S.

1970. Decline of the Double-crested Cormorant as a breeding bird in North Carolina. *Chat* 34(2): 34-36.

Howe, M. A.

1978. Social organization in a nesting population of Eastern Willets (*Catoptrophorus semipalmatus*). *Auk* 99(1): 88-102.

Maxwell, G. R., II, and H. W. Kale II.

1977. Breeding biology of five species of herons in coastal Florida. *Auk* 94(4): 689-700.

McNair, D. B.

1984. Breeding biology of the Fish Crow. *Oriole* 49(2/3): 21-32.

Meanley, B.

1981. Nesting of the Fish Crow in the Shenandoah Valley, Virginia. *Raven* 52(3): 45-46.

Post, W.

1990. Nest survival in a large ibis-heron colony during a three year decline to extinction. *Colonial Waterbirds* 13(1): 50-61.

Post, W., and C. A. Seals.

1991. Breeding biology of a newly-established Double-crested Cormorant population in South Carolina, USA. *Colonial Waterbirds* 14(1): 34-38.

Shields, M. A., and J. F. Parnell.

1986. Fish Crow predation on eggs of the White Ibis at Battery Island, North Carolina. *Auk* 103(3): 531-539.

GREAT BLUE HERON ELECTROCUTION IN LOUDOUN COUNTY, VIRGINIA

ROGER B. CLAPP

*National Biological Service
National Museum of Natural History
Washington, DC 20560-0111*

From Gaye Barbour, I recently learned of an electrocution of a Great Blue Heron (*Ardea herodias*) near Leesburg, Virginia. During the week before Thanksgiving about six years ago, Larry Barbour (pers. comm.) saw a heron gaining altitude as it flew south over a field of cedars along U. S. Rt. 7 at the east side of Leesburg. When the bird reached some power lines it tried to fly between two wires but it's wings struck two adjacent wires. There was a flash; the bird instantly folded up and collapsed to the ground. It was dead when Barbour reached it a few minutes later. The bird was frozen, and later delivered to Lord Fairfax Community College in Stephens City. Although there is still a Great Blue Heron in the freezer there, it is unaccompanied by data (R. C. Simpson, pers. comm.) so a more precise date for the observation cannot be obtained.

Birds are rarely electrocuted. The species most subject to such fatalities in North America are large raptors such as Golden Eagles (*Aquila chrysaetos*), Bald Eagles (*Haliaeetus leucocephalus*) (Laycock 1973, Boeker and Nickerson 1975) and Great Horned Owls (*Bubo virginianus*) (Brady 1969, Hordy 1970, Gillard 1977). At least formerly, electrocution was a major cause of death for Golden Eagles, (Beecham and Kochert 1975, Olendorff et al. 1981), and may also be a significant cause of mortality in Bald Eagles (Stalmaster 1987).

Other birds suffering significant mortality from power-lines are Mute Swans (*Cygnus olor*) (Harrison 1963, Mathiasson 1993), Whooping and Sandhill cranes (*Grus americana* and *G. canadensis*) (Walkinshaw 1956, Brown et al. 1987, Ward and Anderson 1992), but these species die primarily from collision with the wires rather than electrocution.

Most deaths involving herons and power-lines involve collision rather than electrocution. The Great Blue Heron, however, is the principal North American heron affected by either collision or electrocution. The number killed, either by collision or electrocution, is relatively much smaller than for large birds of prey.

Usually herons flying towards transmission lines "either elevate or lower their flight height or attempt to glide through the wires ..." (Weise 1979), which the bird in Leesburg apparently attempted unsuccessfully. I have found only three previous reports of Great Blue Heron electrocution in North America: a male that hit power lines in Arkansas (Lano, 1927), two birds electrocuted in Delaware (Weise 1979) and two electrocuted in Montana (O'Neil 1988). That only two were

electrocuted at the Delaware locality is startling low, considering that this represents the total found over a four year study in a heronry below a powerline (although some unreported birds may have been lost to scavengers).

Great Blue Herons die considerably more frequently from collision with wires. Collisions with transmission wires have killed birds in Delaware (Weise 1979), Idaho (Howard et al. 1987), Colorado (Brown et al. 1987), Montana (Malcolm 1982), Oregon (Lee 1978), Michigan (Rusz et al. 1986), Manitoba (Avery et al. 1980), and Oregon (Bayer 1989). Larger proportions of herons relative to total birds of all species killed were reported in Oregon and Michigan reflecting the presence of water near the transmission lines. Great Blue Herons are twice known to have died from collisions with fences, once in Colorado (Stroncek 1978) and once in Washington (Knight et al. 1980).

The only other instance I have found of a North American heron being electrocuted is a report of a single Great Egret (*Casmerodius albus*) in Delaware (Weise 1979), although other species like Least Bitterns (*Ixobrychus exilis*) (Guillory 1973) have been reported as dying from collisions with barbed wire fences.

In Europe (and elsewhere in the world) the situation is much the same with long-legged waders and large raptors frequently being electrocuted, with the Grey Heron (*Ardea cinerea*), the Old World ecological equivalent of the Great Blue, being the heron most numerous electrocuted. Grey Herons there apparently die from collision or electrocution in about the same proportion as large raptors do in the United States (cf. Mead et al. 1979, Olsson 1958).

Thus, it appears that a regular but very small proportion of Great Blue Herons dies from collisions with power lines. Apparently only rarely do the birds die from electrocution.

LITERATURE CITED

Avery, M. L., P. F. Springer, and N. S. Dailey.

1980. *Avian mortality at man-made structures: an annotated bibliography (revised)*. U.S. Fish and Wildlife Service, Biological Services Program. FWS/OBS - 80/54.

Bayer, R. D.

1989. Great Blue Heron killed by striking an overhead power line at Coos Bay, Oregon. *Oregon Birds* 15(3):197-198.

Beecham, J. J., and M. N. Kochert.

1975. Breeding biology of the Golden Eagle in southwestern Idaho. *Wilson Bull.* 87(4): 506-513.

Boeker, E. L., and P. R. Nickerson.

1975. Raptor electrocution. *Wildlife Society Bulletin* 3(2): 79-81.

Brady, A.

1969. An electrocuted Great Horned Owl. *Cassinia* 51: 57.

Brown, W. M., R. C. Drewien, and E. G. Bizeau.

1987. Mortality of cranes and waterfowl from powerline collisions in the San Luis Valley, Colorado. *Proceedings 1985 Crane Workshop*: 128-136.

Gillard, R.

1977. Unnecessary electrocution of owls. *Blue Jay* 35(4): 259.

Guillory, H. D.

1973. Motor vehicles and barbed wire fences as major mortality factors for the Least Bittern in southwestern Louisiana. *Inland Bird Banding Association News* 45(5): 176-177.

Harrison, J.

1963. Heavy mortality of Mute Swans from electrocution. *Wildfowl Trust Annual Report* 14: 164-165.

Howard, R. P., B. L. Keller, F. L. Rose, J. Connelly, Jr, and J. Hupp.

1987. Impacts of the Tincup Loop transmission line on cranes in Caribou County, Idaho. *Proceedings 1985 Crane Workshop*: 140-144.

Hordy, N.

1970. Fatal dinner. *Thunder Bay Field Naturalists Club News Letter* 24(1): 11.

Knight, R. L., J. Skriletz, and D. C. Ryan.

1980. Four additional cases of bird mortality on barbed-wire fences. *Western Birds* 11(4): 202.

Lano, A.

1927. Great Blue Heron (*Ardea herodias*) electrocuted. *Auk* 44(2): 246.

Laycock, G.

1973. Saving western eagles from traps and zaps; bobcat baits and power poles take heavy toll. *Audubon Magazine* 75(5): 133.

Lee, J. M., Jr.

1978. Effects of transmission lines on bird flights: studies of Bonneville Power administration lines. Pp. 53-68 in M. L. Avery (ed.). Impacts of transmission lines on birds in flight. Proceedings of a workshop. U.S. Fish and Wildlife Service, Biological Services Program FWS/OBS-78/48.

Malcolm, J. M.

1982. Bird collisions with a power transmission line and their relation to botulism at a Montana wetland. *Wildlife Society Bulletin* 10(4): 297-304.

Mathiasson, S.

1993. Mute Swans, *Cygnus olor*, killed from collision with electrical wires, a study of two situations in Sweden. *Environmental Pollution* 80(3): 239-246.

Mead, C. J., P. M. North, and B. R. Watmough.

1979. The mortality of British Grey Herons. *Bird Study* 26(1): 13-22.

Olendorff, R. R., A. D. Miller, and R. N. Lehman.

1981. Suggested practices for raptor protection on power lines. The state of the art in 1981. Raptor Research Foundation, University of Minnesota, St. Paul.

Olsson, V.

1958. Dispersal, migration, longevity and death causes of *Strix aluco*, *Buteo buteo*, *Ardea cinerea* and *Larus argentatus*. *Acta Vertebrata* 1(2): 91-189.

O'Neil, T. A.

1988. An analysis of bird electrocutions in Montana. *Journal of Raptor Research* 22(1): 27-28.

Rusz, P. J., H. H. Prince, R. D. Rusz, and G. A. Dawson.

1986. Bird collisions with transmission lines near a power plant cooling pond. *Wildlife Society Bulletin* 14(4): 441-444.

Stalmaster, M. V.

1987. *The Bald Eagle*. New York, Universe Books.

Stroncek, L. H.

1978. Fences take toll. *Colorado Outdoors* 27(2): 47.

Walkinshaw, L. H.

1956. Sandhill Cranes killed by flying into power lines. *Wilson Bull.* 68(4): 325-326.

Ward, J. P., and S. H. Anderson.

1992. Sandhill Crane collisions with power lines in southcentral Nebraska. *Proceedings 1988 North American Crane Workshop*: 189-195.

Weise, J. H.

1979. A study of the reproductive biology of herons, egrets, and ibis nesting on Pea Patch Island, Delaware; -final interpretive report. Delmarva Power and Light Co., Wilmington, DE.

BANDING RESULTS AT KIPTOPEKE BEACH —1995

JOHN W. DILLARD
7803 Brentford Drive
Richmond, Virginia 23225

The thirty-third year of bird banding in the Kiptopeke area began on 2 September and ran through 27 October 1995. The station, located at Kiptopeke State Park (Northampton Co.), overlooks Chesapeake Bay at the southern tip of the Eastern Shore of Virginia. The station operated for 54 days with only two days down due to rain. Twenty-three nets were operated by a bander, banding assistants/interpreter, and other assistants when available. Nineteen nets were located perpendicular to the edges of a second growth mixed woodland. Four nets were located in a fallow field allowed to return to weeds. Nets were opened at sunrise and closed approximately seven hours later.

Total birds banded (3801) increased by five percent compared to last year.

Table 1. Ten most frequently banded species at Kiptopeke in 1994 and 1995.

Species	1995 Numbers (birds/100 hrs)	1994 Numbers (birds/100 hrs)
Yellow-rumped Warbler (<i>Dendroica coronata</i>)	1273 (17.9)	1263 (16.7)
Black-throated Blue Warbler (<i>Dendroica caerulescens</i>)	282 (4.0)	132 (1.8)
Common Yellowthroat (<i>Geothlypis trichas</i>)	240 (3.4)	329 (4.4)
Palm Warbler (Western/Yellow) (<i>Dendroica palmarum</i>)	312 (4.4)	222 (2.9)
American Redstart (<i>Setophaga ruticilla</i>)	201 (2.8)	402 (5.3)
Savannah Sparrow (<i>Passerculus sandwichensis</i>)	194 (2.7)	18 (0.2)
Gray Catbird (<i>Dumetella carolinensis</i>)	154 (2.2)	141 (1.9)
Red-eyed Vireo (<i>Vireo olivaceus</i>)	99 (1.4)	49 (0.7)
Song Sparrow (<i>Passerella melodia</i>)	71 (1.0)	83 (1.1)
Swamp Sparrow (<i>Passerella georgiana</i>)	58 (0.8)	33 (0.4)

Eighty seven species were banded which is average for the last ten years. A cumulative total of 238,916 birds of 187 species has been banded since 1963. Birds per 100 net hours increased from 48 to 53 (7,127 total trapping hours, 1994; 7,556 total trapping hours, 1995). Fifteen birds that were banded at Kiptopeke in previous years were retrapped. One hundred one birds trapped this year were retrapped. Data from birds trapped twice in the same year will provide data for an ongoing fat recovery study designed to determine the extent to which the retrapped birds have been able to rebuild their fat reserves since their initial netting.

Highest counts in the history of the station were set for Savannah Sparrows (*Passerculus sandwichensis*), 194 (previous high, 38); and Grasshopper Sparrow (*Ammodramus savannarum*), 12, (previous high, 2). No new species for the station were added this year. Table 1 compares frequencies of the ten most common species banded in 1995 to 1994. In addition, the following observations are offered in comparing 1995 banding results with previous years.

1. The 282 Black-throated Blue Warblers (*Dendroica caerulescens*) was the highest total since 1987. For the first time in the history of the station, Common Yellowthroats (*Geothlypis trichas*) and American Redstarts (*Setophaga ruticilla*), whose numbers dropped, were outpaced by this species.
2. The Western Palm Warbler (*Dendroica palmarum*) count of 202 was the highest since 1972.
3. The 110 Yellow Palm Warblers (*D. palmarum*) was the highest count since 1969.
4. Rose-breasted Grosbeak (*Pheucticus ludovicianus*) was conspicuous by its absence.
5. Black-billed Cuckoo (*Coccyzus erythrophthalmus*) and Great-crested Flycatcher (*Myiarchus crinitus*) returned this year after a five year absence.
6. A Yellow-throated Warbler (*Dendroica dominica*) was the first record since 1987 and only the third ever.
7. The last record for Orange-crowned Warbler (*Vermivora celata*) was in 1991 and there were none this year.

ACKNOWLEDGMENTS

Licensed banders in charge of the station for varying periods of time were Tom Gwynn, David Leake, Don Schwab, Walter Smith, Bryan Watts, and John Dillard. The help of other banders and assistants played a vital role in the success of the station and their help is greatly appreciated. A presentation about migration and banding was given to 56 groups of people, 31 of which were from schools. Total visitors were approximately 1,250. On-site support was provided by Scott Flickinger, Park Manager, and his staff. Walter Smith did the editing and tabulation of the field records as well as the comparison to past records.

Funds provided by the Virginia Department of Game and Inland Fisheries and under the sponsorship of Karen Terwilliger assisted in covering equipment expenses. With the help of Laura McKay the station received a grant from the Coastal Resources Management Program that was used primarily to fund an intern each for the hawk and passerine stations.

UNUSUAL PERCHING BEHAVIOR OF A RUBY-THROATED HUMMINGBIRD

TETA KAIN

7083 Caffee Creek Lane
Gloucester, Virginia 23061

On the morning of 11 September 1995, I was sitting on the deck of our home in northwestern Gloucester County, when some unusual activity at one of our hummingbird feeders caught my eye. When I approached the feeder, I was astonished to see a Ruby-throated Hummingbird (*Archilochus colubris*) hanging upside down on one of the feeder perches, its feet tightly clutching the horizontal bars of the perching stand. There was a bumblebee feeding at the same station and, for a moment, I thought that the bee might have stung the hummingbird, stunning it. The bird, however, appeared to be in no distress. Its eye was bright and alert and it did not appear to be struggling or trying to right itself. It was not alarmed by my presence and I was able to photograph it (Figure 1).

The bird was not disturbed by this activity so I moved another foot closer and took another picture. When the shutter clicked this time, the bird craned its neck to look at me for a moment, then flew away. It did not right itself on the perch

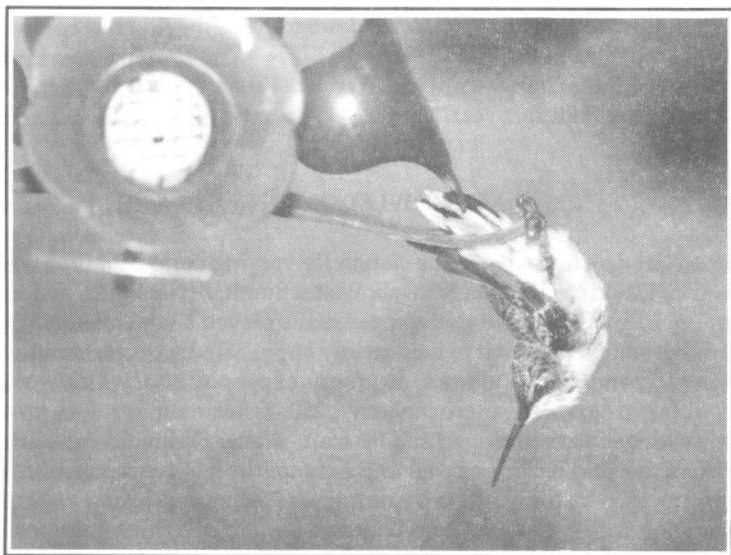


Fig. 1 Ruby-throated Hummingbird perched upside down on a feeder. (Photographed using a Canon SLR with a 100 mm macro lens from a distance of ca. 2 ft.)

before it flew and its flight appeared to be normal. There were numerous other hummingbirds around the feeders that morning and it was not possible for me to determine whether one of the birds I saw later was the same one that I had observed on the perch.

I related this incident to several people, in hopes of finding someone who had witnessed similar behavior. Ruth Beck of Barhamsville (pers. comm.) said she had observed a hummingbird hanging upside down on one of her feeders when she lived in Williamsburg several years ago. Because both birds were observed during the early hours of relatively cool mornings, Beck wondered if the birds may have been experiencing lingering effects of nocturnal torpidity. The temperature that morning was approximately 62 F and the time of the observation was 9 a.m.

There is another report of similar behavior of a hummingbird observed by Hanan (1995) in Maryland on a late afternoon after a thunderstorm. In that instance, another hummingbird nearby appeared to become very agitated over the bird's behavior, flying at its exposed breast as it hung upside down. It seemed to suffer no ill effects, however, from either the attack or the odd position it had maintained, and flew off to perch normally in a nearby tree.

LITERATURE CITED

Hanan, P.

1995. Behavior of a Ruby-throated Hummingbird in the rain. *Maryland Birdlife* 51(2):90.

WINTER FEEDING BEHAVIOR IN HERMIT THRUSHES

DAVID G. DAVIS

3292 S. Utah Street

Arlington, Virginia 22206

During the late November-early December period, I spend several days hunting deer in a wooded area in Shenandoah County, Virginia. While sitting motionless in a tree stand 10-15 feet above the ground, I commonly observe from one to five Hermit Thrushes (*Catharus guttatus*) feeding undisturbed below me on the ground. The thrushes employ two different feeding strategies. The first is best described as a simple hop and glean strategy as they apparently pick small insects or other tiny animals from leaf surfaces. The second — and more interesting — strategy, is best described as a flush and snatch approach.

In the latter approach, which takes place on fairly heavy leaf litter, the birds "drum" on the leaves with their feet, then quickly snatch insects as they flee from underneath the leaves. Typically, a bird drummed on the dead leaves by rapidly vibrating one foot for about 3 seconds and then quickly grabbed with its bill any small insect that fled the intrusion. Most of the catches appear to be of small flying insects. Once a thrush flushed a 4-5 inch salamander, but made no attempt to attack it. Instead the bird simply watched it walk away. The thrushes appear to flush an insect on about every fourth or fifth attempt, hopping 6 inches or so after each success or failure.

The drumming sound, which first attracted my attention, was audible at least 50 feet away and had the quality of a small animal, such as a chipmunk, running lightly across the litter. Numerous times I have also seen the thrushes fight intensively and violently on and off for more than an hour, perhaps over prime feeding territory.

VIRGINIA CHRISTMAS BIRD COUNTS — 1994-95 SEASON

TETA KAIN

7083 Caffee Creek Lane
Gloucester, Virginia 23061

Fifty-one Christmas bird counts were conducted in Virginia in 1994-95. Forty-eight of the counts were held in the same locations as in 1993-94; in addition, the Nansemond River, Highland County and the Chesapeake Bay Bridge-Tunnel (CBBT) locations were added this year.

The Nansemond River count was revived after a hiatus of 26 years. It was first held in 1957 and was conducted off and on over the next 11 years. The count circle is centered at the junction of U.S. Rt. 17 and VA Rt. 626 in Pughsville, Suffolk City. The area includes large stretches of the James River, most of the Nansemond River, the Western Branch of the Elizabeth River, Chuckatuck Creek, Craney Island, much of downtown Portsmouth, and parts of Chesapeake City. The small suburb of Bowers Hill, the site of a Christmas count held in 1910 and 1911, is also in the circle area. Because only two observers participated in this year's effort, numbers of species and individuals were not as high as one might expect, yet, they managed to find one of the rarer species on any count this year — a Western Grebe (*Aechmophorus occidentalis*) in the waters off Craney Island.

Censuses in Highland County were held four different times in the middle part of this century. They were listed under different names over the years, called "Allegheny Mountain" in 1943, "Middle Mountain" in 1959, and "McDowell" in 1960 and 1961. These efforts were very limited in scope, covering a small area and conducted mostly on foot by very few people. The 1994 count, however, covered a far greater area. It was, in fact, twice as large as the normal Christmas count circle, encompassing Lantz, Snow, Middle, Thorn, Bullpasture, Shenandoah, Jack, Back Creek, Little and Monterey mountains, Straight Fork, Jackson, Bullpasture and Cowpasture rivers, the towns of Head Waters, Mustoe, Monterey, and McDowell, along with Top of Allegheny, Arborvale, Green Bank, and Thornwood situated in West Virginia. The count circle center is located at Vanderpool. Almost all birding was done from or near vehicles because hunting season was in progress and it was unsafe to walk in most areas.

Geography forces the Chesapeake Bay Bridge-Tunnel count to be more linear in nature, with only the three northernmost islands of the complex and their adjacent waters accessible. The Cape Charles and Little Creek circles are on the northern and southern boundaries of this count area. Many have felt that unusual species were being missed on Virginia Christmas counts because these islands were not covered and they are often the only locations in the state where certain rare waterfowl, gulls, and pelagic wanderers can be found, as evidenced

by the subadult male Harlequin Duck (*Histrionicus histrionicus*), Iceland (Kumlien's) Gull (*Larus glaucoides*), and Thayer's Gull (*Larus thayeri*) that participants found on or near the islands.

A deviation from standard count practices was noted on the Darlington Heights count. That census was held on 8 January, six days after the close of official Christmas count season set by the National Audubon Society. All other procedures of that count were the same as the other 50 censuses.

Of the 51 summaries included for publication in *The Raven*, nine were not submitted to *Audubon Field Notes*. They were: Chesapeake Bay Bridge-Tunnel, Darlington Heights, Lynchburg, Highland County, Peaks of Otter, Roanoke, Claytor Lake, Glade Spring, and Bristol.

As in previous years, the Christmas bird counts in Appendix 1 are arranged geographically. Counts 1 through 16 are located in the Coastal Plain; counts 17 through 30 are on the Piedmont; and counts 31 through 51 are situated in the Mountains and Valleys region of the state. (See Appendix I, pages 41-64, for the 1994-95 Virginia Christmas Bird Count species list and, pages 65-67, for count conditions; see Appendix II for Christmas Count descriptions.)

A total of 214 species was found this year, including a Vermilion Flycatcher (*Pyrocephalus rubinus*) which is new to the count list, bringing the cumulative total to 298 (Appendix I). In addition, two subspecies, one morph, and one exotic were also recorded. Birds often recorded somewhere in the state each year, but not found during the 1994-95 count season were: Cattle Egret (*Bubulcus ibis*), Glossy Ibis (*Plegadis falcinellus*), Eurasian Wigeon (*Anas penelope*), Common Eider (*Somateria mollissima*), King Eider (*S. spectabilis*), Long-billed Dowitcher (*Limnodromus scolopaceus*), Glaucous Gull (*Larus hyperboreus*), Long-eared Owl (*Asio otus*), and Red Crossbill (*Loxia curvirostra*).

Weather conditions were considerably milder during the 1994-95 season, compared to the past two seasons, with all counts, except Highland County reporting open water (Appendix I). Temperatures ranged between 16°F in Highland County and 62° F at Back Bay. Rain occurred at sometime during the day on 10 counts and fog was a hindering factor at 13 locations, especially in the northern sections of the state.

COUNT HIGHLIGHTS

It was another record-breaking year for Common Loons (*Gavia immer*). The 1,716 individuals found on 16 counts, boosted the state all-time high, set last year, by 309 birds. Four counts posted record highs as well. Unusual grebes contributed to species totals in the eastern part of the state, with two Eared Grebes (*Podiceps nigricollis*) showing up at Chincoteague, and four Red-necked Grebes (*Podiceps grisegena*) at Cape Charles and Back Bay. A Western Grebe was seen at Nansemond River, only the second sighting of that species on any Christmas count. Great Cormorant (*Phalacrocorax carbo*) numbers soared this year, due partly to the addition of the CBBT count where 46 individuals were spotted. Little Creek observers found a record 31 individuals there, and Cape Charles birders recorded 73, that count's second highest total. Three White Ibises (*Eudocimus albus*) at Cape Charles were the only ones found on a count since 1990.

Mute Swan (*Cygnus olor*) numbers continue to climb with 71 birds recorded on eight counts. Two Greater White-fronted Geese (*Anser albifrons*) were a first record for Calmes Neck. Numbers of the blue morph of the Snow Goose (*Chen caerulescens*) shot up to 389, the highest since 1989. That sharp increase was due mostly to 350 individuals at Hopewell, a long-standing stronghold of the "Blue Goose," but where it was absent on the last four counts. As was expected, all-time high counts of Canada Geese (*Branta canadensis*) occurred at seven locations and the state total climbed to a record 47,741 birds.

Tallies of Green-winged Teal (*Anas crecca*) have shown marked increases in the past two years, and this year's total count of 2,878 was the highest since 1975. Another surprising increase was the number of Gadwall (*A. strepera*). The state-wide total of 4,257 was the most reported since 1979 when 9,214 were seen. The numbers, however, do not rival those of the 1970's when 5,000-10,000 Gadwalls were reported every year. Numbers of American Wigeon (*A. americana*) were up slightly for the second year in a row, but there were no Eurasian Wigeons (*A. penelope*) found. It was the third straight year this species has not been present.

Redhead (*Aythya americana*) numbers increased this year to 161 individuals, after five years of low counts, some less than 25 state-wide. Greater Scaup (*A. marila*) enjoyed a 50% increase over last year's total, due in part to the addition of the Washington's Birthplace count on the Northern Neck where thousands of ducks winter on the Potomac each year.

Both Common (*Somateria mollissima*) and King (*S. spectabilis*) Eiders were missed this year, the first time since 1988 when only a Common Eider was seen during count week. Oldsquaws (*Clangula hyemalis*) were in abundance this year, thanks to the high count of 194 on the CBBT count.

The Bald Eagle (*Haliaeetus leucocephalus*) count reached an all-time high of 319 birds, with almost 60% occurring on just three counts — Hopewell, which encompasses a large winter roost on the James River; Fort Belvoir, where eagles have gathered in ever-increasing numbers along the Potomac River for many years; and Washington's Birthplace, which includes long reaches of the Rappahannock River, another significant wintering area for this species. As was expected, Golden Eagles (*Aquila chrysaetos*) appeared on the Highland Count. Another was found at Tazewell.

Clapper Rail (*Rallus longirostris*) numbers increased more than 60% over last year's totals with significantly higher counts recorded at Cape Charles, Little Creek, and Newport News. Virginia Rails (*R. limicola*) seemed to be abundant this year. The all-time high count of 81 birds state-wide far surpassed totals of any previous years. Eight Soras (*Porzana carolina*) were unusual at Back Bay, and American Coots (*Fulica americana*) made a surprising comeback with three locations reporting record numbers.

After a three years absence, two Piping Plovers (*Charadrius melodus*) were located at Cape Charles. Both Cape Charles and Mathews County had record numbers of Dunlin (*Calidris alpina*) and the three individuals found at Fort Belvoir comprised that count's only record in 15 years. Common Snipe (*Gallinago gallinago*) occurred in normal numbers around the state, but eight at Claytor Lake and 114 at Walkerton were exceptional. Following last year's national record high count (570) of American Woodcock (*Scolopax minor*) at Cape Charles, this year's numbers dropped to normal levels with 61 recorded at 12 locations.

One Little Gull (*Larus minutes*) at Back Bay was the first Christmas count sighting in five years. More Ring-billed Gulls (*L. delawarensis*) than usual were present on the lower Piedmont, with large numbers of these birds occurring at Kerr Reservoir, Banister River WMAs, and Martinsville. In other parts of the state, however, their numbers were normal. The most unusual gulls were an adult Iceland (Kumlien's) Gull (*L. glaucoides*) and a Thayer's Gull (*L. thayeri*) at CBBT. Controversy concerning the identification and status of the Thayer's gull in Virginia still plagues the birding community. A photograph of the Thayer's, along with written documentation, will be submitted to the VSO Records Committee (VARCOM) for evaluation. Five Black-legged Kittiwakes (*Rissa tridactyla*) on three counts constituted a state all-time high count and the one found at Kerr Reservoir was the first known Piedmont record of this species.

The only unusual *Sterna* was one Common Tern (*S. hirundo*) at Little Creek. The fifteen Black Skimmers (*Rynchops niger*) at Back Bay were only the fifth occurrence of that species in that count's 54-year history.

Great Horned Owl (*Bubo virginianus*) numbers reached a record high for the state. Chincoteague, Newport News, Hopewell, Kerr Reservoir, and Philpott Reservoir all reported unusually high numbers. Wise County reported the only Northern Saw-whet Owl (*Aegolius acadicus*), its first record of that species.

Woodpecker numbers continued to creep upward, probably due to the fact that more counts are being conducted rather than populations actually increasing. The increasing numbers of Pileated Woodpeckers (*Dryocopus pileatus*), however, are an exception. They are definitely increasing across the Chesapeake Bay. In the early 1980s, only a total of 6 to 15 birds were ever reported from there. Numbers have steadily risen since 1985, and in 1994 a total of 45 individuals were seen on the three Eastern Shore counts. All three totals were records or equaled previous highs.

A Vermilion Flycatcher (*Pyrocephalus rubinus*) was well-documented, photographed, and seen by many observers at Fort Belvoir and is the second record for Virginia and the first Christmas count record. A Western Kingbird (*Tyrannus verticalis*) at Wachapreague was the first of this species found on a count anywhere in the state since 1991. It was the second record for that count. Three hundred ninety Tree Swallows (*Tachycineta bicolor*) were the most occurring in the state since 1983. Surprisingly, Chincoteague was the only station reporting this species.

It was not a noteworthy year for Black-capped Chickadees (*Parus atricapillus*) or Red-breasted Nuthatches (*Sitta canadensis*), but Tufted Titmice (*P. bicolor*) were abundant. Charlottesville, Shenandoah National Park-Luray, Peaks of Otter, and Wise tallied 330, 407, 102, and 213 individuals respectively, contributing to an all-time state high count of 6,010 birds. The 127 Brown-headed Nuthatches (*S. pusilla*) at Little Creek comprised one of the highest single counts for that species in 20 years. On the other hand, Brown Creeper (*Certhia americana*) numbers were down. Only half the number usually seen were found, in spite of the fact that it was reported from all but seven locations.

Eastern Bluebirds (*Sialia sialis*) appeared in record numbers in almost all parts of the state. Eleven counts reported all-time highs, with those on the Eastern Shore and in the Mountains and Valleys region being the highest. This year's Christmas counts bore out the premise of many observers that large numbers of American Robins (*Turdus migratorius*) were wintering in Virginia. The state total of 50,137 was a record. The previous high was 40,817 in 1976.

It was a very good year for Cedar Waxwings (*Bombus cedrorum*). All but two counts reported an aggregate total 14,912 individuals—the second highest ever. Loggerhead Shrikes (*Lanius ludovicianus*) continued their precipitous decline, with only 29 birds reported from 11 sites this year.

A Nashville Warbler (*Vermivora ruficapilla*) was not included in the Dismal Swamp list published in *Audubon Field Notes* (1995) because details verifying the sighting were not received in time. Documentation was later submitted to *The Raven* Christmas count editor and the record is listed in Appendix 1. Nashvilles were reported once in the 1960s, seven times in the 1970s, and twice in the 1980s. The only other sighting in this decade is of one individual found at Hopewell in 1993.

Other remarkable species found on this year's counts were: a Yellow Warbler (*Dendroica petechia*) at Williamsburg, Prairie Warblers (*D. discolor*) at Little Creek and Williamsburg, two Black-and-white Warblers (*Mniotilta varia*) and a Yellow-breasted Chat (*Icteria virens*) at Kerr Reservoir, and two Indigo Buntings (*Passerina cyanea*) at Little Creek. Dickcissels (*Spiza americana*) were found at Little Creek and Waynesboro. As with other unusual sightings, many of the above records will be reviewed by VARCOM.

LITERATURE CITED

Drennan, S., ed.

1995. The 95th Christmas bird count. *Audubon Field Notes* 49:502.

APPENDIX I (pages 41-64)

The 1994-95 Christmas bird counts in Virginia. Bold, underlined figures indicate an unusual species or an unusual number of individuals for that particular count. "CW" indicates that the species was seen during count week, but not on count day.

KEY FOR APPENDIX I (pages 65-67)

Weather codes:

CLD = Cloudy

CLR = Clear

FOG = Foggy

INR = Intermittent rain

HVR = Heavy rain

LGR = Light rain

LHR = Light to heavy rain

PCD = Partly cloudy

PCR = Partly clear

RAI = Rain

Wind code:

V = Variable

Water codes:

ROP = River open

SMP = Still water mostly frozen

SPF = Still water partly frozen

WOP = Water open

American White Pelican	Brown Pelican	Great Cormorant	Double-crested Cormorant	American Bittern	Great Blue Heron	Great Egret	Snowy Egret	Little Blue Heron	Tricolored Heron	Green Heron	Black-crowned Night-Heron
1	5	...	76	54	1	1	3	...	5
...	...	1	55	...	65	...	1	...	2	...	20
...	5	73	190	4	88	26	15	10	43	...	16
...	3	46	1
...	36	31	1400	...	120	134	2	9
...	30	4	200	1	50	1
...	20	...	134	...	5	CW
...	1	...	3	5
...	19	...	420	...	74	14	2	5
...	7	...	9	...	63	1
...	843	1	75	27
...	151	...	131	4
...	9
...	2	...	23
...	3	...	38
...	1	...	242	2
...	9
...	8
...	6
...	1	...	22
...	7
...	16
...	6
...	3
...	34	1	97
...	79
...	12
...	5
...	4
...	2
...	9
...	33
...	12	3
...
...	11
...	1
...	14
...	14
...	3	1
...
...
...	7
...	29
...	15
...	2
...	1
...	7
...	CW	...	14
...	3
...	1
...	1
1	120	155	3450	7	1515	265	19	11	48	2	62

	White Ibis	Tundra Swan	Mute Swan	Greater White- fronted Goose	Snow Goose (blue form)	Snow Goose	Ross's Goose	Brant	Canada Goose
1. Chincoteague	...	651	12	...	26	9237	...	852	1508
2. Wachapreague	...	6	...	...	1	5	...	802	662
3. Cape Charles	3	173	2	...	1	670	...	3804	1314
4. CBBT
5. Little Creek	...	77	...	...	...	...	...	500	164
6. Back Bay	...	2500	1	...	11	2220	1	3	600
7. Nansemond River	44
8. Dismal Swamp	...	301	...	...	...	170	...	...	83
9. Newport News	2	...	...	...	...	397	81
10. Mathews	...	173	...	...	...	...	...	30	571
11. Williamsburg	...	133	9	...	...	...	...	...	1456
12. Hopewell	...	5	...	...	350	132	...	...	13,082
13. Walkerton	68
14. Wash. Birthplace	...	525	...	...	...	...	...	8647	...
15. Brooke	...	582	39	...	...	15	...	...	830
16. Fort Belvoir	...	206	...	...	...	2	...	...	3211
17. Manassas-B.R.	2601
18. Nokesville	...	65	...	...	...	...	...	...	2324
19. Chancellorsville	...	3	2	...	...	...	...	...	557
20. Lake Anna	745
21. Gordonsville	1432
22. Charlottesville	997
23. Warren	13	...	...	305
24. Darlington Heights	...	1	...	...	...	...	...	...	2
25. Kerr Reservoir	126
26. Banister WMA	2
27. Lynchburg	136
28. Danville	192
29. Martinsville	250
30. Philpott Res.
31. Calmes Neck	...	9	...	2	...	...	...	...	2593
32. N. Shen. Valley	2	...	...	50	...	...	1904
33. Shen. NP-Luray	...	1	...	...	...	...	...	...	173
34. Big Flat Mtn.	22
35. Rockingham Co.	2	...	...	...	...	...	28
36. Highland County	...	3	...	...	...	...	...	...	69
37. Augusta Co.	...	1	...	...	...	1	...	...	132
38. Waynesboro	267
39. Lexington	...	1	...	...	...	...	...	...	6
40. Peaks of Otter
41. Clifton Forge	7
42. Fincastle	22
43. Roanoke	42
44. Blacksburg	315
45. Claytor Lake	32
46. Tazewell	4
47. Glade Spring	109
48. Bristol	...	2	...	...	...	...	...	...	385
49. Nickelsville
50. Breaks I.S. Park
51. Wise County	CW
Total Individuals	3	5418	71	2	389	12,495	1	6388	48,100

	Wood Duck	Green-winged Teal	American Black Duck	Mallard	Northern Pintail	Blue-winged Teal	Northern Shoveler	Gadwall	American Wigeon	Canvasback	Redhead	Ring-necked Duck
16	551	4905	339	850	...	...	1273	...	235	1	1	...
2	27	115	219	...	...	...	...	11	13	...	...	3
12	1178	1053	863	46	3	34	...	634	766	...	1	133
54	87	231	800	1	2	112	...	88	239	24	13	81
CW	500	750	1200	650	4	120	...	900	445	...	17	17
159	10	75	160	8	...	67	...	105	178	275	91	CW
2	2	47	888	4	...	...	...	83	518	196	9	75
...	...	311	332	...	...	...	...	...	14	5	10	...
7	116	50	330	21	...	3	...	32	18	4505	...	176
116	23	323	2483	5	...	...	...	14	20	1	...	852
5	...	9	164	...	...	...	...	2	...	...	...	3
2	...	377	504	...	...	...	...	11	...	5805	...	...
...	1	116	1100	1	...	16	...	2100	600	1860	6	570
36	318	780	2493	78	3	92	...	106	60	252	3	188
...	1	...	300	...	...	...	...	...	...	...	...	3
9	...	3	323	...	...	...	...	3	...	...	...	...
...	...	...	56	...	...	...	...	...	...	...	...	...
...	...	8	104	...	...	...	...	2	2	...	3	...
4	2	...	38	...	...	...	...	...	...	...	...	...
2	1	27	35	...	...	...	...	...	...	...	...	...
2	8	69	86	...	...	...	...	11	...	...	...	...
...	...	...	15	...	...	...	...	...	...	...	...	...
34	26	9	193	...	...	2	...	35	156	3	3	465
14	...	...	81	...	...	2	...	...	...	12	...	6
15	1	41	159	...	...	...	...	25	7	...	...	39
2	...	...	130	...	...	...	...	...	...	...	...	...
1	...	...	18	...	...	...	...	...	...	...	...	1
...	...	CW	200	...	...	...	...	...	...	...	...	...
18	...	71	258	...	...	...	...	...	22	...	2	94
3	2	75	844	5	...	...	...	2	25	...	2	...
...	1	2	157	...	...	...	...	...	4	...	...	1
...
CW	CW	...	217	...	...	12	...	4	73	...	...	...
...	1	1	82	...	...	...	...	...	2	...	...	...
...	5	...	235	1	...	3	...	12	6	...	...	4
8	2	8	122	...	...	...	...	...	...	...	...	...
...	...	2	58	...	...	...	...	...	...	...	...	...
...
...	...	...	2	...	...	...	...	...	...	...	...	...
3	...	3	75	...	...	2	...	...	...	...	...	1
6	2	131	246	...	...	...	...	2	...	...	...	...
...	...	42	1042	2	...	...	...	9	68	...	...	7
CW	10	23	396	2	...	...	...	42	...	...	...	1
...	...	9	92	...	...	...	...	4	...	...	...	...
...	...	23	474	...	...	...	...	...	...	...	...	...
...	3	11	518	2	...	...	...	13	51	...	...	34
...	...	1	23	...	...	...	...	...	...	...	...	...
Z	...	...	14	...	...	...	...	...	...	...	...	...
1	...	...	3	...	...	...	...	...	...	...	...	...
540	2878	9710	18,511	1677	12	1738	4257	3522	12,939	161	2757	...

	Greater Scaup	Lesser Scaup	scaup, sp.	Harlequin Duck	Oldsquaw	Black Scotler	Surf Scotler	White-winged Scotler	scooter, sp.
1. Chincoteague	16	29	...	...	212	312	17	4	...
2. Wachapreague	...	...	...	...	15	26	25	1	71
3. Cape Charles	2	2	6	...	81	426	1530	499	1644
4. CBBT	2	...	...	1	194	56	433	29	...
5. Little Creek	...	...	...	...	125	130	250	18	120
6. Back Bay	28	2	2	...	3	90	98	1	85
7. Nansemond River	26	1	...	...	...	...	3	...	...
8. Dismal Swamp	...	...	...	...	...	...	...	...	...
9. Newport News	1	64	4	...	60	...	16	1	...
10. Mathews	2	2	80	...	301	93	320	4	6
11. Williamsburg	...	2	...	...	...	...	...	...	...
12. Hopewell	...	30	...	...	...	...	...	...	...
13. Walkerton	...	...	...	...	...	...	...	...	...
14. Wash. Birthplace	360	7873	...	...	4	...	653	...	7
15. Brooke	...	32	...	...	...	...	...	...	...
16. Fort Belvoir	179	2102	9293	...	14	...	3	6	...
17. Manassas-B.R.	...	...	...	...	...	...	...	...	...
18. Nokesville	...	1	...	...	...	...	...	...	...
19. Chancellorsville	...	...	...	...	...	...	...	...	...
20. Lake Anna	...	15	...	...	10	...	...	...	...
21. Gordonsville	...	...	...	...	...	...	...	...	...
22. Charlottesville	...	...	...	...	...	...	...	...	...
23. Warren	...	...	...	...	...	...	...	...	...
24. Darlington Heights	...	...	...	...	...	...	...	...	...
25. Kerr Reservoir	2	9	...	...	10	...	...	...	...
26. Banister WMA	...	...	...	...	...	...	...	...	...
27. Lynchburg	...	...	...	...	...	...	...	...	...
28. Danville	...	...	...	...	...	...	...	...	...
29. Martinsville	...	...	...	...	...	...	...	...	...
30. Philpott Res.	...	...	...	...	...	...	...	...	...
31. Calmes Neck	...	18	...	...	...	...	...	...	...
32. N. Shen. Valley	...	...	...	...	2	...	CW	...	...
33. Shen. NP-Luray	...	...	...	...	...	...	...	...	...
34. Big Flat Mtn.	...	...	...	...	...	...	...	...	...
35. Rockingham Co.	...	...	...	...	...	...	...	...	...
36. Highland County	...	...	...	...	...	...	...	...	...
37. Augusta Co.	...	2	...	...	...	...	...	...	...
38. Waynesboro	...	...	...	...	...	...	...	...	...
39. Lexington	...	...	...	...	...	...	...	...	...
40. Peaks of Otter	...	...	...	...	...	...	...	...	...
41. Clifton Forge	...	...	...	...	...	...	...	...	...
42. Fincastle	...	...	...	...	...	...	...	...	...
43. Roanoke	...	...	...	...	...	...	...	...	...
44. Blacksburg	...	19	...	...	...	...	...	...	...
45. Claytor Lake	...	...	...	...	...	...	...	...	...
46. Tazewell	...	...	...	...	...	...	...	...	...
47. Glade Spring	...	...	...	...	...	...	...	...	...
48. Bristol	...	...	...	...	...	...	...	...	...
49. Nickelsville	...	...	...	...	...	...	...	...	...
50. Breaks I.S. Park	...	...	...	...	...	...	...	...	...
51. Wise County	...	...	...	...	...	...	...	...	...
Total individuals	618	18,630	9385	1	1031	1133	3348	563	1933

[illegible]

	Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk	Northern Goshawk	Accipiter, sp.	Red-shouldered Hawk	Red-tailed Hawk	Rough-legged Hawk	Buteo, sp.
1. Chincoteague	45	15	6	...	...	5	42	1	...
2. Wachapreague	27	7	6	...	...	4	29	...	...
3. Cape Charles	60	21	9	1	1	8	72	1	...
4. CBBT	...	...	...	...	...	...	1	...	...
5. Little Creek	2	8	2	...	...	7	29	...	...
6. Back Bay	44	12	5	1	...	14	45	...	...
7. Nansemond River	13	1	1	...	...	CW	15	1	...
8. Dismal Swamp	9	10	2	...	1	7	19	...	...
9. Newport News	6	6	3	...	1	2	18	...	1
10. Mathews	9	7	...	...	...	8	11	...	...
11. Williamsburg	2	8	CW	...	...	11	29	...	...
12. Hopewell	14	5	3	1	...	4	43	...	...
13. Walkerton	3	5	...	...	...	7	18	...	...
14. Wash. Birthplace	14	2	1	...	...	3	39	...	...
15. Brooke	1	4	1	...	1	7	24	2	...
16. Fort Belvoir	3	13	6	...	1	22	39	...	...
17. Manassas-B.R.	8	7	3	...	...	11	22	...	...
18. Nokesville	31	10	11	...	...	16	55	CW	...
19. Chancellorsville	1	1	...	...	...	7	6	...	...
20. Lake Anna	CW	1	2	...	...	5	12	...	...
21. Gordonsville	...	4	1	...	1	4	15	...	...
22. Charlottesville	...	8	4	...	...	10	48	...	...
23. Warren	...	3	2	...	...	2	32	1	...
24. Darlington Heights	7	2	1	...	...	4	21	...	...
25. Kerr Reservoir	3	3	3	...	...	3	11	...	...
26. Banister WMA	2	1	3	...	...	3	19	...	...
27. Lynchburg	...	5	2	...	...	1	46	...	...
28. Danville	...	1	5	...	...	1	19	...	...
29. Martinsville	...	...	CW	...	...	1	19	...	...
30. Philpott Res.	...	1	...	...	...	...	8	...	...
31. Calmes Neck	5	3	5	...	...	1	58	...	...
32. N. Shen. Valley	7	15	9	...	...	5	96	...	...
33. Shen. NP-Luray	5	6	9	...	...	1	46	1	...
34. Big Flat Mtn.	...	1	...	...	...	...	2	...	...
35. Rockingham Co.	1	4	2	...	...	...	29	...	...
36. Highland County	1	1	...	...	...	...	20	1	...
37. Augusta Co.	3	9	5	...	...	...	52	...	...
38. Waynesboro	1	3	1	...	...	2	25	1	1
39. Lexington	...	3	1	...	...	1	12	...	...
40. Peaks of Otter	...	...	1	...	...	...	6	...	...
41. Clifton Forge	...	...	...	...	...	2	3	...	...
42. Fincastle	1	5	1	...	...	2	31	1	...
43. Roanoke	...	6	8	...	...	...	26	...	...
44. Blacksburg	1	5	7	...	1	1	15	...	...
45. Claytor Lake	7	4	1	...	...	2	18	1	...
46. Tazewell	2	1	2	...	...	...	9	...	...
47. Glade Spring	...	...	2	...	...	...	12	...	...
48. Bristol	...	2	5	...	...	1	15	...	...
49. Nickelsville	...	...	...	...	...	2	3	...	...
50. Breaks I.S. Park	...	1	...	...	...	...	1	...	...
51. Wise County	1	2	...	...	...	1	6	...	...
Total individuals	339	242	141	3	7	198	1291	11	2

	Golden Eagle	American Kestrel	Merlin	Peregrine Falcon	hawk, sp.	Ring-necked Pheasant	Ruffed Grouse	Wild Turkey	Northern Bobwhite	Clapper Rail	King Rail	Virginia Rail
...	...	26	...	1	...	...	...	...	33	7	...	8
...	...	53	2	3	...	...	...	4	33	24	...	11
...	...	51	3	3	...	1	...	30	37	113	...	16
...	...	25	...	1	...	...	...	...	49	54	...	2
...	...	59	2	1	...	...	...	...	10	...	17	42
...	...	10	...	...	...	...	...	...	12	3	...	...
...	...	24	...	...	...	...	...	...	12	...	...	...
...	...	22	1	...	...	CW	...	...	21	18	...	...
...	...	12	1	...	...	...	...	22	...	15	...	...
...	...	12	...	...	...	...	...	CW	36	11	1	1
...	...	19	...	1	...	1	...	4	...	...	...	...
...	...	5	...	...	...	...	...	23	...	...	...	...
...	...	10	...	...	...	...	...	7	12	...	...	...
...	...	5	...	...	...	...	...	...	...	...	...	...
...	...	14	2	...	...	...	...	3	4	...	CW	...
...	...	24	...	...	...	...	...	...	6	...	...	...
...	...	46	1	...	...	...	...	5	8	...	...	...
...	...	4	...	...	...	...	...	...	...	...	...	...
...	...	7	...	...	...	...	...	...	4	...	...	...
...	...	5	...	...	...	...	...	...	...	...	...	...
...	...	6	...	...	...	...	...	...	...	...	...	...
...	...	10	...	...	...	...	...	8	17	...	...	...
...	...	19	...	...	...	...	...	2	4	...	...	...
...	...	4	...	...	...	...	...	...	8	...	...	1
...	...	4	...	...	...	...	...	11	12	...	...	...
...	...	10	...	...	...	...	...	34	18	...	...	...
...	...	8	...	...	...	...	...	4	81	...	...	...
...	...	6	...	...	...	...	...	...	2	...	...	...
...	...	3	...	...	...	...	CW	7	CW	...	...	...
...	...	31	...	...	...	...	7	1	1	...	...	...
...	...	40	...	...	...	1	2	5	6	...	...	...
...	...	26	...	...	...	...	17	2	20	...	...	...
...	1	...	...	...	...	...
...	...	35	...	...	...	...	1	3	...	...	...	...
...	3	3	...	...	...	...	9	4	...	...	...	...
...	CW	38	...	...	...	...	...	...	...	...	...	...
...	...	12	...	...	...	...	...	...	1	...	...	...
...	...	1	...	...	...	...	3	5	...	...	...	...
...	5	1	...	...	...	...
...	...	1	...	...	...	...	...	...	...	...	...	...
...	...	16	...	...	...	...	1	...	2	...	...	...
...	...	14	...	...	...	...	...	8	...	...	...	...
...	...	8	...	...	...	...	...	26	11	...	...	...
...	...	18	...	...	2	...	...	47	14	...	...	...
...	1	5	...	...	...	...	1	...	...	...	...	...
...	...	10	...	...	...	...	...	...	...	...	...	...
...	...	32	...	...	...	...	1	...	8	...	...	...
...	...	3	...	...	...	...	1	...	...	...	...	...
...	...	1	...	...	...	...	...	2	...	...	...	...
...	...	3	...	...	...	...	5	3	...	...	...	...
Total individuals	4	800	17	10	2	3	54	271	482	245	19	81

	Sora	Common Moorhen	American Coot	Black-bellied Plover	Semipalmated Plover	Piping Plover	Killdeer	American Oystercatcher	Greater Yellowlegs
1. Chincoteague	CW	261	...	...	139	190	90
2. Wachapreague	3	50	7	...	5	124	93
3. Cape Charles	1	1	74	273	3	2	7	381	145
4. CBBT	12	...
5. Little Creek	788	13	...	...	145	69	4
6. Back Bay	8	1	201	25	...	...	153	...	10
7. Nansemond River	1	...	13	CW	...	...	CW	...	3
8. Dismal Swamp	578	...	...
9. Newport News	125	11	...	...	47	...	7
10. Mathews	1	...	70	CW	19
11. Williamsburg	18	...	...	...	37	...	6
12. Hopewell	22	...	...	...	164	...	...
13. Walkerton	14	...	...
14. Wash. Birthplace	2	...	...
15. Brooke	3500	...	...	...	49	...	...
16. Fort Belvoir	42	...	...	...	142	...	6
17. Manassas-B.R.	42	...	...	...	38	...	...
18. Nokesville	72	...	...
19. Chancellorsville	6	...	...	...	3	...	...
20. Lake Anna	5	...	...
21. Gordonsville
22. Charlottesville
23. Warren	1	...	...	...	...	...	...
24. Darlington Heights	2	...	...
25. Kerr Reservoir	1	...	5	...	...	...	61	...	...
26. Banister WMA	6	...	...	...	63	...	...
27. Lynchburg	60	...	...	...	2	...	...
28. Danville	16	...	...
29. Martinsville	CW	...	...	...	11	...	...
30. Philpott Res.	5	...	...
31. Calmes Neck	7	...	...
32. N. Shen. Valley	2	...	...	...	7	...	...
33. Shen. NP-Luray	15	...	...
34. Big Flat Mtn.
35. Rockingham Co.	2	...	...	...	24	...	...
36. Highland County
37. Augusta Co.	2	...	...	...	11	...	...
38. Waynesboro	2	...	...	...	1	...	...
39. Lexington	5	...	...
40. Peaks of Otter
41. Clifton Forge
42. Fincastle	5	...	...
43. Roanoke	50	...	...	...	...	...	...
44. Blacksburg	1	...	...	...	CW	...	...
45. Claytor Lake	10	...	...	...	2	...	...
46. Tazewell
47. Glade Spring	1	...	...	...	26	...	...
48. Bristol	82	...	...	...	102	...	...
49. Nickelsville
50. Breaks I.S. Park
51. Wise County	40	...	...
Total individuals	11	2	5058	633	11	2	2075	776	383

[illegible]

	peep, sp.	Short-billed Dowitcher	dowitcher, sp.	Common Snipe	American Woodcock	jaeger, sp.	Laughing Gull	Little Gull	Bonaparte's Gull
1. Chincoteague	10	4	13	...	...	...	45
2. Wachapreague	1145	...	...	...	3	...	...	...	6
3. Cape Charles	...	20	...	4	12	...	...	...	5
4. CBBT	2	...	19
5. Little Creek	1	2	...	85	...	75
6. Back Bay	2	47	5	1	10	1	220
7. Nansemond River	CW	CW	...	CW	...	1
8. Dismal Swamp	1	5	...	...	...	...
9. Newport News	1	...	...	72	...	...
10. Mathews	1	1	...	CW	...	24
11. Williamsburg	1	7	...	97	...	63
12. Hopewell	7	...	...	24	...	3
13. Walkerton	114	...	...	...	...	...
14. Wash. Birthplace	58	1	...	...	...	187
15. Brooke
16. Fort Belvoir	...	3	...	4	5	...	377	...	20
17. Manassas-B.R.
18. Nokesville	2	1	...	30	...	...
19. Chancellorsville
20. Lake Anna	7
21. Gordonsville	1	...	...	...	...	...
22. Charlottesville	11	...	...	...	...	...
23. Warren
24. Darlington Heights
25. Kerr Reservoir	16	4	...	...	...	97
26. Banister WMA	6	...	...	...	...	...
27. Lynchburg	1	...	...	...	...
28. Danville
29. Martinsville
30. Philpott Res.
31. Calmes Neck	2	1	...	...	...	...
32. N. Shen. Valley	3	...	...	...	...	...
33. Shen. NP-Luray	7	...	...	...	...	...
34. Big Flat Mtn.
35. Rockingham Co.	3	...	...	...	...	...
36. Highland County	5	...	...	...	...	...
37. Augusta Co.
38. Waynesboro	11	...	...	...	...	...
39. Lexington	3	...	...	...	...	...
40. Peaks of Otter
41. Clifton Forge
42. Fincastle	1	...	...	...	...	...
43. Roanoke
44. Blacksburg
45. Claytor Lake	8	...	...	...	...	...
46. Tazewell
47. Glade Spring	12	...	...	...	...	...
48. Bristol	3	...	...	...	...	1
49. Nickelsville
50. Breaks I.S. Park
51. Wise County
Total Individuals	1145	23	12	337	61	1	697	1	773

Ring-billed Gull	Herring Gull	Thayer's Gull	Iceland Gull	Lesser Black- backed Gull	Great Black- backed Gull	Black-legged Kittiwake	gull, sp.	Royal Tern	Common Tern	Forsier's Tern	Black Skimmer
1510	1948	...	...	1	264	...	...	...	...	103	...
959	1485	...	...	1	135	...	132	...	...	43	...
1974	3224	...	...	...	644	...	20	...	...	6	...
1809	1124	1	1	2	103	...	...	...	...	...	...
11,470	4785	1	...	6	1465	2	...	...	1	413	7
2300	770	...	1	3	167	2	...	2	...	130	15
116	962	...	...	...	56	...	...	...	...	2	...
7270	1686	...	...	...	508	...	500	...	...	...	...
2509	765	...	...	...	328	...	121	...	...	37	...
1260	466	...	...	...	42	...	...	...	...	87	...
841	195	...	...	...	39	...	...	...	...	73	...
11,964	286	...	...	...	54	...	...	...	...	31	...
66	1	...	...	...	...	...	...	...	...	...	...
1401	10	...	...	...	46	...	3	...	...	...	...
2250	750	...	...	...	200	...	...	...	...	...	...
9574	4323	...	...	3	670	...	6705	...	...	...	...
467	4	...	...	...	1	...	...	...	...	...	...
1064	251	...	...	...	55	...	30	...	...	...	...
14	...	...	...	...	...	...	...	...	...	...	...
498	26	...	...	...	12	...	...	...	...	...	...
...
...
...
...
2548	16	...	...	...	...	1	...	...	...	3	...
390	1	...	...	...	...	...	...	...	...	...	...
...
CW	...	...	...	...	...	...	...	...	...	...	...
238	...	...	...	...	...	...	...	...	...	...	...
...
15	29	...	...	...	...	...	...	...	...	...	...
...
...
154	...	...	...	...	...	...	...	...	...	...	...
1147	9	...	...	...	...	...	1	...	...	...	...
6	...	...	...	...	...	...	11	...	...	...	...
...
...
...
60	1	...	...	...	...	...	...	...	...	...	...
...
...
...
...
...
...
63,874	23,117	2	2	16	4789	5	7523	2	1	928	22

	Dovekie	Alcid, sp.	Rock Dove	Mourning Dove	Monk Parakeet	Barn Owl	Eastern Screech-Owl	Great Horned Owl	Snowy Owl
1. Chincoteague	274	229	...	1	32	25	...
2. Wachapreague	124	590	...	...	7	3	...
3. Cape Charles	1	...	788	491	...	1	21	21	...
4. CBBT
5. Little Creek	...	1	1480	815	2	...	10	12	...
6. Back Bay	97	376	...	3	13	32	...
7. Nansemond River	53	55	...	...	1	2	...
8. Dismal Swamp	48	203	...	...	4	2	...
9. Newport News	1064	1410	...	...	2	14	...
10. Mathews	53	437	...	...	2	6	...
11. Williamsburg	48	244	...	...	6	12	...
12. Hopewell	433	593	...	1	1	17	...
13. Walkerton	6	59	...	...	1	...	...
14. Wash. Birthplace	31	139	...	CW	CW	1	...
15. Brooke	56	113	...	...	...	...	...
16. Fort Belvoir	222	1006	...	2	10	21	...
17. Manassas-B.R.	256	379	...	...	...	2	...
18. Nokesville	360	690	...	12	6	6	...
19. Chancellorsville	3	38	...	...	2	1	...
20. Lake Anna	22	85	...	...	2	6	...
21. Gordonsville	51	129	...	3	1	4	...
22. Charlottesville	175	472	...	...	2	6	...
23. Warren	134	322	...	...	1	1	...
24. Darlington Heights	5	214	...	...	1	...	...
25. Kerr Reservoir	10	158	...	...	3	35	1
26. Banister WMA	48	148	...	...	3	10	...
27. Lynchburg	467	527	...	...	11	8	...
28. Danville	212	319	...	...	...	1	...
29. Martinsville	17	80	...	...	3	1	...
30. Philpott Res.	53	25	...	...	3	4	...
31. Calmes Neck	451	627	...	...	4	1	...
32. N. Shen. Valley	1225	1167	...	...	22	1	CW
33. Shen. NP-Luray	1066	854	...	1	13	4	...
34. Big Flat Mtn.	1	...
35. Rockingham Co.	704	466	...	1	2	1	CW
36. Highland County	11	74	...	...	...	1	...
37. Augusta Co.	359	805	...	...	4	...	...
38. Waynesboro	255	535	...	...	1	...	...
39. Lexington	121	68	...	...	7	3	...
40. Peaks of Otter	1	...	...	4	...	...
41. Clifton Forge	185	34	...	...	1	CW	...
42. Fincastle	189	466	...	...	14	3	...
43. Roanoke	692	1228	...	2	10	1	...
44. Blacksburg	409	835	...	...	5	8	...
45. Claytor Lake	373	579	...	1	1	...	...
46. Tazewell	56	63	...	...	2	...	...
47. Glade Spring	118	220	...	...	5	2	...
48. Bristol	272	1158	...	...	10	8	...
49. Nickelsville	12	34	...	...	...	...	...
50. Breaks I.S. Park	125	6	...	...	...	...	...
51. Wise County	208	277	...	...	6	3	...
Total individuals	1	1	13,431	19,843	2	28	259	290	1

	Barred Owl	Short-eared Owl	Northern Saw-whet Owl	Belted Kingfisher	Red-headed Woodpecker	Red-bellied Woodpecker	Yellow-bellied Sapsucker	Downy woodpecker	Hairy Woodpecker	Northern Flicker	Pileated Woodpecker	woodpecker, sp.
2	5	...	...	27	2	52	5	60	28	184	23	...
...	1	...	...	19	...	53	12	28	6	83	11	...
...	2	...	...	53	4	104	17	68	15	222	11	...
2	48	7	83	3	47	9	115	37	...
1	23	...	55	6	43	7	104	25	...
...	5	...	...	3	...	2	CW	1	1	1	1	...
8	8	1	89	27	84	34	116	49	...
2	52	...	79	6	50	5	128	14	...
...	24	...	59	11	39	5	82	10	...
2	29	7	76	33	40	7	67	32	...
2	15	11	104	20	38	5	175	32	...
...	7	20	30	9	18	8	52	10	...
3	9	12	36	11	26	1	52	19	...
...	13	6	89	11	39	4	39	19	...
9	57	7	371	43	279	66	261	93	...
4	12	...	112	4	72	15	63	21	...
2	2	...	...	7	...	60	11	60	10	51	33	...
2	2	...	21	4	11	...	21	10	...
1	12	9	26	1	23	4	19	8	...
1	4	4	32	10	24	2	47	29	...
3	26	2	161	29	126	26	175	79	...
1	8	5	112	51	88	13	113	48	...
...	4	3	23	12	30	2	23	15	...
5	7	9	32	6	40	7	50	7	...
3	9	58	27	23	20	5	43	25	...
1	16	4	94	40	81	11	126	62	...
5	5	6	23	5	12	6	30	7	...
1	7	...	23	2	23	2	31	8	...
2	9	...	12	14	26	6	18	21	...
2	7	1	103	12	118	17	67	41	...
1	43	1	134	33	174	31	101	55	...
3	19	...	52	25	118	17	62	71	...
1	1	...	10	8	8	8	12	18	...
...	9	6	29	2	37	4	14	18	...
1	3	1	6	1	13	5	7	12	...
...	14	1	35	2	43	2	19	9	...
...	10	1	30	10	60	11	17	24	...
...	8	1	23	2	19	9	13	21	...
...	14	32	36	8	17	33	...
...	1	...	10	6	34	4	20	22	...
...	9	...	31	11	54	9	56	26	...
1	17	...	37	24	77	17	76	57	...
...	25	...	49	8	124	20	51	37	2
...	6	...	8	5	20	6	14	7	4
...	4	...	1	2	6	...	2	1	...
...	4	...	8	5	21	1	8	5	...
1	24	...	32	14	33	5	23	25	...
...	1	...	5	2	11	5	2	6	...
...	1	...	2	...	8	...	2	14	...
3	8	...	7	6	39	12	11	13	...
75	15	1	729	189	2666	636	2549	501	3085	1274	6	...

	Eastern Phoebe	Vermilion Flycatcher	Western Kingbird	Horned Lark	Tree Swallow	Blue Jay	American Crow	Fish Crow	crow, sp.
1. Chincoteague	14	...	...	55	390	119	334	8	19
2. Wachapreague	11	...	1	4	...	305	455	3	143
3. Cape Charles	10	...	...	102	...	289	600	245	300
4. CBBT	...	...	...	...	...	...	...	...	...
5. Little Creek	2	...	...	...	...	183	6560	1425	...
6. Back Bay	10	...	...	11	...	140	233	26	57
7. Nansemond River	CW	...	...	2	...	8	60	65	...
8. Dismal Swamp	28	...	...	...	...	12	511	...	6
9. Newport News	...	...	...	...	...	219	534	3	12
10. Mathews	1	...	...	...	...	122	811	2	...
11. Williamsburg	5	...	...	...	...	67	187	3	35
12. Hopewell	14	...	...	8	...	63	642	68	106
13. Walkerton	13	...	...	...	...	16	283	...	...
14. Wash. Birthplace	4	...	...	...	...	64	539	1	...
15. Brooke	6	...	...	...	...	144	474	36	...
16. Fort Belvoir	7	1	...	2	...	438	1844	291	442
17. Manassas-B.R.	...	...	...	...	...	208	662	50	139
18. Nokesville	5	...	...	153	...	211	802	71	79
19. Chancellorsville	1	...	...	...	...	40	175	...	...
20. Lake Anna	10	...	...	10	...	280	165	...	41
21. Gordonsville	6	...	...	...	...	156	515	...	...
22. Charlottesville	37	...	...	32	...	388	2272	451	...
23. Warren	24	...	...	1	...	221	525	14	...
24. Darlington Heights	11	...	...	...	...	105	419	...	...
25. Kerr Reservoir	50	...	...	...	...	104	265	...	...
26. Banister WMA	18	...	...	...	...	71	305	3	...
27. Lynchburg	20	...	...	8	...	256	694	1	...
28. Danville	4	...	...	...	...	159	351	...	...
29. Martinsville	10	...	...	...	...	82	189	...	...
30. Philpott Res.	25	...	...	103	...	50	280	...	...
31. Calmes Neck	...	...	...	275	...	82	672	4	...
32. N. Shen. Valley	3	...	...	2	...	461	1552	1	...
33. Shen. NP-Luray	17	...	...	81	...	491	1960	32	56
34. Big Flat Mtn.	1	...	...	...	...	...	47	...	...
35. Rockingham Co.	3	...	...	24	...	162	364	1	...
36. Highland County	...	...	...	4	...	83	225	...	...
37. Augusta Co.	...	...	...	...	...	232	867	367	126
38. Waynesboro	8	...	...	14	...	87	1450	428	79
39. Lexington	2	...	...	...	...	91	681	...	...
40. Peaks of Otter	4	...	...	...	...	2	71	...	...
41. Clifton Forge	4	...	...	...	...	85	156	...	...
42. Fincastle	16	...	...	9	...	278	1240	...	...
43. Roanoke	19	...	...	...	...	144	1185	...	...
44. Blacksburg	7	...	...	1	...	170	1098	...	...
45. Clayton Lake	5	...	...	73	...	20	515	...	...
46. Tazewell	1	...	...	...	...	45	167	...	...
47. Glade Spring	2	...	...	...	...	70	205	...	...
48. Bristol	6	...	...	...	...	176	599	...	...
49. Nickelsville	2	...	...	...	...	34	78	...	...
50. Breaks I.S. Park	2	...	...	...	...	21	62	...	...
51. Wise County	13	...	...	1	...	105	387	...	...
Total individuals	461	1	1	975	390	7359	35,267	3599	1640

	Common Raven	Black-capped Chickadee	Carolina Chickadee	chickadee, sp.	Tufted Titmouse	Red-breasted Nuthatch	White-breasted Nuthatch	Brown-headed Nuthatch	Brown Creeper	Carolina Wren	House Wren	Winter Wren
...	...	...	184	...	65	6	1	24	12	194	3	30
...	...	...	153	...	30	...	...	10	4	106	7	1
...	...	...	299	...	27	...	7	1	16	415	23	23
...
...	...	...	235	...	136	1	12	127	...	122	2	2
...	...	...	258	...	57	2	7	13	7	191	13	12
...	...	...	13	...	6	...	CW	...	CW	6	...	1
...	...	...	334	...	84	1	41	11	16	102	2	44
...	...	...	227	...	126	...	7	5	4	90	...	1
...	...	...	188	...	98	...	...	10	...	143	...	3
...	...	...	151	...	79	...	52	25	2	91	1	2
...	...	...	180	...	79	...	21	...	3	179	2	16
...	...	...	40	...	35	...	7	...	3	25	...	5
...	...	...	33	...	18	...	2	...	4	38	...	3
...	...	...	143	...	148	...	23	...	6	67	1	6
...	...	...	993	...	910	4	180	...	43	406	2	26
...	...	...	344	...	252	...	69	...	4	73	...	2
...	...	...	281	...	175	1	27	...	14	83	...	6
...	...	...	70	...	30	...	14	...	5	13	...	...
...	...	...	82	...	55	1	14	...	1	24	...	...
...	...	...	113	...	71	...	27	...	1	25	...	1
9	...	...	474	...	330	1	113	...	2	254	...	22
6	...	...	243	...	93	1	46	...	2	177	...	8
...	...	...	73	...	51	...	9	...	3	71	...	2
...	...	...	105	...	72	4	22	14	4	127	11	24
...	...	...	57	...	86	2	19	7	3	39	...	16
8	...	...	327	...	224	6	76	...	14	195	...	17
...	...	...	67	...	63	...	16	10	1	43	...	1
...	...	...	77	...	31	...	5	12	2	64	...	4
2	...	...	119	...	73	...	13	12	2	46	1	9
9	2	426	...	218	...	116	...	...	17	46	...	...
21	4	687	...	399	1	250	...	...	34	76	1	9
...	2	499	...	407	...	105	...	...	17	118	1	7
6	...	26	...	16	...	13	...	...	4	7	...	3
3	2	67	...	69	...	20	...	...	4	23	...	4
34	154	...	...	49	2	33	...	...	3	9	...	2
3	2	135	...	100	...	25	...	...	3	58	...	1
14	...	196	...	150	3	79	...	...	3	44	...	1
6	5	49	41	52	...	20	...	...	1	43	2	2
26	2	109	...	102	...	50	...	...	...	21	...	1
5	6	94	...	73	3	22	...	...	2	24	...	1
18	9	147	...	77	2	32	...	...	2	150	...	8
6	7	274	...	187	...	67	...	...	10	178	2	8
2	8	128	131	198	CW	91	...	...	8	166	...	15
3	...	40	39	37	...	12	...	...	1	32	1	6
1	4	42	...	38	2	8	...	...	...	15	...	...
1	...	63	...	31	...	9	...	...	...	25	1	2
2	...	172	...	78	...	23	...	...	1	81	...	4
...	...	5	...	14	...	7	...	...	1	13	...	...
...	...	34	...	29	...	7	...	...	3	14	...	3
3	...	215	...	213	10	54	...	...	10	63	...	5
188	207	9321	211	6041	53	1873	281	302	4615	76	369	

	Sedge Wren	Marsh Wren	Golden-crowned Kinglet	Ruby-crowned Kinglet	Blue-gray Gnatcatcher	Eastern Bluebird	Hermit Thrush	American Robin	Gray Catbird
1. Chincoteague	11	...	83	55	...	242	59	572	10
2. Wachapreague	2	5	36	9	...	234	23	300	14
3. Cape Charles	28	6	72	83	1	206	138	252	36
4. CBBT
5. Little Creek	172	62	...	14	24	2770	3
6. Back Bay	41	32	48	29	...	165	45	23,900	42
7. Nansemond River	CW	1	...	2	CW	11	CW
8. Dismal Swamp	53	83	...	108	144	966	35
9. Newport News	8	28	...	24	5	295	2
10. Mathews	...	1	2	15	...	707	16	1156	4
11. Williamsburg	...	1	30	64	...	223	13	581	...
12. Hopewell	1	...	28	51	...	179	26	1417	6
13. Walkerton	26	19	...	101	13	355	1
14. Wash. Birthplace	10	15	...	131	16	531	...
15. Brooke	17	19	...	237	17	52	...
16. Fort Belvoir	81	69	...	239	78	585	3
17. Manassas-B.R.	7	3	...	141	9	142	1
18. Nokesville	65	22	...	177	17	596	1
19. Chancellorsville	10	2	...	81	1	169	...
20. Lake Anna	...	2	26	16	...	141	8	268	...
21. Gordonsville	9	3	...	151	3	444	...
22. Charlottesville	86	97	...	432	34	1682	2
23. Warren	26	35	...	296	35	550	...
24. Darlington Heights	110	64	...	193	9	844	...
25. Kerr Reservoir	...	1	70	67	...	1	49	402	7
26. Banister WMA	70	23	...	150	7	150	...
27. Lynchburg	92	65	...	342	27	813	...
28. Danville	68	9	...	150	2	162	...
29. Martinsville	30	20	...	175	3	189	...
30. Philpott Res.	22	23	...	108	8	470	...
31. Calmes Neck	26	24	...	341	3	17	...
32. N. Shen. Valley	91	58	...	548	14	195	...
33. Shen. NP-Luray	44	37	...	512	30	5958	...
34. Big Flat Mtn.	12	...	...	21	6	222	...
35. Rockingham Co.	16	12	...	88	1	35	...
36. Highland County	13	4	...	40	...	107	1
37. Augusta Co.	31	17	...	201	5	61	...
38. Waynesboro	13	14	...	149	11	341	...
39. Lexington	84	23	...	78	14	547	...
40. Peaks of Otter	13	17	...	62	9	362	...
41. Clifton Forge	28	3	...	10	6	6	...
42. Fincastle	56	39	...	240	17	92	...
43. Roanoke	194	67	...	199	14	274	...
44. Blacksburg	99	12	...	173	8	55	...
45. Claytor Lake	37	21	...	93	1	149	...
46. Tazewell	3	...	...	21	3	3	...
47. Glade Spring	23	2	...	36	...	87	...
48. Bristol	61	17	...	158	8	837	1
49. Nickelsville	5	2	...	19	...	104	...
50. Breaks I.S. Park	14	...	...	9	1	9	...
51. Wise County	7	5	...	40	10	139	...
Total individuals	83	48	2227	1425	2	8574	990	50,224	169

	Northern Mockingbird	Brown Thrasher	American Pipit	Cedar Waxwing	Loggerhead Shrike	European Starling	White-eyed Vireo	Solitary Vireo	Orange-crowned Warbler	Nashville Warbler	Yellow Warbler	Yellow-rumped Warbler
...	54	8	223	242	...	8503	...	...	...	...	...	3484
...	138	9	...	136	...	4332	...	...	...	...	...	2322
...	93	23	64	350	...	3543	...	...	1	...	...	7282
...	...	...	...	...	...	1	...	...	...	...	...	...
...	65	15	...	248	...	8400	1	5	5	...	...	1365
...	150	23	40	324	...	3250	...	...	2	...	...	5335
...	9	CW	1	70	...	200	...	...	1	...	...	135
...	16	8	208	215	...	417	1	3	9	1	...	209
...	166	9	...	142	...	5817	...	...	...	...	...	1112
...	102	12	...	725	...	847	...	...	...	...	...	1224
...	38	1	...	621	...	1383	...	...	...	...	1	455
...	66	6	134	1140	...	8761	...	...	...	...	...	361
...	25	2	...	548	...	98	...	...	...	...	...	136
...	32	3	90	999	...	946	...	...	...	...	...	184
...	72	...	60	325	...	4700	...	...	...	...	...	237
...	152	2	8	1206	...	6718	...	...	1	...	...	273
...	100	...	...	270	...	3310	...	...	...	...	...	114
...	72	...	6	500	1	28,835	...	...	...	...	...	270
...	16	...	...	179	...	319	...	...	...	...	...	72
...	25	...	...	104	...	124	...	...	...	...	...	80
...	74	1	...	408	...	706	...	...	...	...	...	170
...	126	1	60	537	...	1742	...	...	...	...	...	223
...	72	...	...	361	1	697	...	...	...	...	...	230
...	34	...	...	16	...	285	...	...	...	...	...	186
...	41	16	98	430	3	126	...	...	...	...	...	318
...	35	11	...	236	...	284	...	1	...	...	...	185
...	114	5	...	701	...	1269	...	...	...	...	...	119
...	38	2	...	224	...	1135	...	...	...	...	...	...
...	37	...	...	19	...	702	...	...	...	...	...	41
...	12	...	78	146	...	238	...	1	...	...	...	40
...	121	...	...	35	...	5482	...	...	...	...	...	19
...	275	...	55	897	13	17,200	...	...	...	...	...	435
...	158	2	...	271	1	29,331	...	...	...	...	...	168
...	1	...	...	26	...	...	...	...	...	...	...	...
...	47	...	110	56	...	8073	...	...	...	...	...	...
...	10	...	15	6	...	667	...	...	...	...	...	...
...	141	...	...	171	1	7304	...	...	...	...	...	161
...	106	...	...	91	2	19,087	...	...	...	...	...	13
...	33	...	...	100	...	711	...	...	...	...	...	147
...	1	...	...	162	...	14	...	...	...	...	...	...
...	5	...	...	91	...	36	...	...	...	...	...	1
...	132	...	4	66	2	788	...	2	...	...	...	129
...	89	...	...	178	...	2439	...	...	...	...	...	38
...	115	1	...	135	2	6103	...	1	...	...	...	84
...	42	...	...	9	2	288	...	...	...	...	...	129
...	9	...	...	35	1	257	...	...	...	...	...	...
...	14	...	...	548	...	712	...	...	...	...	...	3
...	78	...	...	593	CW	3171	...	...	...	...	...	57
...	4	...	...	10	...	139	...	...	...	...	...	17
...	...	...	...	...	...	52	...	...	...	...	...	6
...	13	5	...	10	CW	528	...	...	...	...	...	10
Total individuals	3368	165	1254	14,912	29	200,070	2	13	19	1	1	27,600

	Pine Warbler	Prairie Warbler	Palm Warbler	Black-and-White Warbler	Common Yellowthroat	Yellow-breasted Chat	warbler, sp.	Northern Cardinal	Indigo Bunting
1. Chincoteague	23	...	26	...	1	...	...	133	...
2. Wachapreague	2	...	2	...	2	...	...	241	...
3. Cape Charles	8	...	57	...	2	...	...	339	...
4. CBBT	...	...	...	...	...	...	...	...	...
5. Little Creek	68	...	4	...	1	...	...	90	2
6. Back Bay	2	1	11	...	15	...	...	147	...
7. Nansemond River	CW	...	1	...	...	...	...	3	...
8. Dismal Swamp	20	...	2	...	5	...	...	51	...
9. Newport News	10	...	3	...	...	...	...	187	...
10. Mathews	15	...	...	...	...	...	...	166	...
11. Williamsburg	11	1	...	...	1	...	...	105	...
12. Hopewell	1	...	...	...	...	...	...	164	...
13. Walkerton	4	...	...	...	...	...	...	31	...
14. Wash. Birthplace	1	...	...	...	...	...	...	74	...
15. Brooke	3	...	...	...	...	...	...	154	...
16. Fort Belvoir	1	...	...	...	2	...	...	622	...
17. Manassas-B.R.	...	...	...	...	...	...	...	300	...
18. Nokesville	...	...	...	...	1	...	...	222	...
19. Chancellorsville	...	...	...	...	...	...	...	23	...
20. Lake Anna	1	...	...	...	...	...	...	28	...
21. Gordonsville	...	...	...	...	...	...	...	62	...
22. Charlottesville	5	...	...	...	...	...	...	436	...
23. Warren	...	...	...	...	...	...	...	197	...
24. Darlington Heights	...	...	...	...	...	...	...	66	...
25. Kerr Reservoir	26	...	2	3	1	...	...	142	...
26. Banister WMA	27	...	...	...	...	...	...	57	...
27. Lynchburg	8	...	...	...	...	...	...	294	...
28. Danville	...	...	...	...	...	...	...	104	...
29. Martinsville	1	...	...	...	...	...	...	81	...
30. Philpott Res.	2	...	...	...	...	...	1	81	...
31. Calmes Neck	...	...	...	...	...	...	...	442	...
32. N. Shen. Valley	1	...	1	...	1	...	...	391	...
33. Shen. NP-Luray	3	...	...	...	...	...	...	303	...
34. Big Flat Mtn.	...	...	...	...	...	...	...	10	...
35. Rockingham Co.	...	...	...	...	...	...	...	62	...
36. Highland County	...	...	...	...	...	...	...	25	...
37. Augusta Co.	...	...	...	...	...	...	...	164	...
38. Waynesboro	...	...	5	...	...	...	...	149	...
39. Lexington	...	...	...	...	...	...	...	73	...
40. Peaks of Otter	...	...	...	...	...	...	...	18	...
41. Clifton Forge	...	...	...	...	...	...	...	55	...
42. Fincastle	...	...	3	...	...	...	...	227	...
43. Roanoke	...	...	...	...	...	...	...	233	...
44. Blacksburg	...	...	...	...	1	...	...	275	...
45. Claytor Lake	...	...	4	...	...	...	...	41	...
46. Tazewell	...	...	...	...	...	...	...	36	...
47. Glade Spring	...	...	...	...	...	...	...	78	...
48. Bristol	...	...	...	...	...	...	...	203	...
49. Nickelsville	...	...	...	...	...	...	...	29	...
50. Breaks I.S. Park	...	...	...	...	...	...	...	30	...
51. Wise County	...	...	1	...	...	...	...	131	...
Total individuals	243	2	120	2	35	1	1	7575	2

	Dickcissel	Rufous-sided Towhee	American Tree Sparrow	Chipping Sparrow	Clay-colored Sparrow	Field Sparrow	Vesper Sparrow	Savannah Sparrow	Savannah Sparrow (Ipswich race)	Le Conte's Sparrow	Sharp-tailed Sparrow	Seaside Sparrow
...	23	...	62	...	70	...	114	...	...	...	12	...
...	11	54	21	...	18	...	19	...	14	...	123	10
...	56	20	112	...	169	...	7	349	5	...	37	21
...
...	1	84	...	37	1	49	...	35	1	...	8	1
...	48	...	65	...	40	...	442	...	4	2	1	CW
...	2	...	207	...	1	...	49	...	...	...	...	...
...	64	...	...	...	16	1	10	...	...	...	...	...
...	13	...	4	...	22	...	15	...	...	...	...	...
...	37	...	79	...	33	...	9	...	...	...	...	...
...	29	...	48	...	101	...	21	...	...	...	...	...
...	37	...	31	...	161	...	20	...	...	...	...	...
...	10	...	7	...	17	...	1	...	...	...	...	...
...	13	...	...	...	7	...	2	...	...	...	...	...
...	11	...	...	...	51	...	1	...	...	...	...	...
...	33	4	16	...	76	...	11	...	...	...	...	...
...	21	...	...	...	41	...	1	...	...	...	...	...
...	10	1	1	...	109	...	66	...	...	...	...	...
...	2	...	...	...	30	...	...	...	...	...	...	...
...	14	1	...	...	22	...	...	...	...	...	...	...
...	1	...	...	...	4	...	...	...	...	...	...	...
...	31	...	...	...	124	...	2	...	...	...	...	...
...	21	...	1	...	90	...	3	...	...	...	...	...
...	8	...	2	...	31	...	...	...	...	...	...	...
...	137	...	132	1	242	1	184	...	...	...	...	...
...	13	...	5	...	5	...	10	...	...	...	...	...
...	54	...	6	...	80	...	2	...	...	...	...	...
...	6	...	...	...	37	...	...	...	...	...	...	...
...	16	...	...	...	69	...	...	...	...	...	...	...
...	20	...	...	...	6	...	...	...	...	...	...	...
...	1	2	...	...	7	...	...	...	...	...	...	...
...	11	34	...	...	89	...	3	...	...	...	...	...
...	4	...	...	...	61	...	...	...	...	...	...	...
...	1	...	...	...	1	...	...	...	...	...	...	...
...	2	2	...	...	2	...	...	...	...	...	...	...
...	...	...	...	...	54	...	1	...	...	...	...	...
...	1	3	4	1	44	...	1	...	...	...	...	...
...	10	...	...	...	16	...	...	...	...	...	...	...
...	2	...	...	...	13	...	...	...	...	...	...	...
...	...	...	...	...	4	...	...	...	...	...	...	...
...	31	1	5	...	57	...	1	...	...	...	...	...
...	25	...	...	...	27	...	...	...	...	...	...	...
...	17	...	...	...	22	...	...	...	...	...	...	...
...	2	...	...	...	27	...	...	...	...	...	...	...
...	2	...	...	...	3	...	...	...	...	...	...	...
...	14	...	...	...	10	...	...	...	...	...	...	...
...	35	...	...	...	4	...	...	...	...	...	...	...
...	5	...	...	...	16	...	...	...	...	...	...	...
...	7	...	...	...	5	...	...	...	...	...	...	...
...	10	...	...	...	27	1	...	...	...	...	...	...
...	2	1007	123	842	2	2210	10	1372	20	4	182	33

	Fox Sparrow	Song Sparrow	Lincoln's Sparrow	Swamp Sparrow	White-throated Sparrow	White-crowned Sparrow	sparrow, sp.	Dark-eyed Junco	Lapland Longspur
1. Chincoteague	5	237	...	134	521	...	...	95	...
2. Wachapreague	9	314	...	75	578	14	...	227	...
3. Cape Charles	20	595	1	244	800	1	...	283	...
4. CBBT	...	...	...	...	...	...	...	...	...
5. Little Creek	4	151	...	23	368	2	...	82	...
6. Back Bay	1	285	...	278	489	...	...	112	1
7. Nansemond River	CW	56	...	54	44	3	...	CW	1
8. Dismal Swamp	24	46	1	136	661	2	...	344	...
9. Newport News	1	151	...	42	249	...	...	165	...
10. Mathews	2	99	...	10	347	...	...	670	...
11. Williamsburg	1	209	...	59	479	...	...	249	...
12. Hopewell	...	520	...	17	828	5	...	318	...
13. Walkerton	4	72	...	23	332	...	...	258	...
14. Wash. Birthplace	...	35	...	15	318	...	...	326	...
15. Brooke	...	105	...	16	327	1	...	343	...
16. Fort Belvoir	10	449	...	61	1318	1	...	1219	...
17. Manassas-B.R.	5	140	...	7	233	10	...	809	...
18. Nokesville	4	275	...	13	334	72	...	846	...
19. Chancellorsville	...	59	...	...	74	23	...	125	...
20. Lake Anna	...	32	...	3	73	1	...	206	...
21. Gordonsville	...	52	...	...	135	6	...	404	...
22. Charlottesville	5	309	...	7	943	88	...	851	...
23. Warren	5	330	...	3	764	66	...	418	...
24. Darlington Heights	2	62	...	4	153	4	...	362	...
25. Kerr Reservoir	13	942	...	579	1176	94	...	247	...
26. Banister WMA	1	119	...	84	238	10	...	447	...
27. Lynchburg	1	187	...	5	654	5	...	803	...
28. Danville	...	76	...	10	147	5	...	490	...
29. Martinsville	1	117	...	10	103	2	...	180	...
30. Philpott Res.	2	72	...	2	143	16	62	174	...
31. Calmes Neck	...	82	...	2	235	332	...	463	...
32. N. Shen. Valley	3	220	...	16	296	197	...	1673	...
33. Shen. NP-Luray	7	179	...	3	375	212	...	767	...
34. Big Flat Mtn.	...	2	...	...	55	...	...	68	...
35. Rockingham Co.	...	32	...	...	120	92	...	194	...
36. Highland County	...	6	...	...	1	...	...	211	...
37. Augusta Co.	1	67	...	...	257	110	...	359	...
38. Waynesboro	...	163	...	19	248	238	...	261	...
39. Lexington	3	48	...	2	242	14	...	177	...
40. Peaks of Otter	...	9	...	...	70	...	...	159	...
41. Clifton Forge	...	20	...	...	44	...	...	189	...
42. Fincastle	1	159	...	5	291	123	...	386	...
43. Roanoke	...	178	...	2	347	...	...	218	...
44. Blacksburg	1	174	...	1	244	220	...	557	...
45. Claytor Lake	...	39	...	2	31	44	...	144	...
46. Tazewell	...	12	...	2	14	...	...	18	...
47. Glade Spring	...	67	...	2	72	51	...	45	...
48. Bristol	1	111	...	...	272	87	...	50	...
49. Nickelsville	...	15	...	...	11	1	...	52	...
50. Breaks I.S. Park	...	10	...	2	16	8	...	1	...
51. Wise County	2	188	...	1	92	3	...	148	...
Total individuals	139	7877	2	1973	16,162	2163	62	17,193	2

Snow Bunting	Red-winged Blackbird	Eastern Meadowlark	Rusty Blackbird	Brewer's Blackbird	Boat-tailed Grackle	Common Grackle	Brown-headed Cowbird	blackbird, sp.	Northern Oriole	Northern Oriole (Bullock's race)	Purple Finch
CW	1151	399	13	...	215	469	48	...	...	...	1
60	1049	292	...	...	91	39	1	...	...	...	6
...	1212	284	<u>112</u>	...	463	116	87	...	...	...	5
...
...	1505	33	1	...	55	1030	109	...	...	...	6
...	3400	260	19	...	409	10,550	181	935	...	...	25
...	175	36	...	...	...	250	1	...	...	...	...
...	8731	50	11	...	...	4003	3178	33,760	1	...	1
...	438	29	...	...	<u>545</u>	431	50	...	...	...	...
...	143	99	...	...	2	67	...	...	...	...	...
...	923	52	2	...	...	<u>601,333</u>	35	...	...	...	1
...	323	178	...	...	...	54	16	...	1	...	...
...	185	42	...	...	...	96	1	...	...	...	...
...	1382	79	...	...	...	24	34	350,000	...	...	2
...	360	1	1	...	...	51	...	...	...	...	10
...	2987	2	22	...	...	2927	435	...	2	...	10
...	38	...	4	...	...	78	1	16	...	...	2
...	307	52	...	18	...	5841	511	50	...	...	1
...	...	22	...	...	...	...	...	...	...	...	...
9	...	32	...	...	...	36	1	...	...	...	CW
...	12	...	...	...	...	...	1	...	...	...	...
...	6	33	...	...	...	27	58	...	...	...	10
...	36	122	1	...	...	28	73	...	...	...	16
...	402	64	...	...	...	26	...	...	...	...	2
2	445	85	1	...	...	2	...	...	...	1	...
...	84	53	50	...	...	20	5	...	...	...	...
...	2	50	...	...	...	12	5	...	...	...	2
...	2000	21	...	...	...	180	135	...	...	...	24
...	13	43	...	...	...	3	8	...	...	...	9
...	28	CW	...	...	...	...	...	...	...	...	...
...	34	2	...	...	...	4	58	...	...	...	...
CW	57	41	7	...	...	252	3339	...	...	...	3
...	295	32	42	1	...	20	<u>5850</u>	5000	...	...	40
...
...	4	9	40	...	...	3	19	...	...	...	...
...	2	2	1	...	...	1	73	1	...	...	6
...	5	34	...	...	...	...	1040	...	...	...	10
...	49	5	...	...	...	253	80	...	...	...	...
...	8	4	...	...	...	5	...	...	...	...	7
...
...	...	...	...	...	...	...	...	...	...	...	11
...	1	65	...	...	...	2	18	...	...	...	...
...	2	3	...	...	...	4	1	...	...	...	6
...	CW	11	1	...	...	25	7	...	...	...	3
...	3	45	...	...	...	...	...	...	...	...	...
...
...	...	3	...	...	...	3	...	...	...	...	1
...	...	13	CW	...	...	...	CW	...	...	...	1
...	...	2	...	...	...	...	...	...	...	...	2
...
...	5	35	...	...	...	10	1	...	...	...	5
71	27,802	2719	328	19	1780	628,275	15,460	389,762	4	1	22

	House Finch	<i>Carpodacus</i> , sp.	Pine Siskin	American Goldfinch	Evening Grosbeak	House Sparrow	Total number of species	Total number of individuals
1. Chincoteague	...	...	...	134	...	176	143	53,669
2. Wachapreague	688	...	...	41	...	87	131	26,880
3. Cape Charles	338	...	...	239	...	43	162	50,736
4. CBBT	...	...	...	...	...	...	31	4,385
5. Little Creek	495	...	...	61	...	149	146	63,175
6. Back Bay	185	...	6	53	...	90	153	75,777
7. Nansemond River	40	...	...	5	...	5	93	5,993
8. Dismal Swamp	38	...	8	73	...	50	98	67,754
9. Newport News	435	...	...	60	...	287	114	25,206
10. Mathews	601	...	...	92	...	41	105	17,249
11. Williamsburg	148	...	...	119	...	23	109	620,741
12. Hopewell	266	...	...	145	...	10	103	48,774
13. Walkerton	67	...	...	18	...	18	73	3,818
14. Wash. Birthplace	46	...	...	44	...	26	90	385,029
15. Brooke	487	...	...	111	...	60	89	25,997
16. Fort Belvoir	574	...	2	310	1	499	125	72,117
17. Manassas-B.R.	353	...	...	46	...	183	71	12,782
18. Nokesville	460	...	...	75	...	251	90	48,017
19. Chancellorsville	34	...	...	32	...	...	58	2,556
20. Lake Anna	232	...	...	70	2	18	83	4,207
21. Gordonsville	410	...	...	23	6	44	62	6,153
22. Charlottesville	719	...	2	151	...	67	75	16,916
23. Warren	283	...	5	185	...	17	82	8,084
24. Darlington Heights	462	...	...	22	...	36	63	4,826
25. Kerr Reservoir	186	...	2	172	1	20	117	11,993
26. Banister WMA	75	...	...	29	...	134	85	4,592
27. Lynchburg	752	...	...	114	...	58	81	10,950
28. Danville	103	...	6	98	...	52	65	7,228
29. Martinsville	192	...	...	79	...	8	64	3,465
30. Philpott Res.	9	1	1	81	...	18	61	3,167
31. Calmes Neck	397	...	...	179	10	180	81	92,605
32. N. Shen. Valley	1333	...	...	130	...	223	95	38,057
33. Shen. NP-Luray	596	...	...	181	...	164	84	57,887
34. Big Flat Mtn.	...	...	...	32	...	...	35	675
35. Rockingham Co.	243	...	...	118	...	353	70	12,640
36. Highland County	198	...	3	132	...	134	69	2,667
37. Augusta Co.	677	...	...	70	...	298	71	15,416
38. Waynesboro	782	...	...	95	...	155	76	26,545
39. Lexington	76	...	...	69	...	23	71	4,070
40. Peaks of Otter	10	...	...	22	...	...	40	1,514
41. Clifton Forge	28	...	...	21	...	46	47	1,496
42. Fincastle	360	...	...	167	...	32	78	7,032
43. Roanoke	450	...	...	122	...	45	70	10,497
44. Blacksburg	634	...	...	110	...	294	79	16,130
45. Claytor Lake	148	...	...	30	...	16	73	4,060
46. Tazewell	80	...	...	8	...	91	51	1,196
47. Glade Spring	72	...	...	72	...	20	53	3,417
48. Bristol	645	...	...	126	...	11	76	10,961
49. Nickelsville	28	...	11	74	...	...	44	864
50. Breaks I.S. Park	5	...	...	5	...	...	40	541
51. Wise County	229	...	...	90	15	138	67	3,641
Total individuals	15,669	1	46	4535	35	4693	214	2,004,147

Date	Time in field (a.m. to p.m.)	Water/snow conditions	Inches of snow on the ground	Skies (a.m.)	Skies (p.m.)
28 Dec	0500-1730	WOP	...	CLR	CLR
17 Dec	0645-1700	WOP	...	LGR	PCR
27 Dec	0500-1730	WOP	...	CLR	CLR
26 Dec	0830-1300	WOP	...	CLR	CLR
31 Dec	0520-1730	WOP	...	PCD	CLD, LGR
28 Dec	0530-1730	WOP	...	CLR	CLR
1 Jan	0900-1700	WOP	...	CLR	PCD
2 Jan	0700-1800	WOP	...	CLR	CLR
17 Dec	0430-2000	WOP	...	CLD, LGR	PCD
1 Jan	0415-1730	WOP	...	PCR	CLR
18 Dec	0415-1700	WOP	...	CLD	PCD
18 Dec	0615-1700	WOP	...	PCD	PCR
18 Dec	0730-1700	WOP	...	PCD	CLD, LGR
17 Dec	0530-1700	WOP	...	CLD, LGR	CLR
19 Dec	0600-1615	WOP	...	PCD	PCD
1 Jan	0430-1830	WOP	...	CLD, FOG	PCD, LGR
1 Jan	0700-1700	WOP	...	PCD, FOG	PCR
18 Dec	0400-1730	WOP	...	FOG	PCD
1 Jan	0530-1730	WOP	...	FOG	PCD
1 Jan	0500-1635	WOP	...	CLD, FOG, LGR	CLR
18 Dec	0700-1700	WOP	...	PCR, FOG	PCR
1 Jan	0600-1730	WOP	...	PCD	CLR
18 Dec	0600-1630	WOP	...	PCD	CLD, LGR
8 Jan	0730-1630	WOP	...	CLD	PCR
18 Dec	0520-1730	WOP	...	CLR	PCD
18 Dec	0700-1730	WOP	...	CLR	PCD
17 Dec	0530-2200	WOP	...	CLD	CLR
17 Dec	0730-1730	WOP	...	FOG	PCD
1 Jan	0300-1730	WOP	...	PCD, FOG	PCD
26 Dec	0445-1745	WOP	...	CLR	CLR
2 Jan	0500-1730	WOP	...	CLD	PCD
17 Dec	0400-1800	WOP	...	PCD, FOG	PCD
18 Dec	0500-1700	WOP	...	PCD, FOG	PCD, LHR
27 Dec	0630-1700	WOP	...	CLR	CLR
17 Dec	0800-1700	WOP	...	PCD	CLD
20 Dec	0700-1700	SMF, ROP	2.5	CLR	CLR
17 Dec	0600-1700	WOP	...	PCD	CLD
29 Dec	0615-1730	SPF, MWO	...	CLR	CLR
26 Dec	0600-1700	SPF, MWO	...	CLR	CLR
20 Dec	0800-1600	WOP	...	CLR	CLR
17 Dec	0830-1630	WOP	...	CLD, FOG, RAI	CLR
18 Dec	0500-1600	WOP	...	CLR	CLR
17 Dec	0515-1715	WOP	...	PCD, FOG	PCD
17 Dec	0600-2045	WOP	...	CLD, LGR	CLD
28 Dec	0700-1730	WOP	...	CLR	CLR
28 Dec	0700-1700	WOP	...	CLR	CLR
31 Dec	0415-0615	WOP	...	CLD, INR	CLD, FOG
1 Jan	0530-1830	WOP	...	CLR	CLD
17 Dec	0730-1430	WOP	...	CLD, FOG, LGR	PCD, FOG
31 Dec	0700-1500	WOP	...	CLD, LGR	PCD
17 Dec	0600-1730	WOP	...	HVR	PCR, LGR
...

	Temperatures (° Fahrenheit)	Wind direction	Wind speed (miles/hour)	Number of field observers	Number of field parties (non-owling)	Number of feeder observers	Number of hours at feeders
1. Chincoteague	27-58	WSW	0-12	27	17	...	...
2. Wachapreague	40-55	SW	0-8	31	15	...	...
3. Cape Charles	35-50	N-NE	5-15	49	9-22	...	...
4. CBBT	34-46	NNW-NNE	10-25	10	3	...	...
5. Little Creek	31-54	NE-SE	0-18	34	14-18	...	...
6. Back Bay	32-62	SW-W	0-12	34	17-18	...	...
7. Nansemond River	34-45	N	5-10	2	1	...	...
8. Dismal Swamp	39-51	NE-N	0-10	25	8-15	...	...
9. Newport News	47-59	SW	5	38	13	...	...
10. Mathews	49-60	SW	0-15	30	10-12	1	2.00
11. Williamsburg	48-55	NW	10-15	20	9	1	1.00
12. Hopewell	42-55	NW	7	29	11-16	...	...
13. Walkerton	35-48	N	8	7	4	...	...
14. Wash. Birthplace	43-57	SW	0-10	11	6-7	...	...
15. Brooke	32-46	N	5-15	18	8-9	...	...
16. Fort Belvoir	33-53	CALM	...	96	39-43	2	8.00
17. Manassas-B.R.	40-60	CALM	...	37	5-6	1	6.00
18. Nokesville	36-50	NW	0-7	34	13	...	...
19. Chancellorsville	18-52	NW	5-10	7	4	...	...
20. Lake Anna	35-58	SSE	5-15	10	5	...	...
21. Gordonsville	40-53	SW	5-8	13	6	...	...
22. Charlottesville	37-61	SW	0-15	23	20	...	...
23. Warren	32-47	SW	0-15	19	12	...	...
24. Darlington Heights	30-45	NW	0-10	18	6	1	2.00
25. Kerr Reservoir	36-57	WNW	0-18	9	4-8	...	...
26. Banister WMA	43-55	NW	5-10	8	7	...	...
27. Lynchburg	36-53	V	5-10	41	16-19	...	6.00
28. Danville	40-48	CALM	...	12	8	1	4.00
29. Martinsville	40-50	V	0-5	6	2-4	2	4.00
30. Philpott Res.	32-52	SE	0-10	13	5	2	2.00
31. Calmes Neck	30-40	V	10-20	34	16	2	...
32. N. Shen. Valley	36-55	SSE	1-10	67	25	...	...
33. Shen. NP-Luray	30-45	W	5	33	17	3	11.00
34. Big Flat Mtn.	25-48	SW	0-10	2	2	...	...
35. Rockingham Co.	38-52	W	0-3	23	9-10	...	...
36. Highland County	16-42	SW	0-5	9	5	...	...
37. Augusta Co.	30-55	SW	3	23	10	1	1.50
38. Waynesboro	26-50	NNW	0-40	24	12	...	...
39. Lexington	18-52	WSW	0-5	16	7	1	2.00
40. Peaks of Otter	25-45	CALM	...	13	5	...	...
41. Clifton Forge	40-44	NE	0-5	6	6	4	14.00
42. Fincastle	30-48	W	5	20	12	...	...
43. Roanoke	39-50	S	0-15	30	13	...	...
44. Blacksburg	33-49	V	3-12	36	15-16	12	27.00
45. Claytor Lake	24-58	NW	0-15	13	5-6	...	...
46. Tazewell	36-48	W	6-8	6	4	1	8.00
47. Glade Spring	36-44	W	0-3	11	5	...	...
48. Bristol	43-48	V	0-5	21	6	...	...
49. Nickelsville	35-45	NW	3	5	2	...	...
50. Breaks I.S. Park	32-54	W	1-5	3	2	...	...
51. Wise County	36-52	SW	5-20	16	9	3	9.00
Totals	...	...	...	1122	484-555	38	107.50

Hours owling	Miles owling	Hours on foot	Hours by car	Hours by boat/canoe	Total hours (excludes owling and feeder hours)	Miles on foot	Miles by car	Miles by boat/canoe	Total miles (excludes owling miles)
2.00	21.00	81.00	46.50	...	127.50	60.00	296.00	...	356.50
1.00	0.50	49.50	47.50	6.00	103.00	47.50	434.00	8.00	489.50
6.00	6.00	152.00	27.00	3.00	182.00	97.00	300.00	10.00	407.00
...	...	12.00	2.00	...	14.00	3.00	45.00	...	48.00
5.00	27.00	115.00	23.00	...	138.00	47.00	431.00	...	478.00
6.00	73.00	133.00	18.50	2.50	154.00	79.00	590.00	16.00	685.00
0.50	1.00	1.00	7.00	...	8.00	2.00	114.00	...	116.00
...	...	52.00	57.50	2.50	112.00	44.50	395.00	2.00	441.50
5.25	10.00	60.50	56.50	...	117.00	37.75	391.50	...	429.25
6.25	50.50	52.50	44.75	...	97.25	50.00	364.50	...	414.50
4.00	9.00	42.25	40.25	...	82.50	30.25	328.00	...	358.25
2.00	9.00	51.00	45.00	4.00	100.00	43.00	276.50	...	339.50
...	...	14.00	10.00	5.00	29.00	8.50	197.50	20.00	216.50
1.00	3.00	25.00	19.50	3.00	47.50	13.00	333.00	42.00	388.00
1.00	1.00	48.00	28.00	...	76.00	37.00	214.00	...	251.00
19.25	62.50	198.50	25.50	...	224.00	152.50	323.00	...	475.50
2.00	5.00	41.75	35.50	...	77.25	30.25	321.00	...	351.25
5.00	29.00	53.00	61.00	...	114.00	58.00	455.00	...	513.00
0.75	2.00	19.50	12.25	...	31.75	16.00	164.00	...	180.00
3.75	19.00	11.00	32.50	...	43.50	8.00	380.00	...	388.00
5.00	29.00	20.25	34.00	...	54.25	19.50	313.00	...	332.50
2.00	4.00	102.50	26.00	7.00	135.50	112.50	269.00	6.00	387.50
1.25	4.50	79.00	13.50	...	92.50	76.00	202.00	...	278.00
1.50	12.00	12.00	36.00	...	48.00	18.00	324.50	...	342.50
5.50	45.00	29.50	20.50	...	50.00	20.00	269.00	...	289.00
1.50	6.00	28.50	18.50	...	47.00	22.50	255.50	...	278.00
6.00	51.00	61.00	44.00	...	105.00	37.00	439.00	...	476.00
...	...	16.00	23.50	...	39.50	10.00	113.75	...	123.25
3.00	45.00	6.50	18.00	...	24.50	5.50	209.00	...	214.50
2.25	13.25	9.75	26.75	...	36.50	8.00	188.50	...	196.50
1.50	6.00	28.75	83.75	...	112.50	29.50	704.50	...	734.00
8.00	58.00	74.00	109.00	23.00	206.00	85.00	1001.50	18.00	1104.50
3.50	10.00	74.00	69.00	...	143.00	70.00	507.50	...	577.50
0.50	0.50	19.00	...	...	19.00	27.00	...	...	27.00
0.75	1.50	21.75	35.00	...	56.75	20.00	270.00	...	290.00
...	...	13.00	34.50	...	47.50	11.00	356.00	...	367.00
2.50	10.50	21.50	52.25	...	73.75	16.25	495.00	...	511.25
1.75	9.25	58.00	42.75	...	100.75	21.75	496.50	...	548.25
1.00	5.00	24.50	12.50	...	37.00	16.00	100.50	...	116.50
...	...	15.00	9.00	...	24.00	20.00	40.00	...	60.00
2.00	18.00	20.00	11.50	...	31.50	17.50	165.00	...	182.50
4.00	20.00	29.00	33.00	...	62.00	47.00	351.00	...	398.00
7.25	33.00	51.00	37.00	...	88.00	70.00	282.00	...	352.00
2.50	15.00	62.50	37.75	...	100.25	66.00	381.75	...	447.75
...	...	17.25	21.00	...	38.25	20.00	246.00	...	266.00
...	...	6.00	22.00	...	28.00	8.00	97.00	...	105.00
...	...	49.00	38.00	...	87.00	28.00	405.00	...	433.00
4.00	36.00	26.00	26.00	...	52.00	12.00	399.00	...	411.00
...	...	...	12.00	...	12.00	...	91.00	...	91.00
...	...	4.00	12.00	...	16.00	3.00	111.00	...	114.00
1.50	19.50	23.50	33.00	...	56.50	19.00	295.00	...	314.00
139.50	780.50	2215.25	1631.50	56.00	3902.75	1800.25	15,732.00	132.50	17,694.25

APPENDIX II

CHRISTMAS COUNT DESCRIPTIONS

(Observers are listed for Chesapeake Bay Bridge-Tunnel, Darlington Heights, Lynchburg, Highland County, Peaks of Otter, Roanoke, Claytor Lake, Glade Spring, and Bristol counts which do not appear in *American Birds*.)

1. CHINCOTEAGUE NATIONAL WILDLIFE REFUGE. 37°58'N 75°22'W

Center: 2 miles north of center of Chincoteague in Accomack County.

Compiler: Teta Kain (7083 Caffee Creek Lane, Gloucester, VA 23061)

2. WACHAPREAGUE. 37°40'N 75°42'W

Center: Jct. 789 and 715 in Accomack County.

Compilers: Irvin and Marilyn Ailes (6479 Myrtle Lane, Chincoteague, VA 23336)

3. CAPE CHARLES. 37°12'N 75°56'W

Center: 1.5 miles southeast of Capeville Post Office in Northampton County.

Compiler: Henry Armistead (523 E. Durham St., Philadelphia, PA 19119)

4. CHESAPEAKE BAY BRIDGE-TUNNEL. 37°02'N 76°05'W

Location: The northern three bridge-tunnel islands and adjacent waters out to one mile.

Compiler: Ned Brinkley (108 Cocke Hall, University of Virginia, Charlottesville, VA 22903)

Observers: David Abbott, George Armistead, Henry T. Armistead, and Ned Brinkley

5. LITTLE CREEK. 36°51'N 76°06'W

Center: 3.8 miles northeast of Kempsville in Virginia Beach.

Compiler: Paul Sykes, Jr. (1080 Forest Rd., Watkinsville, GA 30677)

6. BACK BAY NATIONAL WILDLIFE REFUGE. 36°39'N 76°00'W

Center: 1.5 miles east of Back Bay NWR.

Compiler: Paul Sykes, Jr. (1080 Forest Rd., Watkinsville, GA 30677)

7. NANSEMOND RIVER. 36°52'N 76°26'W

Center: Jct. Rts. 17 and 626 in Pughsville, Suffolk.

Compiler: Ned Brinkley (108 Cocke Hall, University of Virginia, Charlottesville, VA 22903)

8. DISMAL SWAMP. 36°40'N 76°29'W

Center: Jct. of Middle and Jericho Ditches in Great Dismal Swamp NWR.

Compilers: Don Schwab (1411 Planters Dr., Suffolk, VA 23434) and Tom M. Gwynn, III (1640 Morris Ave., Norfolk, VA 23509)

9. NEWPORT NEWS. 37°05'N 76°25'W

Center: Northern corner of Magruder & Cmdr. Shepard Blvds in Hampton.

Compiler: Hayes Williams (PO Box 95, White Marsh, VA 23183-0095)

10. MATHEWS. 37°25'N 76°18'W

Center: 0.5 mile east of Beaverlett Post Office in Mathews County.

Compiler: Mary Pulley (HCR 75, Box 356, Hudgins, VA 23076)

11. WILLIAMSBURG. 37°17'N 76°42'W

Center: Colonial Williamsburg Information Center in Williamsburg.

Compiler: Lee Schuster (209 Cherwell Court, Williamsburg, VA 23188)

12. HOPEWELL. 37°23'N 77°17'W

Center: Curles Neck in Henrico County.

Compilers: Larry Robinson (3320 Landria Dr., Richmond, VA 23225) and Wendy Ealding (9006 Eider Landing, Chesterfield, VA 23832)

13. WALKERTON. 37°46'N 77°02'W

Center: Jct. 633 and 634 in King and Queen County.

Compiler: Rob Breeding (Rt. 1, Box 820, Hanover, VA 23069)

14. WASHINGTON'S BIRTHPLACE. 38°07'N 76°57'W

Center: Horners in Westmoreland County.

Compiler: Bill Portlock (23195 Mt. Cloud Rd., Bowling Green, VA 22427)

15. BROOKE. 38°22'N 77°20'W

Center: At center road 3 miles east southeast of Brooke in Stafford County.

Compiler: David Stewart (10715 Midsummer Dr., Reston, VA 22091)

16. FORT BELVOIR. 38°41'N 77°12'W

Center: Pohick Church at Colechester Rd. and Jefferson Davis Hwy. in eastern Fairfax County

Compiler: David F. Abbott (43579 Plantation Terr., Ashburn, VA 22011)

17. MANASSAS-BULL RUN. 38°50'N 77°26'W

Center: Centreville in western Fairfax County.

Compiler: Steven Edwards (Fairfax Audubon Society, Box 82, Vienna, VA 22183-6895)

18. NOKESVILLE. 38°37'N 77°33'W

Center: Fleetwood Dr. (Rt. 611) at Cedar Run in Prince William County.

Compiler: Ken Bass (12604 Valley View Dr., Nokesville, VA 22123)

19. CHANCELLORSVILLE 38°16'N 77°40'W

Center: Chancellorsville Battlefield, 10 miles west of Fredericksburg in Spotsylvania County.

Compiler: Napier Shelton (PO Box 305, Port Sanilac, MI 48469)

20. LAKE ANNA. 38°05'N 77°49'W

Center: Center of bridge over Lake Anna on SR 208 at the Spotsylvania-Louisa county-line.

Compiler: Michael R. Boatwright (307 Sugar Mill Dr., Amherst, VA 24521)

21. GORDONSVILLE. 38°09'N 78°12'W

Center: Jct. of US 15 & 33 north of the town of Gordonsville in Orange County.

Compiler: T. G. Scott, Jr. (12493 Spicewood Rd., Orange, VA 22960)

22. CHARLOTTESVILLE. 38°04'N 78°34'W

Center: Near Ivy in Albemarle County.

Compiler: Charles Stevens (615 Preston Pl., Charlottesville, VA 22903)

23. WARREN. 37°51'N 78°33'W

Center: At Keene Albemarle County.

Compiler: Charles Stevens (615 Preston Pl., Charlottesville, VA 22903)

24. DARLINGTON HEIGHTS. 37°12'N 78°37'W

Center: Darlington Heights Post Office in Prince Edward County.

Compiler: Carolyn Wells (204 Fayette St., Farmville, VA 23901)

Observers: Avis Addleman, Sandra Breil, Vera Copple, John Dalmas, Thelma Dalmas, Dale Hodges, Jane Holman, Ann Ingram, Jane Jobe, Alice Johnson, Judy McCann, Bill Pollari, Cathy Pollari, John Rice, Robin Schmitz, David Spears, Randy Thrasher, and Carolyn Wells.

25. JOHN H. KERR RESERVOIR. 36°36'N 78°18'W

Center: East end of John H. Kerr Dam in Mecklenburg County.

Compiler: Brian Patteson (PO Box 1135, Amherst, VA 24521)

26. BANISTER RIVER WILDLIFE MANAGEMENT AREAS. 36°43'N 78°48'W

Center: At Banister River Wildlife Management Areas in Halifax County.

Compiler: Jeffrey Blalock (103 Elizabeth Court, South Boston, VA 24592)

27. LYNCHBURG. 37°24'N 79°11'W

Center: Lynchburg College in Lynchburg.

Compiler: John Dalmas (502 Rainbow Forest Dr., Lynchburg, VA 24502)

Observers: Mike Boatwright, Ed Calvert, John Dalmas, Thelma Dalmas, Virginia Delaney, Betty Epperson, Robert Epperson, Bob Eubank, Charles Hansrote, Melva Hansrote, Mike Hayslett, Margaret Kehrler, Victor Kehrler, Gail McCormack, Jenna McCrary, Melvin Mitchell, Gene Moore, Myriam Moore, Wyatt Murphy, Brian Patteson, Myrna Patteson, Carol Peters, Keith Peters, Taylor Piephoff, Claudia Puckette, Dan Puckette, Daniel Puckette, Norma Jean Rist, James Scranton, Barbara Shedd, Doug Shedd, Glennys Sheppard, Macon Smith, Marek Smith, Susan Stanton, Warren Stout, Randy Thrasher, Sue Thrasher, Susan Wingfield, Jo Wood, and Bill Woods.

28. DANVILLE. 36°34'N 79°25'W

Center: Ballou Park in Danville.

Compiler: Russell C. Brachman (139 Pendleton Rd., Danville, VA 24541)

29. MARTINSVILLE. 36°44'N 79°49'W

Center: South end of dam at Martinsville Reservoir #2 in Henry County.

Compiler: James S. Beard (401 Hairston St., Martinsville, VA 24112)

30. PHILPOTT RESERVOIR. 36°53'N 80°03'W

Center: Near intersection Rts. 605 and 623 in Franklin County.

Compiler: Clyde Kessler (PO Box 3612, Radford, VA 24143)

31. CALMES NECK. 39°07'N 77°54'W

Center: Castlemans Ferry Bridge, SR 7 and the Shenandoah River in Clarke County.

Compilers: Frances Endicott (Rt. 1, Box 448, Bluemont, VA 22012) and Greg Justice (PO Box 226, Millwood, VA 22646)

32. NORTHERN SHENANDOAH VALLEY. 39°03'N 78°10'W

Center: Jct. Crooked Run and Rt. 606 in Frederick County.

Compiler: Rob Simpson (Rt. 1, Box 154-B, Stephens City, VA 22655)

33. SHENANDOAH NATIONAL PARK—LURAY. 38°35'N 78°28'W

Center: Hershberger Hill near Stanley in Page County.

Compiler: Marsha McCabe (Rt. 4, Box 348, Luray, VA 22835)

34. BIG FLAT MOUNTAIN. 38°11'N 78°43'W

Center: On Pasture Fence Mountain in Albemarle County.

Compiler: Charles Stevens (615 Preston Pl., Charlottesville, VA 22903)

35. ROCKINGHAM COUNTY. 38°26'N 79°02'W

Center: Ottobine in Rockingham County.

Compiler: Max Carpenter (Rt. 1, Box 396, Dayton, VA 22821)

36. HIGHLAND COUNTY. 38°21'N 79°37'W

Center: Near Vanderpool Gap in Highland County.

Compiler: Ned Brinkley (108 Cocke Hall, University of Virginia, Charlottesville, VA 22903)

Observers: Ned Brinkley, Lois Burke, W. L. Gutshell, John Irvine, Greg Justice, YuLee Larner, Bev Leeuwenberg, Robert C. Simpson, and Charles Stevens.

37. AUGUSTA COUNTY. 38°12'N 78°59'W

Center: Jct. CR 780 and 781 in Augusta County.

Compiler: John Mehner (1036 Selma Blvd., Staunton, VA 24401)

38. WAYNESBORO. 37°59'N 78°57'W

Center: Sherando at jct. of Rts. 610 and 664 in Augusta County.

Compiler: Crista Cabe (400 Walnut Ave., #2, Waynesboro, VA 22980)

39. LEXINGTON. 37°51'N 79°29'W

Center: Big Spring Pond in Rockbridge County.

Compilers: Robert O. Paxton (460 Riverside Dr., #72, New York, NY 10027) and George Tolley (Rt. 7, Box 25, Lexington, VA 24450)

40. PEAKS OF OTTER. 37°27'N 79°36'W

Center: Peaks of Otter Visitor Center in Bedford County.

Compiler: Barry Kinzie (PO Box 446, Troutville, VA 24175)

Observers: Jim Ayers, Louis Bass, Mike Donahue, James Flynn, Jr., Charles Hansrote, Melva Hansrote, Eunice Hudgins, John Hudgins, Bill Hunley, Barry Kinzie, Mike Smith, Kathy Summers, and Kent Summers.

41. CLIFTON FORGE. 37°49'N 79°46'W

Center: Jct. Rts. 42 and 60 in Alleghany County.

Compiler: Allen LeHew (76 Allegheny, Clifton Forge, VA 24422)

42. FINCASTLE. 37°31'N 79°52'W

Center: North of Fincastle near jct. of Rts. 220 and 679 in Botetourt County.

Compiler: Barry Kinzie (PO Box 446, Troutville, VA 24175)

43. ROANOKE 37°18'N 79°56'W

Center: Oakland Blvd. and Williamson Road in Roanoke.

Compilers: Peggy Spiegel (159 Lewis Ave., Salem, VA 24153) and Michael Donahue (4814 Bandy Rd. SE, Apt. 4, Roanoke, VA 24014)

Observers: Jim Ayers, Drake Caldwell, Gary Carter, Linda Cory, Fred Cramer, John Cutler, Marshall Daniels, J. B. Docol, Mike Donahue, Rob Dunnington, Tad Finnell, Jim Flynn, David Holt, Joyce Holt, Eunice Hudgins, John Hudgins, Bill Hunley, Deborah Hunley, Richard Kelly, Tina Kemper, Susan Kidd, Barry Kinzie, Norwood Middleton, Bill Opengari, Kim Phillips, Mike Purdy, Mike Smith, Peggy Spiegel, Kathy Summers, and Kent Summers.

44. BLACKSBURG. 37°14'N 80°25'W

Center: Jct. Rts. 685 and 657 near Linkous Store in Montgomery County.

Compiler: Clyde Kessler (PO Box 3612, Radford, VA 24143)

45. CLAYTOR LAKE 37°03'N 80°44'W

Center: Jct. Rt. 611 and Norfolk & Southern Railroad in Pulaski County.

Compiler: Clyde Kessler, (PO Box 3612, Radford, VA 24143)

Observers: Mary Ann Bentley, Stan Bentley, Kelly Brennan, Ken Cooper, John Coyle, Linda Coyle, Larry Crane, Tom DeBusk, Clyde Kessler, Susie Leslif, Linda Myers, Mary Ratliff, Shane Ratliff, and Blair Spillman.

46. TAZEWEEL. 37°08'N 81°30'W

Center: Fourway in Tazewell County.

Compiler: Sarah Cromer (Box 765, North Tazewell, VA 24630)

47. GLADE SPRING. 36°47'N 81°47'W

Center: Jct. Rts. 750 and 609 in Glade Spring.

Compiler: Ed Morgan (259 Bardley St., Abingdon, VA 24210)

Observers: Wallace Coffey, Mrs. Wallace Coffey, Dan Graybeal, Ron Harrington, Diane Harris, Warren Harris, Dan Kegley, Rick Knight, Geoff Larsen, Ed Morgan, Peter Morgan, and Randy Smith.

48. BRISTOL. 36°36'N 82°07'W

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

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

Observers: Rob Biller, Ron Carico, Wallace Coffey, Jane Fleenor, Pat Galliher, John Gibson, Martha Gibson, Bert Hale, Ken Hale, Loraine Hale, Ron Harrington, Lloyd Jones, Rick Knight, Geoff Larsen, Phillip Lewis, Richard Lewis, Larry McDaniel, Karen Quesenberry, John Shumate, Lori Shumate, and Ramsey White.

49. NICKELSVILLE. 36°45'N 82°25'W

Center: Nickelsville in Scott County.

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

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

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

Center: 4.5 miles northeast of Haysi in Buchanan County.

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

51. WISE COUNTY 36°57'N 82°39'W

Center: At Dorchester in Norton City.

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

INFORMATION FOR CONTRIBUTORS

The Raven, the official journal of the Virginia Society of Ornithology (VSO), functions to publish original contributions and review articles in ornithology, not published elsewhere, mostly relating to Virginia birdlife. Manuscripts should be sent to the editor (D. H. Shedd, Department of Biology, Randolph-Macon Woman's College, Lynchburg, Virginia 24503, 804-947-8493, dshedd@main.rmwc.edu).

Most manuscripts published in *The Raven* concern the distribution, abundance, and migration of birds in Virginia. Manuscripts on other ornithological topics, such as Virginia-based historical reviews, bibliographical reviews, life history notes, and behavioral observations are also welcomed. In addition, the journal serves to publish the official proceedings of the VSO and other formal items pertaining to all aspects of the Society's activities. *The Raven* may also publish articles pertaining to the activities of VSO chapters and the various public and private organizations engaged in biological and conservation work in Virginia.

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The 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 twice yearly, containing articles about Virginia ornithology, as well as news of the activities of the Society and its chapters.

4. A newsletter, published quarterly, containing current news items of interest to members and information about upcoming events and pertinent conservation issues.

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

Editorial queries and comments may be directed to Douglas H. Shedd, Department of Biology, Randolph-Macon Woman's College, Lynchburg, Virginia 24503.

OFFICERS OF THE VSO

President: Ruth Beck, P.O. Box 270, Barhamsville, Virginia 23011-0270

Vice President: Thelma Dalmas, 520 Rainbow Forest Drive, Lynchburg, Virginia 24502

Secretary: Mary Arginteanu, 3320 Landria Drive, Richmond, Virginia 23225

Treasurer: Barbara Sue Thrasher, 120 Woodbine Drive, Lynchburg, Virginia 24502

Raven Editor: Douglas H. Shedd, Department of Biology, Randolph-Macon Woman's College, Lynchburg, Virginia 24503

Associate Editor: Ronald D. Gettinger, Department of Biology, Randolph-Macon Woman's College, Lynchburg, Virginia 24503

Raven Editor Emeritus: F.R. Scott, 404 Beechwood Drive, Richmond, Virginia 23229

Newsletter Editor: Bettye J. Fields, 39 Culpepper Avenue, Newport News, Virginia 23606

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Editor
Douglas H. Shedd

Associate Editor
Ronald D. Gettinger

Editorial Assistant
Barbara L. Shedd

Editor Emeritus
F.R. Scott



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POPULATION EXPANSION BY DOUBLE-CRESTED CORMORANTS IN VIRGINIA

BRYAN D. WATTS

DANA S. BRADSHAW

*Center for Conservation Biology
College of William and Mary
Williamsburg, Virginia 23185*

INTRODUCTION

Over the past century, breeding populations of Double-crested Cormorants (*Phalacrocorax auritus*) have experienced dramatic fluctuations in status and distribution (Johnsgard 1993). All-time low numbers were reached in the late 1800's when the species was absent from large regions of North America. Throughout the early 1900's, selected populations showed gradual recoveries. However, these populations appear to have reached a plateau by the mid 1940's (coincident with the widespread application of persistent pesticides). Beginning in the early 1970's, populations have undergone rapid recoveries and the breeding range has expanded beyond historic boundaries (Hatch 1984). Along the Atlantic Coast, first breeding records were reported throughout the 1980's and 1990's for South Carolina (Post and Post 1988), North Carolina (LeGrand 1985), Maryland (Armistead 1990), and New Jersey (Paxton et al. 1990).

In Virginia, breeding of Double-crested Cormorants was first documented in 1978 (Scott 1978). This breeding record followed a dramatic increase in the number of birds reported during both winter and summer over the preceding decade. Two other breeding attempts had been documented at the same location by the mid 1980's (Armistead 1985). Since 1985, the breeding population has become established and increased rapidly in coastal Virginia. The purpose of this paper is to: (1) document the expansion of the breeding population of Double-crested Cormorants in Virginia, and (2) to describe the diversity of nesting situations currently used by the species in the state.

METHODS

All known colonies of Double-crested Cormorants in Virginia were visited 1-4 times throughout the breeding seasons 1985-1993, to estimate population size. Ground or boat counts were made of all active nests for each colony. Counts were made between 15 May and 15 July (maximum count per year is reported here). Counts were made in association with other field work, however, so the survey

date was not standardized between colonies or seasons.

A systematic survey of the state for new colonies was conducted for all colonial waterbirds in the coastal plain of Virginia during the 1993 breeding season (Watts and Byrd unpub. data). All major waterways and their tributaries between the Atlantic Ocean and the fall line were overflowed systematically and searched for bird colonies. Two new cormorant colonies were located as a result of these surveys. Both colonies were visited subsequently on the ground to assess more accurately the number of active nests.

Table 1: Results of surveys of known Double-crested Cormorant colonies. Numbers indicate active nests.

Colony	Year										
	85	86	87	88	89	90	91	92	93	94	95
Hopewell	8	12	15	42	NS ^a	120	125	190	180	200	210
Newport News						14	26	55	141	145	153
Keenan Marsh									27	16	0
Cheeseman Island									6	16	34
Chincoteague Bay											5
Yearly Total	8	12	15	42	NS ^a	134	151	245	354	377	402

^aNo survey conducted.

RESULTS

The number of Double-crested Cormorants known to breed in Virginia increased over the 11-year period from 1 breeding pair in 1985 to over 400 pairs in 1995 (Table 1). Overall, the period of greatest population expansion occurred in the late 1980's when the population was just becoming established. Most colonies grew rapidly in the years following detection with the exception of the Keenan Marsh colony. This colony is relatively close to the Hopewell colony and has declined since its detection in 1993. Growth of the Hopewell and James River Bridge colonies has slowed in recent years. The number of known breeding sites increased over the study period from 1 in 1985 to 5 in 1995. Breeding was apparently confined to the James River until 1993. Even by 1995, more than 90% of the known state population remained on the James River.

Over the study period, we found Double-crested Cormorants nesting on a wide range of substrates from sandy beaches to electrical transmission towers. No two colony sites were similar in substrate type. Cormorants nested in association with other species of colonial waterbirds including: Cattle Egrets (*Bubulcus ibis*), Great Egrets (*Casmerodius albus*), Great Blue Herons (*Ardea*

herodias), Green Herons (*Butorides striatus*), and Brown Pelicans (*Pelecanus occidentalis*). Below is a brief description of known breeding sites.

Hopewell: This site is located on a small island of deciduous trees that colonized two submerged wooden barges in the middle of the James River (Charles City County). The islands are surrounded on all sides by wide expanses of water. Trees are primarily American sycamore (*Platanus* sp.), hackberry (*Celtis* sp.), and black willow (*Salix*). Vegetation on both barges covers <0.5 ha each. This was the site of the first breeding record for the state and has been occupied each year since 1985. Nests are built primarily on dead trees that have been killed by droppings from large numbers of nesting egrets. Cattle Egrets, Great Egrets, and Green Herons also nest on the islands.

Newport News: This site is located on a group of electrical transmission towers in the middle of the James River (Newport News City). Towers are isolated from shore by a wide expanse of water. Cormorants build nests within the metal infrastructure of the towers and on available catwalks. Most nests are between 30 and 60 m above the water. Upon detection in 1990 nests were confined to a single tower, but by 1993 the colony had spread to two additional towers. Towers are shared with a small number of Osprey (*Pandion haliaetus*) pairs.

Keenan Marsh: This site is located within a stand of Bald Cypress trees on the James River (Prince George County). The trees are along the edge of an extensive forested wetland and are scattered and isolated in shallow water. This location has been occupied by a moderate size colony of Great Blue Herons for several years and supports an unusually high density of Osprey nests. Cormorant nests were intermixed with those of Great Blue Herons in large trees that have sustained damage from heron droppings.

Cheeseman Island: This site is located on a small, non-forested island in the Chesapeake Bay just north of Tangier Island (Accomack County). The island is dynamic and has been reshaped several times in recent years by winter storms. Cormorant nests have been built within a small patch of open, sandy beach interspersed with grassy dunes. Nests were placed on the ground within a colony of Brown Pelicans. In 1993, when the colony was first detected, all nests were built on top of existing pelican nests.

Chincoteague Bay: This site is located on a duck blind in Chincoteague Bay (Accomack County). The blind is one of several isolated from the shoreline by an expanse of water. Nests were built on top of the blind and supported by wooden framing. This colony represents the first breeding record for the Eastern Shore of Virginia.

DISCUSSION

The population of Double-crested Cormorants in Virginia has increased dramatically since breeding was first documented in 1978. Over this time period, nonbreeding birds have also increased in both numbers and distribution. Large numbers may now be seen year-round along the Chesapeake Bay shoreline, particularly in association with the mouths of major tributaries. Likewise, nonbreeding birds associated with the seaside of the Eastern Shore have increased dramatically in recent years. As many as 10-15,000 individuals now spend the summer within the barrier island/lagoon system (Watts pers. obs.).

Cormorants have rapidly become the most common fish-eating birds in numerous tidal areas. Given the number of nonbreeding birds now spending the summer in Virginia, further population expansion seems likely.

Cormorants in Virginia have adapted to a wide range of substrates for nesting. All known colony sites, although occurring in distinctly different situations, have one characteristic in common. All colonies occur on structures that are isolated from the mainland and its associated mammalian predators. The availability of "predator free" structures may ultimately serve to limit the breeding population. Isolated structures with suitable nesting substrate should be monitored to document future colonization events.

ACKNOWLEDGMENTS

We thank M. A. Byrd for providing information on the Hopewell colony during 1985 and 1986. G. Costanzo made us aware of the colony on Cheeseman Island in 1993 and provided survey data for the colony in 1994 and 1995. M. Erwin, B. Baker, and B. Eyler provided ground survey information for the Chincoteague Bay colony.

LITERATURE CITED

Armistead, H. T.

1985. Middle Atlantic Coast Region. *Amer. Birds* 39:895-898.

1990. Middle Atlantic Coast Region. *Amer. Birds* 44:1120-1123.

Hatch, J. J.

1984. Rapid increase of Double-crested Cormorants nesting in southern New England. *Amer. Birds* 38:984-988.

Johnsgard, P. A.

1993. *Cormorants, Darters, and Pelicans of the world*. Smithsonian Press, Washington, D. C.

LeGrand, H. E., Jr.

1985. Southern Atlantic Coast Region. *Amer. Birds* 39:899-902.

Paxton, R. O., W. J. Boyde, Jr., and D. A. Cutler.

1990. Hudson-Delaware Region. *Amer. Birds* 44: 1116-1120.

Post, W. and C. A. Post.

1988. Double-crested Cormorant nesting in South Carolina. *Chat* 52:34-35.

Scott, F. R.

1978. Middle Atlantic Coast Region. *Amer. Birds* 32:988-991.

THE 1995 BEACH-NESTING AND COLONIAL WATERBIRD SURVEY OF THE VIRGINIA BARRIER ISLANDS

BILL WILLIAMS

154 Lakewood Drive
Williamsburg, Virginia 23185

BILL AKERS

3265 Laurel Drive
Blacksburg, Virginia 24060

MICHAEL AND RUTH BECK

P.O. Box 270
Barhamsville, Virginia 23011

JERRY VIA

3265 Laurel Drive
Blacksburg, VA 24060

The twenty-first consecutive annual beach-nesting and colonial waterbird survey, encompassing all of Virginia's Atlantic barrier islands from Assawoman Island (Accomack County) on the north, through Fishermans Island (Northampton County) on the south, was completed 18-21 June 1995. Methods for this survey follow those described in Williams et al. (1990). The following is a summary of the 1995 survey.

In general, the breeding season of 1995 was stable meteorologically. However, the period of 11-13 June, witnessed persistent northeast winds coupled with a full-moon tide that produced some beach flooding. Also, from early July through early August, a record for consecutive days $\geq 90^{\circ}\text{F}$ was established, and there was little or no rainfall. To what extent this may have affected reproductive efforts of colonial and/or beach-nesting bird species is unknown.

One of the most remarkable finds of the survey was the nest (with no eggs) of a pair of White Pelicans (*Pelecanus erythrorhynchos*) on 18 June on Fishermans Island. Jim Wood (pers. comm.) of the Eastern Shore of Virginia National Wildlife Refuge reported the pair had been on-site at least a week prior to our discovery. The nest was located on the southeast periphery of the Brown Pelican (*Pelecanus occidentalis*)/Herring Gull (*Larus argentatus*) colony on the northeast corner of the island. The structure was a shallow platform of dead herbaceous

wrack placed atop a sand dune ridge and was, for the most part, isolated by 2-3 m from Brown Pelican nests. The single White Pelican, in attendance the day of our survey work, was more readily flushed than the Brown Pelicans, most of the latter having hatching or downy young. The nest was subsequently abandoned and no eggs were found. At least one White Pelican has been found on 14 of the last 15 surveys, but this White Pelican nest is the first recorded in Virginia.

The number of nesting Brown Pelicans (1986), all on Fishermans Island, increased by 56 birds over the 1994 total of 930, a 6% increase (Appendix 1). Within the colony we recorded 19 one-egg nests, 176 two-egg nests, 108 three-egg nests and 573 downy young outside-the-nest. In the same vicinity on Fishermans Island, 3,231 Royal Terns (*Sterna maxima*), 8 Sandwich Terns (*S. sandvicensis*), 14 Common Terns (*S. hirundo*), 3,935 Laughing Gulls (*L. atricilla*), 462 Herring Gulls and 23 Great Black-backed Gulls (*L. marinus*) were recorded.

Unlike what was found on previous surveys, there was nesting stage inconsistency among the heron, ibis, and egret colonies. Typically the colonies we locate during the survey period are dominated by large fledglings and feathered pre-fledglings. This season the mixed heron, ibis, egret colony on the east side of Fishermans Island near U.S. Route 13 contained many nest eggs or recently hatched, downy young, putting the site's nesting stage 3-4 weeks behind that of other sites.

The number of Great Blue Herons (*Ardea herodias*) increased by 15% over 1994 (Williams et al. 1995) from 22 to 26. The 552 Great Egrets (*Casmerodius albus*) recorded is the fourth highest total in survey history and continues a three-year increase for this species. However, such was not the case for several other long-legged wader species. Snowy Egret (*Egretta thula*) and Tricolored Heron (*Egretta tricolor*) counts, 156 and 164 respectively, were the lowest in survey history. Black-crowned Night Heron (*Nycticorax nycticorax*) and Glossy Ibis (*Plegadis falcinellus*) numbers, 199 and 194 respectively, were the second lowest tallies for these species. Unprecedented was the complete absence of Green Herons (*Butorides striatus*), a species regularly found in small numbers annually. The three Yellow-crowned Night Herons (*Nycticorax violacea*) ties an all-time low established in 1992 (Williams et al. 1993). The nine White Ibis (*Eudocimus alba*) seen on Fishermans Island is the survey's second highest count, the previous high being 12 in 1991 (Williams et al. 1992).

Wilson's (*Charadrius wilsonia*) and Piping Plovers (*C. melodus*) continued four-year trends of increasing numbers. The Wilson's Plover count (70) was the second highest for the longitudinal survey. The Piping Plover count (174) was an all-time high. These increases reflect utilization of apparently optimal habitat on Assawoman, Metompkin and Cedar Islands (Accomack County). Extensive beach overwash areas abutting *Spartina alterniflora* marshes have been storm-created on these islands over several years. These three islands accounted for 86% of the Wilson's Plovers and 89% of the Piping Plovers recorded.

Another solitary beach-nesting species, the American Oystercatcher (*Haematopus palliatus*), continued a five-year decline. The survey's tally of 561 was the lowest since a concerted effort to count this species was initiated in 1979.

Among the gull species, Herring and Great Black-backed counts remained relatively stable, compared to previous years. However, Laughing Gull numbers reached an all-time low, continuing a four-year decline on the barrier islands. All

of the breeding birds of this species were located on Fishermans Island. The absence of nesting Laughing Gulls on Wreck Island, where a dense colony has existed since at least 1975, may be due to Herring and Great Black-backed gull encroachment coupled with dune succession. The Herring Gulls we encounter on the barrier islands seem to choose sandy mounds and dune ridges near low shrub or herbaceous vegetation. Laughing Gulls on the barrier islands tend to locate nests in dune swale densely covered with *Spartina patens*. Such habitat has been reduced on Wreck Island due to a combination of successional and weather-related physiography changes. Herring Gulls have increased on Wreck Island from 6 in 1976 (Williams et al. 1990) to almost 600 in 1995.

Gull-billed Terns (*Sterna nilotica*) increased by 11.5% over 1994 (Williams et al. 1995) from 364 to 406. Royal and Sandwich Tern numbers remained stable. However, this season's 3,646 Common Terns was the third lowest count recorded and the 404 Least Terns (*S. antillarum*) was an all-time low, eclipsing the mark of 407 set in 1979 (Williams et al. 1990).

Black Skimmer (*Rynchops niger*) numbers increased for the first time since 1989 (Williams 1990). It is worth noting that 73% of the survey totals come from two shoal islands, Little Cobb Island and an extension of Cedar Island, the latter accounting for 44% of the birds counted. Again this year, there was little evidence of successful hatching.

Our 1994 (Williams et al. 1995) report noted a possible Little Blue Heron (*Egretta caerulea*) X Snowy Egret hybrid. A similar bird was found again this season on Wreck Island. Careful, lengthy observations determined the individual was a calico-plumaged Little Blue Heron. It was attending a nest in a mixed heronry though a confirmed mate was not seen. Also present and attending a nest was another Little Blue Heron which was uniformly a very pale pastel blue. Its worn plumage made it look a dirty grayish white. The same bird, or another of the same color, was seen on Ship Shoal Island the same day 20 June.

Other notable observations included: a single adult, breeding-plumaged male Snowy Plover (*Charadrius alexandrinus nivosus*) observed on Cedar Island (19 and 21 June) (see Williams et al., this issue); single Wilson's Storm Petrels (*Oceanites oceanicus*) off Smith Island (20 June) and Parramore Island (21 June); a Greater Shearwater (*Puffinus gravis*) bathing in the surf on Fishermans Island (18 June); a single Cedar Waxwing (*Bombycilla cedrorum*) on Fishermans Island (18 June); and a single Red-breasted Merganser (*Mergus serrator*) near Metompkin Island (20 June). Black Scoters (*Melanitta nigra*) were noted in several locations, including 18 off Metompkin Island and 2 off Assawoman Island (20 June) and 8 near Rogue Island (19 June).

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access to portions of Fishermans Island, further access being arranged by Sherman Stairs, Manager of the Eastern Shore of Virginia National Wildlife Refuge.

LITERATURE CITED

Williams, B.

1990. A summary of the 1989 survey of the colonial waterbirds of the Virginia barrier islands. *Raven* 61:2.

Williams, B., R. A. Beck, B. Akers, and J. W. Via.

1990. Longitudinal surveys of the beach-nesting and colonial waterbirds of the Virginia barrier islands. *Virginia J. Sci.* 41:4A.

Williams, B., B. Akers, R. Beck., J. Via, and S. Rottenborn.

1992. The 1991 Virginia barrier islands beach-nesting and colonial waterbirds survey. *Raven* 63:2.

Williams, B., B. Akers, R. Beck, and J. Via.

1993. The 1992 colonial and beach-nesting waterbird survey of the Virginia barrier islands. *Raven* 65:2.

Williams, B., B. Akers, M. Beck, R. Beck, and J. Via.

1995. A summary of the 1994 beach-nesting and colonial waterbird survey of the Virginia barrier islands. *Raven* 66:1.

APPENDIX 1

1995 Virginia Barrier Islands Colonial and Beach-nesting Waterbirds Survey-Total Number of Adults
June 18-21

[illegible]

ANNUAL PLOVER SURVEY OF THE VIRGINIA BARRIER ISLANDS: A TEN YEAR SUMMARY

BRYAN D. WATTS

DANA S. BRADSHAW

*Center for Conservation Biology
College of William & Mary
Williamsburg, Virginia 23185*

ROBERT R. CROSS

*Virginia Department of Game & Inland Fisheries
P.O. Box 11104
Richmond, Virginia 23230-1104*

INTRODUCTION

Piping (*Charadrius melodus*) and Wilson's (*C. wilsonia*) Plovers are migratory shorebirds that breed on isolated beaches and sandflats. The Piping Plover is endemic to North America, breeding on the upper Atlantic coast, in the Great Lakes region, and on the Great Plains (Haig and Oring 1985; Haig 1992). Although the species breeds along the Atlantic coast south of the Carolinas, breeding birds in Virginia comprise the most significant southern population. The Wilson's Plover currently breeds in coastal areas of the Americas from Virginia to Brazil, from Baja California to Peru, and within the West Indies (Johnsgard 1981).

Currently, Piping Plover populations in Canada and in the Great Lakes region are considered endangered (Haig 1985), and populations on the Atlantic coast and Great Plains are considered threatened (U.S. Fish and Wildlife Service 1985). This species underwent a dramatic decline near the turn of the century due to unregulated market hunting (Bent 1929). Protective legislation resulted in a reversal of this trend since 1945 (Tate 1981). Atlantic coast populations continue to be threatened by habitat loss, human disturbance, and predation. Because Wilson's Plovers require the same open-beach habitat, they have experienced similar threats. In 1989, the Wilson's Plover was recommended for the status of endangered in the state of Virginia (Williams 1991).

Virginia and North Carolina are the only areas of sympatry for Piping and Wilson's Plovers during the breeding season (Bergstrom and Terwilliger 1987). In Virginia, both Piping and Wilson's Plovers nest, almost exclusively, on the Virginia Barrier Islands. In the summer of 1986, in cooperation with the International Piping Plover Census (Haig and Plissner 1993), the Virginia Department of

Game and Inland Fisheries coordinated a survey of the Virginia Barrier Islands for Piping Plovers. This survey has been repeated for each of the past 10 years. In 1989, Wilson's Plovers were added to the survey and have been included every year since. This paper presents an overview of survey results.

METHODS

Surveys were conducted within the chain of barrier islands along the seaward margin of the Delmarva Peninsula. This shoreline contains the most pristine chain of barriers remaining along the Atlantic coast. The survey covered the primary barrier islands including: Fishermans, Smith, Myrtle, Ship Shoal, Wreck, Cobb, Hog, Parramore, Cedar, Metompkin, Assawoman, Wallops, and Assateague (to the Virginia/Maryland border). The survey also covered Little Cobb Island and Cedar Sandbar, two minor barriers.

The abundance and distribution of breeding plovers was determined for each island by teams of 2-3 observers. All open beach and back dune areas were systematically searched once during the first two weeks of June each year. This search period was chosen based on assumptions about the average period of highest breeding activity for the mid-Atlantic region. Observers walked the length of the islands and initially located birds visually or by alarm calls. Detected birds were then observed for an adequate length of time to determine pairing and breeding status. Bird locations were plotted as accurately as possible on 7.5 min topographic maps from 1986 - 1990 and on recent aerial photographs from 1991 - 1995. Data reported here reflect the number of breeding pairs detected per year by island. Pairs were considered breeding if: (1) they showed evidence of territorial behavior, (2) an active nest was found, or (3) adults were observed attending chicks. Single birds were detected in most years but are not included here in population estimates.

It should be noted that survey techniques for Assateague Island differed from that of the other islands. Because of ongoing plover research at Chincoteague National Wildlife Refuge, plover breeding was monitored over the entire breeding season by refuge staff, rather than a single early-June survey as outlined above. Pairs reported for this area represent a composite estimate based on the entire breeding season.

In order to compare the relative occupancy of islands, shoreline length was measured for each island using a single set of natural color (1:12,000 scale) aerial photographs. Photographs were obtained from 1985 flights. Although the islands have changed over the 10-yr period, we believe that the change in relative lengths is minor in comparison to their overall lengths (such that a single set of aerial photographs is adequate).

For data analysis, the relative lengths of the islands were used to generate an expected distribution of pairs. This expected distribution was then compared with the observed using the chi-square (X^2) statistic.

RESULTS

A total of 1,047 Piping Plover pairs and 279 Wilson's Plover pairs were detected over the 10-yr study period. Many of these observations may have been of the same birds among different years. The total Piping Plover population varied between 95 and 120 pairs with an annual mean of 104.7 ± 9.30 (SD) (Table 1). The Wilson's Plover population varied between 30 and 49 pairs with a mean of 39.9 ± 6.77 (SD) (Table 2). No indication of any systematic population change was evident over the study period. The highest annual population decline was between 1991 and 1992 for both species (20% and 40% for Piping and Wilson's, respectively). This decline is likely related to the dramatic change in the island complex resulting from the winter storms of 1991/1992.

Table 1. Summary of Piping Plover pairs detected during annual census by year and island. Density is expressed as birds/km/yr X 10

Island	Year										Total	Mean \pm SD	Density
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995			
Fishermans	0	0	2	2	1	1	1	0	0	0	7	0.7 \pm 0.78	1.11
Smith	6	6	6	3	3	1	2	4	8	9	48	4.8 \pm 2.48	4.57
Myrtle	6	5	9	10	7	6	7	9	3	8	70	7.0 \pm 2.00	16.91
Ship Shoal	0	0	2	1	1	0	2	1	1	2	10	1.0 \pm 2.42	2.42
Wreck	0	0	0	0	0	1	0	2	1	4	8	0.8 \pm 1.25	1.42
Little Cobb	0	0	0	0	0	0	0	0	0	2	2	0.2 \pm 0.60	1.33
Cobb	11	7	4	4	5	11	5	4	2	0	53	5.3 \pm 3.35	6.23
Hog	6	3	6	3	4	7	6	1	2	0	38	3.8 \pm 2.27	3.37
Parramore	0	0	1	0	0	0	0	0	1	0	2	0.2 \pm 0.40	0.17
Cedar	6	3	4	5	5	9	4	12	13	17	78	7.8 \pm 4.49	8.37
Cedar Sandbar	0	3	5	1	3	0	0	0	0	1	13	1.3 \pm 1.68	8.67
Metompkin	30	16	25	46	40	39	25	28	24	29	302	30.2 \pm 8.51	35.53
Assawoman	3	4	5	4	6	2	6	10	16	11	67	6.7 \pm 4.12	13.96
Wallops	0	2	5	0	0	5	2	3	1	3	21	2.1 \pm 1.81	2.31
Assateague	30	46	30	32	42	38	36	27	25	23	329	32.9 \pm 7.09	15.74
Total	98	95	98	116	117	120	96	101	97	109	1047	104.7 \pm 9.30	8.87

Although both plover species were distributed along the length of the island chain, neither species used islands as expected (expected distribution of pairs calculated using the relative lengths of islands as a null model) based on the length of available beach ($X^2 > 100$, $p < 0.01$ for both species). Over the ten-year period, both species were concentrated on the more northerly islands. Four of these islands including Cedar, Metompkin, Assawoman and Assateague supported 75% of all Piping Plovers. Similarly, Cedar, Metompkin, Assawoman, and Wallops supported over 78% of all Wilson's Plovers. The primary difference in survey results between the species is in the occupation of Assateague. Assateague supported over 30% of all Piping Plover pairs but less than 2% of all Wilson's.

Table 2. Summary of Wilson's Plover pairs detected during annual census by year and island. Density is expressed as birds/km/yr X 10

Island	Year							Total	Mean \pm SD	Density
	1989	1990	1991	1992	1993	1994	1995			
Fishermans	0	0	0	0	0	0	0	0	0	0
Smith	0	0	0	1	0	0	0	1	0.1 \pm 0.35	0.14
Myrtle	2	2	5	0	4	2	1	16	2.3 \pm 1.67	5.52
Ship Shoal	3	4	5	1	0	1	2	16	2.3 \pm 1.67	5.52
Wreck	0	1	2	0	0	2	3	8	1.1 \pm 1.12	2.03
Little Cobb	0	0	0	0	0	0	0	0	0	0
Cobb	1	1	6	2	2	0	0	12	1.7 \pm 1.91	2.01
Hog	1	1	0	0	0	1	0	3	0.4 \pm 0.49	0.38
Parramore	0	0	0	0	0	0	0	0	0	0
Cedar	5	7	9	13	10	9	17	70	10.0 \pm 3.93	10.73
Cedar Sandbar	0	0	0	0	0	0	0	0	0	0
Metompkin	16	13	14	5	7	7	8	70	10.0 \pm 3.93	11.73
Assawoman	4	1	4	6	11	11	15	52	7.4 \pm 4.62	15.48
Wallops	3	6	3	2	9	2	2	27	3.9 \pm 2.47	4.30
Assateague	0	0	1	0	0	2	1	4	0.6 \pm 0.73	0.27
Total	35	36	49	30	43	37	49	279	39.9 \pm 6.77	3.47

DISCUSSION

Between 1986 and 1995 the Virginia Barrier Islands supported an apparently stable population of both Piping and Wilson's Plovers. This result supports previous reports from surveys of individual plovers conducted in combination with the annual colonial waterbird survey of the islands (Williams et al. 1987). The Piping Plover population in Virginia is one of the most substantial in eastern North America, accounting for 17.1% of the U.S. Atlantic coast population and 5.4% of the estimated global population (numbers based on the 1991 international survey, Haig and Plissner 1993). On average, Piping Plover pairs on the barrier islands have accounted for greater than 95% of the total Virginia population with Grandview Beach and Craney Island supporting the balance (R. Beck unpubl. data). No range-wide estimates of Wilson's Plovers are available, but the species is more abundant farther south. The barrier island population represents more than 99% of Virginia's population; there are only occasional observations of the species elsewhere during the breeding season.

Plover densities were not uniform along the length of the island chain. The distribution of both species reflects the distribution of favorable breeding habitat. For nesting, both plover species require wide, open beaches with sparse vegetation (Bent 1929; Haig 1992) close to profitable foraging areas. Along the barrier islands, habitat patches of this type are formed by dune overwash. Overwash surfaces are the result of extreme surge tides that breach primary dunes and deposit sand over back dune and marsh areas (Fisher and Simpson 1979). These

habitat patches are typically ephemeral because dune recovery and plant succession are rapid. Over the ten-year period, a considerable portion of this habitat was located on the northern islands. This is reflected by the consistently higher density of birds within this region. Population trends on individual islands (Table 1) reflect the spatio-temporal dynamics of habitat availability along the island chain.

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LITERATURE CITED

- Bent, A. C.
1929. Life histories of North American shore birds. *Part 2. U.S. Natl. Mus. Bull.* 146.
- Bergstrom, P. and K. Terwilliger.
1987. Nest sites and aggressive behavior of Piping and Wilson's Plovers in Virginia: some preliminary results. *Wader Study Group Bulletin* 50:35-39.
- Fisher, J. J. and E. J. Simpson.
1979. Washover and tidal sedimentation rates as environmental factors in development of a transgressive barrier shoreline. Pp. 23-37 in: *Barrier Islands: from the Gulf of St. Lawrence to the Gulf of Mexico* (S. P. Leatherman, ed.). Academic Press, NY.
- Haig, S. M.
1985. *The status of the Piping Plover in Canada.* Natl. Mus. Can., Ottawa, Ontario.
1992. Piping Plover. Pp. 1-22 in: *The Birds of North America*, No. 2 (A. Poole, P. Settenheim, and F. Gill, eds.). Philadelphia: The Academy of Natural Sciences: Washington, DC: The American Ornithologists' Union.

_____ and L. W. Oring.

1985. Distribution and status of the Piping Plover throughout the annual cycle. *J. Field Ornithol.* 56:334-345.

_____ and J. H. Plissner.

1993. Distribution and abundance of Piping Plovers: results and implications of the 1991 international census. *Condor* 95:145-156.

Johnsgard, P.

1981. *The plovers, sandpipers, and snipes of the world*. Univ. Nebraska Press, Lincoln, Nebraska.

Tate, T.

1981. The blue list for 1981. *Am. Birds* 35:3-10.

U.S. Fish and Wildlife Service.

1985. Determination of endangered and threatened status for the Piping Plover. *Federal Register* 50(238):50720-50734.

Williams, J. W.

1991. Wilson's Plover. Pp. 502-504 in: *Virginia's endangered species* (K. Terwilliger ed.), McDonald and Woodward Publ. Co., Blacksburg, Virginia.

_____, J. W. Akers, R. A. Beck, K. Terwilliger, and J. W. Via.

1987. The Piping Plover on the Eastern Shore of Virginia. *Virginia J. Sci.* 38:337-341.

WINTER ABUNDANCE OF SOME FINCHES IN VIRGINIA: 1965-1993

CHARLES R. BLEM

KRISTINE M. VANDENBERG

Department of Biology
Virginia Commonwealth University
816 Park Avenue
Richmond, Virginia 23284-2012

INTRODUCTION

Some finches that commonly winter in Virginia, such as the Evening Grosbeak (*Coccothraustes vespertinus*), Purple Finch (*Carpodacus purpureus*), and Pine Siskin (*Carduelis pinus*) display striking variations in abundance from winter to winter. The nature of these periodic invasions deserves analysis to determine if weather is influential (Root 1988a). Furthermore, we believe that two other common wintering finches, the White-throated Sparrow (*Zonotrichia albicollis*) and Rufous-sided Towhee (*Pipilo erythrophthalmus*), are decreasing in abundance in Virginia in a manner suggestive of progressive changes in response to systematic environmental change, or changes in reproduction or survival (e.g., Root 1993). In the present study, we examine Christmas Bird Count data for these species over the past three decades and specifically ask: (1) Are the winter counts of these birds changing significantly? (2) Are abundances of these species correlated? and (3) Do annual differences in weather affect abundance of these species?

METHODS

We recorded counts of Evening Grosbeaks, Purple Finches, Pine Siskins, White-throated Sparrows, and Rufous-sided Towhees from all Virginia Christmas Bird Counts from 1965 through 1993 (*Raven*; volumes 36-65; *American Birds*; volumes 21-50). All counts were divided among three geographic regions (coastal plain, piedmont, and mountain; Butcher 1990, Blem 1995). Data analyses follow Butcher (1990), Butcher and McCulloch (1990), and Blem (1995). We analyzed raw regional counts for correlations between number of birds and number of counts and/or party-hours in the count. Because party-hours were significantly correlated with raw counts in all instances, all counts were corrected (standardized) to 100 party-hours (Butcher and McCulloch 1980; Bock and Root 1981; Blem 1995).

We tested for effects of ambient temperature on counts standardized to 100-party-hour efforts by use of regression analyses. Mean October, November, and December temperatures and mean low temperatures for those months were included as independent variables, and we tested their effects on bird abundance by Proc GLM (SAS Institute 1990).

RESULTS

Virginia Christmas counts of Purple Finches, Pine Siskins, and Evening Grosbeaks are highly irregular and peak numbers occur sporadically (Figure 1). High counts are indicative of "invasion" years in which unusually large numbers of each species appear in Virginia. Although the variation that accompanies these irregular invasions tends to obscure long-term trends, there are detectable declines in statewide grosbeak and siskin counts over the study period (Table 1). Much of the siskin decline seems to be correlated with decreased numbers of these species on the coastal plain, but grosbeaks seem to be declining everywhere. Although Purple Finch counts decline significantly over the past 15 years, there is no statistically significant trend over the entire data set. White-throated Sparrow counts have declined markedly on the coastal plain and in statewide totals (Table 1; Figure 2). When one considers only the past 15 years of data, sparrow numbers are decreasing rapidly (slope = -24.5; $P < 0.0001$). Towhees have declined significantly in the coastal plain, mountains, and statewide.

Table 1. Slopes of equations for change in bird counts vs time.^a

Species	Coastal plain	Piedmont	Mountains	State
Purple Finch	-1.0	-2.1	-0.8	-1.0
Pine Siskin	-4.3**	0.7	0.8	-2.1*
Evening Grosbeak	-2.6*	-2.9*	-3.1*	-2.7*
White-throated Sparrow	-20.2***	10.6	2.5	-10.4***
Rufous-sided Towhee	-3.1***	0.1	-0.4*	-2.1***

^aCounts standardized to 100 party-hours (Butcher and McCulloch 1990; Blem 1995)

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

When corrected for party-hours, the total numbers of grosbeaks statewide were significantly correlated ($P < 0.05$) with total siskin counts ($r = 0.65$), and Purple Finch abundance was correlated significantly ($P < 0.05$) with White-throated Sparrow counts ($r = 0.43$). On the coastal plain, Purple Finch counts

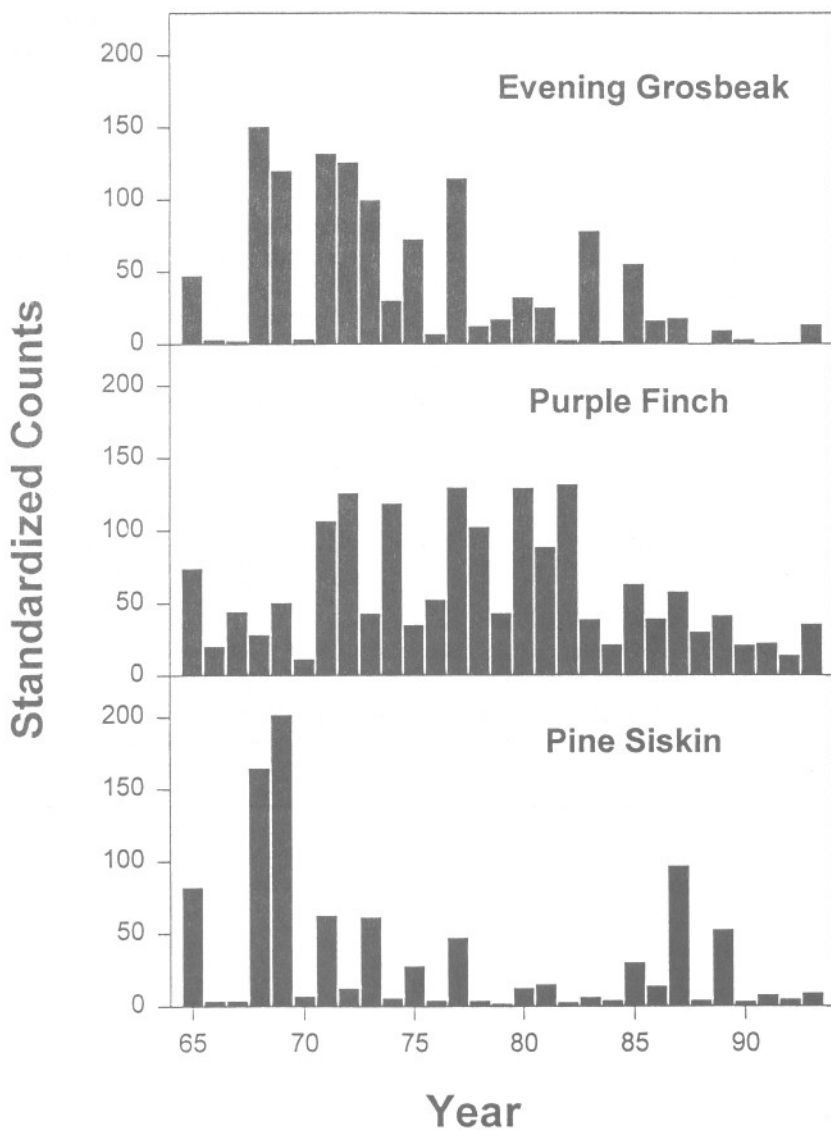


FIGURE 1. Virginia Christmas bird counts standardized to 100 party-hours effort (Butcher and McCulloch 1990) for Evening Grosbeaks (*Coccothraustes vespertinus*), Purple Finches (*Carpodacus purpureus*), and Pine Siskins (*Carduelis pinus*), 1965-1993.

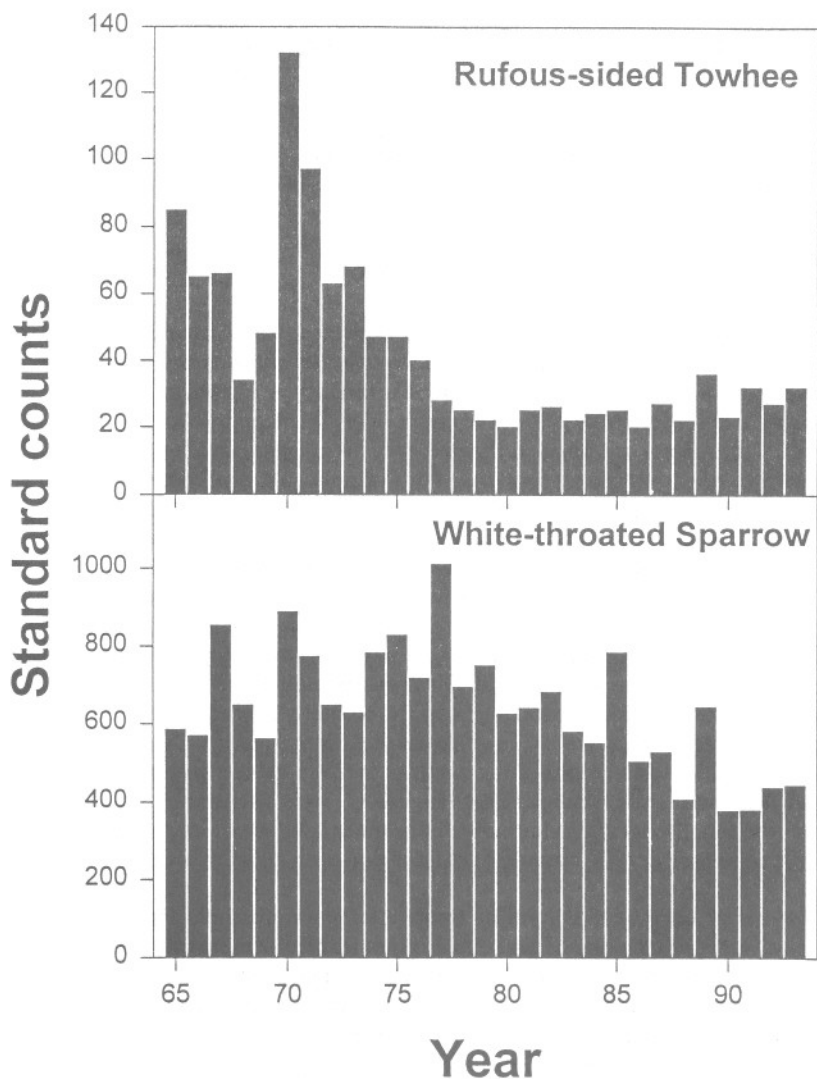


FIGURE 2. Virginia Christmas bird counts standardized to 100 party-hours effort (Butcher and McCulloch 1990) for White-throated Sparrows (*Zonotrichia albicollis*) and Rufous-sided Towhees (*Pipilo erythrophthalmus*), 1965-1993. (Note the difference in scales of the count axes for the two species.)

were correlated significantly ($P < 0.05$) with counts of White-throated Sparrows ($r = 0.39$), Rufous-sided Towhees were correlated significantly ($P < 0.05$) with White-throated Sparrows ($r = 0.65$), and Evening Grosbeaks with Pine Siskins ($r = 0.68$; $P < 0.05$). There were no significant correlations between abundances of any species on the piedmont or in the mountains.

We found no significant effect on any count that could be attributed to average winter December temperature, winter temperature computed as several combinations of October, November, December averages and lows, or precipitation.

DISCUSSION

Christmas Bird Count data should be used with extreme caution. Numbers of rare, local species are difficult to analyze statistically, but censuses of common birds spread evenly across the state can be informative. However, they must be standardized for total party-hours of count effort (Bock and Root 1981). Handled properly, these data can be good indicators of abundance, and can provide insight into nonscientific perceptions. For example, in the winters of 1973-1975 (Blem unpubl. data), I studied White-throated Sparrows and Rufous-sided Towhees at several sites in the Richmond area. The species were relatively common and we easily captured and banded dozens of birds. Today, at these same sites, we can find only a few individuals. We also contend that White-throated Sparrows, while not rare, have become noticeably less common at bird feeders in some areas. The present analyses support the hypothesis that White-throated Sparrows and Rufous-sided Towhees actually have become less abundant in recent years, particularly on the coastal plain, and that they may be decreasing statewide as well. The cause of this decrease is not clear. There are several possible explanations of the declines of these species and in siskins, grosbeaks, and Purple Finches. These include: (1) real decreases due to habitat fragmentation, (2) decreases because of Brown-headed Cowbird (*Molothrus ater*) brood parasitism, and (3) apparent declines due to shifts of wintering grounds (Root 1993).

There is strong evidence that low ambient temperature limits distribution of avian winter visitors in the United States. Root (1988b) demonstrated a close correlation between average minimum January temperatures and limits of wintering ranges of many birds. Subsequent analyses suggest that these ranges could shift with change in global temperature (Root 1993). The present study does not support Root's suggestions, since we were unable to find significant effects of temperature and precipitation on corrected counts. Absence of correlation of abundance with winter temperature in the species studied here suggests that climate has little effect on finch abundance in Virginia in general. Given the lack of significant effect of winter temperature on finch populations, it appears that the decline in these species may be real rather than a shift in wintering grounds. This hypothesis needs much more analysis. Although the decline of Neotropical migrant species in the eastern United States is well documented (Sauer and Droege 1989), there has been little suggestion of a similar trend in Nearctic species wintering in southern United States. The present analyses suggest that we should be sensitive to further changes in the abundance of these birds.

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LITERATURE CITED

- Blem, C.
1995. Winter abundance of vultures in Virginia: 1965-1993. *Raven* 66:83-86.
- Bock, C. R. and T. L. Root
1981. The Christmas bird count and avian ecology. Pp. 17-23 in: C. J. Ralph and J. M. Scott (eds.). *Estimating number of terrestrial birds*. Stud. Avian Biol. 6.
- Butcher, G. S.
1990. Audubon Christmas bird counts. *U.S. Dept. Interior Biol. Report* 90:5-13.
- Butcher, G. S. and C. E. McCulloch
1990. Influence of observer effort on the number of individual birds recorded on Christmas bird counts. *U.S. Dept. Interior Biol. Report* 90:120-129.
- Root, T. L.
1988a. *Atlas of wintering North American birds*. Univ. Chicago Press, Chicago, Illinois.
- Root, T. L.
1988b. Energy constraints on avian distributions and abundances. *Ecology* 69:330-339.
- Root, T. L.
1993. Effects of global climate change on North American birds and their communities. Pp. 280-292 in: *Biotic interactions and global change* (P. M. Kareiva, J. G. Kingsolver, and R. B. Huey, eds.). Sinauer Assoc., Inc. Sunderland, Massachusetts.
- Sauer, J. R. and S. Droege.
1989. Geographic patterns in population trends of Neotropical migrants in North America. Pp. 26-42 in: *Ecology and conservation of Neotropical migrant landbirds* (J. M. Hagan III and D. W. Johnston, eds.). Smithsonian Institution Press, Washington, D.C.
- Statistical Analysis System.
1990. *SYS/STAT User's Guide*. Version 6, Fourth Edition. Cary, North Carolina.

THE FIRST VIRGINIA RECORD OF THE SNOWY PLOVER

BILL WILLIAMS

154 Lakewood Drive
Williamsburg, Virginia 23185

BILL AKERS

3265 Laurel Drive
Blacksburg, Virginia 24060

RUTH AND MICHAEL BECK

P. O. Box 270
Barhamsville, Virginia 23011

JERRY VIA

3265 Laurel Drive
Blacksburg, Virginia 24060

BARRY TRUITT

Virginia Coast Reserve
Brownsville
Nassawadox, Virginia 23413

A regular component of the annual colonial and beach-nesting waterbirds survey of the Virginia barrier islands is the careful search for, and documentation of, breeding Wilson's (*Charadrius wilsonia*) and Piping (*C. melodus*) Plovers. On 19 June 1995, Akers observed a small plover on Cedar Island (Accomack County), which he initially surmised was a young Piping Plover associating with its two nearby parents. Upon closer observation, however, the bird was determined to be about 10% smaller than the Piping Plovers and to have a short, narrow, black bill and blackish-gray legs. Eventually Akers, R. Beck and Via were able to gather field identification information leading them to conclude they were observing a male Snowy Plover (*C. alexandrinus*). In addition to the black bill and legs, it had a black eye with a post-ocular black line extending posteriorly only to the middle of the head. This line was narrower than the eye orbit at the eye, increasing slightly in width as it extended posteriorly. The forecrown had a narrow black bar that extended posteriorly above the eye. The forehead, face, throat, breast, flanks, and belly to the undertail were white, broken at the shoulder by a distinctive narrow black bar that extended towards, but not onto the throat or

breast. The crown, back of the head, mantle, and wing color were a chalky, whitish-tan. A white collar around the nape of the neck was readily apparent. When the plover flew, its white-tan tail was bisected by a brownish inverted "T" through its center. An indistinct whitish line could be seen at the base of the wing secondaries. The narrowness of the bird's bill made it seem deceptively long when first observed. Closer observation dispelled this impression. All of these features are typical of a male Snowy Plover.

The bird was heard vocalizing both in flight and on the ground. The flight call was described (Akers) as a high, thin *pee-ert* which is consistent with descriptions of Snowy Plover vocalizations in Bent (1929) and Hayman et al. (1986). On-ground notes (Via) sounded like a high, thin, melodious *will's widow* not unlike the *pee-wee-ahor o-wee-ah* F. M. Weston described (In Bent 1929; Chapman 1930).

We all located the plover again and observed it closely at the same site on 21 June and it was videotaped (Akers) and photographed (Via) at close range. The plover was observed for approximately 20 minutes in the presence of at least two Piping Plovers. It actively defended portions of the beach, aggressively rushing and threatening the Piping Plovers, by proximity and upright body-posturing. It was very active during the observation period responding less to the presence of the observers than the locations of the Piping Plovers. At one point it was seen to move to, and settle down in, a depression which may have been a nest scrape. The scrape was not marked in any way by survey markers from Plover Survey team work, as other plover nests found on the island were, thus this scrape may have been constructed by the Snowy Plover.

At no time during the initial sighting or the follow-up observation were any Wilson's Plovers seen in the immediate vicinity, though several pairs were found on other areas of the island.

There are a number of characteristics that confirm this bird's identification as a Snowy Plover, clearly distinguishing it from Piping, Wilson's and Semipalmated (*C. semipalmatus*) Plovers. Of the four small plover species likely to be seen on the beach in the eastern United States in summer, only the Snowy and Piping Plovers have whitish-tan tails, wings, and head colors set against a white face, throat, breast, and underbelly. The Snowy Plover is the only one of these species that has blackish legs and is the only one that has the combination of blackish legs and black bill. One can further rule out a Semipalmated Plover as a possibility due the Semipalmated's darker brown head, face, wing, and tail, presence of a full black throat necklace, orange black-tipped bill, and orange legs. The black bill of the Wilson's Plover is much longer in proportion to the width of the head than the bill of the bird in question and a Wilson's Plover, even one recently fledged, is larger by 20% than this plover. None of the noted vocalizations were those of either Wilson's or Piping Plover, at least in the considerable experience of the observers. The black forecrown marking of the Piping Plover is not only more pronounced than that of the observed bird, but proceeds across the crown from eye to eye, rather than posteriorly to produce a white line between the bar and the eye as was the case with this plover. The tail of the Piping Plover is uniformly brownish with an indistinct, though noticeable, white rump and does not show a dark central inverted "T." Behaviorally this plover held itself more parallel to the ground than Piping Plovers do. Its spindly-legged appearance and comparatively slender body gave it a very dainty quality.

Hayman et al. (1986) recognizes six races of *C. alexandrinus*, two of which, *nivosus* (USA and Caribbean) and *occidentalis* (Peru and Chile), are collectively known as "Snowy Plover". The other four are Palearctic races known as "Kentish Plover." The adult male of the Snowy races differs from that of the Kentish races by being shorter-legged, having all white lores, no reddish cap, and being much paler.

This documentation provides the first record of this species for Virginia, a first for the Region, and only the 4th report for the East Coast n. of Florida, all of which have occurred since 1992 (Cliff 1996).

[Editor's note: This record was accepted by the Virginia Avian Records Committee and becomes the first State record for this species.]

LITERATURE CITED

Bent, A. C.

1929. Life histories of North American shore birds. *Part 2. U. S. Natl. Mus. Bull.* 146.

Chapman, F. M.

1930. *Handbook of birds of eastern North America*. New York: D. Appleton & co.

Hayman, P., J. Marchant, and T. Prater.

1986. *Shorebirds: An identification guide*. Houghton Mifflin, Boston.

Iliff, M.

1996. Summer season: Middle Atlantic Coast Region. *Audubon Society Field Notes*. 49: 5.

GRAY KINGBIRD NEAR KIPTOPEKE STATE PARK, NORTHAMPTON COUNTY, VIRGINIA

BILL WILLIAMS

154 Lakewood Drive

Williamsburg, Virginia 23185

At 1635 hours on 12 November 1994, I found a "kingbird" perched on the telephone wires above Arlington Road just north of the entrance gate to Kiptopeke State Park (Northampton County) Virginia. Stopping to view the bird through binoculars at a distance of about 20 m, I made the following observations. The individual had no readily apparent distinctive color markings, but its black bill was noticeably large and flat; bill length was about half that of the width of the head. The combination of the bill's width and length made the bird look large-headed. Its head was somewhat crested. The bird was uniformly light brown from the face, just below the eye, across the crown and top of the head, to the neck, mantle, wings, and tail. The brown of the face from the base of the bill to behind the black eye was markedly darker than elsewhere on the body. Ventrally, the bird was a grayish white from just below the eye, through the throat and flanks, to the undertail coverts. The tail was slightly forked and appeared to be less than half the length of the body. The scapular feathers and secondaries were edged with buff.

It was evident this was not a Western Kingbird (*Tyrannus verticalis*), Tropical Kingbird (*Tyrannus melancholicus*), or Couch's Kingbird (*Tyrannus couchii*) since it had no yellow on its underside and no gray in its body color. It also was not one of the *Myiarchus* flycatchers since no rufous could be seen on either the wings or the tail. Its body was much more compact and robust than either the Western or Eastern Kingbird (*Tyrannus tyrannus*), neither of which have a forked tail or a large, wide, flat bill. Further, it could not have been an Eastern Kingbird because the tail was not white tipped and the overall upper body color was not black or dark gray.

The bird actively sallied forth from the wires. Between sallies it sat somewhat erect and alert with wings held below the tail. This posture made it look like the tail was slightly cocked upward. Apparent insect captures were marked by very loud bill snapping, otherwise no sounds were made. In flight, the bird was quite agile and aggressive. I was struck by its overall compactness as it flew. The wings and tail seemed "short" compared to the thick, rounded body and large head.

I surmised the bird was probably an immature Gray Kingbird (*T. dominicensis*). Checking my notes and drawings against a National Geographic Field Guide confirmed this.

I observed the kingbird for at least 20 min at distances as close as 5 m. It was

constantly attended by 2-3 Yellow-rumped Warblers (*Dendroica coronata*) which chased it during many of its sallies, at one point driving it across the road to the top of a large deciduous tree where it perched at the tip for less than a minute before returning to the wires. By 1700 hours the bird had disappeared.

What was probably the same bird was seen the next day by several observers and definitively photographed at close range by Ned Brinkley.

This documentation brings the total number of Gray Kingbird reports for the state to five. All records have been from the immediate coast. The initial record was from Chincoteague, 2 July 1977, followed on May 18, 1978, by a bird photographed on the Chesapeake Bay Bridge Tunnel. The third and fourth records were from observations at Chincoteague on 2 October 1984 (Kain 1987), and on 24 September 1994 (Brinkley 1995).

LITERATURE CITED

[Editor's note: This record was accepted by the Virginia Avian Records Committee and becomes the fifth State record for this species.]

Brinkley, E. S.

1995. Virginia annual list report for 1994, with an overview of the past 22 years. *VSO Newsletter* 41(4): 5-16.

Kain, T (ed).

1987. Virginia's Birdlife: An annotated checklist. *Virginia Avifauna* No. 3 VSO.

1996 REPORT OF THE VIRGINIA AVIAN RECORDS COMMITTEE

TETA KAIN, VARCOM CHAIRMAN

7083 Caffee Creek Lane

Gloucester, VA 23061

During the past year the records committee held one meeting and resolved several issues which will affect the Virginia bird checklist and the way records are processed. The first item of business was to clarify some terms. The committee shall now be known as the Virginia Avian Records Committee and its official acronym is VARCOM. Documentation received by the committee will be designated as a "submission" until it has been accepted by VARCOM. Accepted submissions will be termed "records" to help clarify the status of documentation in our files.

Members voted to make the following changes to the Virginia bird checklist. Instead of placing birds on an accidental or hypothetical list, species will now be classified by the following categories:

- Category 1: Any bird that has occurred in Virginia and has been accepted as a wild bird by VARCOM on the basis of a photo, specimen, audio or video recording, or band (in cases where proof of identification is irrefutable).
- Category 2: Sight records without physical evidence, but for which there is written documentation accepted by VARCOM.
- Category 3: Identity established by VARCOM, but whose origin is uncertain.
- Category 4: Any extinct bird that occurred at some time in Virginia and for which there is physical or written evidence.

New checklists reflecting these changes are now being prepared and will be available soon.

Committee members also voted to decrease the number of voting members from nine to seven. Terms in office will be increased from three to four years on the following rotational schedule: two nominees will be appointed for each of three years and one nominee appointed for the fourth year. The committee will be pared down to seven members starting in 1997.

The numbers of votes required to accept or reject submissions during the evaluation process was adjusted as follows:

- (1) A submission shall be accepted on any round of voting if every eligible member votes to accept.
- (2) A submission shall be rejected on any round of voting if four or more members vote to reject.
- (3) Any other result shall require a submission to be recirculated to all voting members.
- (4) A submission shall be rejected if there are still two or more votes to reject after three rounds of voting.

Other changes affecting committee business are as follows:

- (1) Committee members may not abstain from voting on any record.
- (2) Comments by voting members are required on all first round votes and on any subsequent round on which a member changes his/her vote.
- (3) Submissions will be reviewed in the order submitted. Eligible submissions will not be held from review unless further evidence is forthcoming.

All of these changes are reflected in the VARCOM by-laws which were revised and accepted by the VSO Board in August 1996.

The 1996 VARCOM members, elected by the VSO board at its November 1995 meeting are:

Non-voting members:

Chairman: Teta Kain (one-year term)

Secretary-compiler: Charlotte Friend (one-year term)

Voting-members:

Three-year term: John Bazuin, Bob Cross, Bill Williams

Two-year term: David Abbott, Ned Brinkley, Grayson Pearce

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

There have been three additions and three deletions to the Virginia checklist since the last VARCOM report appeared in *The Raven* 66:95-99, so the total remains at 422. The species added to the list are Snowy Plover (*Charadrius alexandrinus*), Common Murre (*Uria aalge*), and Hoary Redpoll (*Carduelis hornemanni*). Those species removed from the list are Ivory Gull (*Pagophila eburnea*), Boreal Owl (*Aegolius funereus*), and Cassin's Kingbird (*Tyrannus vociferans*).

The following is a summary of records evaluated by VARCOM from 1 August 1995, through 31 July 1996:

ACCEPTED RECORDS:

(The name of the original observer is in italicized parentheses. The names of others submitting documentation appear in brackets.)

BAND-RUMPED STORM-PETREL (*Oceanodroma castro*). One bird was seen off the coast on 14 August 1988. Although this bird represents the second accepted state and Coastal Plain records, it was the first bird of this species seen in Virginia. {Ned Brinkley}.

ROSS'S GOOSE (*Chen rossii*). A bird at Chincoteague NWR, Accomack County, was photographed on 6 December 1994. It becomes the fifth state and fifth Coastal Plain record. {Ned Brinkley}.

BLACK SCOTER (*Melanitta nigra*). One individual discovered on Beaverdam Reservoir in Loudoun County on 15 October 1994, is the fifth Piedmont record. {David Abbott} [Valerie Kitchens, Matt O'Donnell].

FERRUGINOUS HAWK (*Buteo regalis*). Photographs were obtained and many observers saw this bird at Eastern Shore NWR, Northampton County (11 January - 6 March 1995). Chronologically, it is the second state and first Coastal Plain record, but a previous record of this species in Washington County in 1973 is under evaluation by VARCOM. Whether the Northampton County sighting is the first or second state record will not be known until the results of Washington County review have been completed. {Don Schwab} [Ned Brinkley, Martha Woods, Francis Woods].

SNOWY PLOVER (*Charadrius alexandrinus*). One individual was photographed and videotaped on Cedar Island, Accomack County, 19-25 June 1995. It becomes the first state and first Coastal Plain record. {Bill Williams, Jerry Via}.

LITTLE GULL (*Larus minutus*). One bird was photographed at Dulles Airport, Loudoun County on 3 April 1995. It is the first Piedmont record. {David Abbott} [Val Kitchens].

CALIFORNIA GULL (*Larus californicus*). An individual at Fort Story on 3 January 1992, becomes the fourth Coastal Plain record. {Ned Brinkley}.

COMMON MURRE (*Uria aalge*). A bird photographed 50 miles east of Cape Henry on 13 February 1994, becomes the first state and first Coastal Plain record. {Brian Patteson}.

WESTERN/PACIFIC SLOPE FLYCATCHER (*Empidonax difficilis*). Even though photographs were obtained, one individual at Eastern Shore NWR, Northampton County, 12-28 November 1993, could be identified only as Western Flycatcher, sp. {Michael O'Brien} [Ned Brinkley].

VERMILION FLYCATCHER (*Pyrocephalus rubinus*). One bird photographed at Woodbridge, Prince William County, from 13 December 1994 to 1 January 1995, becomes the second state and first Piedmont record. {James Waggener} [Erika Wilson, Valerie Kitchens, Michael Reyman (photo), Ken Hollinga (photos)].

GRAY KINGBIRD (*Tyrannus dominicensis*). A bird photographed at Chincoteague NWR, Accomack County, 24 September 1994, becomes the fourth Coastal Plain record. {Martha Woods} [Frances Woods (photos)].

GRAY KINGBIRD (*Tyrannus dominicensis*). One individual at Kiptopeke, Northampton County, 12-13 November 1994, became the fifth Coastal Plain record. {Bill Williams} [Ned Brinkley (photo)].

BEWICK'S WREN (*Thryomanes bewickii*). One individual at Riverbend Park in Fairfax County on 9 and 12 October 1995. {Larry Cartwright} [D. B. Stewart, David Abbott]. (Because this species is becoming so rare, VARCOM prefers to evaluate all observations.)

NORTHERN SHRIKE (*Lanius excubitor*). A bird at Lucketts, Loudoun County, 9 November 1994 to 10 March 1995, becomes the fourth Piedmont record. {George Wheaton} [Erika Wilson, Steve Cordle, Valerie Kitchens].

NORTHERN SHRIKE (*Lanius excubitor*). Another individual found at a different location in Loudoun County on 2 February 1995, becomes the fifth Piedmont record. {David Abbott}.

HOARY REDPOLL (*Carduelis hornemanni*). One Highland County bird was found on 26 February 1994. It was seen off and on through 15 March 1994, and photographed, becoming the first state and the first Mountains and Valleys record. {Ned Brinkley} [David Abbott, Brian Patteson (photos), Valerie Kitchens].

UNACCEPTED SUBMISSIONS, identification questionable:

WESTERN GREBE (*Aechmophorus occidentalis*). Some pertinent details were not included about a bird on Lake Shenandoah, Rockingham County, on 1 or 2 January 1995.

REDDISH EGRET (*Egretta rufescens*). Discrepancies about size comparisons with nearby herons and sketchy details about other field marks left doubts about an individual spotted at Crane Island, Portsmouth, on 25 August 1994.

WHITE-FACED IBIS (*Plegadis chihi*). A meager description of a bird seen under very poor viewing conditions at Back Bay NWR, Virginia Beach, on 16 August 1995.

GREATER WHITE-FRONTED GOOSE (*Anser albifrons*). Reviewers felt that this goose, seen 2 miles west of Round Hill, Frederick County, during the Northern Shenandoah Christmas Bird Count on 2 January 1995, was most likely a hybrid.

WHITE-TAILED KITE (*Elanus leucurus*). A very brief view of a bird flying over Riverbend Park, Fairfax County, on 20 September 1992, did not provide sufficient details.

SWAINSON'S HAWK (*Buteo swainsoni*). Sketchy details written sometime after the sighting, plus weak support by other observers, left doubts about the identification of a raptor flying over Rockfish Gap, Augusta County, on 9 September 1992.

SWAINSON'S HAWK (*Buteo swainsoni*). Field marks of a bird at Rockfish Gap, Augusta County, on 5 September 1994 did not suitably describe the plumage of an immature Swainson's Hawk.

IVORY GULL (*Pagophila eburnea*). Size-comparisons and field marks inconsistent with an Ivory Gull led reviewers to reject previously unviewed documentation for a 29 October 1980, sighting on Lake Anna. The species is removed from the Virginia checklist.

BOREAL OWL (*Aegolius funereus*). An old, previously unreviewed, second-hand account (*Raven* 41:16) of a bird near Skyline Drive, Rappahannock County, 16 January 1970, provided too few details to ascertain positive identification. The species is removed from the Virginia checklist.

SAY'S PHOEBE (*Sayornis saya*). Details about a bird at Caledon Natural Area, King George County on 11 March 1995, were too sketchy for acceptance.

CASSIN'S KINGBIRD (*Tyrannus vociferans*). A report in *The Raven* (49:12) about an individual observed in Fairfax County on 30 August 1976, did not provide sufficient details to separate it from an immature Western Kingbird. The species is removed from the Virginia checklist.

EASTERN KINGBIRD (*Tyrannus tyrannus*). Field marks and behavior describing a bird in Nelson County on 25 February 1995, were not strong enough to rule out the possibility that it could have been a phoebe.

KIRTLAND'S WARBLER (*Dendroica kirtlandii*). Very meager details about an individual in Shenandoah National Park on 16 May 1992, were not enough to determine identification.

SUBMISSIONS NOW UNDER EVALUATION BY VARCOM:

PACIFIC LOON (*Gavia pacifica*). Chesapeake Bay Bridge-Tunnel, 27 November 1993.

PACIFIC LOON (*Gavia pacifica*). Wise Point, Northampton County, 6 December 1994.

WHITE-TAILED TROPICBIRD (*Phaethon lepturus*). Norfolk Canyon, 21 August 1993.

BARROW'S GOLDENEYE (*Bucephala islandica*). Chesapeake Bay Bridge-Tunnel, 29 January 1994.

WESTERN MARSH HARRIER (*Circus aeruginosus*). Chincoteague NWR, Accomack County, 4 December 1994.

MISSISSIPPI KITE (*Ictinia mississippiensis*). Greenville County, 8 June 1991.

SWAINSON'S HAWK (*Buteo swainsoni*). Beaverdam, Loudoun County, 16 October 1995.

- BAR-TAILED GODWIT (*Limosa lapponica*). Chincoteague NWR, Accomack County, 7 September 1991. Written documentation for this sighting has been accepted. Photos taken of the bird are now being evaluated.
- RUFIOUS-NECKED STINT (*Calidris ruficollis*). Craney Island, Portsmouth, 23 July 1994.
- TEMMINCK'S STINT (*Calidris temminckii*). Dyke Marsh, Arlington, 5 October 1974.
- PARASITIC JAEGER (*Stercorarius parasiticus*). Smith Mountain Lake, Franklin County, 5-6 September 1993.
- FRANKLIN'S GULL (*Larus pipixcan*). Assateague Island, Accomack County, 14 March 1995.
- MEW GULL (*Larus c. canus*). Virginia Beach, 29 January 1994.
- THAYER'S GULL (*Larus thayeri*). Henrico County, 16 January 1994.
- THAYER'S GULL (*Larus thayeri*). Chesapeake Bay Bridge-Tunnel, 21 March 1988.
- THAYER'S GULL (*Larus thayeri*). Chesapeake Bay Bridge-Tunnel, 26 December 1994.
- THAYER'S GULL (*Larus thayeri*). Lake Christopher, Virginia Beach, 31 December 1994.
- ICELAND GULL (*Larus glaucoideus*). Henrico County, 22 January 1994.
- BURROWING OWL (*Speotyto cunicularia*). Fishermans Island NWR, Northampton County, 11 January 1994.
- RUFIOUS/ALLEN'S HUMMINGBIRD (*Selasphorus, sp.*). Bowling Green, Caroline County, 14 January and 13 February 1996.
- RUFIOUS HUMMINGBIRD (*Selasphorus rufus*). Chesapeake, 18 October 1995.
- SCISSOR-TAILED FLYCATCHER (*Tyrannus forficata*). Nottoway County, 2 June 1993.
- BEWICK'S WREN (*Thryomanes bewickii*). Chesapeake Bay Bridge-Tunnel, 8 May 1994.
- NORTHERN WHEATEAR (*Oenanthe oenanthe*). Kiptopeke State Park, Northampton County, 15 October 1995.
- KIRTLAND'S WARBLER (*Dendroica kirtlandii*). Hog Island Wildlife Management Area, Surry County, 24 September 1995.
- SUMMER TANAGER (*Piranga rubra*). Nokesville, Prince William County, 29 December 1993.
- PAINTED BUNTING (*Passerina ciris*). Manakin Water and Sewage Treatment Plant, Goochland, Goochland County, 18 May 1994.
- WHITE-WINGED JUNCO (*Junco hyemalis*). James City County, 8 January 1996.
- SMITH'S LONGSPUR (*Calcarius pictus*). Winchester, 24 November 1995.
- BOBOLINK (*Dolichonyx oryzivorus*). Nesting near Groseclose, Smyth County, 29 May, 3-6 June and 9 June 1995.

FORTIETH SUPPLEMENT TO THE A.O.U. CHECK-LIST: CHANGES AFFECTING THE VIRGINIA BIRD LIST

TETA KAIN, VARCOM CHAIRMAN

7083 Caffee Creek Lane
Gloucester, Virginia 23061

Changes to the A.O.U. Check-list (A.O.U. 1995; DeBenedictis 1996) that affect the Virginia bird list are as follows:

- (1) The scientific name of **Great Egret** is changed to *Ardea alba*.
- (2) The English name of *Elanoides forficatus* is changed from **American Swallow-tailed Kite** to **Swallow-tailed Kite**.
- (3) The scientific name of **American Golden Plover** is corrected to *Pluvialis dominicus*.
- (4) The English name of *Calidris ruficollis* is changed from **Rufous-necked Stint** to **Red-necked Stint**.
- (5) The English name of *Larus ridibundus* is shortened from **English Black-headed Gull** to **Black-headed Gull**.
- (6) **Bicknell's Thrush** (*Catharus bicknelli*) and **Gray-cheeked Thrush** (*Catharus minimus*) were judged to be separate species.
- (7) **Spotted Towhee** (*Pipilo maculatus*) and **Eastern Towhee** (*Pipilo erythrophthalmus*), previously considered a single species, the **Rufous-sided Towhee**, are judged to be separate species.
- (8) **Saltmarsh Sharp-tailed Sparrow** (*Ammodramus caudacutus*) and **Nelson's Sharp-tailed Sparrow** (*Ammodramus nelsoni*), previously considered a single species, the **Sharp-tailed Sparrow**, are judged to be separate species.
- (9) **Baltimore Oriole** (*Icterus galbula*) and **Bullock's Oriole** (*Icterus bullockii*), previously considered a single species, the **Northern Oriole**, are judged to be separate species.

LITERATURE CITED

American Ornithologists' Union

1995. Fortieth supplement to the American Ornithologist's Union Check-list of North American Birds. *Auk* 112:819-830.

DeBenedictis, P. A.

1996. Fortieth supplement to the A.O.U. Checklist; Gleanings from the technical literature. *Birding* 28(3):228-231.

SHORT COMMUNICATIONS

This section will appear on an occasional basis, and is for the publication of short notes relating to previous articles which have appeared in *The Raven*, or other items of interest to *The Raven* readership.

Albinistic Blue Jay (*Cyanocitta cristata*), in Lynchburg, Virginia. An unusual albinistic Blue Jay was first observed on 7 January 1996, at the bird feeder of B. and D. Shedd, and photographed on that date (Fig. 1). The head and upper body of the bird was pearly gray, while the lower body, wings, and tail were



Fig. 1. Albinistic Blue Jay (*Cyanocitta cristata*), photographed using a Nikomat 35 mm camera with a 52 mm lens. The bird was photographed on 7 January 1996.

similar to a normal Blue Jay. The bird's coloration was probably the result of imperfect albinism (Taber 1995). The jay was seen frequently during periods of heavy snow in January and February, but was not seen again after the end of February.

LITERATURE CITED

Taber, B.

1995. Examples of abnormal white feathering in Virginia birds. *Raven* 66(2):87-88.

Submitted by Barbara Shedd and Douglas Shedd, 308 Sumpter St., Lynchburg, Virginia 24503.

Unusual perching behavior in a Ruby-throated Hummingbird. After reading an article in *The Raven* concerning the odd behavior of a Ruby-throated Hummingbird (*Archilochus colubris*) (Kain 1996), several individuals contacted the author to report that they, too, had witnessed similar behavior of ruby-throats. The conditions under which the birds were observed varied considerably, but no one was able to give a conclusive reason for that kind of behavior in a hummingbird.

LITERATURE CITED

Kain, T.

1996. Unusual perching behavior of a Ruby-throated Hummingbird. *Raven* 67(1):34-35.

Submitted by Teta Kain, 7083 Caffee Creek Lane, Gloucester, Virginia 23601

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Christmas Counts: Teta Kain, 7083 Caffee Creek Lane, Gloucester, VA 23061

Circulation: Joyce Williams, P.O. Box 95, White Marsh, VA 23183

Conservation: John Bazuin, Jr., 7451 Little River Turnpike, Apt. 202, Annandale, VA 22003

Eastern Shore Birding Festival Liason: Lisa Hamilton, 321 York Avenue, Staunton, VA 24401

Education: Mary Anne Kellam, Box 14 Franktown, VA 23354

Field Trips: J. William Akers, 3265 Laurel Drive, Blacksburg, VA 24060

Kestrel Liason: Brian Taber, 103 Exeter Court, Williamsburg, VA 23185

Legal Counsel: George "Cricket" Barlow, Harrisonburg, VA

Local Chapters: Larry R. Lynch, 9430 Tuxford Road, Richmond, VA 23235

Membership: Thelma Dalmás, 520 Rainbow Forest Drive, Lynchburg, VA 24502

Migratory Birds: John Dillard, 7803 Brentford Drive, Richmond, VA 23225

Murray Award: Claire Mellinger, Eastern Mennonite College, Harrisonburg, VA 22801

Partners in Flight: Fred Crowley, 8320 Uxbridge Court, Springfield, VA 22151-1721

Public Information: Paul Saunier, 1400 Rugby Road, Charlottesville, VA 22903

Publications: David W. Johnston, 5219 Concordia Street, Fairfax, VA 22032

Records Chair: Teta Kain, 7083 Caffee Creek Lane, Gloucester, VA 23061

Records Sec/Com: Charlotte Friend, 6078 North Ninth Street, Arlington, VA 22208

Research: John Dalmás, 520 Rainbow Forest Drive, Lynchburg, VA 24502

LOCAL CHAPTERS OF THE VSO

The list of local chapters, compiled by the VSO Membership Committee (Larry Lynch, Chairman), has been revised to August 1996. The number in parentheses after the chapter name is the approximate number of members in that chapter.

1. Augusta Bird Club (141)
2. Bristol Bird Club (40)
3. Cape Henry Bird Club (450)
4. Clinch Valley Bird Club (20)
5. Cumberland Nature Club (10)
6. Eastern Shore Bird Club (45)
7. Fairfax Audubon Society (5000)
8. Foothills Bird Club, Martinsville (25)
9. Hampton Roads Bird Club (75)
10. Lynchburg Bird Club (200)
11. Margaret H. Watson Bird Club (50)
12. Marion Bird Club (15)
13. Monticello Bird Club (170)
14. New River Valley Bird Club (80)
15. Northern Neck of Virginia Audubon Society (356)
16. Northern Shenandoah Valley Audubon Society (500)
17. Northern Virginia Chapter, VSO (700)
18. Richmond Audubon Society (1350)
19. Roanoke Valley Bird Club (150)
20. Rockbridge Bird Club (30)
21. Rockingham Bird Club (70)
22. Virginia Beach Chapter, National Audubon Society (650)
23. Westmoreland Bird Club (69)
24. Williamsburg Bird Club (120)

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INFORMATION FOR CONTRIBUTORS

The Raven, the official journal of the Virginia Society of Ornithology (VSO), functions to publish original contributions and review articles in ornithology, not published elsewhere, mostly relating to Virginia birdlife. Manuscripts should be sent to the editor (D. H. Shedd, Department of Biology, Randolph-Macon Woman's College, Lynchburg, Virginia, 804-947-8493, dshedd@main.rmwc.edu).

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