

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 \$10.00 for active members, \$15.00 for sustaining members, \$25.00 or more for contributing members, \$250.00 for life members, and \$18.00 for family members (limited to husband, wife and their dependent children).

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JOURNAL OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

EDITOR

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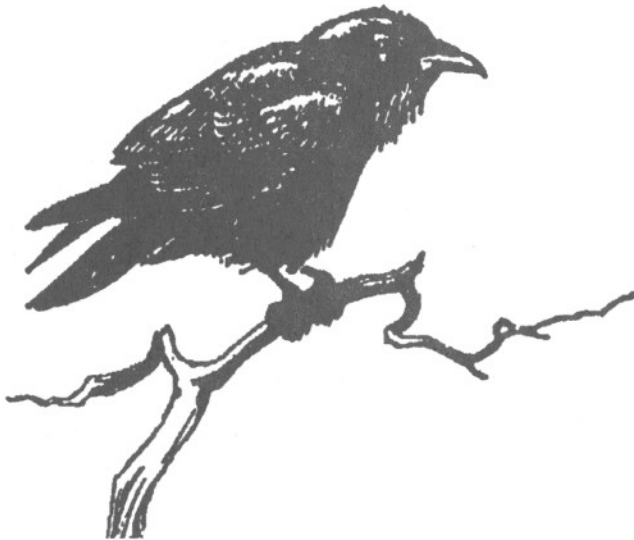
Spring 1994

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THE 1993 TAPPAHANNOCK FORAY

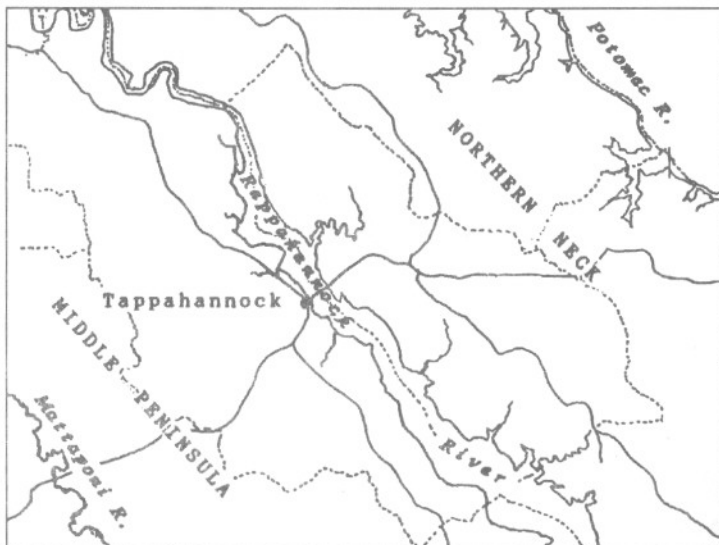
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The Virginia Society of Ornithology's 23rd Breeding Bird Foray was held in Virginia's Northern Coastal Plain from 1 June through 6 June 1993. As usual, the purpose of this foray was to learn as much as possible about the frequency and distribution of the breeding birds of this area, especially the marshes along the Rappahannock River.

The foray area (Fig. 1) included all of Richmond County and most of Essex County, plus portions of Westmoreland, Northumberland, King and Queen, Lancaster, King William, Caroline and Middlesex counties. Headquarters was the Super 8 Motel on US 17/360 just south of the town of Tappahannock, which is at the hub of this approximately 900-square-mile area. The major physiographic feature is the 75-mile segment of the Rappahannock River which bisects the area from its northwest to southeast corners. The area also includes 15-mile segments of both the Potomac and Mattaponi Rivers. The major highways are US 360, which runs from the southwest to northeast corner, and VA 3 and US 17, which parallel the Rappahannock on the north and south sides, respectively.

FIGURE 1. *The 1993 Tappahannock foray area.*



All of the rivers in the area are tidal, ranging from 10 to 50 percent of ocean salinity, but there are numerous tributaries which have large areas of freshwater marsh. The Rappahannock is very brackish in the lower reaches of the foray area, supporting salt

marsh cordgrass (*Spartina alterniflora*) and salt meadow cordgrass (*Spartina patens*) as far upriver as Tappahannock. As salinity decreases, there are extensive stands of the big cordgrass (*Spartina cynosuroides*). Still farther upriver and in the upper reaches of the large creeks, the dominant vegetation is wild rice (*Zizania aquatica*), arrow arum (*Peltandra virginica*), pickerelweed (*Potederia cordata*) and smartweed (*Polygonum* sp.) (Portlock, pers. comm.).

The area overlies tertiary sediments of sand, clay, marl and diatomaceous earth. There are several high bluffs along the rivers where the old shoreline has been eroded and these marine sediments exposed, especially northwest of Tappahannock, but the topography is not otherwise noticeable. This continuing erosion along the old shoreline discourages development and promotes excellent Bald Eagle habitat (Chesapeake Bay Foundation 1992). There is little variety in the native vegetation despite fertile soils in all but the southwestern part of the area. Forests make up about 60 percent of the land area, but pine plantations have replaced most of the original hardwoods. Farmland comprises about 30 percent of the area, and the dominant crops are wheat, corn, and soybeans. Little livestock is raised here, so there are relatively few hayfields or pastures.

The area is not unknown ornithologically. Forays were also held in the Northern Neck, i.e. the land between the Rappahannock and Potomac Rivers, in 1968 and 1969 (Watson 1968, 1969). One of the U.S. Fish & Wildlife's Breeding Bird Surveys (Sharps) has been run continuously since 1967 (Peterjohn, pers. comm.). However, other than the Virginia Atlas Project, there has been virtually no work on the breeding birds of the area south of the Rappahannock River—also known as the Middle Peninsula.

The Northern Neck has a somewhat milder climate, a higher population density, more shoreline, richer farmland, and a generally more diverse habitat than the Middle Peninsula, so it was expected that it would also harbor more species of breeding birds. Results of the foray confirmed this, with 106 presumed breeders found in the Northern Neck versus 95 in the Middle Peninsula. The difference in abundance was even more marked, with the number of individuals per party hour for the Northern Neck about 75 percent higher than the Middle Peninsula.

A total of 133 species was found on the foray, of which 109 were presumed breeders. The remainder was a mixture of summer vagrants and late migrants which are to be expected the first week of June. The Northern Neck Forays, which were held 22-26 May 1968 and 11-15 June 1969, recorded 165 and 119 species respectively (Watson 1968, 1969). These forays were not documented in detail, although many of the more important observations were summarized in another paper (Scott 1969). No evidence of extensive heronries such as those once found along the Potomac (Abbott 1955) was detected.

The procedure followed for this foray was similar to those in the past, with several small parties in the field each day. In an effort to cover this large area as efficiently as possible, foray participants were supplied with maps, tide tables, checklists and a detailed prospectus of the most promising birding sites. In this way, the most productive areas were covered by different parties on successive days, compensating for variables such as weather, time of day, and ability of the observers. The weather was not a significant factor for this foray period, staying cool and sunny except for thunderstorms in the afternoon and evening of June 4 and the early morning of June 5.

Field work was mostly by car, but there were also two full days of coverage by boat of the marshes along the Rappahannock River and its major tributaries. Areas receiving the heaviest coverage included the following:

- (1) ravines along Cat Point, Totuskey, Piscataway, Hoskins and Mount Landing creeks
- (2) Occupacia Creek and Bottoms Neck, accessed by boat and via Essex County Rt. 661
- (3) bluffs along the river, accessed by boat and via various boat landings
- (4) riverfront communities of Naylor's Beach, Sharps, Morattico, Lewisetta and Sandy Point
- (5) large open fields on Cherry Point Neck west of Lewisetta, and near Leedstown
- (6) area around and just west of the town of Tappahannock
- (7) old growth hardwoods along the Mattaponi River, especially Zoar State Forest
- (8) King and Queen Fish Cultural Station
- (9) Belle Isle Farm, which became a state park on 3 June, during the foray.

Twenty-six observers participated during part or all of the foray period, for which 44 daily lists accumulating about 280 party-hours were submitted for the compilation. Because of the probability of overlap with this format, the high counts are the maximum recorded by one party during any one day. A special effort was again mounted to obtain detailed information for any nests (other than Osprey or Bald Eagle) found, including height from ground, the size and species of the tree or shrub or other vegetation in which the nest was found, and when possible, the number of eggs or young.

Most of the expected species were found on the foray as detailed in the annotated list at the end of this paper. Location of many of the targeted marsh species such as Clapper Rail, King Rail and Least Bittern proved to be very difficult, and little could be added to the existing knowledge (Scott 1969). Species looked for but not found included Pied-billed Grebe (*Podilymbus podiceps*), American Black Duck (*Anas rubripes*), Cooper's Hawk (*Accipiter cooperii*), Least Tern (*Sterna antillarum*), Black-billed Cuckoo (*Coccyzus erythrophthalmus*), Barn Owl (*Tyto alba*), Short-eared Owl (*Asio flammeus*), Common Nighthawk (*Chordeiles minor*), Willow Flycatcher (*Empidonax trailii*), Bank Swallow (*Riparia riparia*), Brown-headed Nuthatch (*Sitta pusilla*), Loggerhead Shrike (*Lanius ludovicianus*) and Boat-tailed Grackle (*Quiscalus major*).

Participants identified by last name only in the annotated list included Robert Ake, Mary Arginteanu, Robert Barbee, John Bazuin Jr., Christine Burr, Roger Clapp, John and Thelma Dalmas, John Dillard, Robert Epperson, Charles and Melva Hansrote, Teta Kain, Valerie Kitchens, Lawrence Latane, Norwood Middleton, Dorothy Mitchell, Bill Portlock, Mary Pulley, Mike Purdy, Larry Robinson, Dorothy Silsby, Zelda Silverman, Charles Stevens, Warren Stout, and Joanna Taylor.

Special thanks are extended to Bill Portlock for sharing his knowledge of the area in planning the foray, for piloting his 17-foot whaler through many miles of shallows, marshes, and submerged aquatic vegetation searching for elusive marsh birds, and for the final critique of this paper. Thanks also to Rebecca Wajda of the Virginia Department of Game and Inland Fisheries for providing the latest Virginia Atlas Project data, and to Bruce Peterjohn of the U.S. Fish & Wildlife Service for providing the Sharps Breeding Bird Survey data.

FORAY SPECIES LIST

DOUBLE-CRESTED CORMORANT (*Phalacrocorax auritus*). Uncommon along the Potomac River and occasionally seen along the Rappahannock River, but no evidence of breeding. The high count was 19 birds on 2 June (Hansrotes).

LEAST BITTERN (*Ixobrychus exilis*). Only one report of two birds, both in Richmond County. One was found in the Cat Point Creek marsh near the Rt. 624 bridge, and one was found along McGuire Creek in the large marsh across from Tappahannock by Portlock, Kain and Bazuin. This species is probably more common in this limited habitat than these few records would suggest.

GREAT BLUE HERON (*Ardea herodias*). Common and evenly distributed along all of the streams in the area. The maximum count was the 40 birds seen by Middleton and Purdy on 3 June. Barbee and Stevens found 11 nests in Zoar State Forest, King William County on 2 June. Bazuin saw an adult carrying nesting material near Sharps, Richmond County on 3 June.

GREAT EGRET (*Casmerodius albus*). Three reports. One bird was seen on 2 June flying in the vicinity of the Essex County Landfill (J. Dalmas). Another was seen the same day flying over the Potomac River off Muses Beach, Westmoreland County (Hansrotes). The third was found on 3 June along Nomini Creek at the VA 202 bridge, Westmoreland County (Clapp).

CATTLE EGRET (*Bubulcus ibis*). One report. Four birds were found near Lewisetta, Northumberland County on 5 June (Mitchell, Silsby, Silverman and Burr).

GREEN HERON (*Butorides virescens*). Fairly common, appearing on 30 lists. The high count was 13 birds along the Rappahannock River on 4 June by Portlock, Kain and Bazuin.

YELLOW-CROWNED NIGHT-HERON (*Nyctanassa violacea*). One report. Middleton and Purdy found a single adult bird at Sandy Point, Westmoreland County, on 3 June.

TUNDRA SWAN (*Cygnus columbianus*). A single bird at Judith Sound marsh, Northumberland County, originally found by the Hansrotes on 2 June, was still present as late as 6 June. This was probably an injured bird, as this species is listed as a nonbreeder in Virginia (Kain 1987).

CANADA GOOSE (*Branta canadensis*). This species was quite common in the northwestern part of the foray area, but only a few were recorded elsewhere. Numerous broods of all ages were seen. The high count was 96 birds on 3 June (Clapp). This species has been extending its range southward in many areas of the state, but especially near large wintering areas such as Lands End Wildlife Management Area, a few miles upstream on the Rappahannock.

WOOD DUCK (*Aix sponsa*). Fairly common, appearing on 15 lists with a maximum of 16 birds on 1 June (Hansrotes), including a flock of 13 adults and two young in Essex County near King and Queen Fish Cultural Station. Other breeding records include an adult with two young near Morattico, Lancaster County on 2 June (Ake), four adults and four young off VA 14, King and Queen County on 5 June (Kain and Dillard), and a hen with two young on Mount Landing Creek, Essex County on 5 June (Dalmases).

MALLARD (*Anas platyrhynchos*). Uncommon, appearing on 19 lists with high counts of eight birds on 3 June (Middleton and Purdy) and on 2 June (Hansrotes), the latter including a pair with three young near Lædstown, Westmoreland County. A hen with two small young was found at Singerly, Richmond County on 5 June (Bazuin).

CANVASBACK (*Aythya valisineria*). A single adult male seen by Bazuin and Kain at the mouth of Lancaster Creek, Richmond County on 4 June. This species and the following four species of diving ducks are nonbreeders in Virginia, and are probably vagrants or extremely late migrants (Kain 1987).

LESSER SCAUP (*Aythya affinis*). A single bird seen with the next species on the Rappahannock River off Mulberry Point, Richmond County on 2 June (Portlock and J. Dalmas).

SURF SCOTER (*Melanitta perspicillata*). A single bird seen with the previous species. These birds flushed and flew off to the north when the boat approached to within 50 feet.

RED-BREASTED MERGANSER (*Mergus serrator*). There were three reports, possibly of the same bird. It was reported from the Morattico area, Lancaster County on 2 June by Ake, and by Middleton and Purdy. There was another report of a bird five miles farther upriver at Sharps, Richmond County the following day (J. Dalmas). This species is a relatively frequent summer vagrant.

RUDDY DUCK (*Oxyura jamaicensis*). One report, of a pair seen at McKan's Bay, Middlesex County on 5 June (Arginteanu and Robinson).

BLACK VULTURE (*Coragyps atratus*). Uncommon, appearing on 23 lists with a high count of 19 on 2 June (Portlock and J. Dalmas).

TURKEY VULTURE (*Cathartes aura*). Very common. The high count among the 35 lists was of 64 birds on 2 June (Hansrotes).

OSPREY (*Pandion haliaetus*). Abundant near the water, with nests on virtually every suitable platform or pylon, roof and chimney. The high count was 74 birds along the Rappahannock River on 4 June (Portlock, Kain and Bazuin). This species appears to have re-attained saturation density in this part of the Chesapeake Bay estuary.

MISSISSIPPI KITE (*Ictinia mississippiensis*). On 2 June, Purdy saw an adult flying southeast across a power line cut over Richmond County Rt. 607, just north of Farnham. Almost surely a vagrant, but the habitat would certainly support a further range expansion of this species.

BALD EAGLE (*Haliaeetus leucocephalus*). Very common along the river bluffs northwest of Tappahannock, uncommon to rare elsewhere. Portlock and J. Dalmas found 52 birds, 30 immatures and 22 adults, plus a probable active nest in this area on 2 June. Nests were also found along the Potomac on 3 June (Middleton and Purdy) and 5 June (Latane). Since this species is so carefully monitored, no special effort was made to locate nests.

NORTHERN HARRIER (*Circus cyaneus*). One record. Portlock, Kain and Bazuin found an adult female in the marsh across from Tappahannock, Richmond County, on 4 June. Perhaps the same bird was seen by Portlock in this area the following week.

SHARP-SHINNED HAWK (*Accipiter striatus*). One report by Middleton and Purdy of two birds on 2 June, one of which was seen carrying a bird in its talons. These birds were probably very late migrants, but the possibility of breeding cannot be excluded; this species formerly bred in King and Queen County (Kain 1987).

RED-SHOULDERED HAWK (*Buteo lineatus*). Surprisingly uncommon, with 20 reports. The highest count was the four birds reported from Lancaster County on 2 June (Ake).

BROAD-WINGED HAWK (*Buteo platypterus*). Two reports, both on 5 June. One bird was found in southeastern Essex County (Arginteanu and Robinson), and two birds were reported from Northumberland County (Mitchell et al.). These birds are also presumed to be late migrants, but it is noted that this species has been known to breed in this area (Kain 1987).

RED-TAILED HAWK (*Buteo jamaicensis*). Uncommon but widespread, with 31 reports. Kain and Dillard had the highest one-day count of ten birds in Essex County on 5 June, including one which flew off with a young groundhog (*Marmota monax*) after a confrontation with the adult groundhog and harrasing crows.

AMERICAN KESTREL (*Falco sparverius*). Despite ample habitat, there were only two reports of this species. One bird was found northwest of the foray area near Index, King George County on 5 June (Dalmases). The other report was of a single bird, also in the extreme northwest part of the area, on 6 June (Mitchell et al.). Scott also reported this species to be rare in this area during the breeding season (Scott 1969).

WILD TURKEY (*Meleagris gallopavo*). Apparently thriving in the area considering the 14 reports of this elusive species. The high count was 16 birds, including two adults with 12 chicks near Morattico, Lancaster County on 2 June (Ake). An adult with three young was seen near Emmerton, Richmond County, also on 2 June (Middleton and Purdy), and a hen with four young was seen near Singerly, Richmond County on 5 June (Dalmases).

NORTHERN BOBWHITE (*Colinus virginianus*). Common. The maximum of 33 birds was recorded on the Sharps Breeding Bird Survey on 2 June (Kain and Pulley).

CLAPPER RAIL (*Rallus longirostris*). Only two records, both on 2 June. There was one count of four birds in the marshes around Morattico, Lancaster County (Ake). The only other record was of a single bird in the Judith Sound marsh near Lewisetta, Northumberland County (Stout and Epperson).

KING RAIL (*Rallus elegans*). Only one record, a bird found in the Judith Sound marsh near Lewisetta, Northumberland County on 3 June (Middleton and Purdy).

VIRGINIA RAIL (*Rallus limicola*). One record. Portlock, Kain and Bazuin found a single bird near Tappahannock along McGuire Creek, Richmond County on 4 June.

SORA (*Porzana carolina*). One record. On 3 June, Epperson saw a single bird in a marshy area beside Essex County Rt. 635 above Blackwater Swamp. Follow-up trips on 4 June and 5 June were made, but there was no response to taped calls, so this bird was probably a late migrant.

SEMPALMATED PLOVER (*Charadrius semipalmatus*). Two records of late migrants. One was found on 2 June on a lawn at Cherry Point Neck, Northumberland County, and two more were seen 3 June in a cornfield off Essex County Rt. 631 (Stout and Epperson).

KILLDEER (*Charadrius vociferus*). Uncommon. This bird was on 32 lists. The high counts were of ten birds in the northeast sector on 4 June and in the northwest sector on 5 June (Dalmases). Bazuin observed an adult in a distraction display in a marina at Sharps, Richmond County on 3 June. Young birds were seen with adults at the King and Queen Fish Hatchery on 1 June (Hansrotes), along Richmond County Rt. 636 on 2 June just north of Naylor's Beach (Clapp), and in a soybean field on 6 June at the north end of Essex County Rt. 638 (Bazuin).

SPOTTED SANDPIPER (*Actitis macularia*). Three records, including one count of two birds off Carter's Wharf, Richmond County on 2 June (Hansrotes). Probably late migrants, as there are no breeding records for this species on Virginia's Coastal Plain (Kain 1987).

AMERICAN WOODCOCK (*Scolopax minor*). One record. Latane found a single bird at Blenheim Farm near Wakefield, Westmoreland County on 5 June.

LAUGHING GULL (*Larus atricilla*). A common vagrant along the rivers, appearing on 18 lists with the maximum of 28 birds on 3 June along the Potomac and Yeocomico Rivers (Middleton and Purdy).

RING-BILLED GULL (*Larus delawarensis*). Surprisingly uncommon vagrant, appearing on only eight lists, but there was a high count of 30 birds reported from Morattico, Lancaster County on 5 June (Clapp).

HERRING GULL (*Larus argentatus*). Uncommon vagrant, recorded on ten lists. There was one very high count of 150 birds along the Yeocomico/Potomac Rivers on 3 June (Middleton and Purdy).

GREAT BLACK-BACKED GULL (*Larus marinus*). Two records. Single birds were reported by Middleton and Purdy on 2 June at Morattico, Lancaster County, and on 3 June off Cherry Point Neck, Northumberland County. Very uncommon vagrant this far upriver.

CASPIAN TERN (*Sterna caspia*). Two records of presumed late migrants. One bird was found off Morattico, Lancaster County on 2 June (Ake). The high count was of four birds seen from Jones Wharf, Richmond County (Arginteanu and Robinson).

ROYAL TERN (*Sterna maxima*). Uncommon vagrant, reported on nine lists with a maximum count of 21 on 5 June off Morattico, Lancaster County (Clapp).

FORSTER'S TERN (*Sterna forsteri*). Two records of what are presumed to be vagrants. The Hansrotes had the high count of three birds near Lewisetta, Northumberland County on 2 June. Middleton and Purdy saw one bird in the same area the following day.

ROCK DOVE (*Columba livia*). Quite uncommon, appearing on 19 lists with a maximum count of 11 on 3 June (Clapp).

MOURNING DOVE (*Zenaida macroura*). Very common. The high count was 112 birds at Sabine Hall estate near Warsaw, Richmond County on 3 June (Kain and Latane). Several reports confirming breeding were received, including an adult with fledged young on King and Queen County Rt. 630 on 1 June (Hansrotes) and an adult carrying nesting material near Naylor's Beach, Richmond County on 5 June (Bazuin). Clapp found two nests, one being built 40 feet up in a black locust (*Robinia pseudo-acacia*) near Champlain, Essex County on 1 June, and another containing two eggs was found four feet up in a boxwood (*Buxus*, sp.) near Haynesville, Richmond County on 2 June.

YELLOW-BILLED CUCKOO (*Coccyzus americanus*). Scarce but widespread, appearing on 25 lists with a high count of seven in the northeast corner on 3 June (Middleton and Purdy).

EASTERN SCREECH-OWL (*Otus asio*). Only one report, a bird responding to a taped call at 5:30 AM on 5 June near Naylor's Beach, Richmond County despite morning thunderstorms (J. Dalmas).

GREAT HORNED OWL (*Bubo virginianus*). Only one report. Kain and Pulley heard one calling on 2 June at about 5:30 AM between the first two stops of the Sharps Breeding Bird Survey, Richmond County.

BARRED OWL (*Strix varia*). Four reports. The maximum of two birds was reported from the Morattico area, Lancaster County on 2 June (Ake) and from Zoar State Forest, King William County on 5 June (Kain and Dillard).

CHUCK-WILL'S-WIDOW (*Caprimulgus carolinensis*). Two reports, both on 2 June. Two birds were found on the first stops of the Sharps Breeding Bird Survey, Richmond County (Kain and Pulley). Another bird was heard along US 360 in Richmond County just north of the Rappahannock River bridge (Middleton and Purdy).

WHIP-POOR-WILL (*Caprimulgus vociferus*). Two reports, also on 2 June. One bird was found on the first stop of the Sharps Breeding Bird Survey, Richmond County (Kain and Pulley). Three birds responded to taped calls along Essex County Rt. 661 that evening (Hansrotes).

CHIMNEY SWIFT (*Chaetura pelagica*). Fairly common. The high count was 25 birds on the Sharps Breeding Bird Survey on 2 June (Kain and Pulley).

RUBY-THROATED HUMMINGBIRD (*Archilochus colubris*). Very scarce. This species was reported on 16 lists, with a high count on 3 June of only 3 birds (Clapp).

BELTED KINGFISHER (*Ceryle alcyon*). Surprisingly uncommon, apparently from a shortage of suitable nesting sites. Reported on only 18 lists. The high one-day count was nine, on 2 June (Hansrotes). Adults were seen entering two nest holes, one in a

bank along the Potomac River at the end of Westmoreland County Rt. 624 on 2 June (Hansrotes), and one in a bank of the partially drained Chandler's Millpond—also Westmoreland County—on 3 June (Clapp).

RED-HEADED WOODPECKER (*Melanerpes erythrocephalus*). Nine scattered reports of single birds, plus one count of two birds on 3 June along VA 14, King and Queen County (Kitchens and Taylor).

RED-BELLIED WOODPECKER (*Melanerpes carolinus*). Widespread but uncommon, appearing on 38 lists with a high count of ten birds on 3 June (Clapp).

DOWNY WOODPECKER (*Picoides pubescens*). Uncommon. Most of the 29 reports were of two or three birds, although there was one high count of ten on 3 June (Clapp). Adults were observed feeding young out of the nest on 2 June at Zoar State Forest, King William County (Barbee and Stevens).

HAIRY WOODPECKER (*Picoides villosus*). Ten reports, nine of single birds. There was one report of two birds on 5 June in northwestern Richmond County (Arginteanu and Robinson).

NORTHERN FLICKER (*Colaptes auratus*). Very uncommon. Reported on only 19 lists, although the Mitchell party had a fairly high count of eight birds in southeastern Essex County on 4 June.

PILEATED WOODPECKER (*Dryocopus pileatus*). As for the previous species, this one was widespread but very uncommon. Most of the 33 reports were of single birds, but there was one high count of five from Zoar State Forest, King William County on 2 June (Barbee and Stevens).

EASTERN WOOD-PEWEE (*Contopus virens*). Fairly common. The high count was 17 birds on 3 June (Clapp). At Blenheim Farm, Westmoreland County, an adult was seen carrying nesting material to an Oak (*Quercus*, sp.) limb about 40 feet up (Latane).

ACADIAN FLYCATCHER (*Empidonax virens*). Common, with the high count of 26 birds on 5 June (Kain and Dillard). One of the few species which was more common on the Middle Peninsula than the Northern Neck.

EASTERN PHOEBE (*Sayornis phoebe*). Surprisingly uncommon in most of the area, this species was on 32 lists, with a maximum count of only 13 birds on 3 June (Kitchens and Taylor). Clapp suggested that since many of the numerous nests he found were inactive, this species was in the interval between the first and second nestings.

GREAT CRESTED FLYCATCHER (*Myiarchus crinitus*). Uncommon. Reported on 31 lists, with a high count of ten birds in Essex County on 4 June (Mitchell et al.).

EASTERN KINGBIRD (*Tyrannus tyrannus*). Uncommon, considering the ample habitat. The high count among the 32 reports was 14 birds on 2 June (Hansrotes). The Hansrotes also observed an adult carrying food into a Red Cedar (*Juniperus virginiana*) at the King and Queen Fish Cultural Station on 1 June. Stout and Epperson saw an adult gathering nesting material at Sandy Point, Westmoreland County on 2 June.

HORNED LARK (*Eremophila alpestris*). Uncommon and local. There were seven reports, the high count of seven birds being tallied at Cherry Point Neck, Northumberland County on 5 June (Mitchell et al.).

PURPLE MARTIN (*Progne subis*). Common to abundant. This species is probably more common on the Northern Neck than anywhere else in the state. The high count was 90 on 5 June (Mitchell et al.). Nest boxes lined the shoreline everywhere, far too many to be detailed here.

TREE SWALLOW (*Tachycineta bicolor*). There were six reports of up to eight individuals of this species, which were reported on 5 June from southeastern Essex County (Arginteanu and Robinson). Ake saw an adult entering a nest box in Morattico, Lancaster County on 2 June.

NORTHERN ROUGH-WINGED SWALLOW (*Stelgidopteryx serripennis*). Fairly common wherever there were suitable nesting sites. Reported on 21 lists, with a high count of 16 birds on 2 June (Hansrotes). Birds were seen entering drain holes under the bridge at Chinn's Pond, Richmond/Lancaster Counties, on 2 June (Ake).

BARN SWALLOW (*Hirundo rustica*). Common to abundant. The high count was 99 on 4 June in the northeastern sector (Dalmases). Numerous active nests were noted at the King and Queen Fish Hatchery as well as most of the major highway bridges in the area.

BLUE JAY (*Cyanocitta cristata*). Less common than expected, appearing on 36 lists. The maximum count was ten birds on 1 June (Hansrotes), and again on 4 June (Clapp).

AMERICAN CROW (*Corvus brachyrhynchos*). Very common, with one count of 115 on 4 June (Dalmases). Fledged young were seen begging for food at the Rt. 637 crossing of Cat Point Creek, Richmond County on 5 June, and at Dillard's Landing on Essex County Rt. 631 on 6 June (Bazuin).

FISH CROW (*Corvus ossifragus*). Fairly common along tidal shores. This species was recorded on 16 lists, with the high count of 16 birds by Middleton and Purdy in the Yeocomico River area on 3 June. This species was found to be much less common during work on the Virginia Atlas Project (Wadja, pers. comm.).

CAROLINA CHICKADEE (*Parus carolinensis*). Much less common than in most other areas of the state. Recorded on 31 lists, with high counts of 12 on 4 June (Clapp) and in Richmond County on 5 June (Arginteanu and Robinson).

TUFTED TITMOUSE (*Parus bicolor*). Common. The high count for this species was 36 birds on 5 June (Kain and Dillard). An adult was seen carrying food at Blenheim Farm, Westmoreland County on 5 June (Latane). This was another of the few species recorded more frequently on the Middle Peninsula than on the Northern Neck.

WHITE-BREASTED NUTHATCH (*Sitta carolinensis*). Very uncommon and local. Recorded on only nine lists, with a maximum of five birds in the southwestern corner of the area on 5 June (Kain and Dillard). Virtually absent from the Northern Neck, with only three birds reported. This was consistent with historical data, which indicate this species is found on the Coastal Plain primarily in deciduous wooded swamps (Scott 1969).

CAROLINA WREN (*Thryothorus ludovicianus*). Common, with a maximum count of 41 birds on 4 June (Mitchell et al.). Clapp found three inactive nests, one in Essex County on 1 June and two in Richmond County on 5 June.

HOUSE WREN (*Troglodytes aedon*). Only three records, but one count of four birds in southeast Essex County on 4 June (Mitchell et al.).

MARSH WREN (*Cistothorus palustris*). Abundant in the tidal marshes but virtually absent elsewhere. There were only seven reports, but the high count was 123 birds by Portlock, Kain and Bazuin on 4 June; 120 of these were found along McGuire Creek, Richmond County in the large marsh across the river from Tappahannock. At least 25 nests were seen in the big cordgrass (*Spartina cynosuroides*), most of which were believed to be dummy nests.

BLUE-GRAY GNATCATCHER (*Poliophtila caerulea*). Fairly common, appearing on 29 lists with a high count of 18 birds on 5 June (Kain and Dillard).

EASTERN BLUEBIRD (*Sialia sialis*). Common. Kitchens and Taylor recorded the maximum of 48 birds on 3 June. The Hansrotes saw an adult carrying food in King and Queen County on 1 June, and Clapp had two records in Essex County, one active nest and one set of fledged young, also on 1 June. Middleton and Purdy noted adults entering a nest box in Richmond County on 2 June, and adults feeding young in Northumberland County on 3 June.

WOOD THRUSH (*Hylocichla mustelina*). Fairly common. The high count was of 17 birds on 2 June (Hansrotes) and again on 3 June (Clapp).

AMERICAN ROBIN (*Turdus migratorius*). Common to abundant, especially in riverfront communities such as Lewisetta. The high count was 225 birds on 4 June in the northeastern sector (Dalmases). There were several active nests and numerous records of fledged young in Richmond, Westmoreland and Lancaster Counties.

GRAY CATBIRD (*Dumetella carolinensis*). Scarce, appearing on only 14 lists. There was one high count of 16 birds on 4 June in southeastern Essex County (Mitchell et al.), but no one else counted more than six.

NORTHERN MOCKINGBIRD (*Mimus polyglottos*). Common to abundant. The high count was 70 birds on 2 June (Hansrotes). Clapp found 15 active nests (six with young, nine with eggs) and another eight old nests or fledged young, mostly within Richmond County but also Westmoreland, Northumberland and Lancaster Counties.

BROWN THRASHER (*Toxostoma rufum*). Uncommon on the Middle Peninsula to common on the Northern Neck, where Clapp had the high count of 23 birds on both 3 and 5 June. Clapp also found 15 active nests (five with young, ten with eggs) of this species, as well as three old nests, in Essex, Westmoreland, Richmond, Northumberland, King and Queen and Lancaster Counties.

CEDAR WAXWING (*Bombycilla cedrorum*). More common than expected, appearing on 23 lists. There was one count of 16 birds on 3 June (Kitchens and Taylor). Birds were found nest building 1 June about 25 feet up in a 60-foot red cedar (*Juniperus virginiana*) at Mt. Zion Church, Dunbrooke, Essex County, and on a nest 5 June about 35 feet up in a 100-foot loblolly pine (*Pinus taeda*) at Farnham Baptist Church,

Richmond County (Clapp). Also, while working along Essex County Rt. 661 on 5 June, Kain and Dillard found an individual which had hanged itself on a piece of string, an uncommon hazard for passerines (Clapp 1993).

EUROPEAN STARLING (*Sturnus vulgaris*). Abundant as ever in most areas, although they were actually uncommon in the extreme southwest corner of the area along the Mattaponi River.

WHITE-EYED VIREO (*Vireo griseus*). Only fairly common but quite widespread, appearing on 40 lists. The maximum was 13 birds reported on 3 June (Bazuin and J. Dalmas). The Hansrotes found an adult on a nest in brush 25-30 feet from King and Queen County Rt. 612, near the Essex County line.

SOLITARY VIREO (*Vireo solitarius*). One report of a singing bird in southern Essex County on 4 June (Mitchell et al.), almost certainly an extremely late migrant. Kain shows the previous late date for the Coastal Plain to be 29 May (Kain 1987).

YELLOW-THROATED VIREO (*Vireo flavifrons*). Scarce. Reported on 25 lists, with a high count of only five birds on 5 June (Kain and Dillard).

WARBLING VIREO (*Vireo gilvus*). One report, a bird which responded to a taped call at Smith Mount Landing, Westmoreland County on 2 June (Hansrotes). This spot is far downstream of the known breeding areas of this species, so this bird was presumed to be a late migrant.

RED-EYED VIREO (*Vireo olivaceus*). Abundant in woodlands throughout the area. The high count was 72 birds on 4 June (Clapp). This was the only species reported on all 44 lists.

NORTHERN PARULA (*Parula americana*). Fairly common, especially in the southwestern part of the area where Kain and Dillard recorded the high count of 22 birds. Reported on 32 lists. An adult was seen carrying food at the King and Queen Fish Hatchery on 3 June (Kitchens and Taylor).

YELLOW WARBLER (*Dendroica petechia*). Only eight reports, all of single birds except for one of two birds in King and Queen Co. on 1 June (Hansrotes).

BLACK-THROATED GREEN WARBLER (*Dendroica virens*). One report of a singing bird in a brushy area on Essex County Rt. 635 south of Hustle on 5 June (Dalmases), obviously a very late migrant.

YELLOW-THROATED WARBLER (*Dendroica dominica*). Surprisingly scarce, with only 14 reports. The single day maximum of eight birds was recorded by Portlock, Kain and Bazuin along the lower Rappahannock River on 4 June.

PINE WARBLER (*Dendroica pinus*). Not nearly as common as expected in an area with an abundance of pines. It appeared on 40 lists, but the high count of 13 birds on 3 June (Bazuin and J. Dalmas) seemed very low.

PRAIRIE WARBLER (*Dendroica discolor*). Fairly common, on 32 lists with a high count of 17 birds on 4 June (Clapp). A pair was seen carrying food into small pines along King and Queen County Rt. 630 (Hansrotes).

BLACK-AND-WHITE WARBLER (*Mniotilta varia*). Uncommon and local. Reported on 17 lists with maximum counts of four birds in southern Richmond County on 2 June (Middleton and Purdy), and along Dragon Run, Essex/King and Queen Counties on 4 June (Clapp).

AMERICAN REDSTART (*Setophaga ruticilla*). Six reports, including one of three birds in Essex County on 4 June (Clapp).

PROTHONOTARY WARBLER (*Protonotaria citrea*). Fairly common in swampy bottomlands. Reported on 19 lists. The high count of six birds was reported on 4 June from the southern part of the area, mostly along Dragon Run (Clapp).

WORM-EATING WARBLER (*Helmitheros vermivorus*). On only nine lists, with a maximum of three birds on 2 June (Hansrotes).

OVENBIRD (*Seiurus aurocapillus*). Common. The maximum count was 30 birds on 4 June (Clapp), including an adult carrying food along Essex County Rt. 604 near Center Cross. Barbee and Stevens saw adults gathering nesting material at Zoar State Forest, King William County on 2 June.

LOUISIANA WATERTHRUSH (*Seiurus motacilla*). Very uncommon. Only 15 reports, mostly of single birds. There was one report of four birds on 4 June from Layton's Branch ravine north of Montague, Essex County (Barbee and Stevens).

KENTUCKY WARBLER (*Oporornis formosus*). Uncommon in wooded ravines. There were 17 reports with a maximum of seven birds on 4 June, also from Layton's Branch, Essex County (Barbee and Stevens).

COMMON YELLOWTHROAT (*Geothlypis trichas*). Common. The high count was of 26 birds on 3 June (Clapp).

HOODED WARBLER (*Wilsonia citrina*). Fairly common, with 29 reports. The highest count was of 17 birds on 4 June (Clapp). Barbee and Stevens had a count of 13 birds on 3 June along Hoskins Creek above the Essex County Rt. 717 bridge, and a nest with four eggs nine feet up in the crotch of a mountain laurel (*Kalmia latifolia*) on 4 June at Layton's Branch, Essex County.

YELLOW-BREASTED CHAT (*Icteria virens*). Widespread but not very common, appearing on 38 lists, of which the high count was 13 birds on 4 June (Clapp).

SUMMER TANAGER (*Piranga rubra*). Uncommon. Most of the 35 reports of this species were of six or fewer birds. There was one count of 12 birds on 4 June (Mitchell et al.).

SCARLET TANAGER (*Piranga olivacea*). Somewhat less common than the previous species, appearing on 33 lists, with a maximum of nine birds in Essex County on 3 June (Barbee and Stevens).

NORTHERN CARDINAL (*Cardinalis cardinalis*). Common. The Hansrotes had the highest count of 49 birds on 2 June. Ake saw an adult feeding fledged young on 2 June near Morattico, Lancaster County.

BLUE GROSBEAK (*Guiraca caerulea*). Common. The high count was 37 birds on 2 June (Hansrotes).

INDIGO BUNTING (*Passerina cyanea*). Common to abundant, though not as numerous as expected considering the ample habitat. The maximum was 82 birds on 3 June (Clapp).

DICKCISSEL (*Spiza americana*). Two reports. A singing bird was found at the intersection of Westmoreland County Rts. 640 and 641 near Leedstown (Dalmases), and this bird was also found the following day (Mitchell et al.). Another bird was discovered the following weekend by Rob Breeding of the Virginia Institute of Marine Science, and seen by Kain on 13 June, at the Essex County Henslow's sparrow site. Judging from the previous records for this area, this species is a rare but regular summer resident (Scott 1966, 1969, 1971; Armistead 1989; Wadja, pers. comm.)

RUFIOUS-SIDED TOWHEE (*Pipilo erythrophthalmus*). Uncommon, on 34 lists with a maximum of 16 birds on 6 June (Arginteanu and Robinson).

CHIPPING SPARROW (*Spizella passerina*). Very common. The high count was 74 birds on the Sharps Breeding Bird Survey on 2 June (Kain and Pulley). Between 1 and 5 June, Clapp located 19 nests, eight with eggs, seven with young and four empty, mostly in churchyards at various localities in Essex, Richmond, Westmoreland, Northampton, King and Queen and Lancaster Counties.

FIELD SPARROW (*Spizella pusilla*). Fairly common. The maximum count was the 18 birds found by Bazuin and J. Dalmás on 3 June. Latane found a nest with three downy young near the top of a four foot pine sapling on 5 June at Blenheim Farm, Westmoreland County.

VESPER SPARROW (*Pooecetes gramineus*). Two reports. Stout and Epperson found a singing bird near Callao, Northumberland County on 2 June. The Mitchell party also reported one near Leedstown, Westmoreland County on 6 June. This species is a rare and local summer resident in Virginia's northern Coastal Plain (Kain 1987).

GRASSHOPPER SPARROW (*Ammodramus savannarum*). Scarce on the Middle Peninsula but fairly common on the Northern Neck. There were 28 reports, with a maximum of 16 birds in the northeast sector on 4 June (Dalmases). Foray participants were surprised to find many of these birds in corn or wheat fields; they are almost always found in grass or hayfields in other parts of the state.

HENSLOW'S SPARROW (*Ammodramus henslowii*). Two records. One bird was found in Kingscote Harbor subdivision near Lewisetta, Northumberland County on 5 June by the Mitchell party, and Dillard found a singing bird along Essex County Rt. 717 near Dunbrooke on 6 June. Neither bird was found on follow-up trips. The only prior records for the area were from Essex County in 1963 and Richmond County in 1964 (Peacock 1975).

SEASIDE SPARROW (*Ammodramus maritimus*). Only two reports, one of three birds on 3 June from the Judith Sound marsh near Lewisetta, Northumberland County (Middleton and Purdy) and one of 16 singing birds on 4 June along McGuire Creek, Richmond County across the river from Tappahannock (Portlock, Kain and Bazuin).

Portlock also noted that all of the birds in the McGuire creek marsh were found in openings of salt meadow cordgrass (*Spartina patens*); none were found in the dominant big cordgrass (*Spartina cynosuroides*). These records mirror results of the 1969 foray (Scott 1969), which showed the range of this species to be considerably farther inland than was found during work on the Virginia Atlas Project (Wadja, pers. comm.).

SONG SPARROW (*Melospiza melodia*). Remarkably, this species was quite scarce on the Middle Peninsula but common on the Northern Neck. It was reported on only 24 lists, but the high count was 51 birds from the Northern Neck on 4 June (Dalmases). A nest with five eggs was found four feet up in a five-foot boxwood (*Buxus* sp.) on 2 June near Callao, Northumberland County (Clapp).

RED-WINGED BLACKBIRD (*Agelaius phoeniceus*). At over seven birds per party-hour, this was the most abundant species in the foray area. The high count of 562 birds recorded by Portlock, Kain and Bazuin in the Rappahannock River marshes on 4 June is among the highest one-day breeding season counts for the state (Kain 1987), and there were four other counts of over 100 birds. Several active nests were found, three in Richmond County and one in Westmoreland County.

EASTERN MEADOWLARK (*Sturnella magna*). Not very common, probably due to the shortage of grassy fields and pastures. Reported on 27 lists, with the maximum of 18 birds recorded on 2 June (Hansrotes).

COMMON GRACKLE (*Quiscalus quiscula*). Abundant. The high count was 287 birds on 4 June (Dalmases). There were many reports of fledged young, from sites in Essex, Richmond, Westmoreland and King and Queen Counties.

BROWN-HEADED COWBIRD (*Molothrus ater*). Fairly common, with a maximum of 22 birds on 2 June (Hansrotes).

ORCHARD ORIOLE (*Icterus spurius*). Scarce on the Middle Peninsula but fairly common on the Northern Neck. There were 27 reports, of which the high count was 13 birds on 3 June (Bazuin and J. Dalmas).

NORTHERN ORIOLE (*Icterus galbula*). Three reports. Stout and Epperson reported two birds in the northeast corner on 2 June, and Middleton and Purdy reported two more from the same area on 3 June. Bazuin reported one bird near Naylor's Beach, Richmond County on 5 June.

HOUSE FINCH (*Carpodacus mexicanus*). Common, especially on the Northern Neck, although the maximum count of 63 birds was reported from southern Essex County on 4 June (Mitchell et al.). There were 12 nests found, six of these active, in Richmond, Westmoreland, Northumberland, King and Queen and Lancaster Counties.

AMERICAN GOLDFINCH (*Carduelis tristis*). Common. The high count was 23 birds on 4 June (Mitchell et al.).

HOUSE SPARROW (*Passer domesticus*). Common. The high count was 35 birds on 4 June (Dalmases). On 5 June, the Dalmases also observed this species entering the underside of an Osprey nest on a platform at the mouth of Cat Point Creek, Richmond County. However, this species is not known to be discriminating in its choice of nesting sites, and even building within an osprey nest is not an unusual occurrence (Bent 1965).

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THE GOLDEN EAGLE IN VIRGINIA: ANALYSIS OF A CENTURY OF RECORDS

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In Virginia the Golden Eagle (*Aquila chrysaetos*) has long been considered a majestic bird found chiefly in the mountains in winter. In the last two decades, ornithologists in Virginia have showed increased interest in the bird, with many recent observations coming from hawk-watching stations, Highland County, and Christmas bird counts. The large number of recent records led me to locate as many records as possible and to examine those records for temporal, geographic, and other patterns of occurrence of Golden Eagles in the state. The present analysis of records spans a century of observations and collecting, and it provides the first comprehensive analysis of Golden Eagles in Virginia.

Obtaining records that occurred over the past century has been a time-consuming but rewarding challenge. My search began with the literature (*Raven*, *VSO Newsletters*, specific articles in other journals). I then examined unpublished field notes (e.g., Alexander Wetmore, F. M. Jones, Charles O. Handley, Sr. and Jr., and William Palmer), and obtained reports from hawk-watching stations, master records of the Virginia Society of Ornithology, and Christmas counts. Data from banding operations and band recoveries were obtained from the Bird Banding Laboratory, Laurel, Maryland. Finally, many records were obtained from questionnaires returned from individual observers, and telephone contacts proved useful in tracking down certain unreported observations. All records that I have found are on file in the VSO master records.

HISTORICAL RECORDS

In his "Catalogue of the Birds of the Virginias," Rives (1890) had no records of the Golden Eagle from Virginia, but he mentioned a few specimens from near Washington, D. C., Maryland, and West Virginia. He reviewed the observations of eagles by early 17th century Virginia writers: William Strachey (1610-12), Capt. John Smith (1612), Rev. John Clayton (1685), and others, some of whom had mentioned "three sorts of Eagles." All their references to eagles, Rives concluded, pertained to the Bald Eagle (*Haliaeetus leucocephalus*) in different plumages.

Mark Catesby's two-volume set on "The Natural History of Carolina, Florida and the Bahama Islands" (1731-43) does not mention Golden Eagles. (An unspecified number of his observations was made near Williamsburg, Virginia.) Catesby's list of birds was copied by Thomas Jefferson in his "Notes on Virginia" (first published in 1788; see Peden 1972). Jefferson added 33 species including a "Greatest grey eagle," but we cannot be certain that this reference was to the Golden Eagle.

The earliest records of Golden Eagles in the state were specimens, most of which were deposited in various museums (Johnston and Ehmann 1990, Johnston and Clapp 1993). In fact, until 1930, 21 out of 23 records were those of museum specimens or mounted birds. The first known state record was a "fine male" shot at Covington, Alleghany County on 28 October 1893 (Surber 1894). It was sent to Surber in West Virginia for mounting. Two years later, three Golden Eagles, two of them alive, were received at the Philadelphia Academy of Natural Sciences on 18 December 1895 from Looney, Craig County (Stone 1896). John Looney told Stone that about a week previously he had seen 13 in one flock, and eight or ten had been taken in Craig County that winter. In 1912, Ellison Smyth listed nine specimen records for Montgomery County, all taken in winter months except for one in August.

Bradford Swales (1920), reporting on this and other species in the U.S. National Museum (USNM) collections, mentioned five specimens of Golden Eagles taken in Virginia between 1896 and 1919: Fauquier (2) and Wythe (2) counties, Peaks of Otter (1) (details in Johnston and Ehmann 1990). Although he stated that "several other unrecorded Golden Eagles in the U.S.N.M. collections [came] from Virginia and Maryland...in the fifties and sixties," today that collection contains no Golden Eagle specimens from Virginia before 1893. Cooke (1929) mentioned "several specimens...[from] Virginia a little beyond our limits, some during recent years," but provided no specific dates or locations. Rives (1889) did not find Golden Eagles on White Top on 25 July 1888. In 1913, Harold Bailey wrote that the "... birds are often seen passing over Bald Knob [Giles County], going southward." This is, indeed, an intriguing statement because I can find no evidence that Bailey was ever in Giles County in the autumn.

J. J. Murray (1933) summarized additions to the Virginia avifauna since Rives' account of birds in Virginia and West Virginia (1890), and gave dates and places for 12 specimens of Golden Eagles. By 1952 Murray had located 36 Virginia records of birds shot and 12 sight records, all these from every month except April, July, and September. Most of the records that he listed were from the Blue Ridge Mountains and westward. In his revision of the 1952 Check-list, Murray (1953) added two specimen and five sight records, again mostly from sites west of the Blue Ridge.

The first Christmas count reporting a Golden Eagle was in Henrico County on 23 December 1931. Since that time, this eagle has been reported from 15 Christmas count locations; it has been seen nearly every year at Tazewell. Through the end of 1992, 43 birds had been reported on Christmas counts from Fairfax to Virginia Beach to Tazewell, but, again, mostly from sites west of the Blue Ridge.

The first hawk migration report of a Golden Eagle was on 12 October 1957 in Washington County. By 1992, six hawk-watching stations reported the bird (see below).

Both Larner (1979) and Kain (1987), summarizing state occurrences, reported that the species was a rare transient and winter visitor on the Coastal Plain, Piedmont, and Mountains and Valleys, with a scattering of summer records.

ANALYSIS OF THE RECORDS

Through the end of 1992, I have found the following records for the state:

Observations of flying birds	395	(51%)
Reports from hawk-watching stations	253	(33%)
Specimens, mounts and dead birds	61	(8%)
Christmas count observations	43	(6%)
Other (banded birds, band recoveries, injured, rehabilitated, released	21	(2%)

Total	773	
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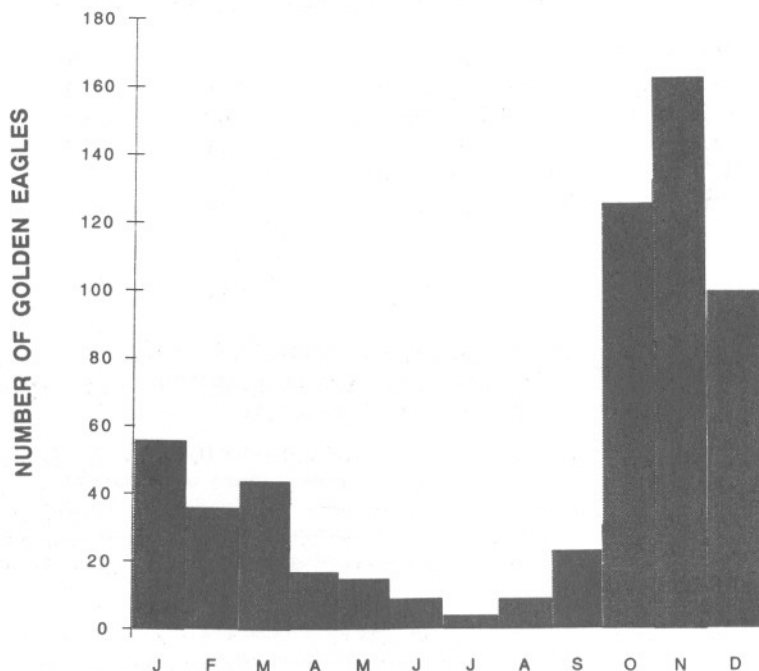
Temporally, these records break down as follows: before 1950, 43; 1950s, 18; 1960s, 7; 1970s, 63; 1980s, 262; 1991-2, 103. At this rate, the 1990 decade will produce more Golden Eagle records than in any previous decade.

Although the age (i.e., immature versus adult) of most flying Golden Eagles can usually be determined with some degree of accuracy, many observers did not report age of the bird at the time of observation. However, when age was specified (observations, specimens, mounts), the data show that immatures in the state have outnumbered adults by 144:77. What this broad-spectrum ratio means to the demographics of the species in Virginia is unclear.

Not surprising, most records for the state have been in October, November, and early December when migrating birds have been counted by hawk-watchers and others (Fig. 1, p. 22). The 100 birds recorded for December is a combination of birds seen by hawk-watchers and on Christmas counts. Equally impressive is the 40-60 birds seen each month between January and March, indicative of a substantial wintering population. For the most part, hawk-watching stations are inoperative in the spring; otherwise, the numbers for April and May might be higher.

Statewide Distribution

Of the 773 records, 87% are from the Blue Ridge Province and westward (Fig. 2, p. 23). The Piedmont Province has yielded only about 20 records, and the Coastal Plain, 46. It appears that birds migrate into the state along two principal fronts; (1) following the ridges and valleys of the Blue Ridge and (2) following the coast line of the three coastal counties. The Blue Ridge front conforms to the well known Appalachian route mentioned by Palmer (1988): "as the birds traverse the ridges down to the southern highlands." Haugh (1986) illustrated this dual route for migrating hawks in eastern North America. Just as the high numbers of observations along the Blue Ridge are positively related to the numbers of hawk-watchers and hawk-watching stations, the apparent dearth of the species in the Piedmont is at least partially related to fewer active bird-watchers in that province especially during migration times.

FIGURE 1. *Records of Golden Eagles, by month, in Virginia.*

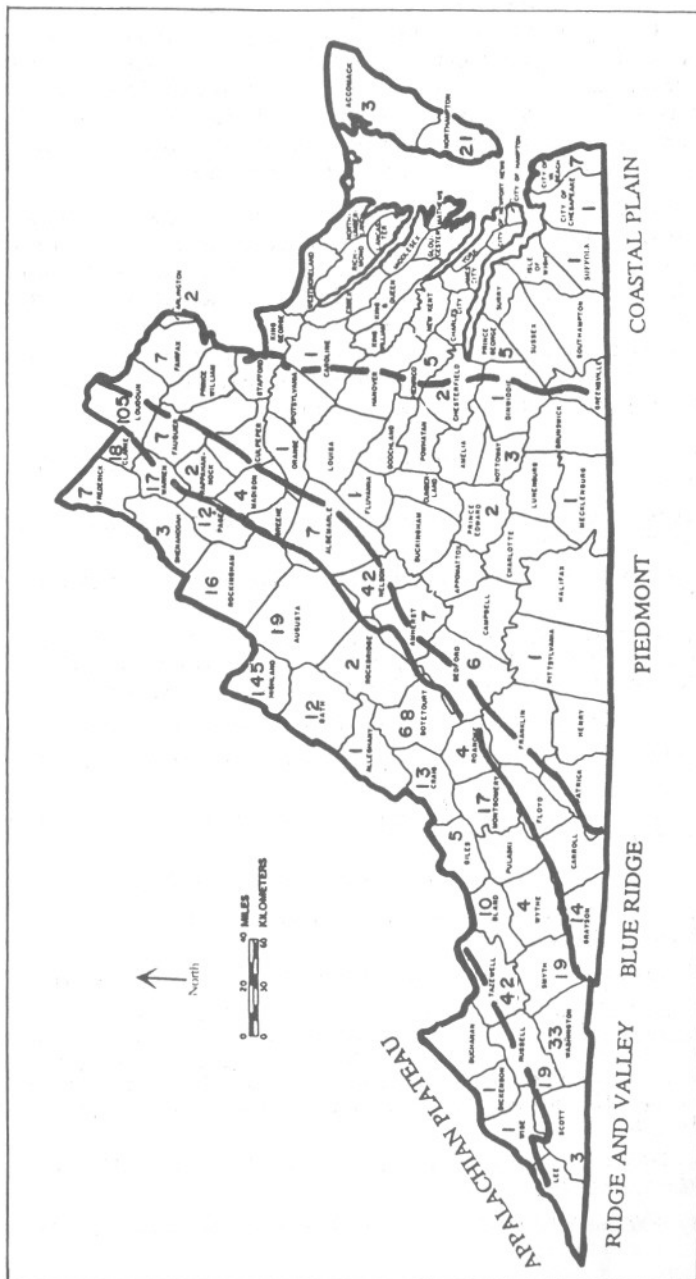
Counties with the largest number of records include Highland (145), Loudoun (105), and Botetourt (68). Highland County has been quite attractive to anyone who wants to observe a Golden Eagle in the state with a high degree of certainty, so many bird-watchers journey to the county for that purpose. Apparently Golden Eagles are especially attracted to that county because of its north-south ridges rising some 1,000 to 1,500 feet above the valley floors, many cleared mountain slopes, and updrafts on which the eagles can soar. By contrast, fewer eagles have been reported from neighboring Bath County probably because fewer bird-watchers go there and the mountains are generally heavily forested. The high numbers for Loudoun and Botetourt counties are largely the result of birds observed during hawk-watching activities in autumn.

Seasonal Distribution

Spring and summer

Spring observations (here defined as March through May) apparently include birds migrating northward and, perhaps what is more important, birds that have lingered in

FIGURE 2. Distribution of Golden Eagles in Virginia, 1893-1992. Not shown: Covington City, 1; Salem City, 1; Lexington City, 2; Alexandria City, 1; Williamsburg City, 2; Clifton Forge City, 2; Waynesboro City, 1.

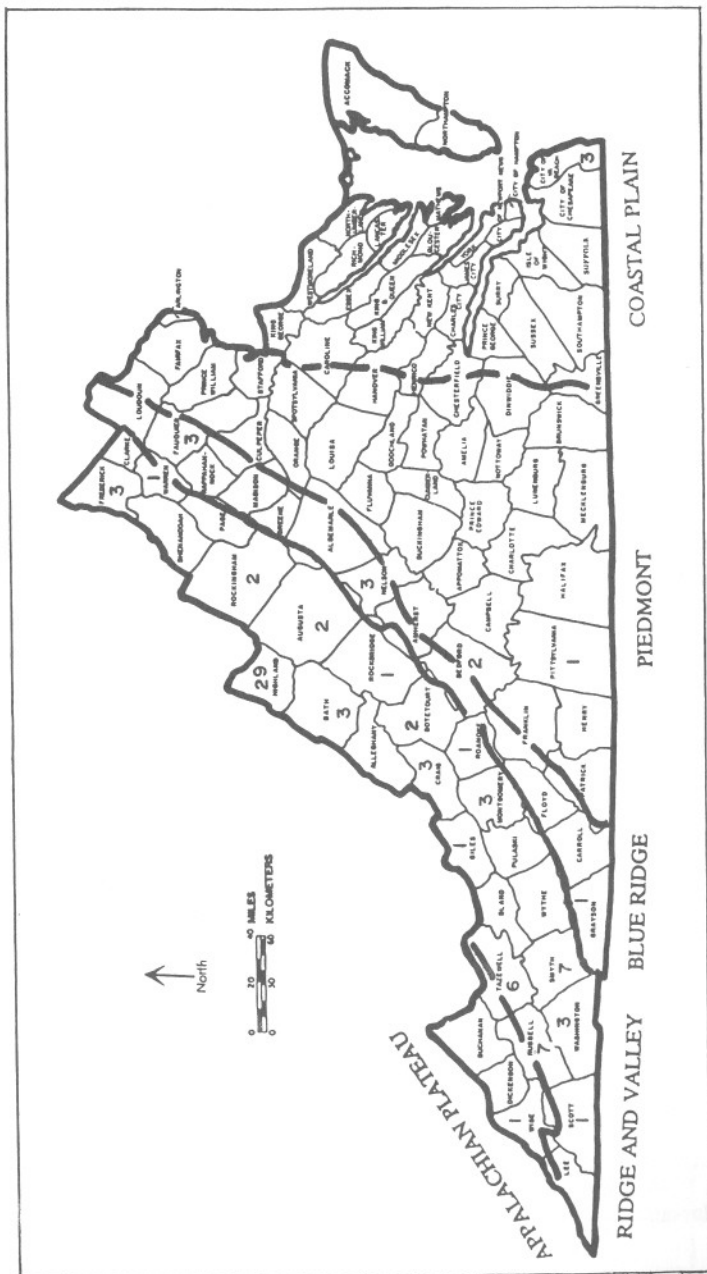


the mountainous regions (Fig. 3, p. 25). In terms of possible breeding activities, records from this time of year would be more important than summer records. It is at this time when Golden Eagles might be nesting and raising young, because at other sites to the north and west of Virginia, Golden Eagle nests have been reported for March through early June (Palmer 1988). In an unusual recent breeding record from Tennessee, young were found in the nest in early April 1993 (Bob Hatcher, pers. comm.). Nests in New York were often situated in remote forested and mountainous terrain, and a pair may have a home range of 50-100 square miles (Spofford 1971).

The presence of Golden Eagles in summer has suggested to some people the possibility of breeding in the state. The few summer records, itemized below and their distribution shown in Figure 4 (p. 27), range chiefly from Loudoun County southwestward to Washington County. Nonetheless, the records show no distinct patterns in terms of location, numbers, or sex and age breakdown, partly because of the long intervals of years between observations. Rather than hypothesize that these summer records might suggest breeding, I believe they simply represent nonbreeding birds that did not migrate. The Virginia summer records include the following:

- 15 August before 1912. One reported by Ellison Smyth for the Blacksburg area, Montgomery Co. (Smyth 1912).
- 12 July 1925. Paris, Fauquier Co. From the field notes of Alexander Wetmore: "one sailed over my head in Ashby Gap."
- 26 August 1928. One soaring over Bear's Den, Bluemont, Loudoun Co. Field notes of Alexander Wetmore.
- 8, 9, 29 June 1931. F. M. Jones reported three occurrences for the "Southwest Virginia section." One of these was apparently on Mt. Rogers, Washington Co., and the 9 June bird and another on 29 July were at Brumley, Clinch Mt., Washington Co. (*Raven* 2(July):7, 1931).
- 29 June 1952. One reported over Hawksbill, Madison Co. Field notes of Alexander Wetmore.
- 1 June 1974. One immature reported at Virginia Beach by R. J. Tripician. *Amer. Birds* 28(4):785, 1974.
- 14 August 1975. One seen near intersection of Blue Ridge Parkway and US 60, Amherst Co. (Robin and Carlie Carter). *Amer. Birds* 30(1):68, 1976.
- 1 June 1979. One immature seen at Elk Garden, Tazewell Co. by Philip Shelton.
- 13 June 1981. Two adults seen by Larry Brindza along the Appalachian Trail, 3-4 mi. north of Big Meadows, Page Co.
- 25-27 August 1984. One near Frank's Mill, VA 736, Augusta Co., YuLee Lerner (pers. comm.).
- 11-16 June 1985. From the Highland County Foray of June 1985 (*Raven* 56:27, 1985)—"A single immature bird was present throughout the foray period at Straight Fork on the west slope of Lantz Mountain. It was first reported by [Fenton] Day, [Brian] Patterson and [Mike] Purdy, on 12 June and later seen by virtually all foray participants. [Floy] Burford, [Gisela] Grimm and [Virginia] Hank reported two of undetermined age on US 250 west on Allegheny Mountain on 12 June."
- 16 July 1985. Two juveniles (immatures ?) seen by Cecil Thomas at Perkins Knob, Grayson Co. (fide John Baker).
- 17 July 1986. One immature seen by Leonard Teuber along 220 at Bolar, Highland Co.

FIGURE 3. *Records of Golden Eagles, March-May, in Virginia. Not shown: Williamsburg City, 2.*



11 June 1988. One bird seen by Daniel Kegley at Meadowview, 8 miles east of Abingdon, adjacent to I-81, Washington Co.

31 July 1988. One adult plummeting onto some sort of prey on the median strip of I-64 in Alleghany Co., by Charles O. Handley, Jr. (*Amer. Birds* 42(5):1287, 1988)

4 June 1990. One bird (ad. ?) seen by Tom and Ali Wieboldt, very high and gliding over summit of Pt. Lookout Mountain, Grayson Co.

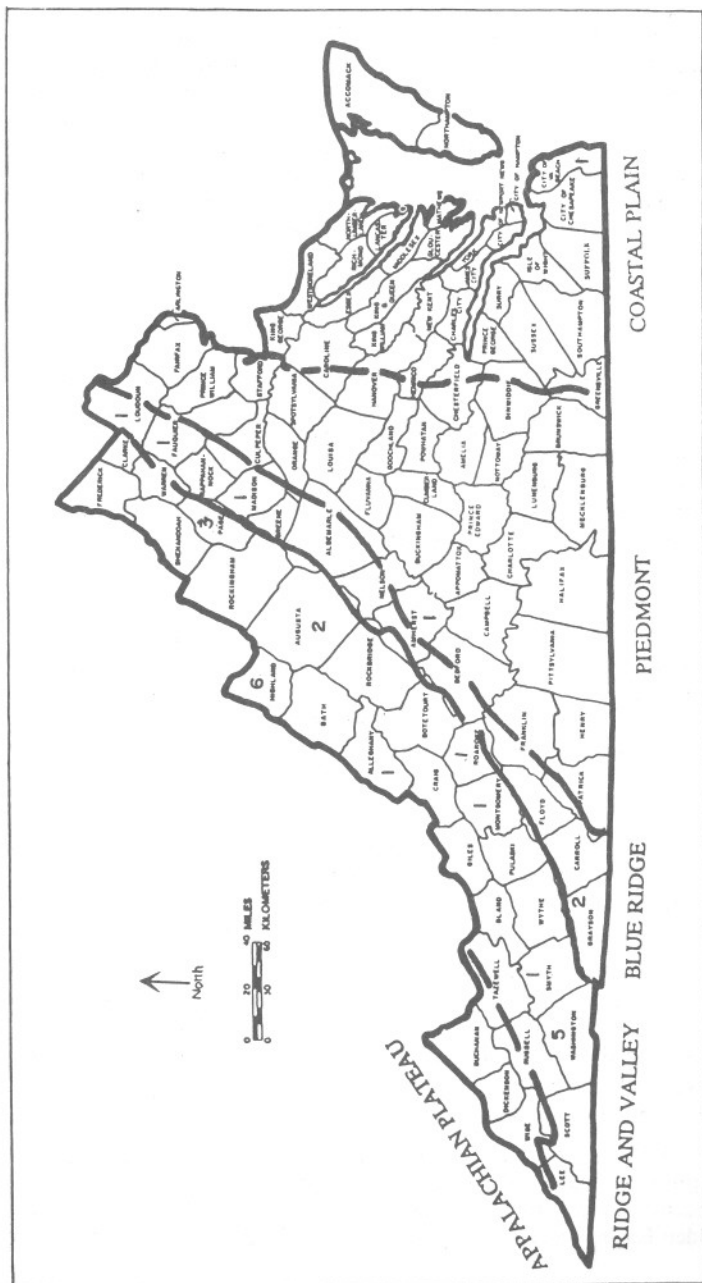
The possibility that Golden Eagles might breed in Virginia has been an intriguing idea for many years. It was first raised in 1913 by Harold Bailey who, citing no positive evidence, wrote that "...every indication leads me to believe they do nest on our cliffs in the Alleghenian Range." Since that early tantalizing idea, at least three possible nest sites have been mentioned in the literature.

Maurice Graham Brooks wrote in 1935 about the species in West Virginia and in nearby Highland County, Virginia, and noted: "If there is a spot in the Virginias where these birds nest, I am sure it must be in this general locality [North Fork Mountain, Virginia and West Virginia]." In 1938, J. J. Murray, in an apparent follow-up to Brooks' notation, spent a week on and near Middle Mountain, Highland County. From his experiences, he wrote: "A farmer living at the foot of the Devil's Backbone told me that he had often seen eagles there. From his description of two which he had shot, I was reasonably sure that they were Golden Eagles. He then told me that two or three years ago he found an eagle's nest in one of those cliffs, which he could not reach. In his words, the pile of sticks was as large as a hay fork load. The size and location of the nest, taken with his description of the birds and with the fact that Professor Brooks has reported Golden Eagles at this place, seem to me to make the record a satisfactory one" (Murray 1938). Murray wrote to Walter Spofford on 23 Jan. 1954, and made the interesting comment that "the nest on Devil's Backbone, in Highland County, near Crabbottom, was deserted after 1935." Apparently, no one other than the farmer ever saw such a nest, so a bona fide Golden Eagle nest was not confirmed.

An article in *Virginia Wildlife* (1952) included a picture of an injured Golden Eagle at V.P.I. and a comment that it "probably came from a nest, which was known to game warden Jamison, on Stony Creek" (Anon 1952). A partial search of Little Stony Creek by John W. Murray failed to reveal a nest, and J. J. Murray, in his 1954 letter to Spofford, discounted the putative breeding record for Giles County. Charles O. Handley, Jr. who has spent a half-century exploring the mountainous regions near Big and Little Stony creeks, also discounted the presence of a Golden Eagle nest. Unfortunately, this "breeding record" was repeated by Palmer in his "Handbook of North American Birds" (1988) as the "most recent active nest in se. U.S. presumably in Giles Co., Virginia, in 1952."

Charles O. Handley, Jr., was told by local people in Shenandoah County that a pair had nested up to the early 1940s on the western face of Massanutten Mountain in that county. Handley, however, (in litt. to Walter Spofford, 10 Oct. 1957) commented that "no information on the Massanutten eagles other than that published in *The Raven*, 16: 72, 1945, is available. I did not visit the reported nest site on my only trip to the area, in 1945, and known only of its approximate location—'cliffs on the western face of Massanutten Mountain near its northern end.'"

FIGURE 4. Records of Golden Eagles, June-August, in Virginia.



Thus, of three presumed historic nesting occurrences of the Golden Eagle in Virginia, none was ever confirmed. In an exhaustive search to document nesting in the southern Appalachians, Lee and Spofford (1990) found no firm breeding evidence for Virginia, and concluded that "Maine, New Hampshire, and New York are the only eastern states with confirmed Golden Eagle nesting records" (except for a mid-1880 record for Pennsylvania). However, the startling discovery of a Golden Eagle nest in 1993 in Tennessee should be encouraging to anyone seeking a nest in Virginia. The Tennessee nest was on a bluff beside a large lake, and two young were fledged in July (Bob Hatcher, pers. comm.). One of the adults had been hacked in Georgia, and one of the young was later found dead, probably by electrocution.

Autumn

The large number of observations of Golden Eagles (about 250) at hawk-watching stations in autumn over the years provides a very valuable set of data. Since 1975, the number of hawk-watching stations has increased as have the number of observers, the total days and hours of observation, and the numbers of Golden Eagles reported (Table 1, p. 30). Since about 1983, the numbers of Golden Eagles observed at these sites have increased dramatically, as have the total hours of observation each year. It is possible that sightings of the same bird were made at different localities as the bird moved southward along the mountain ranges, for example between Short Hill Mt. and Snicker's Gap or the Linden Fire Tower.

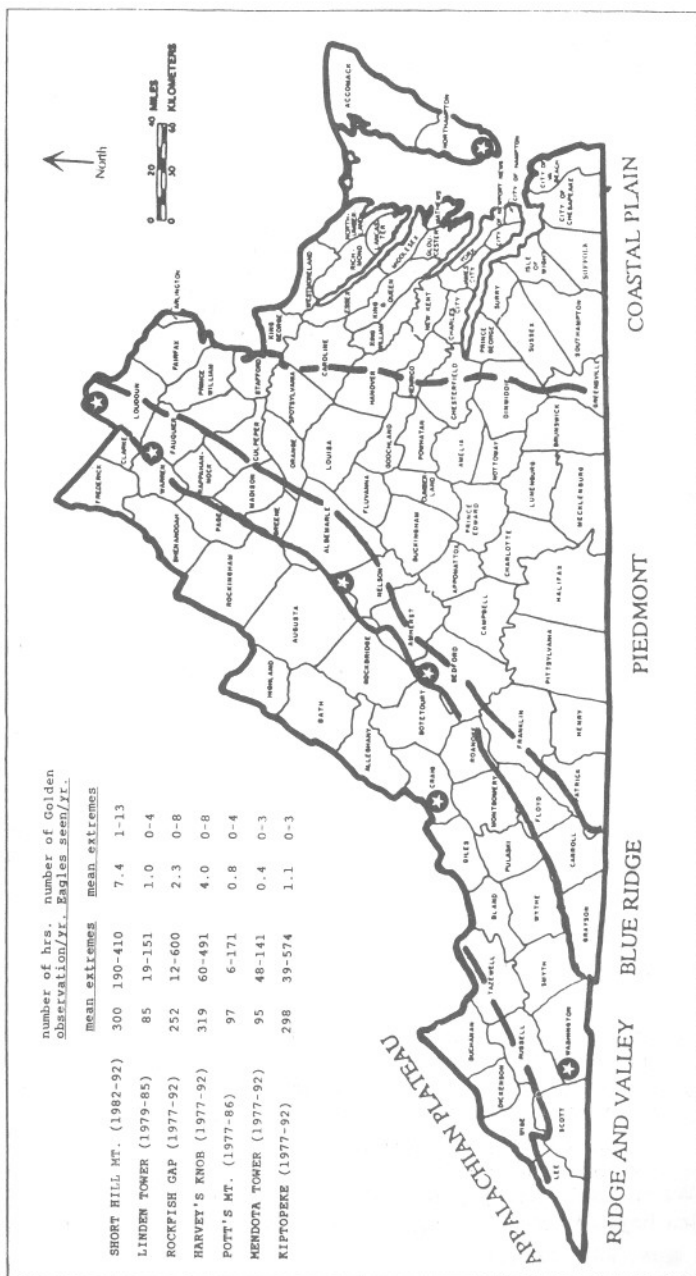
The data in Table 1, when analyzed statistically, indicate a significant correlation (correlation coefficient = 0.862, $P < 0.01$) between the number of Golden Eagles seen and the total number of hours of observation per year (Figs. 5, 6, pp. 29, 31). On the average, if the number of hours of observation in a given year are less than 100, the chance of seeing a Golden Eagle is quite low. In other words, with few exceptions only those stations logging more than 100 hours of observation each year have reported eagles.

Although autumn records at mountain hawk-watching stations begin about mid-September, November appears to be the month of peak migration for Golden Eagles along the Blue Ridge. On the coast, however, records from Kiptopeke indicate that fall migration for this species peaks there in late October.

The hawk-watching station reports show that Golden Eagles are still migrating southward through at least mid-November. The average date of observation at Short Hill (Loudoun Co.) is 7 November (8 October-16 December); Rockfish Gap (Nelson Co.), 3 November (8 October-1 December); Harvey's Knob (Botetourt Co.), 28 October (11 September-26 October); Kiptopeke Beach (Northampton Co.), 23 October (7 October-14 November).

In October, the non-hawk-watching counties where Golden Eagles were seen numbered 14, but in November and December, those numbers rose to 27 and 28, respectively. Such numbers strongly suggest that by late November or early December, Golden Eagles have essentially ended their migration into and through the state, and

FIGURE 5. Records of Golden Eagles from major hawk-watching stations in Virginia, 1977-1992.



have spread out geographically for the ensuing winter months. This hypothesis for Golden Eagles entering their winter phase is consistent with the observations of a radio-tagged Golden Eagle in Wisconsin and Illinois as it terminated fall migration (Applegate et al. 1987). At the end of November, that eagle altered its flight from southerly to east-west, and its average daily rate of travel decreased from 43 km/day to 3 km/day.

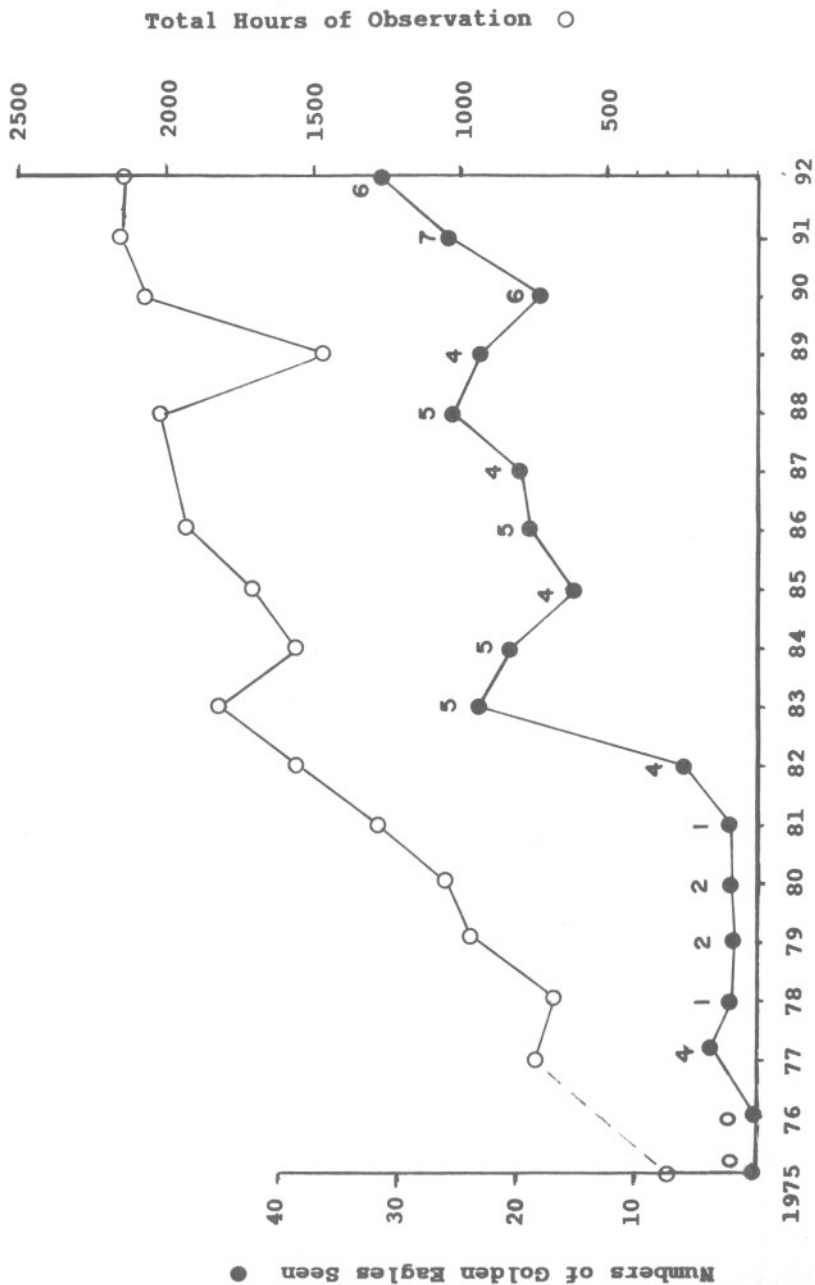
TABLE 1. *Golden Eagles seen at hawk-watching stations in Virginia. Data from "The Virginia Hawkwatch," supplied by Myriam Moore.*

Year	Number of sites in operation	Number of sites at which Golden Eagles were seen	Number of Golden Eagles seen	Total hours of operation
1975	26	0	0	284
1976	18	0	0	?
1977	24	4	4	738
1978	21	1	2	660
1979	39	2	2	954
1980	36	2	2	1049
1981	27	1	2	1270
1982	24	4	6	1541
1983	19	5	23	1809
1984	13	5	21	1543
1985	18	4	15	1690
1986	26	5	19	1907
1987	?	4	20	?
1988	12	5	26	2030
1989	17	4	23	1475
1990	17	6	18	2071
1991	13	7	26	2155
1992	10	6	32	2144

Winter

Millsap and Vana (1984), using data from the National Wildlife Federation midwinter eagle surveys, reported three observations of Golden Eagles in Virginia in 1982, but they did not specify locations. They also indicated that regular wintering sites for Golden Eagles included Montgomery County with five records between 1911 and 1980. Data amassed for the current paper show that regular wintering sites are much more widespread, extending from Loudoun and Fairfax counties in the north to Highland, Tazewell, and Washington counties farther south (Fig. 7, p. 33). We now know, therefore, that Golden Eagles overwinter principally along the Blue Ridge province and westward

FIGURE 6. The relationship between numbers of Golden Eagles seen and total hours of observations at hawk-watching stations. The number above each solid circle is the number of stations reporting eagles that year.



through the Ridge and Valley into the Appalachian Plateau. A few overwinter on the Coastal Plain, and even fewer on the Piedmont.

Trends in Numbers

In 1984, Millsap and Vana stated that "comparatively recent data suggest the eastern breeding population may indeed be decreasing," and emphasized the importance of sufficient wintering habitat. In an attempt to evaluate trends of migrating hawks in northeastern North America, Titus and Fuller (1990) found inconsistent results for Golden Eagles probably because the counts were too small. On the other hand, Bednarz et al. (1990) reported a significant decline from 1934 to 1986 for Golden Eagles counted at Hawk Mountain, Pennsylvania.

Spofford (1971) noted: "Not only is the reproductive success low at known nesting sites in the Appalachians but the fall migration of Golden Eagles past Hawk Mountain has dropped markedly in the last twenty years. At Hawk Mountain, Pennsylvania, five year averages of Golden Eagles have decreased from 51.6 (1946-50) to 28.8 (1966-70)."

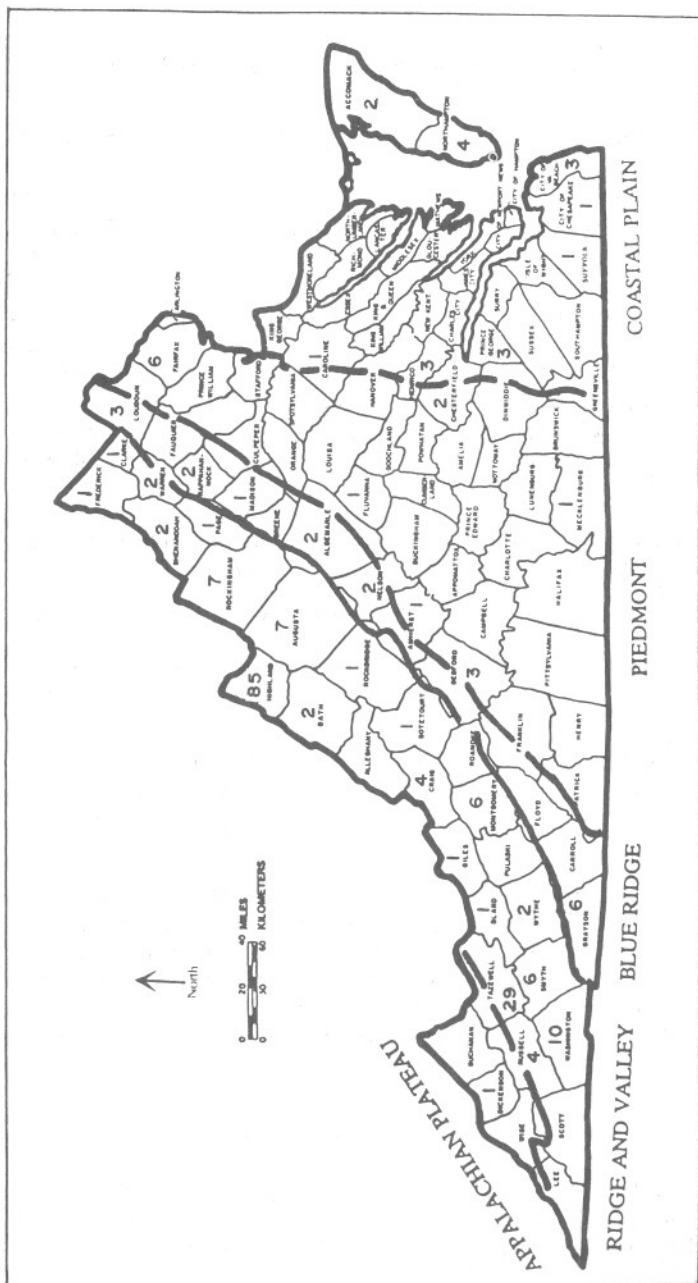
For Virginia, the numbers of eagles recorded over the years do not lend themselves to a trend analysis, even those counted at consistently operated hawk-watching stations. Reports from those stations do not lend themselves to a statistical trend analysis because the data have too many annual variables—numbers of days and hours of observations, numbers of observers, and small numbers of eagles observed. Kegley (1988) emphasized this point by noting that "part of the variation in hawk migration counts comes from differences in the amount of time spent sampling at hawkwatch sites."

FOOD

Although Bailey in his book on "Birds of Virginia" (1913) stated that Golden Eagles prefer "to capture live food, such as squirrels, rabbits, ducks, geese and other mammals and birds," it is highly unlikely that this statement applied to Golden Eagles in Virginia. Reports from recent observations of feeding eagles in the state have now shed light on prey selected by Golden Eagles especially in western parts of the state: carcasses of deer, lamb, sheep, and livestock; pursuit of live prey—poultry, domestic turkey, a crippled duck, ground hog, and rabbits. A specimen from Mecklenburg County (24 Dec. 1930) contained fragments of a young goat. Birds in the winter of 1895-6 were feeding on a dead sheep (Stone 1896), and a Golden Eagle from Fauquier County (1913 or 1914) "had considerable lamb's wool entangled in its talons" (Swales 1920).

The food items selected by Golden Eagles in Virginia, as enumerated above, do not differ significantly from previous reports of the bird's diet in other parts of North America: carrion as a major source of food especially in winter (Applegate et al. 1987), more mammals than birds, and a variety of rabbits, marmots, and other medium-sized rodents (Fisher 1893, May 1935, Olendorff 1976, Palmer 1988).

FIGURE 7. Records of Golden Eagles, December-February, in Virginia. Not shown: Clifton Forge City, 3; Lexington City, 1; Waynesboro City, 1.



BANDED BIRDS AND RECOVERIES IN VIRGINIA

Since the fall of 1973, 10 Golden Eagles have been banded in the state, as follows:

Date	County/City	Band Permittee
Nov 1973	Loudoun	Bill Clark
20 Feb 1975	Craig	Curtis Adkisson
Mar 1975	Montgomery	Curtis Adkisson
30 Oct 1983	Loudoun	Roger Jones
9 Feb 1986	Suffolk City	Don Schwab
14 Oct 1987	Loudoun	Roger Jones
7 Nov 1987	Loudoun	Craig Koppie
18 Nov 1987	Loudoun	Roger Jones
29 Oct 1988	Loudoun	Mark Causey
3 Nov 1992	Loudoun	Roger Jones

With one exception, there have been no recoveries of these banded birds. The Craig County bird was recovered in New York in 1980.

Golden Eagles banded elsewhere have been recovered in the state, as follows:

Banding location	Date banded	Recovery location	Recovery date
Tennessee	26 Feb 1936	Highland Co.	10 Mar 1938
New Jersey	2 Nov 1980	Frederick Co.	Nov 1980
North Carolina	1 Aug 1985	Scott Co.	25 Nov 1986

These few records of recoveries in Virginia yield little information about the specific origin of Golden Eagles found in the state. Indeed, few banded Golden Eagles have been recovered in the eastern North America. The best clues to eastern migration routes come from natal banding and recovery sites: from Ontario to Kentucky, Quebec to Pennsylvania, and Maine to Pennsylvania. These data suggest that Golden Eagles in Virginia have come from breeding populations in eastern Canada and/or northern New England.

ACKNOWLEDGMENTS

Danny Bystrak of the Bird Banding Laboratory in Laurel, Maryland, provided data on banded birds and recoveries. Myriam Moore supplied copies of "The Virginia Hawkwatch" containing information from hawk-watching stations. I am especially

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RAPPAHANNOCK RIVER BALD EAGLES

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The Rappahannock River Valley has a significant Bald Eagle (*Haliaeetus leucocephalus*) population. It has the distinction of having two large seasonal (winter and summer) concentrations of eagles as well as supporting the greatest number of active eagle nests in Virginia.

Since the late 1980s, the river has emerged as an important concentration area for Bald Eagles during the months of June, July, and August. Surveys by boat have shown that increasingly large numbers of eagles gather along the shoreline in the tidal brackish-to-fresh water section between Tappahannock and Port Royal. Resident nesting pairs, juveniles (first-year birds), sub-adults (second-, third-, and fourth-year birds), and non-breeding adults also spend time foraging many miles inland to the adjacent counties of King George, Westmoreland, Richmond, Essex, and Caroline. Because of these factors, boat surveys provide relative numbers, not complete totals, of the entire Bald Eagle population in the area.

Concentrations of the eagles include some of the resident nesting pairs, along with non-nesting adults, and many immature (less than five years old) birds. The number of eagles in these concentration areas greatly exceeds the expected totals based on other researchers' earlier estimates of foraging and territorial home-range requirements.

Southern Bald Eagle pairs in Florida were estimated to defend an area of about 0.8 kilometers in all directions from their nests (Broley 1947). Abbott (1978) found nesting territory typically to be about 2.59 square kilometers in the Chesapeake Bay region. Evidence from the 1993 nesting season data indicates that, at least in the Rappahannock River watershed, a smaller territory may be required. Food availability is a key factor and likely plays a large role in the resident eagles' nesting success (M. Byrd, pers. comm.).

Along the Rappahannock in 1993, there were 44 active Bald Eagles nests which produced 58 young. This represents about one-third of Virginia's total number of eagle nests. In addition to these nesting pairs, some of the "summer" birds are non-resident southern Bald Eagles, including many from Florida that have ranged northward after completing their winter nesting season. Some of the eagles seen had yellow patagial tags which had been attached by researchers in Florida.

Adult population densities and territorial requirements are extremely variable outside the nesting season and are probably dependent on the availability of fish and other foods (Johnsgard 1990). Immatures, of course, are not yet nesting and they do not appear to defend a territory. Despite the presence of great numbers of sub-adult and non-nesting adult eagles, however, resident nesting pairs do not appear greatly disturbed by their presence.

The greatest concentrations of eagles are located primarily in two separate areas of the river, one in the Fone's Cliffs-Payne's Island section, the other in the Horsehead Point-Nanzatico Bay area. These concentration areas seem to be of great overall importance in the biology of the species. It is important to note, however, that even with the nearby roosting sites, the eagles move about considerably, often traversing watersheds and foraging throughout the region. Thus, the entire tidal Rappahannock River basin should be considered important Bald Eagle habitat.

As many as 46 juvenile, sub-adult, and adult eagles have been observed in one 11-kilometer section of the river from Horsehead Point to Land's End Waterfowl Management Area. They often perch near each other in large trees overlooking the river. Adults (except for resident mates) have not been observed associating as closely with

TABLE 1. *Numbers of Bald Eagles observed on the Rappahannock River during periodic boat surveys, conducted by the author, between Tappahannock and Port Royal, Virginia, from March 1987 through February 1994.*

Date of surveys	Survey routes	Number of adults	Number of immatures	Totals
24 Mar 1987	Tappahannock to Port Royal	7	15	22
24 Nov 1987	Tappahannock to Port Royal	9	15	24
7 Jun 1988	Tappahannock to Port Royal	13	20	33
15 Feb 1989	Tappahannock to Rappahannock Academy	1	8	9
21 Jul 1989	Tappahannock to Rappahannock Academy	10	28	38
24 Jul 1989	Rappahannock Academy to Tappahannock	11	12	23
17 Aug 1989	Tappahannock to Port Royal	12	23	35
11 Nov 1989	Tappahannock to Port Royal	9	21	30
12 Jul 1990	Rappahannock Academy to Tappahannock	9	20	29
15 Nov 1990	Fredericksburg to Tappahannock	3	9	12
23 Feb 1991	Rappahannock Academy to Horsehead Point	17	18	35
7 Jun 1991	Tappahannock to Port Royal	12	22	34
10 Jul 1991	Rappahannock Academy to Tappahannock	14	23	37
31 Jan 1992	Tappahannock to Port Royal	41	55	96
2 Jul 1992	Tappahannock to Port Royal	16	35	51
8 Jul 1992	Rappahannock Academy to Tappahannock	8	20	28
28 Jul 1992	Tappahannock to Rappahannock Academy	11	41	52
26 Oct 1992	Tappahannock to Rappahannock Academy	12	19	31
23 Nov 1992	Tappahannock to Rappahannock Academy	42	15	57
23 Jan 1993	Tappahannock to Haymount	42	62	104
4 Feb 1993	Tappahannock to Port Royal	33	33	66
2 Jun 1993	Tappahannock to Port Royal	22	30	52
7-8 Jul 1993	Rappahannock Academy to Tappahannock	28	43	71
28 Jul 1993	Tappahannock to Port Royal	13	64	77
16 Aug 1993	Tappahannock to Port Royal	21	27	48
15 Sep 1993	Tappahannock to Land's End	7	15	22
25 Oct 1993	Tappahannock to Port Royal	19	37	56
5 Jan 1994 ¹	Tappahannock to Rappahannock Academy	33	65	98
6 Feb 1994	Tappahannock to Port Royal	33	54	87

¹ Includes data from U.S. Fish & Wildlife Service aerial waterfowl survey conducted by Fairfax Settle.

other eagles as immature birds do with one another, although non-breeding adults are present in large numbers in both summer and winter. Data from most count surveys demonstrate juveniles and sub-adults outnumber adults on the Rappahannock, both in summer and in winter (Table 1, p. 39). In addition to using large trees along undeveloped shorelines as perch sites, individuals will, on occasion, rest or feed on narrow river beaches, and perch on low snags, small solitary trees, muskrat lodges in the marshes, and on river ice during persistent cold spells.

The Rappahannock River has the largest winter concentration of Bald Eagles in Virginia. A total of 139 Bald Eagles were observed during the 1992 mid-winter aerial flight along the entire Rappahannock river from Fredericksburg to the Chesapeake Bay and including the Piankatank River (M. Byrd, Virginia Department of Game & Inland Fisheries, unpubl. data). During the 1991-92 and 1992-93 winters, 96 and 104 eagles, respectively, were observed on the boat surveys conducted along the main stem of the Rappahannock River and its major tributaries from Tappahannock to Port Royal. During three 1993-94 boat surveys (December, January, and February), the 5 January 1994 trip produced the highest total of 98 eagles.

Aerial winter waterfowl surveys conducted by the U.S. Fish and Wildlife Service and Virginia Department of Game & Inland Fisheries aerial winter waterfowl surveys, as well as a 1993-94 Christmas Bird Count conducted in coordination with these surveys, confirm that many more eagles forage inland away from the concentration areas and river shoreline. As in the summer, these concentrations occur in these same two areas where cliffs line one river shore, while extensive swamp and marsh habitat dominate the opposite shore.

This wintering population of eagles includes individuals from the northeastern United States and Canada that have not yet begun to nest, as well as immature, non-breeding birds. These birds may have been "frozen out" of their northern range and are seeking the Rappahannock's usually ice-free waters and abundant food resources. Eagles are often observed in the vicinity of large flocks of waterfowl. Canada Geese (*Branta canadensis*), Mallards (*Anas platyrhynchos*), and American Black Ducks (*Anas rubripes*), are the dominant species, with Northern Pintails (*Anas acuta*), Common Mergansers (*Mergus merganser*), Ruddy Ducks (*Oxyura jamaicensis*), Canvasbacks (*Aythya valisineria*), Green-winged Teal (*Anas crecca*), and Tundra Swans (*Cygnus columbianus*) occasionally present in smaller, localized flocks.

Most studies of Bald Eagle prey support the idea that eagles are opportunistic rather than preferential in food choice (Cash et al. 1985; Grubb and Hansel 1978). Fish are apparently preferred over avian prey where both are available as food, yet LeFranc and Cline (1983) found nests in the Chesapeake Bay contained prey remains of 45 species of birds, mainly waterfowl. Vulnerability of waterfowl during winter freezing periods probably allows for increased predation by eagles, although fish remain the primary food. Catfish (*Ictalurus*, sp.), gizzard shad (*Dorosoma cepedianum*) and carp (*Cyprinus carpio*) are abundant in the area and, in fact, account for more than half of the diets in many studies (Haines 1986; Cash et al. 1985; Todd et al. 1982). In addition to fish and birds, eagles also prey on mammals and reptiles. Researchers conducting a five-year study of prey remains in and under Bald Eagle nests in the Chesapeake Bay region found 45 species of birds, 11 species of mammals, twelve species of fish, and five

species of turtles (Cline and Clark 1981). Bald Eagles have been observed feasting on carrion. They have been observed successfully competing with Black Vultures (*Coragyps atratus*) and Turkey Vultures (*Cathartes aura*) for fish carcasses, and in at least one instance, a Black Vulture was found in prey remains at the nest of a Bald Eagle.

The field surveys on the Rappahannock are conducted on the water using a 17-foot Boston Whaler. The duration of surveys is usually from four to eight hours. The counts typically cover a distance of approximately 35 statute miles (~56 km) in one direction (the distance over water, along the shore, from Tappahannock to Port Royal). Some survey routes continue from Tappahannock to Rappahannock Academy, 4.5 miles upriver from Port Royal, and to Haymount, just north of the Academy property. Up to 12 additional miles may be added to the total distance covered when creeks are surveyed. Unnavigable creeks and wetlands are not surveyed, but the larger creeks, such as Occupacia and Cat Point, are routinely visited. Some of the more extensive marshes are entered by hand-poling the boat over the shallow sand and mud deposits located in the mouths of shallow tidal guts or tidal drainage streams. Once over these deltas, surveys are continued into the interior where tall cordgrass (*Spartina cynosuroides*) marshes line the creeks in the brackish-water zone. Arrow arum (*Peltandra virginica*), wild rice (*Zizania aquatica*), and pickerel weed (*Pontederia cordata*) marshes characterize the marsh vegetation in tidal freshwater zones further upriver and in the upper reaches of the tidal creeks.

Surveys are conducted between sunrise and nightfall, with most surveys conducted between 9 a.m. and 4 p.m., to avoid interfering with eagles' typical early-morning foraging behavior.

All eagle observations are recorded on a topographic map as sightings are made. Additional eagle sightings on the return (up- or down-river) trip are only added in areas where none were noted on the prior run.

As eagle concentration areas became increasingly well-known, more time was spent specifically surveying those areas. The initial surveys were not exclusively eagle surveys. Indeed, while conducting coincidental ecological research in the area in 1989, the sighting of 28 adult and immature eagles piqued my curiosity concerning Bald Eagle territoriality requirements. Since 1991, these surveys have been conducted primarily for Bald Eagle observations. By increasing the amount of time spent closely observing the area from Tappahannock to Port Royal, and especially the two concentration areas, while decreasing observation distance to shore, the number of eagle sightings increased dramatically.

This region at present is largely agricultural and the Rappahannock River is often described as the most pristine and unpolluted large river in the Chesapeake Bay region and, indeed, along the entire United States East Coast. During most of the year, only a few watermen, recreational fishermen, and game wardens are encountered during the surveys. In the summer months recreational boaters are present usually in moderate numbers (compared to other bodies of water near more urbanized sections of Virginia). Bald Eagle disturbances do occur, however, when weekend boaters seek beaches with large shade trees that are often used as perches by eagles.

One undeveloped beach which is popular with weekend boaters, as well as with eagles, is flanked by a narrow, shallow stream that drains an inland marsh-pond. Carp come in to the stream to spawn during July. As many as eight adult and sub-adult eagles have been observed at one time pulling the 18- to 26-inch-long fish from the shallows and eviscerating them (Fig. 1).

Most studies show the number of Bald Eagles is increasing along the Rappahannock River. This increase is understandable given the breeding success over the past decade throughout the entire Chesapeake Bay region. Since 1977 the Bald Eagle population

FIGURE 1. *Immature Bald Eagle feeding on fish along the shores of the Rappahannock River.*



in Virginia has increased by an annual average of 10% (Byrd, pers. comm.). The boat and aerial surveys, however, show dramatically increasing numbers of Bald Eagles over the last five years, especially in the large concentrations of the birds in two localized areas mentioned above. The increased numbers, however, may be accounted for by additional factors related to the survey methodology.

The number of eagles along the Rappahannock fluctuates seasonally with the influx of northern and southern populations but do not reach the high concentrations during spring and autumn that exist during the summer and winter. While it is believed that the Chesapeake Bay population of eagles is fairly stable now, the greatest threat to this endangered species in Virginia is the human influx into, and development of, roosting, foraging, and nesting habitats (Terwilliger 1991). As one of the few large rivers in the Chesapeake Bay ecosystem, with extensive undeveloped shoreline remaining, it offers important roosting, foraging and nesting habitats in an area favored by eagles. The

Rappahannock River should be recognized as an extremely valuable area for a significant portion of the Bald Eagle population of Virginia and the East Coast.

I would like to thank to Dr. Mitchell Byrd and Mr. Fairfax Settle for sharing their data with me, for reviewing this paper, and for their encouragement and support. I would also like to thank the many individuals who participated with me as observers during the boat surveys.

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RAPTOR MIGRATION OVER OAKTON, FAIRFAX COUNTY

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Although not in a class with hawk-watching along the Blue Ridge or the coast, occasionally sizeable numbers of raptors can be seen off those beaten tracks. Such an event was noted in the late afternoon of 19 September 1993 over our home in Oakton, a half-mile or so west-northwest of the Oakton Shopping Center on VA 123.

The afternoon was calm, but somewhat hazy, with a high, thin overcast. The surface temperature was 70-72°F. Shortly after 4 p.m. a kettle of about 50 Broad-winged (*Buteo platypterus*) and two Sharp-shinned (*Accipiter striatus*) hawks was spotted moving slowly southward at a leisurely pace. We were able to keep this flock in view for several minutes before it faded into the haze. There was considerable vertical distribution of the birds so that, even directly overhead, the uppermost were difficult to pick out.

Larger movements of birds, however, were yet to come. Between 5:30 and 6:15 p.m., three more separate kettles passed over as John Pierce, Kurt Savoie, Karla Weber, and the author sat comfortably in lawn chairs on the front lawn of the Weber home. The first of these appeared at 5:30 p.m. and consisted of about 70 broad-wings and two sharp-shins, moving in a generally south-southwest direction in lazy circles as the earlier kettle had.

At 5:45 p.m. a second kettle, consisting of approximately 100 birds, came into view and was tracked for about five minutes as it moved in the same general direction as the earlier flocks. This group was composed principally of Broad-winged Hawks, but also contained three Sharp-shinned Hawks, one American Kestrel (*Falco sparverius*), and one immature Bald Eagle (*Haliaeetus leucocephalus*) (the presence of which made the tracking much easier!). Again the vertical distribution was so great that birds at the top of the stack could be picked out only by using binoculars. Two broad-wings split out of this kettle and descended to look over our woodlot, but soon rejoined the birds above. Our resident Red-shouldered Hawk (*Buteo lineatus*) rose up and screamed vigorously but did not attempt to join the flock.

At about 6 p.m., still another kettle of about 30 broad-wings came over, flying in slow circles, following the same path taken by the three previous flocks. Our totals for this exciting afternoon of armchair hawk-watching were about 250 Broad-winged Hawks, seven Sharp-shinned Hawks, one American Kestrel, and one Bald Eagle.

One can only speculate about the reasons for raptors choosing this flight path, but a plausible one might be the following: a small percentage of raptors following the Blue Ridge path during migration, may split from the standard course along the mountain ridges to follow the Potomac southward, attracted by a corridor of water and woods. When these birds approach the heavily built-up urban area near the Loudoun-Fairfax County line, those at the top of the stack should be able to see the Potomac and its adjacent heavily-wooded areas, such as Prince William Forest Park beyond the metropolitan area. The distance to these havens would be approximately 30-35 miles. Assuming further that the birds started their day's flight in late morning, as they frequently do, and that their forward progress was as deliberate as we observed over Oakton, the time of their passage over our yard in late afternoon seems plausible enough. They would, however, have to speed up to reach landfall before dark.

VIRGINIA CHRISTMAS BIRD COUNTS—1992-93 SEASON

TETA KAIN

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Again, the number of Christmas bird counts held in Virginia climbed to an all-time high. This year Dismal Swamp was added to the list, bringing the total number of counts held in during the 1992-93 season to 45. Dismal Swamp is located in the southeastern section of the state. This immense tract has been prominent in the history and development of Virginia since the earliest times. Despite the construction of ditches to drain the vast, low-lying land, and various other human activities in and around the area, Great Dismal Swamp has remained mysterious and difficult to penetrate. Its remoteness and inaccessibility help to provide ideal habitat for a variety of animal and plant life. Because of its unusual ecology, it routinely harbors species that are difficult to almost impossible to find anywhere else in the state during the winter months.

Approximately 824 field observers and feeder watchers took part in Virginia counts this year, and of these, 103 participating in two counts, 34 in three counts, 10 in four counts, and five in five counts. Of the 45 counts, the results of five—Newport News, Darlington Heights, Lynchburg, Claytor Lake, and Bristol were not submitted to *American Birds*.

Rain in varying amounts from drizzle to downpour punctuated the first weekend of the count period when 19 of the 45 counts were held and at least 14 counts experienced some kind of precipitation. Temperatures ranged from 14°F. in the early morning hours at Philpott Reservoir to 72°F. at Little Creek, somewhat higher overall than one would expect for Virginia during late December and early January. It is the third year in a row that milder-than-normal weather conditions have prevailed during the Christmas count period.

The counts in Table 1 (pp. 46-70) are generally arranged in order of distance inland from the coast. Counts 1 through 12 are located in the Coastal Plain; Counts 13 through 25 are in the Piedmont; Counts 26 through 45 are situated in the Mountains and Valleys region.

Only 203 species were counted in 1992-93, five less than were found the previous year. Participants also tallied one subspecies and one morph. No new species were added to the cumulative list. Species that are usually found somewhere in the state each year, but were entirely missed this season were: Red-necked Grebe (*Podiceps grisegena*), Yellow-crowned Night-Heron (*Nyctanassa violacea*), Glossy Ibis (*Plegadis falcinellus*), Eurasian Wigeon (*Anas penelope*), Northern Goshawk (*Accipiter gentilis*), Piping Plover (*Charadrius melodus*), Whimbrel (*Numenius phaeopus*), Long-billed Curlew (*N. americanus*), Red Knot (*Calidris canutus*), Long-billed Dowitcher

(Summary continued on page 71)

TABLE 1. (on the following 25 pages) The 1992-93 Christmas bird counts in Virginia. The 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.

	Red-throated Loon	Common Loon	Pied-billed Grebe	Horned Grebe	Eared Grebe	Northern Gannet	American White Pelican	Brown Pelican	Great Cormorant
1. Chincoteague	2	15	12	3	...	...	2	...	...
2. Wachapreague	100	84	5	21	...	7	...	...	1
3. Cape Charles	13	95	83	73	...	657	...	1	41
4. Little Creek	27	48	65	20	1	1518	...	170	4
5. Back Bay	12	33	11	...	...	210	...	11	...
6. Dismal Swamp
7. Newport News	4	48	33	13	...	1	...	10	...
8. Mathews	12	447	7	59	...	548	...	CW	...
9. Williamsburg	...	9	29	18	...	...	2	3	1
10. Hopewell	10	...	...	...	...	...	...
11. Brooke	...	1	289	...	...	...	...	...	...
12. Fort Belvoir	...	4	25	10	...	...	...	...	...
13. Manassas-B.R.	7	...	...	...	...	...	...
14. Nokesville	2	...	...	...	...	...	...
15. Lake Anna	...	8	8	4	...	...	...	...	...
16. Gordonsville	4	...	...	...	...	...	...
17. Charlottesville
18. Warren	3	...	...	...	...	...	...
19. Darlington Heights	2	...	...	...	...	...
20. Kerr Reservoir	4	45	42	105	...	...	...	...	...
21. Banister WMA	CW	...	...	...	...	...	...
22. Lynchburg	9	1	...	...	...	...	...
23. Danville	2	...	...	...	...	...	...
24. Martinsville	1	...	...	...	...	...	...
25. Philpott Res.	9	...	...	...	...	...	...
26. Calmes Neck
27. N. Shen. Valley	1	2	...	...	...	...	...
28. Shen. NP-Luray	1	...	...	...	...	...	...
29. Big Flat Mtn.
30. Rockingham Co.	1	...	...	...	...	...	...
31. Augusta Co.
32. Waynesboro	3	1	...	...	...	...	...
33. Lexington
34. Peaks of Otter
35. Clifton Forge
36. Fincastle
37. Roanoke	...	2	2	1	...	...	...	...	...
38. Blacksburg	...	1	4	...	...	...	...	...	...
39. Claytor Lake	...	3	25	...	...	...	...	...	...
40. Tazewell	5	...	...	...	...	...	...
41. Glade Spring	3	...	...	...	...	...	...
42. Bristol	...	4	11	...	...	...	...	...	...
43. Nickelsville
44. Breaks I.S. Park
45. Wise County
Total individuals	174	847	712	333	1	2941	4	195	47

Double-crested Cormorant	American Bittern	Great Blue Heron	Great Egret	Snowy Egret	Little Blue Heron	Tricolored Heron	Cattle Egret	Green Heron	Black-crowned Night-Heron	Tundra Swan	Mute Swan
1	...	81	44	4	3	6	...	4	7	303	11
43	...	59	1	...	...	10	...	...	10	5	...
74	2	59	3	7	2	42	...	1	6	41	...
2020	...	128	44	3	...	...	...	...	16	161	...
58	...	37	6	...	...	...	34	...	7	506	...
5	...	1	...	...	...	...	...	...	...	339	...
873	...	52	14	...	...	...	...	...	8	94	...
2	...	48	...	...	...	...	...	1	...	747	...
363	...	161	1	...	...	...	...	...	...	188	9
428	...	91	...	...	...	...	...	...	...	4	...
3	...	31	...	...	...	...	...	...	...	522	7
...	...	222	...	...	...	...	...	...	...	367	2
...	...	9	...	...	...	...	...	...	...	...	...
...	...	19	...	...	...	...	...	...	...	CW	...
1	...	15	...	...	...	...	...	...	...	...	...
...	...	7	...	...	...	...	...	...	...	...	...
...	...	13	...	...	...	...	...	...	...	...	...
...	...	14	...	...	...	...	...	...	...	...	...
...	...	7	...	...	...	...	...	...	...	...	...
33	1	76	...	...	...	...	...	...	...	...	...
4	...	7	...	...	...	...	...	...	...	CW	...
...	...	15	...	...	...	...	...	...	...	...	...
...	...	5	...	...	...	...	...	...	...	...	...
...	...	4	...	...	...	...	...	...	...	...	...
...	...	2	...	...	...	...	...	...	...	...	...
...	...	11	...	...	...	...	...	...	...	6	...
...	...	29	...	...	...	...	...	...	...	1	1
...	...	16	...	...	...	...	...	...	1	...	...
...	...	1	...	...	...	...	...	...	...	...	...
...	...	8	...	...	...	...	...	...	...	...	2
...	...	9	...	...	...	...	...	...	...	...	...
...	...	15	...	...	...	...	...	...	...	...	...
...	...	2	...	...	...	...	...	...	...	...	...
...	...	5	...	...	...	...	...	...	...	...	2
...	...	9	...	...	...	...	...	...	...	...	...
...	...	16	...	...	...	...	...	...	...	...	...
...	...	13	...	...	...	...	...	...	...	...	...
...	...	5	...	...	...	...	...	...	...	...	...
...	...	5	...	...	...	...	...	...	...	...	...
...	...	15	...	...	...	...	...	1	...	...	...
...	...	15	...	...	...	...	...	...	...	...	...
...	...	5	...	...	...	...	...	...	...	...	...
...
...	...	2	...	...	...	...	...	...	...	...	...
3908	3	1344	113	14	5	58	34	7	55	3284	34

	Greater White-fronted Goose	Snow Goose (blue form)	Snow Goose	Ross's Goose	Brant	Canada Goose	Wood Duck	Green-winged Teal	American Black Duck
1. Chincoteague	...	32	3592	...	919	1018	41	72	315
2. Wachapreague	...	1	358	...	4350	924	2	45	255
3. Cape Charles	...	1	480	...	145	1260	2	82	889
4. Little Creek	80	...	1400	258	46	115	122
5. Back Bay	...	10	5360	1	...	511	1	164	180
6. Dismal Swamp	1	...	...	6	31	...	1
7. Newport News	60	205	1	...	4
8. Mathews	3	329	...	...	19
9. Williamsburg	2	...	...	1441	2	55	32
10. Hopewell	20	...	...	6848	10	...	113
11. Brooke	345	...	...	67
12. Fort Belvoir	9	...	...	4344	16	67	1426
13. Manassas-B.R.	1816	...	...	13
14. Nokesville	1	1	...	...	...	2200	3	6	30
15. Lake Anna	1	...	...	847	...	...	...
16. Gordonsville	1967	1	1	...
17. Charlottesville	714	7	...	32
18. Warren	727	4	2	9
19. Darlington Heights	6	...	...	...
20. Kerr Reservoir	108	11	31	3
21. Banister WMA	4	10	...	5
22. Lynchburg	87	3	...	29
23. Danville	36	3	...	...
24. Martinsville	7
25. Philpott Res.	1	...	2
26. Calmes Neck	1	...	...	4106	2	...	276
27. N. Shen. Valley	CW	...	...	...	...	1767	7	9	155
28. Shen. NP-Luray	136	3	3	51
29. Big Flat Mtn.	10	...	...	...
30. Rockingham Co.	13	...	8	...
31. Augusta Co.	57	...	...	...
32. Waynesboro	340	6	...	13
33. Lexington	14	...	6	22
34. Peaks of Otter
35. Clifton Forge	23	1	...	15
36. Fincastle	58	2	1	16
37. Roanoke	76	3	4	38
38. Blacksburg	167	...	...	45
39. Claytor Lake	13	...	...	...
40. Tazewell	1	...	...	...
41. Glade Spring	6	...	...	414	...	1	21
42. Bristol	418	...	...	10
43. Nickelsville
44. Breaks I.S. Park
45. Wise County
Total individuals	1	45	9916	1	6877	33,614	219	672	4215

	Mallard	Northern Pintail	Blue-winged Teal	Northern Shoveler	Gadwall	American Wigeon	Canvasback	Redhead	Ring-necked Duck	Greater Scaup	Lesser Scaup	scaup, sp.
688	2095	...	...	406	176	155	1	...	1	8	80	2
77	2	...	...	...	14	...	...	...	...	...	...	2
518	18	4	18	293	610	6	...	...	80	2	17	...
860	6	...	190	77	445	46	4	157	...	...	5	...
328	63	23	25	7	10	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...	62	...	54	...
832	...	...	...	51	185	116	9	153	30	4	...	...
233	...	...	...	...	...	1	...	...	...	7	...	...
942	90	...	...	9	17	839	2	541	...	8	14	...
415	6	...	...	...	...	...	...	45	...	...	...	...
610	...	...	...	540	350	800	...	...	...	2	...	...
2495	39	...	168	272	126	1108	50	353	38	327	11,230	...
346	...	...	...	...	...	...	...	...	...	...	...	...
800	CW	...	10	CW	...	...	...	3	...	...	...	...
48	3	...	...	1	...	...	...	5	...	...	...	...
68	...	...	...	...	...	...	...	...	...	2	...	...
27	...	...	...	...	...	...	...	...	...	...	...	...
33	...	...	...	...	...	...	...	...	...	...	...	...
30	...	...	...	...	...	...	...	...	...	...	...	...
337	2	1	6	61	44	1	1	500	4	2	...	...
78	1	...	...	...	...	3	...	...	...	...	...	...
103	...	...	...	4	...	...	...	10	...	...	...	...
41	...	...	...	...	3	...	...	...	...	...	...	...
25	...	...	...	...	...	1	...	...	...	1	...	...
37	...	...	...	...	...	...	...	...	...	...	...	5
632	...	...	...	2	46	...	...	...	14	...	...	...
1031	5	...	...	...	1	2	1	1	...	1	...	...
361	1	...	...	...	...	...	...	1	...	...	...	...
...
162	...	...	...	...	63	...	...	...	...	...	...	...
180	...	...	...	...	1	...	...	...	...	...	...	...
183	CW	...	...	...	...	CW	...	...	...	...	...	...
40	...	...	...	6	...	...	...	1	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...
100	...	...	...	2	1	...	...	...	...	...	...	...
259	...	...	...	4	5	...	...	...	...	1	...	...
643	1	...	...	3	8	2	...	CW	22	52	...	...
174	2	...	...	23	24	...	...	4	...	...	...	...
59	...	...	...	2	...	...	...	...	...	...	...	...
177	1	...	...	...	...	...	...	...	...	...	...	...
477	2	...	2	31	1	...	...	...	77	93	...	...
22	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...
14,492	2337	28	825	1578	2095	2926	67	2008	105	655	11,253	...

	Common Eider	King Eider	Harlequin Duck	Oldsquaw	Black Scoter	Surf Scoter	White-winged Scoter	scoter, sp.	Common Goldeneye
1. Chincoteague	27	...	3	...	2	4
2. Wachapreague	1	...	...	19	36	516	139	492	5
3. Cape Charles	115	755	449	42	400	33
4. Little Creek	...	1	...	5	5	9	9	...	16
5. Back Bay	...	1	...	1	42	4	1	...	...
6. Dismal Swamp
7. Newport News	84	...	79	14	160	75
8. Mathews	195	...	398	8	...	128
9. Williamsburg	17
10. Hopewell
11. Brooke	1	...	...	...	...	125
12. Fort Belvoir	2	...	1	2	15	74
13. Manassas-B.R.
14. Nokesville
15. Lake Anna
16. Gordonsville
17. Charlottesville
18. Warren
19. Darlington Heights
20. Kerr Reservoir
21. Banister WMA
22. Lynchburg
23. Danville
24. Martinsville
25. Philpott Res.
26. Calmes Neck
27. N. Shen. Valley	CW	...	...	...	...	...
28. Shen. NP-Luray
29. Big Flat Mtn.
30. Rockingham Co.
31. Augusta Co.
32. Waynesboro
33. Lexington
34. Peaks of Otter
35. Clifton Forge
36. Fincastle
37. Roanoke
38. Blacksburg	2	...	...	...	...	...	2
39. Claytor Lake
40. Tazewell
41. Glade Spring
42. Bristol	1
43. Nickelsville
44. Breaks I.S. Park
45. Wise County
Total individuals	1	2	2	449	838	1459	215	1069	485

Bufflehead	Hooded Merganser	Common Merganser	Red-breasted Merganser	Ruddy Duck	duck, sp.	Black Vulture	Turkey Vulture	Osprey	Bald Eagle	Northern Harrier	Sharp-shinned Hawk
153	205	4	231	33	14	3	49	...	...	10	7
758	100	...	321	22	...	21	144	...	4	23	8
1186	294	...	1755	...	...	47	229	...	8	42	17
1080	302	4	1190	7	...	3	25	2	2	1	13
...	21	...	1850	6	...	17	17	...	1	19	9
1	...	...	...	...	...	57	125	...	2	...	1
524	64	31	388	10	...	...	3	...	CW	10	8
1221	19	5	817	...	200	...	25	...	6	8	9
213	92	4	55	913	...	CW	34	...	26	5	6
40	4	38	...	7	...	CW	8	...	51	11	1
250	17	137	89	3	...	3	72	...	15	4	3
1069	176	746	37	554	...	2	90	...	76	1	10
...	15	2	...	...	...	12	111	...	1	5	3
...	15	...	...	...	...	21	110	...	CW	48	9
123	5	...	...	...	...	27	79	...	3	2	2
8	22	...	...	...	...	22	57	...	...	1	1
5	30	...	...	...	...	67	223	...	...	1	8
6	3	...	...	...	...	50	99	...	...	4	2
...	17	...	...	...	...	20	109	...	...	10	2
77	53	...	...	...	...	3	12	...	7	13	2
4	2	...	...	...	...	CW	95	...	...	1	1
...	14	...	...	1	...	304	320	...	...	...	4
...	11	...	...	...	...	4	56	...	...	2	1
3	5	...	...	...	...	10	74	...	...	...	CW
13	2	...	...	...	3	6	29	...	...	...	...
...	2	3	...	...	...	44	127	...	2	2	2
2	7	1	1	CW	...	97	210	...	CW	9	8
...	...	1	...	...	...	235	393	...	...	2	10
...	1	...	...	...	...	...	3	...	...	...	...
...	...	...	...	...	...	13	253	...	...	...	4
...	...	...	...	...	...	103	546	...	...	1	7
...	21	...	...	...	...	24	60	...	...	3	3
...	1	...	...	...	...	49	59	...	1	...	1
...	...	...	...	...	...	10	6	...	...	...	...
...	...	...	...	...	...	8	15	...	...	2	...
...	5	...	...	...	...	16	32	...	...	...	3
3	31	1	3	1	...	131	160	...	1	...	4
83	48	...	...	...	15	247	146	...	...	...	7
43	9	...	...	...	2	...	...	...	...	...	...
...	1	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	58	210	...	...	...	7
105	83	...	2	...	...	2	21	...	...	1	4
...	...	...	...	...	...	...	...	...	...	...	1
...
...
...	...	...	1	...	...	...	...	...	...	1	...
6970	1697	977	6740	1557	234	1736	4436	2	206	242	188

	Cooper's Hawk	Accipiter, sp.	Red-shouldered Hawk	Red-tailed Hawk	Rough-legged Hawk	Buteo, sp.	Golden Eagle	American Kestrel
1. Chincoteague	3	...	3	15	...	...	...	22
2. Wachapreague	...	...	4	30	...	...	...	51
3. Cape Charles	7	4	...	46	...	...	...	48
4. Little Creek	3	...	4	29	...	...	...	31
5. Back Bay	3	1	5	38	...	...	...	74
6. Dismal Swamp	3	...	9	18	...	1	...	10
7. Newport News	1	...	...	17	...	...	...	18
8. Mathews	...	...	7	8	...	...	...	7
9. Williamsburg	1	...	4	15	...	...	...	15
10. Hopewell	1	...	10	28	...	...	...	24
11. Brooke	1	...	25	24	1	...	...	5
12. Fort Belvoir	6	...	46	39	...	...	...	6
13. Manassas-B.R.	2	...	29	60	...	...	...	29
14. Nokesville	7	...	26	104	1	...	...	86
15. Lake Anna	1	...	6	16	...	...	...	6
16. Gordonsville	1	...	5	23	...	...	...	11
17. Charlottesville	2	...	6	44	...	...	...	14
18. Warren	2	...	7	41	...	...	...	19
19. Darlington Heights	3	...	2	22	...	...	...	23
20. Kerr Reservoir	2	...	4	24	...	...	...	22
21. Banister WMA	...	...	1	5	...	...	...	8
22. Lynchburg	3	1	2	54	...	...	...	26
23. Danville	4	...	...	23	...	...	...	15
24. Martinsville	3	...	2	22	...	...	...	6
25. Philpott Res.	...	1	2	7	...	...	...	1
26. Calmes Neck	...	...	1	47	...	...	...	36
27. N. Shen. Valley	5	...	1	53	...	...	...	51
28. Shen. NP-Luray	12	...	...	51	1	...	...	27
29. Big Flat Mtn.	...	...	...	2	...	...	...	...
30. Rockingham Co.	5	...	...	27	...	...	...	46
31. Augusta Co.	3	...	...	45	1	...	...	54
32. Waynesboro	1	...	5	44	...	...	...	18
33. Lexington	1	...	2	17	...	...	...	8
34. Peaks of Otter	...	...	...	7	...	...	...	...
35. Clifton Forge	1	...	...	4	...	...	...	2
36. Fincastle	2	...	1	15	...	...	...	23
37. Roanoke	7	...	...	19	...	...	...	19
38. Blacksburg	4	1	2	22	...	1	...	14
39. Claytor Lake	1	...	1	8	...	...	...	13
40. Tazewell	...	...	...	12	...	...	2	8
41. Glade Spring	2	...	...	29	...	...	...	28
42. Bristol	6	...	2	26	...	...	1	33
43. Nickelsville	2	...	2	1	...	...	...	8
44. Breaks I.S. Park	...	...	...	1	...	...	...	1
45. Wise County	1	...	1	9	1	...	...	8
Total individuals	224	8	227	1191	5	2	3	974

Merlin	Peregrine Falcon	hawk, sp.	Ring-necked Pheasant	Ruffed Grouse	Wild Turkey	Northern Bobwhite	Black Rail	Clapper Rail	King Rail	Virginia Rail	Sora
1	3	...	...	...	...	54	...	2	...	2	...
...	2	...	...	...	...	56	1	30	...	10	...
1	3	...	...	...	...	50	...	36	...	16	1
6	6	...	53	...	5	...
...	26	...	4	16	21	5
...	1	...	...	...	...	...	...	...	...	...	...
...	...	1	...	...	...	7	...	15	...	...	...
...	...	1	...	...	...	8	...	6	...	...	...
...	1	...	4	...	...	16	...	4	...	...	CW
...	20	...	35	...	...	...	...	...
...	12	...	...	...	...	...
...	8	...	...	1	...	...
...
...	CW	4	...	...	...	...	...
...	2	...	...	...	...	...
...	9	47	...	...	...	...	...
...	10	4	...	...	...	...	...
...	44	50	...	...	...	...	...
...	1	40	...	...	...	...	...
...	7	7	...	...	...	1	...
...	1	17	...	...	...	...	...
...	35	32	...	...	...	...	...
...	1	28	...	...	...	...	...
...
...	CW	...	...	...	...	...
...	4	2	...	24	...	...	...	...	...
...	4	20	7	...	...	...	...	...
...	23	13	9	...	...	...	...	...
...	7	2	7	...	...	...	...	...
...
...	1	3	1	...	...	...	...	...
...	1	3	26	...	...	...	...	...
...	2	CW	CW	...	...	...	...	...
...	3	3	...	...	...	...	...	...
...	1	4	15	...	...	...	...	...
...
...	1	1	...	1	1	12	...	...	...	...	...
...
...	3	...	17	...	...	...	...	...
...
...	8	...	1	...	...	...	...	...
...	3	2	...	...	...	...	...	...
...
...	5	10	...	...	...	...	...	...
...	6	1	...	...	...	...	...	...
9	11	1	8	70	191	628	1	150	17	55	6

	Common Moorhen	American Coot	Black-bellied Plover	Semipalmated Plover	Killdeer	American Oystercatcher	Greater Yellowlegs	Lesser Yellowlegs	yellowlegs, sp.
1. Chincoteague	...	3	17	...	4	50	43	2	...
2. Wachapreague	260	17	16	51	34	10	...
3. Cape Charles	...	50	308	27	47	193	87	...	...
4. Little Creek	...	244	1	...	67	<u>160</u>	12	...	...
5. Back Bay	2	145	1	...	46	...	8	...	...
6. Dismal Swamp	...	2	...	...	139	...	...	...	...
7. Newport News	...	49	21	...	83	...	...	...	...
8. Mathews	4	...	44	2	3	...	1
9. Williamsburg	<u>1</u>	...	...	...	28	...	<u>34</u>	...	...
10. Hopewell	71	...	...	...	...
11. Brooke	...	500	...	...	3	...	...	...	...
12. Fort Belvoir	...	801	...	...	<u>289</u>	...	...	...	...
13. Manassas-B.R.	...	22	...	...	14	...	...	...	...
14. Nokesville	63	...	...	...	...
15. Lake Anna	...	31	...	...	5	...	...	...	...
16. Gordonsville	9	...	...	...	...
17. Charlottesville	7	...	...	...	...
18. Warren
19. Darlington Heights
20. Kerr Reservoir	28	...	...	...	...
21. Banister WMA	5	...	...	...	...
22. Lynchburg	...	15	...	...	32	...	...	...	...
23. Danville	27	...	...	...	...
24. Martinsville	...	15	...	...	7	...	...	...	...
25. Philpott Res.	7	...	...	...	...
26. Calmes Neck	9	...	...	...	...
27. N. Shen. Valley	...	1	...	3	3	...	...	...	...
28. Shen. NP-Luray	3	...	...	...	...
29. Big Flat Mtn.
30. Rockingham Co.
31. Augusta Co.	4	...	...	...	...
32. Waynesboro	2	...	...	...	...
33. Lexington	4	...	...	...	...
34. Peaks of Otter
35. Clifton Forge	CW	...	...	...	...
36. Fincastle	3	...	...	...	...
37. Roanoke	...	1	...	...	16	...	...	...	...
38. Blacksburg	...	CW	...	...	18	...	...	...	...
39. Claytor Lake	...	64	...	...	11	...	...	...	...
40. Tazewell	...	1	...	...	...	...	...	...	...
41. Glade Spring	18	...	...	...	...
42. Bristol	...	29	...	...	53	...	...	...	...
43. Nickelsville	3	...	...	...	...
44. Breaks I.S. Park
45. Wise County	12	...	...	...	...
Total individuals	3	1973	612	47	1200	456	221	12	1

[illegible]

	dowitcher, sp.	Common Snipe	American Woodcock	jaeger, sp.	Laughing Gull	Bonaparte's Gull	Ring-billed Gull	Herring Gull	Lesser Black-backed Gull
1. Chincoteague	...	4	10	...	...	...	1159	389	...
2. Wachapreague	12	...	1	...	...	2	1862	432	...
3. Cape Charles	...	2	17	...	1	330	2007	2243	...
4. Little Creek	5	...	3	2075	12,150	4700	8
5. Back Bay	...	35	3	1	3	440	6660	650	1
6. Dismal Swamp	5	...	...	...	696	15	...
7. Newport News	2	...	...	9	7381	2701	...
8. Mathews	40	...	4	...	1	34	1016	1549	...
9. Williamsburg	...	1	3	...	30	27	2071	193	...
10. Hopewell	...	10	...	...	1	2	8349	311	...
11. Brooke	5	...	...	...	4200	275	...
12. Fort Belvoir	...	14	5	...	...	25	20,086	463	1
13. Manassas-B.R.	...	1	...	...	...	...	848	52	...
14. Nokesville	...	23	4	...	3	3	8538	1408	3
15. Lake Anna	1	...	...	25	1392	32	...
16. Gordonsville	2	...	...	...	6	...	...
17. Charlottesville	...	3	...	...	...	...	...	...	...
18. Warren	1	...	...	...	...	...	...
19. Darlington Heights	2	...	...
20. Kerr Reservoir	...	1	3	...	...	214	4500	39	...
21. Banister WMA	15	480	...	...
22. Lynchburg	6	...	...	CW	CW	...	...
23. Danville	1	...	...	...	602	...	...
24. Martinsville	1	...	...
25. Philpott Res.	3	...	...
26. Calmes Neck	...	3	...	...	...	...	3	...	...
27. N. Shen. Valley	...	8	1	...	...	CW	1	...	...
28. Shen. NP-Luray
29. Big Flat Mtn.
30. Rockingham Co.	...	2	...	...	...	...	...	...	...
31. Augusta Co.
32. Waynesboro	...	1	...	...	...	...	...	...	...
33. Lexington	...	5	...	...	...	...	5	...	...
34. Peaks of Otter
35. Clifton Forge	3	...	...	...	CW	...	...
36. Fincastle	...	6	...	...	...	...	1	...	...
37. Roanoke	...	1	...	...	...	...	1390	1	...
38. Blacksburg	...	1	...	...	...	CW	341	CW	...
39. Claytor Lake	164	...	...
40. Tazewell
41. Glade Spring	...	8	...	...	...	...	...	...	...
42. Bristol	3	608	...	...
43. Nickelsville
44. Breaks I.S. Park
45. Wise County
Total individuals	52	129	82	1	42	3204	86,522	15,453	13

	Glaucous Gull	Great Black-backed Gull	Black-legged Kittiwake	gull, sp.	Royal Tern	Forster's Tern	Black Skimmer	Rock Dove	Mourning Dove	Barn Owl	Eastern Screech-Owl	Great Horned Owl
...	167	...	...	...	...	1	...	378	215	...	6	16
...	41	...	...	74	...	2	...	57	380	...	18	10
...	846	...	...	...	...	1	...	299	839	...	23	22
...	2024	1	...	...	1	69	10	1430	760	...	4	5
...	640	...	...	...	1	68	...	146	810	...	7	11
...	1	...	...	...	...	...	...	126	108	...	7	3
...	894	...	...	...	...	5	...	573	1494	...	2	5
...	89	...	...	...	2	34	...	4	250	...	1	14
...	67	...	100	...	42	...	...	55	450	...	2	2
...	53	...	5	...	13	...	...	170	289	1	...	5
...	227	...	...	...	...	...	...	62	187	...	...	...
...	421	...	...	...	...	...	...	169	742	1	7	15
...	...	...	...	...	...	...	...	300	425	2	1	2
...	141	...	...	...	...	...	...	485	840	18	3	2
...	5	...	40	...	...	...	...	64	101	...	1	2
...	...	...	...	...	...	...	...	151	341	3	...	...
...	...	...	...	...	...	...	...	146	282	...	3	4
...	...	...	...	...	...	...	...	134	449	...	3	...
...	...	...	...	...	...	...	...	9	220	...	...	...
...	...	...	...	...	...	...	...	58	433	...	6	24
...	...	...	...	...	...	...	...	80	302	...	...	1
...	...	...	...	...	...	...	...	475	558	...	15	5
...	...	...	...	...	...	...	...	215	213	...	...	1
...	...	...	...	...	...	...	...	161	112	...	3	...
...	...	...	...	...	...	...	...	...	...	...	7	...
...	...	...	...	...	...	...	...	545	507	...	8	5
...	...	...	...	...	...	...	...	951	1537	...	18	3
...	...	...	...	...	...	...	...	1230	1035	...	8	4
...
...	...	...	...	...	...	...	...	532	618	...	2	2
...	...	...	...	...	...	...	...	599	535	...	1	2
...	...	...	...	...	...	...	...	263	754	...	6	4
...	...	...	...	...	...	...	...	135	140	...	14	5
...	...	...	...	...	...	...	...	...	1	...	...	...
...	...	...	...	...	...	...	...	121	190	...	3	...
...	...	...	...	...	...	...	...	191	231	...	3	1
...	...	...	...	...	...	...	...	655	417	1	9	3
...	...	...	...	...	...	...	...	421	908	...	8	5
...	...	...	...	...	...	...	...	206	268	CW	...	...
...	...	...	...	...	...	...	...	146	31	...	4	...
...	...	...	...	...	...	...	...	246	241	...	6	3
...	...	...	...	...	...	...	...	390	585	...	10	14
...	...	...	...	...	...	...	...	23	105	...	...	...
...	...	...	...	...	...	...	...	...	20	...	...	...
...	...	...	...	CW	...	...	...	116	223	...	8	2
Total individuals	1	5616	1	219	4	235	10	12,517	19,146	26	227	202

	Snowy Owl	Barred Owl	Long-eared Owl	Short-eared Owl	Northern Saw-whet Owl	owl, sp.	Belted Kingfisher	Red-headed woodpecker	Red-bellied Woodpecker
1. Chincoteague	CW	...	2	38	...	63
2. Wachapreague	38	...	30
3. Cape Charles	1	...	...	31	...	88
4. Little Creek	36	...	39
5. Back Bay	CW	6	...	...	...	...	33	...	57
6. Dismal Swamp	...	5	...	...	...	...	8	1	104
7. Newport News	...	CW	...	...	...	...	39	2	74
8. Mathews	...	2	...	...	...	...	35	3	103
9. Williamsburg	...	4	...	...	...	...	25	11	57
10. Hopewell	...	2	...	...	...	...	14	39	118
11. Brooke	...	2	...	...	...	...	18	1	70
12. Fort Belvoir	...	11	...	...	...	...	54	4	261
13. Manassas-B.R.	9	...	35
14. Nokesville	...	3	...	2	...	...	9	13	107
15. Lake Anna	...	1	...	...	...	...	9	...	15
16. Gordonsville	4	...	29
17. Charlottesville	...	2	...	...	...	...	23	...	63
18. Warren	13	...	92
19. Darlington Heights	...	1	...	...	...	...	3	...	12
20. Kerr Reservoir	...	8	...	...	...	...	19	4	39
21. Banister WMA	...	1	...	...	...	...	4	68	26
22. Lynchburg	19	2	77
23. Danville	...	1	...	...	...	...	3	...	24
24. Martinsville	5	...	11
25. Philpott Res.	...	1	...	...	...	...	8	...	8
26. Calmes Neck	...	4	...	...	...	...	9	3	110
27. N. Shen. Valley	1	7	1	...	...	...	33	...	98
28. Shen. NP-Luray	...	2	...	...	...	...	21	...	38
29. Big Flat Mtn.	9
30. Rockingham Co.	...	1	...	...	...	...	9	...	32
31. Augusta Co.	...	1	...	...	...	...	14	...	38
32. Waynesboro	...	2	...	...	...	...	20	...	34
33. Lexington	7	...	12
34. Peaks of Otter	1	...	4
35. Clifton Forge	1	...	6
36. Fincastle	14	...	15
37. Roanoke	...	1	...	...	...	...	17	...	18
38. Blacksburg	1	12	1	44
39. Claytor Lake	8	1	14
40. Tazewell	12	...	5
41. Glade Spring	1	...	CW	...	20	...	13
42. Bristol	13	...	27
43. Nickelsville	2	2	5
44. Breaks I.S. Park	1	...	1
45. Wise County	...	2	...	...	...	...	4	...	9
Total individuals	1	70	2	3	...	3	715	155	2134

	Yellow-bellied Sapsucker	Downy Woodpecker	Hairy Woodpecker	Northern Flicker	Pileated Woodpecker	woodpecker, sp.	Eastern Phoebe	Ash-throated Flycatcher	Horned Lark	Tree Swallow	Blue Jay	American Crow
8	61	26	135	8	...	...	13	...	52	5	86	152
8	39	3	67	5	...	...	12	...	9	...	209	360
5	45	7	138	5	...	...	10	1	112	10	915	263
7	25	4	85	12	...	...	1	...	...	...	126	1167
5	62	10	139	16	...	...	12	...	1	...	110	280
16	66	25	80	52	...	...	12	...	...	2	39	270
5	47	5	109	11	...	...	...	...	8	3	196	376
12	70	1	82	20	...	...	6	...	...	...	159	892
5	49	5	115	20	...	...	7	...	...	...	171	219
14	41	8	180	24	...	...	7	...	...	...	157	292
12	93	13	62	28	...	...	10	...	...	...	193	520
28	260	63	250	83	...	...	7	...	...	...	602	1931
4	74	7	49	9	...	...	4	...	...	...	184	1185
8	84	25	120	30	...	...	3	...	107	...	728	725
3	12	2	22	5	...	...	12	...	179	...	89	242
8	36	6	56	13	...	...	2	...	...	...	30	612
30	98	9	86	53	...	...	33	...	...	...	61	1221
22	89	9	73	37	...	...	24	...	28	...	59	838
3	19	2	24	6	...	...	13	...	...	...	59	604
3	26	10	59	3	...	...	18	...	...	...	339	296
10	11	10	37	8	...	...	6	...	...	...	289	196
25	80	15	86	40	...	...	30	...	10	...	285	827
3	10	5	44	4	...	...	5	...	40	...	115	436
1	11	2	22	9	...	...	14	...	...	...	40	230
8	31	5	10	20	...	...	7	...	...	...	32	282
18	143	15	84	46	...	...	1	...	250	...	202	720
17	162	36	99	50	...	...	2	...	36	...	314	1747
7	66	13	31	36	...	...	8	...	210	...	110	1571
2	15	4	4	17	...	...	1	...	...	...	1	22
...	30	2	14	8	...	...	8	...	39	...	98	268
1	36	2	13	6	...	...	1	...	...	...	137	905
7	57	9	34	20	...	...	16	...	27	...	82	3298
3	26	5	6	8	...	...	...	...	...	...	32	501
2	31	8	3	16	...	...	1	...	...	...	10	102
4	10	3	7	7	...	...	1	...	...	...	26	198
4	32	5	23	13	...	...	5	...	42	...	45	703
14	63	13	59	18	...	...	9	...	1	...	106	761
5	63	16	14	26	...	...	12	...	122	...	349	707
6	31	9	13	6	1	6	...	...	157	...	150	321
1	5	1	...	2	...	...	...	...	...	...	30	194
1	20	4	14	6	...	...	3	...	...	...	76	427
1	20	6	23	12	...	...	12	...	26	...	90	1132
CW	15	4	4	11	...	...	4	...	...	...	24	421
...	5	...	5	7	...	...	3	...	...	...	2	11
1	37	4	4	19	...	...	4	...	25	...	69	283
347	2306	436	2584	855	1	365	1	1481	20	7226	28,708	

	Fish Crow	crow, sp.	Common Raven	Black-capped Chickadee	Carolina Chickadee	chickadee, sp.	Tufted Titmouse	Red-breasted Nuthatch	White-breasted Nuthatch
1. Chincoteague	...	...	...	...	267	...	72	...	10
2. Wachapreague	30	258	...	...	161	...	31	2	...
3. Cape Charles	15	13	...	...	252	...	35	7	1
4. Little Creek	680	...	...	...	227	...	112	...	10
5. Back Bay	4	...	...	...	217	...	112	...	12
6. Dismal Swamp	...	...	...	...	216	...	66	...	37
7. Newport News	17	...	...	...	279	...	160	...	4
8. Mathews	9	...	...	...	249	...	75	1	1
9. Williamsburg	...	20	...	...	179	...	83	...	29
10. Hopewell	63	40	...	...	157	...	116	...	23
11. Brooke	17	...	...	...	229	...	129	2	39
12. Fort Belvoir	140	635	...	...	1082	...	758	3	201
13. Manassas-B.R.	8	149	...	...	332	...	212	9	37
14. Nokesville	420	210	...	...	309	...	216	1	51
15. Lake Anna	...	...	...	...	76	...	38	...	6
16. Gordonsville	1	...	...	...	123	...	68	...	32
17. Charlottesville	151	...	10	...	368	...	201	...	83
18. Warren	1	...	6	...	190	...	105	1	64
19. Darlington Heights	...	...	...	...	100	...	22	...	19
20. Kerr Reservoir	2	...	...	...	53	...	26	...	5
21. Banister WMA	...	...	...	...	58	...	31	...	27
22. Lynchburg	CW	...	6	...	348	...	237	...	99
23. Danville	...	...	...	...	84	...	84	3	11
24. Martinsville	...	...	...	...	112	3	37	...	9
25. Philpott Res.	...	...	...	1	84	33	69	...	17
26. Calmes Neck	8	...	5	2	510	...	380	1	181
27. N. Shen. Valley	5	...	7	2	642	...	435	8	182
28. Shen. NP-Luray	...	...	66	...	351	...	246	1	55
29. Big Flat Mtn.	...	...	7	...	68	...	24	...	13
30. Rockingham Co.	10	...	4	...	79	...	44	...	23
31. Augusta Co.	41	111	3	11	146	...	103	1	26
32. Waynesboro	496	218	6	1	231	...	145	...	44
33. Lexington	1	...	7	15	79	11	56	3	25
34. Peaks of Otter	...	...	7	2	98	...	30	3	31
35. Clifton Forge	...	...	6	4	73	...	45	4	26
36. Fincastle	...	...	1	2	168	...	105	4	30
37. Roanoke	...	...	...	2	301	...	109	4	44
38. Blacksburg	...	...	2	16	84	127	238	4	92
39. Clayton Lake	...	...	1	...	79	17	95	1	24
40. Tazewell	...	...	1	...	32	...	30	...	11
41. Glade Spring	...	...	...	3	48	...	43	...	16
42. Bristol	...	...	...	...	93	94	...	1	21
43. Nickelsville	...	...	1	...	125	...	84	...	10
44. Breaks I.S. Park	...	...	...	7	9	...	23	...	8
45. Wise County	...	6	...	...	191	...	124	2	56
Total individuals	2119	1660	146	68	9159	285	5454	66	1745

	Brown-headed Nuthatch	Brown Creeper	Carolina Wren	House Wren	Winter Wren	Sedge Wren	Marsh Wren	Golden-crowned Kinglet	Ruby-crowned Kinglet	Blue-gray Gnatcatcher	Eastern Bluebird	Hermit Thrush
...	34	6	256	5	47	4	2	111	18	...	174	35
...	9	10	171	13	1	...	3	90	27	...	446	19
...	2	16	330	18	34	9	3	74	34	...	118	77
...	31	10	157	5	6	1	3	112	49	...	...	12
...	20	13	183	6	4	37	11	99	37	...	115	32
...	1	8	127	2	33	...	...	163	161	...	58	97
...	25	6	182	...	2	...	3	56	13	...	48	3
...	20	5	134	1	5	1	...	67	13	...	823	9
...	4	6	116	...	3	...	1	53	34	...	237	3
...	1	9	180	3	4	...	...	88	34	3	184	8
...	...	8	122	...	7	...	...	48	40	1	304	11
...	...	90	470	2	20	...	...	368	70	...	137	61
...	...	21	103	...	2	...	...	170	13	...	126	7
...	...	19	166	...	7	...	...	189	22	...	267	8
...	...	5	54	1	1	...	...	42	23	...	160	3
...	...	7	73	...	2	...	...	40	10	...	113	1
...	...	11	235	...	24	...	...	249	50	...	274	40
...	...	8	190	...	4	...	...	153	28	...	259	6
...	...	4	49	...	1	...	...	64	28	...	136	2
...	12	2	110	4	16	...	1	79	49	1	234	29
CW	...	5	44	...	3	...	...	43	30	...	95	4
...	...	21	270	...	16	...	...	233	61	...	313	18
...	...	3	73	...	3	...	...	85	11	...	159	8
...	9	10	58	1	6	...	...	108	40	...	127	2
...	2	9	59	...	16	...	...	135	18	...	35	11
...	...	51	118	...	6	...	...	77	20	...	363	7
...	...	40	187	...	14	...	...	188	63	...	475	8
...	...	22	138	...	8	...	...	114	36	...	237	8
...	...	3	10	...	6	...	...	31	1	...	10	...
...	...	11	28	...	3	...	...	24	1	...	79	...
...	...	5	90	...	7	...	...	29	11	...	230	...
...	...	9	129	...	1	...	...	67	17	...	201	2
...	...	3	36	...	4	...	...	71	10	...	48	6
...	...	8	35	...	5	...	...	55	18	...	9	3
...	...	3	28	...	2	...	...	15	13	...	24	...
...	...	4	114	...	5	...	...	149	21	...	155	3
...	...	15	186	...	9	...	...	109	31	...	100	6
...	...	7	177	...	14	...	...	78	6	...	67	2
...	...	5	46	...	4	...	...	68	5	...	65	1
...	...	...	25	...	1	...	...	1	...	...	15	1
...	...	1	69	...	2	...	...	18	1	...	39	...
...	...	2	79	...	2	...	...	47	2	...	72	4
...	...	3	21	...	2	...	...	10	1	...	97	2
...	...	...	10	...	1	...	...	15	...	...	14	3
...	...	6	85	...	14	...	...	28	...	...	20	6
Total individuals	170	510	5523	61	377	57	27	4113	1170	5	7262	568

	American Robin	Gray Catbird	Northern Mockingbird	Brown Thrasher	American Pipit	Cedar Waxwing	Loggerhead Shrike	European Starling	White-eyed Vireo
1. Chincoteague	623	26	40	18	83	153	...	2630	...
2. Wachapreague	547	18	176	6	...	...	...	1856	...
3. Cape Charles	33	18	76	10	502	216	...	4020	...
4. Little Creek	1050	4	67	13	...	162	...	5925	...
5. Back Bay	405	31	114	27	1	53	...	1170	...
6. Dismal Swamp	674	47	14	12	...	72	...	406	6
7. Newport News	123	3	148	20	...	81	...	10,183	...
8. Mathews	468	11	127	15	...	588	...	1019	...
9. Williamsburg	354	...	81	5	...	316	...	968	...
10. Hopewell	90	3	82	5	50	1259	...	4465	...
11. Brooke	18	1	115	1	...	430	...	2525	...
12. Fort Belvoir	347	1	187	1	3	394	...	3894	...
13. Manassas-B.R.	23	...	123	1	2	19	...	8759	...
14. Nokesville	33	1	156	...	18	190	1	13,169	...
15. Lake Anna	30	...	58	...	...	280	...	661	...
16. Gordonsville	271	...	81	1	...	20	2	1159	...
17. Charlottesville	31	...	140	...	...	43	...	1288	...
18. Warren	114	1	83	...	...	86	3	969	...
19. Darlington Heights	2	...	28	...	...	...	2	528	...
20. Kerr Reservoir	525	...	50	17	250	176	9	468	...
21. Banister WMA	1	...	15	5	...	34	...	271	...
22. Lynchburg	37	...	150	1	...	106	...	2313	...
23. Danville	11	...	44	3	...	42	...	1285	...
24. Martinsville	7	...	21	1	...	...	...	450	...
25. Philpott Res.	...	...	9	...	...	...	...	149	...
26. Calmes Neck	2	1	184	...	...	27	4	6825	...
27. N. Shen. Valley	90	1	277	...	...	340	4	26,105	...
28. Shen. NP-Luray	41	...	145	...	50	63	...	15,072	...
29. Big Flat Mtn.	...	...	...	...	...	...	...	2	...
30. Rockingham Co.	6	...	44	...	...	22	3	5636	...
31. Augusta Co.	10	1	129	1	...	115	1	7690	...
32. Waynesboro	1	...	116	...	...	...	...	2294	...
33. Lexington	5	...	30	...	...	...	1	178	...
34. Peaks of Otter	...	...	3	...	...	...	...	...	...
35. Clifton Forge	...	1	9	1	...	12	...	404	...
36. Fincastle	2	...	60	...	...	25	2	870	...
37. Roanoke	7	...	102	...	...	13	...	3414	...
38. Blacksburg	14	...	112	...	...	2	1	6590	...
39. Claytor Lake	...	...	23	...	...	...	...	1548	...
40. Tazewell	1	...	10	...	...	...	...	389	...
41. Glade Spring	...	2	49	3	...	...	6	2584	...
42. Bristol	1	...	88	1	12	7	8	3379	...
43. Nickelsville	5	...	6	2	...	4	...	506	...
44. Breaks I.S. Park	2	...	...	...	...	...	...	9	...
45. Wise County	2	...	6	2	...	8	CW	532	...
Total individuals	6006	171	3578	172	971	5358	47	154,557	6

	Solitary Vireo	Orange-crowned Warbler	Nashville Warbler	Yellow-rumped Warbler	Pine Warbler	Prairie Warbler	Palm Warbler	Black-and-white Warbler	Common Yellowthroat	Northern Cardinal	Indigo Bunting	Rufous-sided Towhee
1	3654	44	...	...	9	...	4	205	...	45
...	1067	9	...	...	10	...	...	145	...	15
1	2	...	2373	5	...	...	80	...	2	328	...	140
6	3	...	690	14	...	...	1	1	5	80	...	41
3	3	...	3260	18	...	...	8	...	14	178	...	61
7	4	...	273	58	...	...	1	...	9	52	...	94
1	2	...	1539	11	...	...	2	1	...	214	...	47
...	1618	14	...	...	6	1	...	197	...	48
...	378	12	...	...	4	...	5	176	...	23
...	215	5	...	...	...	...	1	268	...	64
...	116	3	...	...	...	...	...	258	...	3
...	135	...	...	...	3	...	...	617	...	24
...	104	...	...	...	...	...	...	269	...	8
...	126	...	...	...	...	...	...	353	...	12
...	40	1	...	...	...	...	...	51	...	3
...	19	...	...	...	...	...	...	259	...	...
...	96	1	...	...	...	...	...	375	...	6
...	43	...	...	...	...	...	...	322	...	10
...	20	11	...	...	...	...	...	64	1	5
...	58	21	...	...	10	...	3	133	...	129
...	4	11	...	...	...	...	...	112	...	16
1	131	7	...	...	...	...	...	344	...	20
...	140	4	...	...	...	...	...	98	...	14
...	31	17	...	...	...	...	...	64	...	10
2	27	13	...	...	...	...	...	157	...	7
...	6	...	...	...	...	...	1	634	...	1
...	237	4	1	1	...	...	1	555	...	3
...	59	3	...	...	...	...	...	478	...	1
...	1	...	...	...	...	...	...	14	...	...
...	4	...	...	...	...	...	...	89	...	1
...	21	...	...	...	...	...	...	204	...	6
1	10	10	...	...	...	...	...	229	...	3
...	10	...	...	...	...	...	...	89	...	1
1	5	...	...	...	...	...	...	27	...	1
...	2	3	...	...	...	...	...	66	...	...
...	4	2	...	...	...	...	...	142	...	3
3	24	7	...	...	...	...	...	215	...	8
2	21	1	...	...	...	...	...	223	1	23
1	29	1	...	...	...	...	...	80	...	1
...	39	...	1
...	2	...	...	...	...	...	...	101	...	14
...	17	...	...	...	...	...	...	216	...	18
...	1	...	...	...	...	...	...	193	...	7
...	7	...	...
...	134	...	10
30	14	1	16,610	310	1	135	3	45	9054	2	947	

	American Tree Sparrow	Chipping Sparrow	Clay-colored Sparrow	Field Sparrow	Vesper Sparrow	Savannah Sparrow	Savannah Sparrow (Ipswich race)	Grasshopper Sparrow	LeConte's Sparrow
1. Chincoteague	...	6	...	54	...	82	...	...	...
2. Wachapreague	3	69	...	65	...	49	18	...	...
3. Cape Charles	4	75	...	141	26	296	8	1	...
4. Little Creek	...	...	...	48	...	30	...	...	1
5. Back Bay	...	34	...	82	...	144	2	...	2
6. Dismal Swamp	...	...	...	16	...	1	...	...	...
7. Newport News	...	20	...	93	...	29	...	...	...
8. Mathews	...	15	...	171	...	...	...	...	...
9. Williamsburg	...	40	...	114	1	116	...	...	...
10. Hopewell	...	12	1	182	...	109	...	...	...
11. Brooke	1	1	...	48	...	2	...	...	...
12. Fort Belvoir	2	...	...	96	...	3	...	...	...
13. Manassas-B.R.	...	...	...	44	...	2	...	...	...
14. Nokesville	9	2	...	63	1	18	...	...	...
15. Lake Anna	...	1	...	105	...	...	...	...	...
16. Gordonsville	2	...	...	22	...	...	...	...	...
17. Charlottesville	9	5	...	177	7	7	...	...	...
18. Warren	13	...	...	161	...	7	...	...	...
19. Darlington Heights	...	1	...	52	...	...	...	...	...
20. Kerr Reservoir	...	10	...	118	...	158	...	...	...
21. Banister WMA	...	...	...	30	...	...	...	...	...
22. Lynchburg	...	1	...	119	...	10	...	...	...
23. Danville	1	...	...	79	...	1	...	...	...
24. Martinsville	...	6	...	80	...	...	...	...	...
25. Philpott Res.	...	...	...	68	...	...	...	...	...
26. Calmes Neck	39	...	...	25	...	1	...	...	...
27. N. Shen. Valley	75	...	...	129	...	8	...	...	...
28. Shen. NP-Luray	5	1	...	103	...	...	...	...	...
29. Big Flat Mtn.	...	...	...	...	...	...	...	...	...
30. Rockingham Co.	1	...	...	3	...	...	...	...	...
31. Augusta Co.	1	...	...	120	...	...	...	...	...
32. Waynesboro	6	7	...	91	...	2	...	...	...
33. Lexington	...	...	...	35	...	...	...	...	...
34. Peaks of Otter	...	...	...	48	...	...	...	...	...
35. Clifton Forge	...	...	...	2	...	...	...	...	...
36. Fincastle	2	...	...	34	...	...	...	...	...
37. Roanoke	...	...	...	39	...	...	...	...	...
38. Blacksburg	...	...	...	108	...	...	...	...	...
39. Claytor Lake	...	...	...	2	...	...	...	...	...
40. Tazewell	...	...	...	7	...	...	...	...	...
41. Glade Spring	...	...	...	48	...	...	...	...	...
42. Bristol	...	6	...	89	...	...	...	...	...
43. Nickelsville	...	...	...	64	...	...	...	...	...
44. Breaks I.S. Park	...	...	...	...	...	...	...	...	...
45. Wise County	...	...	...	34	...	...	...	...	...
Total individuals	173	312	1	3209	35	1075	28	1	3

Sharp-tailed Sparrow	Seaside Sparrow	Fox Sparrow	Song Sparrow	Lincoln's Sparrow	Swamp Sparrow	White-throated Sparrow	White-crowned Sparrow	Dark-eyed Junco	Lapland Longspur	Snow Bunting	Red-winged Blackbird
7	1	2	656	...	333	903	...	223	...	7	1941
17	12	8	455	...	98	373	4	515	...	40	1242
52	21	36	710	...	333	1306	1	224	...	...	887
6	2	1	138	...	44	256	7	108	...	20	1210
1	1	3	240	...	238	501	...	401	...	...	5300
...	...	6	101	...	126	414	...	351	...	...	2866
...	...	3	249	...	28	389	...	275	...	...	797
...	1	3	194	...	16	511	...	1064	...	...	783
...	1032	...	225	401	...	738	...	...	4113
...	...	3	395	...	85	1134	3	747	...	...	278
...	...	7	174	...	49	626	3	641	...	...	75
...	...	4	429	...	60	990	2	1427	...	...	1176
...	207	...	6	168	7	435	...	...	15
...	...	1	337	...	52	527	141	832	...	...	473
...	110	...	12	73	3	279	...	5	1
...	130	...	20	315	95	629	...	...	...
...	...	1	414	...	20	878	61	758	...	...	18
...	...	3	467	1	50	795	41	670	...	...	47
...	...	5	57	...	1	69	4	285	...	...	295
...	...	5	358	...	359	374	13	742	...	...	886
...	...	3	97	...	150	208	4	462	...	...	146
...	...	1	173	...	12	472	22	695	...	...	...
...	...	3	113	...	...	212	3	411	...	...	25
...	110	...	23	79	...	180	...	...	11
...	...	1	395	...	3	288	4	266	...	...	1
...	182	...	5	206	221	1113	...	...	191
...	...	1	376	...	14	446	187	1717	...	...	599
...	...	3	295	...	1	575	286	1102	...	...	163
...	3	...	...	17	...	103	...	...	...
...	63	...	...	134	35	394	...	...	40
...	...	1	102	...	8	198	63	554	...	...	506
...	458	...	22	181	235	428	...	...	23
...	...	1	80	...	3	83	6	327	...	...	...
...	47	...	...	38	...	170	...	...	...
...	39	...	2	50	...	142	...	...	5
...	121	...	3	106	64	303	...	...	...
...	223	...	3	182	31	241	...	...	95
...	...	3	236	...	4	220	137	462	...	...	38
...	...	1	113	...	1	30	87	78	...	...	...
...	47	...	...	8	...	41	...	...	2
...	108	...	...	99	15	53	...	...	...
...	...	2	277	...	10	226	39	93	...	...	2
...	...	2	129	...	...	79	25	205	...	...	...
...	9	...	...	9	...	31	...	...	2
...	...	1	153	...	...	31	2	104	1	...	27
83	38	114	10,802	1	2419	15,080	1851	21,019	1	72	24,279

	Eastern Meadowlark	Rusty Blackbird	Brewer's Blackbird	Boat-tailed Grackle	Common Grackle	Brown-headed Cowbird	blackbird, sp.	Northern Oriole	Purple Finch
1. Chincoteague	115	83	12	138	810	293	50	...	...
2. Wachapreague	121	...	...	16	75	7	218	...	1
3. Cape Charles	282	3	...	480	313	330	...	...	2
4. Little Creek	8	...	...	165	5200	790	...	...	3
5. Back Bay	212	12	...	271	2510	290	...	...	...
6. Dismal Swamp	40	26	...	...	1929	100	7000	...	8
7. Newport News	145	...	...	60	15,062	85	2000	...	8
8. Mathews	45	...	...	170	2131	52	...	1	8
9. Williamsburg	79	4	...	...	291	21	...	...	5
10. Hopewell	168	...	...	...	625	6	...	1	2
11. Brooke	17	...	...	...	25	40	...	...	4
12. Fort Belvoir	2	20	...	...	428	149	300	...	8
13. Manassas-B.R.	...	1	...	...	...	...	...	...	4
14. Nokesville	94	2	2	...	52,825	1355	9600	...	1
15. Lake Anna	19	...	...	...	10	1	...	...	1
16. Gordonsville	31	...	...	...	...	1	...	...	18
17. Charlottesville	29	...	...	...	...	6	...	...	5
18. Warren	53	10	...	...	...	68	25	...	67
19. Darlington Heights	158	...	...	...	...	18	...	...	1
20. Kerr Reservoir	269	4	...	...	...	29	...	...	1
21. Banister WMA	18	...	...	...	14	...	...	...	...
22. Lynchburg	20	...	...	...	28	6	...	...	18
23. Danville	48	...	...	...	...	...	...	...	41
24. Martinsville	14	...	...	...	...	...	...	...	4
25. Philpott Res.	5	...	...	...	...	...	...	...	13
26. Calmes Neck	19	...	...	...	4074	27	...	...	10
27. N. Shen. Valley	31	60	...	...	13	423	...	...	15
28. Shen. NP-Luray	120	...	...	...	...	40	...	...	91
29. Big Flat Mtn.	...	...	...	...	...	...	...	...	...
30. Rockingham Co.	4	...	...	...	70	426	...	...	1
31. Augusta Co.	22	...	...	...	20	50	1,000,000	...	11
32. Waynesboro	108	...	...	...	146	1	...	...	...
33. Lexington	1	...	...	...	...	...	...	...	3
34. Peaks of Otter	...	...	...	...	...	...	...	...	9
35. Clifton Forge	3	3	...	...	3	37	...	...	37
36. Fincastle	23	...	...	...	...	...	...	...	23
37. Roanoke	...	CW	...	...	8	2	...	...	1
38. Blacksburg	4	...	...	...	300	332	...	...	22
39. Claytor Lake	1	...	...	...	...	...	...	...	7
40. Tazewell	...	...	...	...	...	...	...	...	2
41. Glade Spring	16	...	...	...	222	...	...	...	2
42. Bristol	64	...	...	...	...	...	...	...	...
43. Nickelsville	...	6	...	...	...	4	...	...	...
44. Breaks I.S. Park	...	1	...	...	...	...	...	...	...
45. Wise County	10	...	...	...	42	6	...	...	20
Total individuals	2418	235	5	1300	87,174	4995	1,019,193	2	477

House Finch	Pine Siskin	American Goldfinch	Evening Grosbeak	House Sparrow	Total species	Total individuals	Count date	Times in field (a.m. to p.m.)
403	...	111	...	104	134	30,296	30 Dec	0630-1715
867	...	88	...	36	125	25,886	19 Dec	0500-1700
535	...	122	...	16	151	38,586	27 Dec	0430-1800
150	2	44	...	103	139	54,374	31 Dec	0430-1730
283	9	105	...	136	132	37,596	28 Dec	0500-1730
4	6	65	...	18	86	18,293	2 Jan	0700-1700
484	...	156	...	266	114	52,215	19 Dec	0430-1700
554	...	208	...	159	110	22,438	3 Jan	0530-1700
118	...	116	...	23	110	20,530	20 Dec	0500-1700
121	...	205	...	51	98	30,026	20 Dec	0545-1645
250	...	154	...	60	92	17,339	21 Dec	0630-1700
421	4	518	16	498	111	68,448	3 Jan	0400-1730
404	1	124	...	175	71	17,777	2 Jan	0700-1600
420	...	125	...	581	93	100,409	20 Dec	0400-1730
123	...	52	...	55	81	5886	31 Dec	0430-1600
72	...	22	...	73	67	7277	20 Dec	0700-1700
323	...	159	...	63	72	9947	27 Dec	0500-1800
191	...	149	...	103	75	8562	20 Dec	0500-1830
227	4	112	...	58	64	3704	13 Dec	0730-1630
709	...	104	...	116	104	14,509	3 Jan	0500-1800
210	...	55	...	60	69	4063	20 Dec	0700-1730
534	4	209	...	72	77	10,787	19 Dec	0530-1800
151	1	68	4	41	70	5351	26 Dec	0530-1730
237	15	118	...	38	63	2846	1 Jan	0400-1700
20	...	79	...	28	60	2573	27 Dec	0500-1600
709	...	153	...	256	83	24,728	27 Dec	0630-1800
1850	2	460	...	272	101	45,172	19 Dec	0500-1800
521	50	171	...	310	77	26,775	20 Dec	0500-1700
...	...	22	...	...	33	442	3 Jan	0645-1630
316	1	63	...	316	64	10,249	19 Dec	0800-1700
493	...	68	...	247	70	...	19 Dec	0700-1700
312	3	67	...	249	75	11,976	30 Dec	0600-1715
56	1	17	...	31	66	2473	26 Dec	0500-1700
...	...	4	...	...	40	865	22 Dec	0800-1600
62	12	37	1	119	65	1978	2 Jan	0700-1630
314	...	45	...	18	70	4562	20 Dec	0600-1600
368	6	122	...	51	84	10,449	19 Dec	0500-1600
519	...	233	...	193	84	15,363	19 Dec	0215-1730
167	2	50	...	33	65	4451	29 Dec	0530-1630
24	...	18	...	43	44	1276	29 Dec	0700-1700
40	...	171	...	56	63	5920	19 Dec	0400-1730
246	...	72	...	88	80	9865	26 Dec	0730-1830
1	30	29	...	18	51	2336	27 Dec	0730-1700
33	...	4	...	...	33	273	19 Dec	0730-1530
91	6	114	5	137	63	2872	19 Dec	0630-1745
13,933	159	5188	26	5370	203	1,806,506	...	...

	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	47-53	SSW	0-10	24	12-14	...	...
2. Wachapreague	33-53	NW	5-10	22	11-15	...	...
3. Cape Charles	25-45	NE	5-25	28	9-18	...	...
4. Little Creek	52-72	SW	10-30	22	12-14	...	...
5. Back Bay	45-54	ESE	0-15	31	13-22	...	...
6. Dismal Swamp	36-48	NE	0-5	14	6-8	...	...
7. Newport News	31-52	N	0-10	38	12	...	...
8. Matthews	30-48	E	0-5	31	9-13	2	3.5
9. Williamsburg	51-55	SW	10	13	9	1	9.0
10. Hopewell	42-55	SW	10	33	13-14	1	7.0
11. Brooke	26-41	SE	0-10	22	10-11	...	...
12. Fort Belvoir	32-44	S	6	96	38-41	5	15.0
13. Manassas-B.R.	30-40	E	10	33	13	...	...
14. Nokesville	46-55	S-NW	0-15	27	18	1	1.0
15. Lake Anna	44-70	W-SW	5-10	10	5	...	...
16. Gordonsville	42-57	SW	5-10	16	6	1	2.0
17. Charlottesville	22-44	SE	0-8	21	17-19	...	...
18. Warren	42-54	W	0-10	16	12	...	...
19. Darlington Heights	39-50	N	10-20	19	4	1	0.5
20. Kerr Reservoir	33-47	SSW	0-10	12	6-7	...	...
21. Banister WMA	40-52	NW	0-5	8	6	...	...
22. Lynchburg	36-50	S	0-8	38	15-18	4	16.5
23. Danville	38-46	N	10	12	7	1	8.0
24. Martinsville	35-50	NW	15	7	3	4	8.0
25. Philpott Res.	14-38	S	0-6	12	5-6	2	1.5
26. Calmes Neck	20-35	NW	0-10	27	15	...	...
27. N. Shen. Valley	25-44	NW	0-5	52	19	...	...
28. Shen. NP-Luray	32-50	NW	10-20	40	20	5	29.5
29. Big Flat Mtn.	28-38	SW	0-7	3	3	...	...
30. Rockingham Co.	38-46	N	10	23	10	...	...
31. Augusta Co.	32-50	SSW	0-15	27	11	2	13.5
32. Waynesboro	40-68	W	0-20	29	14	...	...
33. Lexington	29-39	W	5-15	13	6	2	2.0
34. Peaks of Otter	35-45	S	5	16	8	...	...
35. Clifton Forge	40-60	NE	0-5	6	5	5	11.5
36. Fincastle	40-49	S	5	19	10	...	...
37. Roanoke	30-50	SW	5	21	12	...	...
38. Blacksburg	32-59	SW	0-10	36	13-16	13	28
39. Claytor Lake	38-46	-	calm	11	5-6	...	...
40. Tazewell	38-50	W	8-10	5	3	2	6
41. Glade Spring	33-48	NE	5	17	7	...	...
42. Bristol	27-38	NE	5	18	7	...	...
43. Nickelsville	20-38	N	4-5	5	3	...	...
44. Breaks I.S. Park	32-54	N	5-15	2	2	...	...
45. Wise County	30-52	SW	10	16	8	4	12
...	...	...	...	991	452-494	56	174.5

Hours on foot	Hours by car	Hours by bicycle	Hours by boat/canoe	Total hours (excludes owling and feeder hours)	Miles on foot	Miles by car	Miles by bicycle	Miles by boat/canoe	Total miles (excludes owling miles)
69.00	34.00	...	...	103.00	49.00	258.00	...	...	307.00
49.00	49.00	0.50	4.00	102.50	35.00	361.00	0.50	10.00	406.50
132.75	23.25	...	3.00	159.00	99.00	290.00	...	15.00	404.00
91.00	33.00	...	...	124.00	60.00	551.00	...	...	611.00
77.00	39.00	...	1.00	117.00	57.00	444.00	...	2.00	503.00
20.00	24.00	...	5.00	49.00	23.00	127.00	...	10.00	160.00
53.00	53.00	...	...	106.00	39.00	382.00	...	...	421.00
46.50	33.75	...	2.00	82.25	31.50	290.00	...	2.00	323.50
28.50	60.50	...	...	89.00	31.50	356.00	...	...	387.50
59.75	35.00	...	...	94.75	46.00	308.00	...	...	354.00
60.50	32.50	...	...	93.00	43.00	225.00	...	...	268.00
175.00	66.00	...	...	241.00	155.00	332.50	...	...	487.50
52.25	77.50	...	...	129.75	47.50	302.00	...	...	349.50
57.00	76.75	...	...	133.75	47.25	624.50	...	...	671.75
10.5	25.25	...	...	35.75	14.50	285.00	...	...	299.50
15.5	30.50	...	...	46.00	19.00	329.00	...	...	348.00
102.75	21.50	...	4.50	128.75	112.50	170.00	...	2.50	285.00
68.00	21.50	...	...	89.50	79.00	200.00	...	...	279.00
14.00	22.00	...	...	36.00	16.00	241.00	...	...	257.00
34.00	21.00	...	4.00	59.00	18.00	308.00	...	25.00	351.00
15.00	21.50	...	...	36.50	15.00	174.00	...	...	189.00
62.50	42.00	...	2.50	107.00	43.00	483.50	...	4.50	531.00
25.00	29.50	...	...	54.50	24.50	284.00	...	...	308.50
3.00	24.00	...	...	27.00	3.00	219.00	...	...	222.00
25.00	19.25	...	...	44.25	16.75	218.50	...	...	235.25
36.00	86.50	...	...	122.50	34.25	708.50	...	...	742.75
72.50	155.00	...	2.00	229.50	70.50	993.00	...	3.00	1066.50
60.25	76.75	...	...	137.00	59.25	589.00	...	...	648.25
22.75	0.50	...	...	23.25	36.00	5.00	...	...	41.00
17.00	27.25	...	...	44.25	22.00	236.00	...	...	258.00
24.00	49.50	...	...	73.50	14.50	512.50	...	...	527.00
75.00	43.00	...	...	118.00	69.50	445.75	...	...	515.25
21.50	12.50	...	...	34.00	18.00	137.00	...	...	155.00
30.00	9.00	...	...	39.00	22.00	52.00	...	...	74.00
16.00	12.00	...	...	28.00	16.00	89.00	...	...	105.00
31.00	29.00	...	...	60.00	17.00	266.00	...	...	283.00
41.75	32.25	...	...	74.00	32.25	371.25	...	...	403.50
69.25	45.00	...	...	114.25	67.50	264.25	...	...	331.75
18.00	19.50	...	...	37.50	16.00	229.00	...	...	245.00
4.00	22.00	...	...	26.00	6.00	78.00	...	...	84.00
14.50	32.50	...	...	47.00	15.00	430.00	...	...	445.00
30.00	31.50	...	...	61.50	17.00	515.00	...	...	532.00
...	20.50	...	...	20.50	...	196.50	...	...	196.50
7.00	6.00	...	...	13.00	5.75	45.00	...	...	50.75
28.25	33.75	...	...	62.00	31.00	309.00	...	...	340.00
1965.25	1659.25	0.50	28.00	3653.00	1694.50	14,234.75	0.50	74.00	16,003.75

(Explanation of symbols for water conditions and weather on page 71.)

	Hours owling	Miles owling	Water conditions	Skies (a.m.)	Skies (p.m.)
1. Chincoteague	2.00	5.00	WOP	FOG	FOG
2. Wachapreague	0.50	1.00	WOP	PCD	CLD, LGR
3. Cape Charles	9.50	56.00	SPF, MWO	CLR	CLD
4. Little Creek	4.00	27.00	WOP	PCD	PCD
5. Back Bay	7.00	51.00	WOP	RAI	RAI
6. Dismal Swamp	...	...	WOP	PCR	PCR
7. Newport News	5.00	6.00	WOP	PCR	CLD, LGR
8. Mathews	2.50	31.00	WOP	CLD	CLD
9. Williamsburg	3.00	18.00	WOP	HVR	CLD
10. Hopewell	3.50	21.00	WOP	HVR	LGR
11. Brooke	0.50	1.00	WOP	PCD	CLR
12. Fort Belvoir	17.00	61.50	WOP	CLD, LGR	CLD
13. Manassas-B.R.	...	...	WOP	CLR	CLR
14. Nokesville	5.50	53.00	WOP	RAI	PCR
15. Lake Anna	2.00	19.00	WOP	CLD	PCD
16. Gordonsville	1.00	2.50	WOP	CLD, RAI	PCR
17. Charlottesville	4.25	21.00	SPO, MWO	CLR	CLR
18. Warren	5.50	25.00	WOP	CLD, RAI	CLD
19. Darlington Heights	1.00	12.00	WOP	CLD	CLD
20. Kerr Reservoir	7.00	45.00	WOP	CLD	CLD
21. Banister WMA	2.00	5.00	WOP	CLD, LGR	PCD
22. Lynchburg	9.50	...	WOP	CLD	CLD
23. Danville	1.50	6.00	WOP	PCD	PCD
24. Martinsville	2.50	25.00	WOP	CLR	CLR
25. Philpott Res.	2.00	32.25	SPF, MWO	PCD	CLD, LSS
26. Calmes Neck	2.50	10.00	WOP	CLD	CLD
27. N. Shen. Valley	8.75	9.50	WOP	CLR	PCR
28. Shen. NP-Luray	10.25	32.75	WOP	PCD, FOG, LGR	PCD
29. Big Flat Mtn.	0.50	3.00	WOP	CLD	CLD
30. Rockingham Co.	0.50	2.00	WOP	CLD	PCD
31. Augusta Co.	2.00	4.00	WOP	CLD	PCD
32. Waynesboro	3.25	13.50	WOP	PCD	CLR
33. Lexington	1.50	12.00	SPF, MWO	CLR	CLR
34. Peaks of Otter	...	...	WOP	CLD	CLD
35. Clifton Forge	2.00	20.00	WOP	PCD	PCR
36. Fincastle	3.00	10.00	WOP	LGR	CLD
37. Roanoke	7.00	25.00	WOP	PCR	PCR
38. Blacksburg	4.75	40.00	WOP	CLD	PCD
39. Claytor Lake	2.00	5.50	SPF, MWO	FOG, DRZ	PCR
40. Tazewell	1.00	1.00	WOP	CLR	PCD
41. Glade Spring	5.00	3.00	WOP	CLD	PCD
42. Bristol	...	...	...	CLR	CLD
43. Nickelsville	...	...	SWF, MWF	PCD	CLR
44. Breaks I.S. Park	...	...	WOP	PCR	PCD
45. Wise County	2.50	20.00	WOP	PCD	PCD
<hr/>					
	154.75	735.50	...	...	...

(*Limnodromus scolopaceus*), Iceland Gull (*Larus glaucooides*), and Red Crossbill (*Loxia curvirostra*).

As happens every year, a few one-of-a-kind sightings turned up throughout the state. An Eared Grebe (*Podiceps nigricollis*) at Little Creek was the first to turn up since 1989; the Ross's Goose (*Chen rossii*) at Back Bay was accepted by the state records committee and becomes the third verified record for Virginia; two Harlequin Ducks (*Histrionicus histrionicus*) at Blacksburg were the only ones found in the entire state and were the first ever found on a Mountains and Valleys count.

This was the eighth year in a row that Ospreys (*Pandion haliaetus*) have been spotted at Little Creek, a species that is beginning to overwinter along the coast more and more frequently. Two Golden Eagles (*Aquila chrysaetos*) were not unusual at Tazewell, but the one at Bristol was a first for that count. Falcons continue to pop up in the western part of the state. Blacksburg participants recorded a Merlin (*Falco columbarius*), while Roanoke counters found a Peregrine Falcon (*F. peregrinus*) for the second year in a row.

A Black Rail (*Laterallus jamaicensis*) at Wachapreague was the first one of this species seen on a Virginia count since 1976. Three Semipalmated Plovers (*Charadrius semipalmatus*) at Northern Shenandoah Valley and a Spotted Sandpiper (*Actitis macularia*) at Banister River were the only truly unusual shorebirds discovered this year. Rare gull species were also difficult to find, noteworthy exceptions being a Glaucous Gull (*Larus hyperboreus*) at Cape Charles, and a Black-legged Kittiwake (*Rissa tridactyla*) at Little Creek, the first time either of these species has shown up on a Christmas count since 1987.

A Snowy Owl (*Nyctea scandiaca*) was present on count day at Northern Shenandoah Valley, but one at Back Bay was uncooperative and was found only during count week. A Long-eared Owl (*Asio otus*) at Northern Shenandoah Valley constituted the third appearance on that count.

An Ash-throated Flycatcher (*Myiarchus cinerascens*) was the fourth record for the Cape Charles count. There was the usual scattering of Blue-gray Gnatcatchers (*Polioptila caerulea*) with Hopewell, Brooke, and Kerr Reservoir recording a total of five individuals.

TABLE 2. Explanation of abbreviations used in the table on page 70.

Abbreviations used to describe weather conditions		Abbreviations used to describe water conditions	
CLD	= Cloudy	MWF	= Water mostly frozen
CLR	= Clear	MWO	= Moving water open
DRZ	= Drizzle	SPF	= Still water partly frozen
FOG	= Fog	SWF	= Still water frozen
HVR	= Heavy rain	WOP	= Water open
LGR	= Light rain	WPF	= Water partly frozen
LSS	= Light snow/sleet		
PCD	= Partly cloudy		
PCR	= Partly clear		
RAI	= Rain		

Even though the total number of White-eyed Vireos (*Vireo griseus*) was the highest ever recorded on Virginia Christmas counts, the six found at Dismal Swamp may prove to be a low-to-normal number for that count. Previous research has shown that this species seems to overwinter in the Swamp on a regular basis. The incredible 30 Solitary Vireos (*V. solitarius*) found on 13 counts from Chincoteague in the east to Claytor Lake in the west was anything but normal. Solitaries show up on counts almost every year, but never in such wide-spread areas, nor in such high numbers. Perhaps their appearance has something to do with the string of mild winters Virginia has experienced over the past several years.

Only two unusual warblers were found this year: a well-described Nashville Warbler (*Vermivora ruficapilla*) was at Hopewell, and a Prairie Warbler (*Dendroica discolor*) was found on the Northern Shenandoah Valley count.

Highly unusual were two Indigo Buntings (*Passerina cyanea*), one at Darlington Heights, and one at Blacksburg. Documentation for both sightings is, at present, being reviewed by the state records committee, and therefore, cannot be officially accepted as of this writing.

Rare sparrows abounded this year: A Clay-colored Sparrow (*Spizella pallida*) at Hopewell was only the third time this species has been found on a Virginia Christmas count; a single Grasshopper Sparrow (*Ammodramus savannarum*) appeared on the Cape Charles count; both Little Creek and Back Bay recorded LeConte's Sparrows (*A. leconteii*), one and two individuals respectively. Just as noteworthy were the 18 "Ipswich" Sparrows (a subspecies of Savannah Sparrow (*Passerculus sandwichensis*)) at Wachapreague, the highest number found on any count in five years. Last, but not least, a Lapland Longspur (*Calcarius lapponicus*) was a big surprise on the Wise County count.

There were two noteworthy individual high counts for Virginia in 1992-93: 193 American Oystercatchers at Cape Charles was a national high count, as was the total of 823 Eastern Bluebirds (*Sialia sialis*) recorded on the Mathews count.

CHRISTMAS COUNT DESCRIPTIONS

(Observers are listed for the Darlington Heights, Lynchburg, Newport News, Claytor Lake, 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.
Compiler: Teta Kain (7083 Caffee Creek Lane, Gloucester VA 23061)
2. WACHAPREAGUE. 37°40'N 75°42'W
Center: Jct. 789 and 715 in Accomack County.
Compiler: Irvin Ailes (6479 Myrtle Lane, Chincoteague VA 23336)

3. CAPE CHARLES. 37°12'N 75°56'W
Center: 1.5 miles southeast of Capeville Post Office.
Compiler: Henry Armistead (523 E. Durham St., Philadelphia PA 19119)
4. LITTLE CREEK. 36°51'N 76°06'W
Center: 3.8 miles northeast of Kempsville in Virginia Beach.
Compiler: Paul Sykes, Jr. (1080 Forest Rd., Watkinsville GA 30677)
5. BACK BAY NATIONAL WILDLIFE REFUGE. 36°39'N 76°00'W
Center: 1.5 miles east of Back Bay.
Compiler: Paul Sykes, Jr. (1080 Forest Rd., Watkinsville GA 30677)
6. DISMAL SWAMP. 36°40'N 76°29'W
Center: Jct. of Middle and Jericho Ditches in Great Dismal Swamp.
Compilers: Don Schwab (1411 Planters Dr., Suffolk, VA 23434) and Tom M. Gwynn, III (1640 Morris Ave., Norfolk, VA 23509)
7. NEWPORT NEWS. 37°05'N 76°25'W
Center: Northern corner of Magruder & Cmdr. Shepard Blvds.
Compiler: Teta Kain (7083 Caffee Creek Lane, Gloucester VA 23061)
Observers: Sue Gray Al Salam, J. D. Andrews, Cinday Carlson, Liz Darnell, Ron Darnell, Bettye Fields, Carolyn Friedhaber, Gary Friedhaber, Richard Goll, Barbara Heimerl, Mary Hickman, Teta Kain, Walter Livant, Mary Ann Madison, Tess Matteson, Paul McAllister, Vel McCarty, Dorothy Mitchell, Mary Moore, Eileen Popp, Mary Pulley, Beverly Robinson, John Robinson, Ann Rallo, Peggy Romen, Dorothy Silsby, Zelda Silverman, Marjorie Schenck, Ester Snow, Amelia Steinmetz, George Steinmetz, Ada Van Ness, Lew Wilkin-son, Hayes Williams, Joyce Williams, Margaret Zimmerman, Jean Zuk.
8. MATHEWS. 37°25'N 76°18'W
Center: 0.5 mile east of Beaverlett Post Office.
Compiler: Mary Pulley (Redart VA 23142)
9. WILLIAMSBURG. 37°17'N 76°42'W
Center: Colonial Williamsburg Information Center.
Compiler: Brian Taber (104 Druid Court, Williamsburg VA 23185)
10. HOPEWELL. 37°23'N 77°17'W
Center: Curles Neck.
Compilers: Larry Robinson (3320 Landria Dr., Richmond VA 23225) and Wendy Ealding (9006 Eider Landing, Chesterfield, VA 23832)
11. BROOKE. 38°22'N 77°20'W
Center: At road 3 miles east southeast of Brooke.
Compiler: David Stewart (10715 Midsummer Dr., Reston VA 22091)
12. FORT BELVOIR. 38°41'N 77°12'W
Center: Pohick Church.
Compiler: David F. Abbott (43579 Plantation Terr., Ashburn, VA 22011)
13. MANASSAS-BULL RUN. 38°50'N 77°26'W
Center: Centreville.
Compilers: Peter Stangel (1003 Lynn St., Vienna, VA 22180) and J. Duncan Love (4204 Holborn Ave., Annandale VA 22003)

14. NOKESVILLE. 38°37'N 77°33'W
Center: Fleetwood Dr. (Rt. 611) at Cedar Run.
Compiler: Ken Bass (12604 Valley View Dr., Nokesville VA 22123)
15. LAKE ANNA. 38°05'N 77°49'W
Center: Center of bridge over Lake Anna on SR 208.
Compiler: Michael R. Boatwright (307 Sugar Mill Dr., Amherst VA 24521)
16. GORDONSVILLE. 38°09'N 78°12'W
Center: Jct. of US 15 & 33 north of the town of Gordonsville.
Compiler: T. G. Scott, Jr. (12493 Spicewood Rd., Orange, VA 22960)
17. CHARLOTTESVILLE. 38°04'N 78°34'W
Center: Near Ivy.
Compiler: Charles Stevens (615 Preston Pl., Charlottesville VA 22903)
18. WARREN. 37°51'N 78°33'W
Center: At Keene.
Compiler: Charles Stevens (615 Preston Pl., Charlottesville, VA 22903)
19. DARLINGTON HEIGHTS. 37°12'N 78°37'W
Center: Darlington Heights Post Office.
Compiler: Carolyn Wells (204 Fayette St., Farmville, VA 23901)
Observers: Sandra Breil, Debbie Bruner, Vera Copple, John Dalmas, Thelma Dalmas, Mary Fisher, Dale Hodges, Jane Holman, Teresa Hunt, Judy McCann, Jane Morrison, Bill Pollari, Cathy Pollari, John Rice, Shirley Rice, David Spears, Randy Thrasher, Sue Thrasher, Carolyn Wells.
20. JOHN H. KERR RESERVOIR. 36°36'N 78°18'W
Center: East end of John H. Kerr Dam.
Compiler: Brian Patteson (PO Box 1135, Amherst, VA 24521)
21. BANISTER RIVER WILDLIFE MANAGEMENT AREAS. 36°43'N 78°48'W
Center: At Banister River WMAs.
Compiler: Jeffrey Blalock (103 Elizabeth Court, South Boston VA 24592)
22. LYNCHBURG. 37°24'N 79°11'W
Center: Lynchburg College.
Compiler: John Dalmas (502 Rainbow Forest Dr., Lynchburg VA 24502)
Observers: Ed Calvert, John Dalmas, Thelma Dalmas, Betty Epperson, Robert Epperson, Bob Eubank, Dot Graves, Ted Graves, Charles Hansrote, Melva Hansrote, Mike Hayslett, Margaret Kehrer, Victor Kehrer, Mike Kelly, Margaret Lisi, Melvin Mitchell, Gene Moore, Myriam Moore, Brian Patteson, Myrna Patteson, Taylor Piephoff, Claudia Puckette, Dan Puckette, Boyd Rist, Emily Rist, Norma Jean Rist, James Scranton, Paul M. Seibert, Barbara Shedd, Doug Shedd, Macon Smith, Susan Stanton, Charles Stinson, Irene Stinson, Warren Stout, Ed Theisinger, Marianne Theisinger, Randy Thrasher, Sue Thrasher, Susan Wingfield, Jo Wood.
23. DANVILLE. 36°34'N 79°25'W
Center: Ballou Park.
Compiler: Russell C. Brachman (139 Pendleton Rd., Danville VA 24541)

24. MARTINSVILLE. 36°44'N 79°49'W
Center: South end of dam at Martinsville Reservoir #2.
Compiler: James S. Beard (401 Hairston-St., Martinsville, VA 24112)
25. PHILPOTT RESERVOIR. 36°53'N 80°03'W
Center: Near intersection Rts. 605 and 623.
Compiler: Clyde Kessler (PO Box 3612, Radford VA 24143)
26. CALMES NECK. 39°07'N 77°54'W
Center: Castlemans Ferry Bridge, SR 7 and the Shenandoah River.
Compiler: Frances Endicott (Rt. 1, Box 448, Bluemont, VA 22012)
27. NORTHERN SHENANDOAH VALLEY. 39°03'N 78°10'W
Center: Jct. Crooked Run and Rt. 606.
Compiler: Rob Simpson (Rt. 1, Box 154-B, Stephens City, VA 22655)
28. SHENANDOAH NATIONAL PARK—LURAY. 38°35'N 78°28'W
Center: Hershberger Hill.
Compiler: Terry Lindsay (Shenandoah National Park, Rt. 4, Box 348, Luray, VA 22835)
29. BIG FLAT MOUNTAIN. 38°11'N 78°43'W
Center: On Pasture Fence Mountain.
Compiler: Charles Stevens (615 Preston Pl., Charlottesville, VA 22903)
30. ROCKINGHAM COUNTY. 38°26'N 79°02'W
Center: Ottobine.
Compiler: Max Carpenter (Rt. 1, Box 396, Dayton VA 22821)
31. AUGUSTA COUNTY. 38°12'N 78°59'W
Center: Jct. CR 780 and 781.
Compiler: John Mehner (Mary Baldwin College, Staunton VA 24401)
32. WAYNESBORO. 37°59'N 78°57'W
Center: Sherando at jct. of Rts. 610 and 664.
Compilers: Crista Cabe (400 Walnut Ave., #2, Waynesboro, VA 22980) and Allen Hale (Rt. 1, Box 242, Shipman VA 22971)
33. LEXINGTON. 37°51'N 79°29'W
Center: Big Spring Pond.
Compiler: Robert O. Paxton (460 Riverside Dr., #72, New York NY 10027) and George Tolley (Rt. 7, Box 25, Lexington, VA 24450)
34. PEAKS OF OTTER. 37°27'N 79°36'W
Center: Peaks of Otter Visitor Center.
Compiler: Barry Kinzie (PO Box 446, Troutville VA 24175)
35. CLIFTON FORGE. 37°49'N 79°46'W
Center: Jct. Rts. 42 and 60.
Compiler: Allen LeHew (76 Allegeny, Clifton Forge VA 24422)

36. FINCASTLE. $37^{\circ}31'N$ $79^{\circ}52'W$
Center: North of Fincastle near jct. of Rts. 220 and 679.
Compiler: Barry Kinzie (PO Box 446, Troutville VA 24175)
37. ROANOKE $37^{\circ}18'N$ $79^{\circ}56'W$
Center: Oakland Blvd. and Williamson Road.
Compilers: Peggy Spiegel (303 Market St., Roanoke VA 24011) and
Michael Donahue (4814 Bandy Rd. SE, Apt. 4, Roanoke VA 24014)
38. BLACKSBURG. $37^{\circ}14'N$ $80^{\circ}25'W$
Center: Jct. Rts. 685 and 657 near Linkous Store.
Compiler: Clyde Kessler (PO Box 3612, Radford VA 24143)
39. CLAYTOR LAKE $37^{\circ}03'N$ $80^{\circ}44'W$
Center: Jct. Rt. 611 and Norfolk & Southern Railroad.
Compiler: Clyde Kessler, (PO Box 3612, Radford VA 24143)
Observers: Robert Abraham, Mary Ann Bentley, Stan Bentley, Harriett Cooper,
Ken Cooper, Jeff Croke, Tom DeBusk, Michael Hite, Clyde Kessler, Susie
Leslie, Curt Roane.
40. TAZEWEEL. $37^{\circ}08'N$ $81^{\circ}30'W$
Center: Fourway.
Compiler: Sarah Cromer (Box 765, North Tazewell VA 24630)
41. GLADE SPRING. $36^{\circ}47'N$ $81^{\circ}47'W$
Center: Jct. Rts. 750 and 609.
Compiler: Steven L. Hopp (Box ii, Emory VA 24327)
42. BRISTOL. $36^{\circ}36'N$ $82^{\circ}07'W$
Center: Jct. Rts. 647 and 654, east of Bristol.
Compiler: Richard P. Lewis (407 V. I. Ranch Road, Bristol, TN 37620)
Observers: Fred alsop, Wallace Coffey, Catherine Cummings, Jane Fleenor, Bert
Hale, Ken Hale, Loraine Hale, Ron Harrington, Lloyd Jones, Rick Knight,
Jeff Larson, Tom Laughlin, Richard Lewis, Vickie Lewis, Alice Nair, Bob
Quillen, Randy Smith, Ramsey White.
43. NICKELSVILLE. $36^{\circ}45'N$ $82^{\circ}25'W$
Center: Nickelsville.
Compiler: Betsy McConnell (PO Box 293, Coeburn VA 24230)
44. BREAKS INTERSTATE PARK. $37^{\circ}15'N$ $82^{\circ}13'W$
Center: 4.5 miles n.e. of Haysi.
Compiler: D. Scott Ferrell (PO Box 67, Breaks, VA 24607)
45. WISE COUNTY $36^{\circ}57'N$ $82^{\circ}39'W$
Center: At Dorchester.
Compiler: Richard Peake (Clinch Valley College, College Ave., Wise VA 24293)
-

INFORMATION FOR CONTRIBUTORS

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

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

All contributions should be sent to the editor (7083 Caffee Creek Ln., Gloucester, Virginia 23061). Those having IBM compatible computers at their disposal are urged to submit materials for publication on diskettes, preferably using WordPerfect word-processing program. Details may be discussed with the editor by calling (804) 693-5246. If computer use is not possible, manuscripts, tables, and literature cited should be typewritten (*everything*, including tables and literature cited) and *double-spaced* on only one side of 8 1/2 x 11-inch good quality paper. Handwritten materials are discouraged.

At this time, only black-and-white photographs, graphs, maps, illustrations, figures, etc. may be used in *The Raven*. Generally the original size should not exceed 5 x 7 inches, keeping in mind that all such materials must be reduced substantially for final copy.

Format of *The Raven* generally follows guidelines set by the Council of Biology Editors as outlined in *CBE Style Manual*, 5th edition, published by Council of Biology Editors, Inc., Bethesda, Maryland 20814. It is standard policy that most manuscripts will be reviewed by someone qualified in the subject matter. The editor will acknowledge, by phone or letter, receipt of all articles submitted and will discuss reviewing policies with the author at that time.

Under most circumstances vernacular and technical names of birds should adhere to those in the Sixth edition of the A.O.U. Check-list of North American Birds and subsequent supplements. For bird measurements and weights, metric units are now the accepted standard. All figures and tables should be on separate pages and not included in the narrative text, and figures must be in a form suitable for photographic reproduction. Any extensive changes in figures must be charged to the author.

Deadlines for submission of articles are 1 January for the spring issue and 1 August for the fall issue. Authors contemplating submitting lengthy papers requiring review or those with extensive tabulations or figures should contact the Editor in advance.



The Raven

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Volume 65

Number 2

1994



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 \$10.00 for active members, \$15.00 for sustaining members, \$25.00 or more for contributing members, \$250.00 for life members, and \$18.00 for family members (limited to husband, wife and their dependent children).

Editorial queries and comments may be directed to Teta Kain, 7083 Caffee Creek Ln., Gloucester, Virginia 23061.

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The Raven

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EDITOR

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EDITOR *EMERITUS*

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CLAUDIA P. WILDS



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Artwork on pages 80 and 81 by Arun Bose

SHARP-SHINNED HAWK LOSES PREY TO RED-TAILED HAWK

ERIKA WILSON

2032 Brooks Square Place
Falls Church, Virginia 22043

On 7 February 1994, while birding in the Lucketts area, Loudoun County, Virginia, my companions and I observed a Red-tailed Hawk (*Buteo jamaicensis*) take a Red-bellied Woodpecker (*Melanerpes carolinus*) that seconds before had been in the possession of a Sharp-shinned Hawk (*Accipiter striatus*).

Bill Bruni of Dunn Loring, Virginia, John Tonkin of Alexandria, Virginia, and I were birding along Loudoun County Rt. 657, just east of its intersection with Loudoun County Rt. 662 (39°13' N, 77° 46' W). About 1:30 p.m. I noticed movement on the unpaved road surface ahead. Pulling onto the shoulder, we found an adult Sharp-shinned Hawk standing on an adult Red-bellied Woodpecker. We could not determine the woodpecker's sex because its head was facing away from us, hiding the forehead. Judging from the length of a Red-bellied Woodpecker, 24 cm, the Sharp-shinned Hawk was probably an adult female, about 36 cm in length.

As we watched through our binoculars (Bruni: 8 X 40 Leitz; Tonkin: 10 X 40 Zeiss; Wilson: 10 X 40 Leitz), the Sharp-shinned Hawk began pulling breast feathers from the woodpecker carcass. We expected the hawk to feed on the carcass, but at the approach of a vehicle from behind us, the adult accipiter looked up several times, then took off without its prey, flying north by rising sharply over the hedgerow atop the bank edging the road. Almost immediately I saw an adult Red-tailed Hawk gliding toward us and the woodpecker. The Red-tailed Hawk was at hedgerow height when I spotted it, centered over the roadway, and dropping fast; it extended its talons forward and snatched the Red-bellied Woodpecker. The Red-tailed Hawk then banked sharply to its right and upward, barely clearing the hedgerow at the same time the vehicle passed us.

Both raptors had disappeared from our limited viewing area by the time the car passed. On reflection we realized that the Red-tailed Hawk must have been nearby, watching the accipiter, but we had not seen it as we approached. We also don't know if the Sharp-shinned Hawk flushed because of the oncoming vehicle or the approaching Red-tailed Hawk. Common sense leads us to think that the Red-tailed Hawk took advantage of the situation, claiming an abandoned prey item that was too heavy for the Sharp-shinned Hawk to carry.

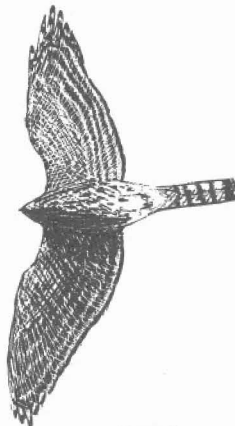
SHARP-SHINNED HAWK DROWNS RED-BELLIED WOODPECKER

KERRIE KIRKPATRICK

3413 Surrey Lane
Falls Church, Virginia 22042

On 8 January 1994, around 10:00 a.m. EST, in a heavily wooded section of Mason Neck State Park, Fairfax County, Virginia, I saw a bird streak across the road and drop down out of sight into a clearing. I drove up to the clearing, pulled off the road, and saw an adult Sharp-shinned Hawk (*Accipiter striatus*) standing next to a large pool of melting snow water. The accipiter held in its talons a thrashing and loudly screeching woodpecker that was almost as large as itself.

As I raised my binoculars (Zeiss 10 X 42), the hawk flew off with apparent difficulty carrying its still squawking prey. It rose only two or three feet off the ground. The hawk landed noisily nearby, but out of sight; then all was still for several minutes. Soon the screeching resumed, and the hawk returned to the clearing with what I could now see was a Red-bellied Woodpecker (*Melanerpes carolinus*). The Sharp-shinned Hawk dragged the woodpecker into the pool, completely submerged it, and stood on it until it ceased struggling. After pulling the now dead woodpecker out of the water, the hawk flew off with its prey. This time it reached a height of 10 to 15 feet as it disappeared into the trees.



Bose. 94

BANK SWALLOW COLONY AT GALAX

MARCUS B. SIMPSON, JR.

P. O. Box 19094

Washington, DC 20036-0094

The Bank Swallow (*Riparia*) is an uncommon to locally common breeding species in Virginia, where Kain (1987) has summarized colonial nesting records from all three major physiographic regions of the state. A previously undescribed site at Galax may be the southernmost active nesting colony in Virginia and one of the few currently active colonies in the Blue Ridge province (Simpson, 1992).

The colony is located at Galax in a steep artificial cut bank behind the E. L. Diamond Electric Company on the north side of VA Rt. 89 at its junction with Lineberry Road, just before the Little River bridge and 5.3 miles from the Blue Ridge Parkway exit for Rt. 89 at mile 215.8. The colony was first discovered and reported to me by Martin T. Morris, district ranger for the Bluffs District of the Blue Ridge Parkway.

My visits to the colony include one on 10 June 1990, when approximately 50 birds were noted flying around the site. The colony consisted of about 135 nesting holes located from 15 to 25 feet above road level on the cliff, which faces northwest.

On 6 July 1991, 24 adult birds were observed flying around the colony, and at least 20 of the nesting cavities appeared to have visible young near the openings. On 11 May 1992, I noted 40 swallows soaring about the site. Finally, on 16 May 1994, I visited the colony and noted that a major portion of the cliff face had collapsed, and approximately 25 nests seemed to be active, with some adults apparently carrying food into the cavities.

This site is highly vulnerable to commercial development, and its long-term viability is doubtful. Nevertheless, the site has been successfully occupied for five years, and the colony is certainly among the southernmost in Virginia and in the Blue Ridge.

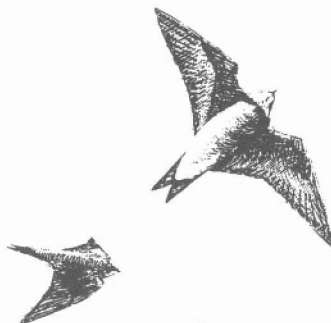
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WHITE PELICANS AT BETHEL BEACH IN MATHEWS COUNTY, VIRGINIA

BILL ANDERSON

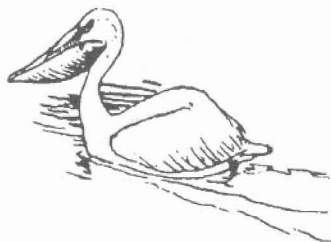
P. O. Box 885

Mathews, Virginia 23109

On the afternoon of 1 March 1994, a storm system approached the western shores of the Chesapeake Bay. I decided to walk the shore of Bethel Beach preserve in Mathews County, Virginia before the storm hit for the purpose finding any birds that might be suffering from avian cholera. A serious outbreak of the disease had been affecting thousands of water birds all along the western shores of the bay for the past several weeks. The weather was overcast, with a temperature of about 40°F, and a slight easterly wind. I found no infected birds during my outing, but intended to search the area again after the storm had passed.

My route took me to the southern tip of the preserve until I came to the channel that has severed the very end of the beach, forming a small island of the terminal sandspit. A group of birds I saw walking around on the sandspit was interesting because of their large size. I identified several Tundra Swans (*Cygnus columbianus*), but my attention was drawn to three other individuals because of their large, bright orange bills, their plumage which was whiter than that of the swans, and their posture which was more characteristic of pelicans. Although my ornithological experience is modest, I have studied birds since 1937, and I realized immediately that the three individuals were American White Pelicans (*Pelecanus erythrorhynchos*).

Editor's note: This is probably the first sighting of American Pelican in Mathews County. At least one other individual was observed in another part of the county by Mary Pulley of Redart several days later.



AOU CHECK-LIST CHANGES AFFECTING VIRGINIA BIRDS

Listed below are all changes on the AOU Check-list, through Supplement 39, that affect any birds that have occurred in Virginia since the publication of *Virginia's Birdlife, an annotated checklist*.

- **Pacific Loon** (*Gavia pacifica*) (AOU #10) is split from **Arctic Loon** (*G. arctica*).
- **Clark's Grebe** (*Aechmophorus clarkii*) (AOU #1.1) is split from **Western Grebe** (*A. occidentalis*).
- The scientific name of **Northern Gannet** becomes *Morus bassanus*.
- **Green-backed Heron** reverts back to its former English and scientific names, **Green Heron** (*Butorides virescens*), because of a taxonomic split involving the species **Striated Heron** (*Butorides striatus*).
- The scientific name of **Yellow-crowned Night-Heron** becomes *Nyctanassa violacea*.
- **Black-shouldered Kite** reverts to its older English and scientific names, **White-tailed Kite** (*Elanus leucurus*).
- **Lesser Golden-Plover** is split into two species, **American Golden-Plover** (*Pluvialis dominica*) and **Pacific Golden-Plover** (*Pluvialis fluva*). The American Golden-Plover is the species that normally occurs in Virginia.
- The AOU number for **Semipalmated Sandpiper** (*Calidris pusilla*) has been changed to 246.
- The AOU number for **Western Sandpiper** (*Calidris mauri*) has been changed to 247.
- The AOU number for **Black Guillemot** (*Cephus grylle*) has been changed to 27.
- The English name of *Tyto alba* is changed from **Common Barn-Owl** to **Barn Owl**.
- **Burrowing Owl** is returned to the genus *Speotyto* and is now *Speotyto cunicularia*.
- **Western Flycatcher** is split into **Pacific-slope Flycatcher** (*Empidonax difficilis*) (AOU #464.1) and **Cordilleran Flycatcher** (*Empidonax occidentalis*) (AOU #464). Even though neither of these species has been recorded in Virginia, a possible sighting of a Pacific-slope Flycatcher is the reason for the inclusion on this list. The record is being evaluated by the Records Committee as of this writing.
- **Water Pipit** (*Anthus spinoletta*) is removed from the Check-list and is replaced by **American Pipit** (*Anthus rubescens*).
-

A complete list of checklist changes may be found in the following publications:

- 35th Supplement changes: *The Auk* 102:680-686 (1985) and *Birding* 17(6):266-267 (Dec 1985)
- 36th Supplement changes: *The Auk* 104:591-596 (1986) and *Birding* 19(3):26-27 (Jun 1987)
- 37th Supplement changes: *The Auk* (Jul 1989) issue and *Birding* 21(4):209-221, (Aug 1989)
- 38th Supplement changes: *The Auk* (Jul 1991) and *Birding* 24(2):124 (Apr 1992)
- 39th Supplement changes: *The Auk* (Jul 1993) and *Birding* 26(1):59-61 (Feb 1994)

1994 REPORT OF THE VSO RECORDS COMMITTEE

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This report covers the evaluations completed by the VSO Records Committee from 1 August 1993 through 30 August 1994, along with the list of new members and changes in the committee bylaws.

To better serve those contributing documentation to the committee for review and to facilitate the management of committee affairs, it became apparent in the past year that some changes to the committee's bylaws were in order. In March 1994 the VSO Board of Directors approved the following amendments and additions:

Section III. A. will be changed to read:

A. Number and Definitions. The committee shall consist of eleven people, nine voting members, one non-voting chairman, and one non-voting Secretary-Compiler.

To be added to Section III.

C. 1. c. The non-voting Chairman shall be appointed by the Board at the Fall VSO Board meeting for a one-year renewable term.

Section III. 4. d. will be changed to read:

d. Handles all requests for assistance from researchers for record information, including non-attributable reviewers' comments, for all records.

A word of explanation seems in order to clarify the above amendments. A non-voting chairman can assist with many of the secretary-compilers duties such as correspondence, record-keeping, and dissemination of without a conflict of interest. In addition, changing the position of chairman to a year-to-year elected position provides a certain amount of continuity at the administrative level of the committee.

Concerning the requests for information about reviewers' comments, in the past all comments have been kept confidential and only general overviews of members reasons for rejection or acceptance of records has been given out. Under the revised amendment, verbatim comments are available upon requests, but the names of the evaluators will be omitted.

The 1994 committee members are:

Non-voting chairman: Teta Kain

Non-voting secretary-compiler: Charlotte Friend

Voting members:

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

Two-year term: Fenton Day, Kerrie Kirkpatrick, Brian Taber

One-year term: Brian Patteson, Richard Peake, Claudia Wilds

The evaluation process and voting results for the following records has been completed since the last report:

ACCEPTED RECORDS

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

WHITE-FACED STORM-PETREL (*Pelagodroma marina*). A bird seen on a pelagic trip to Poor Man's Canyon on 12 August 1991 [Michael O'Brien] becomes the third state record. Chronologically, it is the second record. Documentation on an individual seen and photographed on 17 August 1991 had accepted previously.

LITTLE EGRET (*Egretta garzetta*). A single bird was found at Chincoteague on 17 May 1992 [Martha C. and Francis E. Woods, Brent Tarter, Valerie Kitchens, Robert Hilton, Jesse Fulton, Tom Armour] and remained on the refuge for several weeks, providing excellent viewing and photographic opportunities for many observers. The species is placed on the accidental list. It is the first occurrence of this species in Virginia and becomes the 421st species on the cumulative state list.

ROSS'S GOOSE (*Chen rossii*). One bird on the Back Bay Christmas Count on 28 December 1992 [George Armistead, David Abbott] becomes the third state and third Coastal Plain record. This species is on the accidental list, photos of previous sightings having been obtained.

GYRFALCON (*Falco rusticolus*). A bird was banded and photographed at Short Hill Mountain on 27 November 1991 [Roger Jones] and the record becomes the second both for the State and for the Mountains and Valleys region.

PURPLE GALLINULE (*Porphyrio martinica*). A hapless individual, blown before a huge storm front, landed in a field on the western edge of Orange County on 14 March 1993. [T. G. Scott] photographed the bird and made arrangements to transport it to the Wildlife Center at Weyers Cave. The bird recovered and was later sent to Florida. This record extends the extreme dates for the Piedmont from 22 April to 14 March.

SANDHILL CRANE (*Grus canadensis*). One bird was photographed and documented by [Ken Bass] at Nokesville on 28 February 1991 for the second Piedmont record.

VERMILION FLYCATCHER (*Pyrocephalus rubinus*). On 15 January 1993 an immature male was discovered by [Don Schwab and Thomas Gwynn III] on the edge of a flooded soybean field just south of the little town of Birds Nest on the Eastern Shore. Excellent, identifiable photographs were taken of the bird and many observers located the individual over the several weeks it remained in the same area. This sighting is the first State and first Coastal Plain record and the species is placed on the accidental list as Virginia bird no. 422.

UNACCEPTED RECORDS, identification questionable:

MAGNIFICENT FRIGATEBIRD (*Fregata magnificens*). Documentation on several individuals flying over Rockfish Gap on 7 November 1991 was deemed too brief for acceptance.

BLACK-CROWNED NIGHT-HERON (*Nycticorax nycticorax*). Details on an immature heron at Crozet in Albemarle County on 8 December 1992 were too brief and did not sufficiently eliminate similar species.

FALCATED TEAL (*Anas falcata*). This bird, seen at Warrenton from 20 to 22 November 1992, was also thought to be an escapee.

GARGANEY (*Anas querquedula*). Details concerning a bird seen at Chincoteague on 27 May 1991 were thorough, but the possibility that it was an escapee from a collection was too great for it to be accepted.

ROSS'S GULL (*Rhodostethia rosea*). Although documentation was extensive on an individual spotted at Fort Story, Virginia Beach on 16 February 1992, it was felt that the bird was very distant from the observers and certain critical field marks were not well-enough seen for identification to be positive.

OTHER RECORDS

THAYER'S GULL (*Larus thayeri*) Chesapeake Bay Bridge-Tunnel, 26 February 1989. Although the written documentation for this record had already been accepted, it was necessary to send the photographs on separate rounds for committee members to determine if they were identifiable as a Thayer's Gull. Members decided they were not; consequently, the species remains on the hypothetical list with this being the third State and third Coastal Plain record.

RECORDS NOW UNDER EVALUATION BY THE COMMITTEE

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

WESTERN GREBE (*Aechmophorus occidentalis*). Craney Island, Portsmouth, on 3 November 1973. Previously accepted. Identifiability of photograph under consideration.

BULWER'S PETREL (*Bulweria bulwerii*). Off the Virginia coast, 15 August 1993.

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

LITTLE EGRET (*Egretta garzetta*). Chincoteague, Accomack County,
18 August 1993.

TRUMPETER SWAN (*Cygnus buccinator*). Huntley Meadows, Fairfax County,
22 January 1990.

ROSS'S GOOSE (*Chen rossii*). Nelsonia, Accomack County, 3 January 1994.

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

SWAINSON'S HAWK (*Buteo swainsoni*). Rockfish Gap, Augusta/Nelson counties,
9 September 1992.

SWAINSON'S HAWK (*Buteo swainsoni*). Snickers Gap, Loudoun County,
29 October 1993.

SWAINSON'S HAWK (*Buteo swainsoni*). Chincoteague, Accomack County,
7 December 1993.

LONG-BILLED DOWITCHER (*Limnodromus scolopaceus*). Stuarts Draft
Augusta County, 16 August 1992.

POMARINE JAEGER (*Stercorarius pomarinus*). Beaverdam, Loudoun County,
18 July 1993.

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

CALIFORNIA GULL (*Larus californicus*). Fort Story, Virginia Beach, 3 January
1991.

CALIFORNIA GULL (*Larus californicus*). Chesapeake Bay Bridge-tunnel,
16 March 1991.

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

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

NORTHERN SHRIKE (*Lanius excubitor*). Lucketts, Loudoun County,
6 November 1993.

INDIGO BUNTING (*Passerina cyanea*). Darlington Heights,
Prince Edward County, 13 December 1992.

OREGON (DARK-EYED) JUNCO (*Junco hyemalis*). Crozet, Albemarle County,
28 December 1993.

LITTLE EGRET AT CHINCOTEAGUE

MARTHA C. WOODS

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During a field trip to Chincoteague National Wildlife Refuge on 17 May 1992, the fog had driven us off the ocean beach and we turned our attention to the birds further inland. An east wind of about 10-12 mph added a decided chill to the air as we looked for birds along the wildlife drive area of the refuge.

We were watching some Mute Swans (*Cygnus olor*) with their cygnets at about 8:50 a.m. when my husband Fran asked me for assistance in identifying a bird. At first I thought the bird in question was a Snowy Egret (*Egretta thula*) because of its black bill and legs. Fran thought it might be a somewhat odd immature Little Blue Heron (*Egretta caerulea*), but its overall appearance did not seem to correctly fit either species.

After the studying the individual and comparing it to the nearby Snowys and Little Blues, Fran noted that the bird did not have yellow lores like the Snowys. The overall size of the bird, however, was the same. I noted that the bird did have yellow feet, a solid, slender, black bill, and was a mature bird because of the two long, white breeding plumes. While we were observing the bird, it continued to feed and wade through the water from right to left and back and forth through Black Duck Marsh on the edge of Swan Cove. We were generally about 40 yds from the bird, but at times the distance varied from 30 to 70 yds.

A final comparison of a nearby Snowy and the bird in question was made through our telescope, a Kowa TSN-2 with a Kowa 20-60 zoom lens. Fran again pointed out the difference in the lore colors. I noticed that the "mystery bird's" lores were medium blue when we saw them in good sunlight. The two long plumes on the back of its head were long and straight, not feathery as one would see on a Snowy Egret. I realized then that the bird was a Little Egret (*Egretta garzetta*) and Fran confirmed it.

In the next few minutes, the other people in our group found the bird and observed it at length. Many of us took extensive notes, discussed field marks, and consulted our field guides for further confirmation of our identification. Several individuals had cameras and began photographing the egret.

Fran and I had both seen a Little Egret in Trinidad on 3 October 1991 and another in Tobago on 4 October 1991, so we were not unfamiliar with the species. Several other people in the group, including Bev Leeuwenburg, Valerie Kitchens, and Mary Kay and Marvin Rubin, had also encountered Little Egrets in their travels abroad.

Editor's note: Besides the write-up by the Woods', details about this sighting were also submitted by Jesse Fulton III, Robert Hilton, Valerie Kitchens and Brent Tarter. Several reporters included sketches. All documentation was reviewed and accepted by the VSO records committee and the sighting becomes the first State and first Coastal Plain record for the State of Virginia. It is placed on the accidental list and is no. 421 on the cumulative state list.

VERMILION FLYCATCHER, NORTHAMPTON COUNTY, VIRGINIA

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THOMAS M. GWYNN III

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On 15 January 1993, the authors were birding along State Route 600 in Northampton County. The day was sunny with a few clouds, the first day without rain in two weeks. Just below the town of Birds Nest, we stopped to look over a one-acre flooded soybean field west, and next to, State Route 600 and 0.3 miles south of State Route 617.

An unfamiliar call was heard coming from the tree line 100 yards west of Route 600, which separated the flooded field from the unflooded land. The call was similar to that of the Eastern Tufted Titmouse (*Parus bicolor*), but sounded more like "veeter" "veeter," "veeter," "veeter." The call was given four to five times with a short pause between courses.

Don was the first to spot the orange red color of the breast and cap, the brown wings, and the dark mask and tail. The bird was seen making the "veeter" calls and was identified as a Vermilion Flycatcher (*Pyrocephalus rubinus*). The bird quit calling when an adult Red-shouldered Hawk (*Buteo lineatus*) landed in an adjacent tree.

The bird was first found at 11:05 a.m. and was observed for ten minutes, with 8X and 10X binoculars and 15-45X and 20-60X scopes. The flycatcher moved out over the flooded soybeans hawking insects and moving to within 40 yards of the authors. Photographs, using an 800mm lens and a 35mm camera, were taken. The bird was observed again, in the same flooded field, from 3:35 to 3:50 p.m. by the authors.

The individual was identified as an immature male based on the amount of whitish feathers still evident on the chest and flanks. The throat appeared (the following color names are from Smithe, F.B., 1975. Naturalist's Color Guide, Am. Museum Nat. Hist.) to be spectrum orange wash (color 17) over the flame scarlet (color 15) base color. The wings were burnt or raw umber (color 22 or 23), with two faint wing bars. The tail and mask appeared darker than the wings. The cap was the same color—flame scarlet—as the breast and flanks.

The bird was seen by many birders at least until 31 January. This sighting represents the first documented record for this bird in the State of Virginia.

Editor's note: This documentation was reviewed and accepted by the Records Committee and becomes the first State and first Coastal Plain record. Identifiable photographs place this species on the accidental list.

WILLIAMSBURG BIRD CLUB SPRING COUNTS 1978-1994: AN OVERVIEW SUMMARY

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BILL WILLIAMS

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An annual rite of Spring for many ornithological organizations is a bird census modeled after the National Audubon Society's Christmas bird count. Much use has been made of Christmas count data for population monitoring, but little, if any, use has been made of consistently conducted spring tallies. This summary documents the spring records gathered by the Williamsburg Bird Club.

For 17 consecutive years, the Williamsburg Bird Club has conducted its Coastal Plain spring count within the same count circle as that described for the Christmas bird counts in *American Birds* in 1978. The circle, centered at the Colonial Williamsburg Information Center, encompasses all of the City of Williamsburg, and portions of York, James City, Surry, and Gloucester counties. Birds are not counted in Gloucester County. Principal features of the count area include sections of the York and James rivers, Hog Island Waterfowl Management Area, much of the Colonial Historical Parkway, and several small freshwater impoundments. Undisturbed upland deciduous forests on Cheatham Annex Naval Supply Station, Camp Peary, the College of William and Mary woods, Waller Mill Park, and Jamestown Island National Historic Park offer a productive counterpart to the York River's tidal salt marshes and the fresh-to-brackish tidal marshes along the James River.

Significant portions of the count area have remained relatively unchanged over the 17-year count history, because they are federally owned and managed. Only natural succession, some logging, and a heavy infestation of the southern pine bark beetle in the mid-1980s have affected them. There has been, however, rapid residential development in several James City County areas, including Kingsmill, Ford's Colony, and Windsor Forest.

Some major changes in the count circle include a 996-acre reservoir, which was filled in 1981 and stocked with game fish in 1985, and the development of strip malls and shopping centers along the western corridor of U.S. Route 60. In addition, some farmland in northwestern James City and York counties has become residential. These combined changes have limited previously accessible birding areas and reduced bird habitat.

The count has typically been held on the first Sunday in May, a time considered to best represent the peak avian migration period in the area. On six occasions, the count has been held on other dates. Coverage has remained very consistent in terms of

participants and time in the field. The number of participants has ranged between 15 and 20 annually.

Table 1 on pages 92 through 101 is a compilation of the data from the 17 counts.

Over the 17-year history of the count, 227 species of birds have been recorded. Of these, approximately 120 are considered regularly-occurring. One must be cautious about over-generalizing about regularly occurring species and their numbers. For example, some of the more numerous species, including Cedar Waxwing (*Bombycilla cedrorum*), Yellow-rumped Warbler (*Dendroica coronata*), White-throated Sparrow (*Zonotrichia albicollis*), and Bobolink (*Dolichonyx oryzivorus*), vacate the area quickly after the migrational window in which they occur has passed.

Thirty-nine species are considered rare for the count, having been recorded only once or twice. Among them are American Swallow-tailed Kite (*Elanoides forficatus*), Ruff (*Philomachus pugnax*), Roseate Tern (*Sterna dougallii*), and Lincoln's Sparrow (*Melospiza lincolnii*). The remaining species are uncommon to rare migrants to the area, many being winter-holdover waterfowl and northern finches; rare to uncommon Coastal Plain migrant passerines; and herons, ibis, egrets and shorebirds encountered inland, away from their more normal coastal flight path or nesting areas.

A total of 104 species has been seen on every count, including Boat-tailed Grackle (*Quiscalus quiscula*), a very local breeder averaging only one to four birds annually. Locally common breeding birds account for 84 species. Eight more species breed nearby in the State. The remainder are winter residents and migrants headed for distant nesting areas.

The count's two most numerous species are the Laughing Gull (*Larus atricilla*), averaging 1272 birds per count and Red-winged Blackbird (*Agelaius phoeniceus*), averaging 441 per count. The total number of species recorded for each count ranged from 141 to 166, with an average of 155.

The data tracks the demise of a locally introduced bird, the Ring-necked Pheasant (*Phasianus colchicus*), which disappeared in 1987 at Cheatham Annex (although a single bird was found at nearby Camp Peary in 1992), and the apparent establishment of Mute Swans (*Cygnus olor*), which were not recorded for the count's first nine years, but on the three most recent counts, 6, 18, and 16 birds were recorded respectively.

(Continued on page 102)

	6 May 1978	6 May 1979	4 May 1980	9 May 1981	2 May 1982	15 May 1983	29 April 1984
Red-throated Loon	...	...	...	...	...	1	...
Common Loon	3	...	...	1	...	4	3
Pied-billed Grebe	...	...	...	1	...	...	1
Horned Grebe	...	...	...	...	1	...	...
American White Pelican	...	...	...	...	...	...	...
Brown Pelican	...	...	...	...	...	...	...
Great Cormorant	...	...	...	...	...	...	...
Double-crested Cormorant	52	18	154	135	63	148	145
Least Bittern	...	...	...	...	...	...	...
Great Blue Heron	106	87	116	121	88	132	114
Great Egret	3	6	2	7	3	4	19
Snowy Egret	...	2	...	1	8	...	...
Little Blue Heron	...	...	...	1	...	...	...
Tricolored Heron	...	...	...	...	...	1	4
Cattle Egret	...	...	...	2	...	...	...
Green Heron	14	23	10	15	14	22	19
Black-crowned Night-Heron	...	...	...	...	1	1	1
Yellow-crowned Night-Heron	...	...	1	4	1	1	1
Glossy Ibis	...	...	...	1	1	...	...
Tundra Swan	...	...	...	...	...	...	...
Mute Swan	...	...	...	...	...	...	...
Canada Goose	159	55	75	95	94	61	40
Wood Duck	42	77	29	55	78	48	69
Green-winged Teal	6	2	1	...	1	...	...
American Black Duck	...	...	3	4	5	3	...
Mallard	46	44	70	61	30	21	41
Blue-winged Teal	16	...	14	2	3	...	11
Northern Shoveler	...	...	...	...	...	...	2
Gadwall	...	...	...	...	...	...	2
Canvasback	...	...	...	2	1	...	...
American Wigeon	...	...	...	...	...	...	...
Ring-necked Duck	...	...	...	...	...	...	...
Greater Scaup	...	...	...	1	...	...	...
Lesser Scaup	31	2	...	...	21	...	10
Bufflehead	3	...	...	1	...	...	...
Hooded Merganser	...	1	...	...	...	...	...
Common Merganser	...	...	...	...	...	...	...
Red-breasted Merganser	3	1	...	5	...	1	1
Ruddy Duck	8	51	32	16	88	...	10
Black Vulture	5	5	8	10	9	5	14
Turkey Vulture	45	29	41	58	98	52	48
Osprey	12	16	16	29	31	21	39
American Swallow-tailed Kite	...	...	...	...	...	...	...
Bald Eagle	1	...	1	4	4	1	5
Northern Harrier	2	...	1	2	...	...	1
Sharp-shinned Hawk	1	2	6	4	2	1	1
Cooper's Hawk	...	...	...	...	...	...	...
Red-shouldered Hawk	2	2	5	6	5	7	11

	5 May 1985	4 May 1986	3 May 1987	1 May 1988	7 May 1989	29 April 1990	28 April 1991	3 May 1992	2 May 1993	8 May 1994
...	...	...	...	...	...	...	1	...	...	...
...	1	...	3	...	1	6	4	1	1	2
...	...	...	1	5	2	...	3	1	1	...
...	...	...	...	...	...	1	...	...	...	...
...	...	...	...	...	1	...	...	1	...	...
...	...	...	...	...	...	1	...	2	...	...
...	...	...	...	...	...	...	...	...	...	1
...	75	104	74	148	69	110	68	92	97	130
...	...	...	...	1	...	...	...	...	...	...
...	139	157	83	141	326	188	199	191	252	131
...	...	1	9	1	7	9	4	10	32	7
...	...	4	3	...	5	1	1	...	3	1
...	...	...	...	1	...	...	...	...	1	...
...	...	...	2	...	2	...	...	14	...	...
...
...	19	19	26	18	14	14	21	21	14	15
...	...	1	4	1	9	2	...	...	1	...
...	1	1	1	...	1	2	7	4	1	3
...	...	1	...	...	...	...	14	...	...	...
...	...	...	...	...	...	...	1	...	...	...
...	...	...	1	1	2	2	1	6	18	16
...	46	122	40	90	127	106	111	151	261	222
...	65	34	62	54	131	76	58	47	49	41
...	...	...	...	4	6	48	...	...	2	...
...	6	4	...	1	1	2	...	4	...	2
...	55	63	102	34	58	71	45	48	35	79
...	...	5	1	4	4	4	...	...	4	...
...	...	...	...	2	...	...	...	...	...	...
...	...	...	2	...	...	...	...	...	...	...
...	...	...	1	...	...	2	...	...	1	...
...	...	...	...	...	...	...	1	...	...	...
...	...	...	...	...	1	...	...	...	...	...
...
...
...	...	1	...	...	2	18	10	...	2	...
...	1	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	1	...	...	...
...	...	...	1	...	...	...	...	3	...	...
...	1	3	...	...	3	2	...	5	5	...
...	...	...	...	20	34	10	51	1	3	...
...	5	3	2	3	14	12	12	9	8	10
...	63	44	68	77	116	55	94	79	97	81
...	20	33	47	64	63	73	71	91	83	69
...	...	...	1	...	...	...	...	...	...	...
...	5	6	6	7	11	8	3	7	5	21
...	1	1	1	3	1	...	...	1	...	1
...	1	8	2	8	1	1	2	8	1	1
...	1	...	...	...	...	...	...	...	2	...
...	5	8	6	13	5	8	7	5	5	3

	6 May 1978	6 May 1979	4 May 1980	9 May 1981	2 May 1982	15 May 1983	29 April 1984
Broad-winged Hawk	...	...	...	...	...	1	...
Red-tailed Hawk	10	7	15	10	23	8	15
American Kestrel	3	3	6	2	1	1	9
Merlin	...	...	...	...	...	...	...
Ring-necked Pheasant	25	26	28	7	5	3	3
Wild Turkey	3	5	1	4	10	4	6
Northern Bobwhite	126	110	109	80	121	130	80
Clapper Rail	1	4	2	3	2	1	9
King Rail	1	...	...	...	1	...	...
Virginia Rail	1	...	...	...	...	1	1
Sora	...	...	...	...	...	...	1
Common Moorhen	...	...	...	...	...	...	...
American Coot	...	26	...	...	...	...	...
Black-bellied Plover	14	1	...	6	...	13	...
Semipalmated Plover	6	5	...	...	...	18	...
Killdeer	5	24	21	12	16	16	17
Greater Yellowlegs	66	23	17	16	14	8	33
Lesser Yellowlegs	104	16	12	13	29	12	19
Solitary Sandpiper	45	17	19	8	6	4	10
Willet	3	...	...	...	1	...	...
Spotted Sandpiper	58	25	61	19	19	17	37
Ruddy Turnstone	...	...	...	...	...	...	...
Semipalmated Sandpiper	49	10	38	...	...	44	...
Western Sandpiper	...	...	...	...	...	2	...
Least Sandpiper	14	8	1	42	22	107	98
White-rumped Sandpiper	3	4	...	...	...	...	...
Pectoral Sandpiper	25	1	...	1	...	...	14
Dunlin	15	...	...	...	...	2	...
Stilt Sandpiper	...	...	...	...	...	...	...
Ruff	...	...	...	...	...	...	...
Short-billed Dowitcher	2	...	...	...	...	...	2
Common Snipe	5	...	6	...	3	...	15
American Woodcock	1	5	2	5	1	2	1
Red-necked Phalarope	1	...	...	...	...	...	...
Wilson's Phalarope	...	...	...	...	...	...	...
Laughing Gull	245	89	156	435	538	512	770
Bonaparte's Gull	12	...	1	...	3	...	...
Ring-billed Gull	775	336	843	164	1202	50	156
Herring Gull	159	258	114	69	166	12	46
Great Black-backed Gull	36	1	14	23	39	2	7
Caspian Tern	19	67	3	19	57	66	49
Royal Tern	4	4	16	96	5	8	55
Roseate Tern	...	...	1	...	...	...	...
Common Tern	...	1	2	...	...	...	...
Forster's Tern	...	...	17	19	9	2	...
Least Tern	1	...	...	5	...	...	...
Rock Dove	375	65	62	51	66	57	123
Mourning Dove	339	201	133	93	155	154	125

	5 May 1985	4 May 1986	3 May 1987	1 May 1988	7 May 1989	29 April 1990	28 April 1991	3 May 1992	2 May 1993	8 May 1994
Broad-winged Hawk	...	...	1	...	...	...	...	...	...	...
Red-tailed Hawk	14	14	10	20	13	12	8	11	12	16
American Kestrel	3	1	6	3	4	2	2	2	1	1
Merlin	...	1	1	1	2	...	...	1	...	1
Ring-necked Pheasant	4	1	...	...	...	...	...	1	...	...
Wild Turkey	1	2	1	6	...	4	4	2	6	8
Northern Bobwhite	85	87	89	75	65	49	32	56	36	35
Clapper Rail	9	8	10	7	7	13	18	10	21	28
King Rail	...	...	...	2	...	...	1	1	...	1
Virginia Rail	...	1	1	1	1	...	1	...	...	...
Sora	...	2	...	1	2	...	...	3	...	...
Common Moorhen	...	...	...	...	...	...	1	...	...	...
American Coot	...	1	...	1	3	...	4	...	...	...
Black-bellied Plover	1	16	...	12	2	1	...	8	...	...
Semipalmated Plover	18	11	29	2	35	4	...	8	1	...
Killdeer	37	33	16	31	29	26	19	23	39	28
Greater Yellowlegs	39	10	26	23	31	11	12	28	20	3
Lesser Yellowlegs	24	43	40	67	11	112	1	9	7	1
Solitary Sandpiper	32	65	17	9	15	7	3	6	3	11
Willet	...	...	...	...	...	...	...	...	...	...
Spotted Sandpiper	26	41	42	27	37	4	12	11	13	10
Ruddy Turnstone	...	...	...	...	1	...	...	...	...	...
Semipalmated Sandpiper	2	6	1	...	...	...	1	...	...	44
Western Sandpiper	29	2	...	...	15	7	...	...	...	...
Least Sandpiper	175	32	13	70	133	135	10	14	6	5
White-rumped Sandpiper	...	1	...	1	...	1	1	...	...	...
Pectoral Sandpiper	15	...	...	3	...	6	...	...	12	...
Dunlin	6	...	...	1	2	1	4	2	...	8
Stilt Sandpiper	...	...	...	...	...	2	...	...	...	...
Ruff	...	1	...	...	...	...	...	...	...	...
Short-billed Dowitcher	...	1	...	...	1	32	...	3	...	...
Common Snipe	...	4	1	1	1	6	6	8	8	...
American Woodcock	3	1	4	4	5	1	...	2	1	3
Red-necked Phalarope	...	...	...	...	...	...	...	...	...	...
Wilson's Phalarope	...	...	...	...	...	1	...	...	...	...
Laughing Gull	538	326	438	715	852	305	537	552	3400	597
Bonaparte's Gull	7	1	1	44	5	26	58	4	8	...
Ring-billed Gull	171	381	306	364	130	128	124	171	143	25
Herring Gull	178	61	26	44	21	82	49	76	71	28
Great Black-backed Gull	3	5	3	8	42	7	17	22	27	4
Caspian Tern	27	18	37	25	9	8	15	15	16	4
Royal Tern	158	105	99	267	76	71	200	151	127	42
Roseate Tern	...	...	...	...	...	5	...	...	...	...
Common Tern	9	7	6	16	8	5	16	8	8	1
Forster's Tern	21	34	20	19	116	40	4	80	25	23
Least Tern	1	...	6	1	3	2	...	7	3	26
Rock Dove	70	33	54	27	58	12	31	44	11	36
Mourning Dove	185	212	173	155	165	82	149	132	140	92

	6 May 1978	6 May 1979	4 May 1980	9 May 1981	2 May 1982	15 May 1983	29 April 1984
Black-billed Cuckoo	...	...	...	...	...	...	...
Yellow-billed Cuckoo	3	40	7	5	22	10	1
Eastern Screech-Owl	2	6	3	3	3	2	6
Great Horned Owl	2	4	4	2	6	...	4
Barred Owl	5	13	3	5	8	3	10
Common Nighthawk	...	...	...	...	...	...	...
Chuck-will's-widow	...	3	5	6	3	1	3
Whip-poor-will	1	8	7	2	4	3	5
Chimney Swift	117	89	78	90	92	39	21
Ruby-throated Hummingbird	8	4	12	10	25	12	29
Belted Kingfisher	7	5	10	9	12	22	22
Red-headed Woodpecker	11	8	19	4	10	16	4
Red-bellied Woodpecker	80	73	49	51	85	46	67
Yellow-bellied Sapsucker	...	...	...	...	1	...	1
Downy Woodpecker	12	15	18	16	29	11	30
Hairy Woodpecker	3	3	2	5	3	1	4
Northern Flicker	47	45	40	34	41	43	59
Pileated Woodpecker	15	22	18	16	29	21	35
Eastern Wood-Pewee	10	27	24	42	7	90	3
Acadian Flycatcher	11	23	18	62	7	72	13
Willow Flycatcher	...	...	...	...	...	...	...
Eastern Phoebe	13	16	12	13	21	14	12
Great Crested Flycatcher	40	88	49	79	59	62	61
Eastern Kingbird	47	58	50	43	51	176	56
Horned Lark	...	...	...	...	...	1	...
Purple Martin	220	222	200	138	300	474	258
Tree Swallow	205	52	89	176	65	79	427
Northern Rough-winged Swallow	48	17	35	53	47	38	67
Bank Swallow	6	2	2	1	12	1	1
Cliff Swallow	...	...	...	...	...	...	...
Barn Swallow	2027	412	318	297	279	228	228
Blue Jay	93	87	94	79	98	55	111
American Crow	223	158	146	143	201	123	155
Fish Crow	51	55	64	36	57	40	67
Carolina Chickadee	122	97	101	78	133	74	126
Tufted Titmouse	108	83	102	99	161	118	178
Red-breasted Nuthatch	2	...	...	...	...	...	...
White-breasted Nuthatch	12	7	12	13	17	8	22
Brown-headed Nuthatch	3	3	7	5	8	10	12
Brown Creeper	...	1	1	...	...	...	...
Carolina Wren	38	54	52	57	85	75	110
House Wren	22	3	3	2	9	3	13
Winter Wren	...	...	...	...	...	...	...
Sedge Wren	1	...	...	...	...	...	...
Marsh Wren	...	4	...	4	3	5	5
Ruby-crowned Kinglet	4	...	2	1	12	...	5
Blue-gray Gnatcatcher	53	70	56	63	134	72	134
Eastern Bluebird	143	177	60	62	65	66	66

	5 May 1985	4 May 1986	3 May 1987	1 May 1988	7 May 1989	29 April 1990	28 April 1991	3 May 1992	2 May 1993	8 May 1994
...	1	...	...
4	14	8	4	...	5	4	3	1
3	...	5	3	2	2	5	1	1	1	...
...	...	6	2	3	2	2	4	1	...	1
4	...	4	5	4	7	5	9	3	2	2
...	1	...	1
7	...	5	5	5	3	3	3	2	5	1
10	...	5	6	23	7	2	2	5	2	4
79	...	61	63	36	39	36	38	53	40	84
29	...	16	17	9	14	9	16	15	17	10
13	...	15	20	12	16	9	16	12	12	8
8	...	9	13	7	16	6	15	13	20	8
69	...	80	104	80	79	99	84	60	91	80
...	1
10	...	14	23	19	16	17	19	8	16	12
4	...	4	4	5	2	2	4	1	6	6
64	...	38	48	35	33	52	57	34	44	33
17	...	19	26	18	17	18	38	17	14	19
30	...	21	16	11	26	11	8	28	22	36
35	...	7	33	19	62	39	12	29	13	51
...	1	...	...	...	...	...
15	...	16	30	16	11	22	30	14	25	17
72	...	50	87	60	100	50	72	66	59	50
97	...	60	94	51	52	39	72	99	45	92
...	1	...	1	...	2	...	...	...
405	...	643	245	486	164	237	246	152	88	142
136	...	302	22	1213	387	143	46	102	81	780
19	...	86	22	41	67	44	34	31	21	42
...	...	13	6	6	9	...	...	1	...	13
...	...	1	...	...	1	...	...	1	...	1
313	...	720	148	212	499	126	249	168	131	221
94	...	69	98	149	51	107	110	125	76	80
128	...	151	135	191	167	154	207	114	141	137
59	...	33	58	67	29	23	45	40	50	44
72	...	94	100	99	132	90	99	86	46	47
92	...	110	114	133	90	101	138	92	110	80
...	2	...	...	...	...	...	...	...
15	...	17	22	19	18	18	11	16	23	8
45	...	6	8	12	14	15	11	11	7	7
...	1	...	...	...	...
126	...	33	89	78	98	83	106	127	111	80
3	...	5	4	3	8	6	4	10	5	4
...	1	...	...	...	...	...	...
...	1	...	...	...	...	...	...
...	...	5	3	5	3	3	2	1	...	3
41	...	5	2	4	2	1	2	3	2	...
81	...	65	152	163	105	93	121	109	91	72
120	...	96	131	100	115	135	90	110	128	99

	6 May 1978	6 May 1979	4 May 1980	9 May 1981	2 May 1982	15 May 1983	29 April 1984
Veery	5	...	1	2	...	14	6
Gray-cheeked Thrush	2	...	1	...	...	10	...
Swainson's Thrush	1	...	1	1	...	12	...
Hermit Thrush	2	...	...	...	...	2	1
Wood Thrush	102	112	90	75	100	68	42
American Robin	147	107	145	179	366	135	226
Gray Catbird	130	99	40	93	76	38	64
Northern Mockingbird	137	108	78	108	100	72	74
Brown Thrasher	54	26	27	29	22	16	22
American Pipit	...	...	...	...	...	...	...
Cedar Waxwing	99	399	9	42	534	18	26
European Starling	476	344	430	458	202	204	346
White-eyed Vireo	56	52	74	44	102	59	138
Solitary Vireo	3	...	...	...	1	...	1
Yellow-throated Vireo	19	8	16	10	20	14	9
Warbling Vireo	...	...	...	...	...	1	...
Red-eyed Vireo	217	259	198	194	227	172	152
Blue-winged Warbler	3	1	11	1	18	...	8
Tennessee Warbler	...	1	2	1	...	1	...
Nashville Warbler	2	1	...	...	...	1	2
Northern Parula	43	46	44	42	120	79	94
Yellow Warbler	33	8	7	9	4	11	20
Chestnut-sided Warbler	1	...	2	...	...	...	1
Magnolia Warbler	...	...	1	...	...	12	...
Cape May Warbler	...	...	...	2	...	...	1
Black-throated Blue Warbler	13	...	23	12	26	8	15
Yellow-rumped Warbler	179	66	74	49	317	27	381
Black-throated Green Warbler	3	...	...	...	1	...	3
Blackburnian Warbler	...	1	...	...	...	1	1
Yellow-throated Warbler	29	19	27	35	58	35	37
Pine Warbler	40	54	29	47	54	59	79
Prairie Warbler	40	35	37	51	89	67	66
Palm Warbler	1	...	...	...	...	...	3
Bay-breasted Warbler	...	...	...	...	...	...	...
Blackpoll Warbler	43	63	13	13	17	83	24
Cerulean Warbler	...	...	...	...	...	...	...
Black-and-white Warbler	71	28	16	43	62	23	70
American Redstart	38	50	29	41	25	85	37
Prothonotary Warbler	17	7	5	14	23	22	16
Worm-eating Warbler	...	...	...	1	5	6	...
Ovenbird	120	81	61	89	86	54	85
Northern Waterthrush	1	1	...	1	2	3	3
Louisiana Waterthrush	21	9	6	11	30	18	20
Kentucky Warbler	13	15	18	15	12	24	8
Common Yellowthroat	130	122	76	64	105	87	75
Hooded Warbler	21	11	17	26	73	21	25
Wilson's Warbler	...	...	...	...	...	...	...
Canada Warbler	...	...	...	...	...	3	...

	5 May 1985	4 May 1986	3 May 1987	1 May 1988	7 May 1989	29 April 1990	28 April 1991	3 May 1992	2 May 1993	8 May 1994
3	...	...	...	...	1	...	...	2	1	6
1	...	...	...	...	...	...	...	...	...	3
3	5	...	...	...	...	...	...	...	1	2
2	2	...	...	1	1	...	...	...	...	...
77	36	98	62	82	92	74	77	105	...	83
257	210	171	284	212	295	198	176	180	...	205
42	27	84	21	60	11	12	57	32	...	41
116	87	89	98	130	76	102	77	77	...	67
43	29	22	23	35	57	35	52	51	...	47
5	...	2	...	...	...	...	...	...	...	8
341	12	493	29	103	14	9	142	12	...	118
320	325	247	366	290	336	209	243	298	...	195
79	101	86	84	86	77	89	100	47	...	32
...	...	3	...	3	1	1	2	4	...	2
14	6	9	11	15	6	12	8	11	...	10
...
188	212	293	242	178	162	177	158	154	...	153
5	4	7	14	2	11	...	3	1	...	1
2	...	...	1	...	...	...	...	...	...	...
...	...	...	1	...	...	1	...	...	...	...
102	36	43	51	76	58	62	51	60	...	53
31	45	44	14	26	3	23	32	13	...	43
...	...	...	...	1	...	2	2	...	...	3
...	1	2	...	...	...	2	...	1	...	2
4	1	...	1	1	1	...	2	2	...	1
29	12	22	3	4	6	1	15	1	...	15
295	235	81	223	107	113	62	215	72	...	83
1	...	...	1	4	3	1	2	3	...	5
...	1	2	...	...	...	...	...	...	...	...
37	32	...	45	52	66	62	43	36	...	22
62	49	101	87	73	65	77	75	75	...	54
48	42	58	62	33	30	75	38	42	...	27
2	1	2	1	...	...	1	3	1	...	3
1	...	...	...	...	...	...	...	...	...	...
22	15	7	1	33	...	4	3	12	...	63
...	...	1	...	...	...	...	...	...	...	1
82	36	30	22	48	29	22	16	13	...	25
47	26	28	20	38	8	16	15	7	...	41
11	17	12	9	11	14	21	14	13	...	11
2	2	...	...	...	...	...	...	...	...	...
62	45	81	90	71	88	94	71	75	...	73
...	9	3	...	5	8	...	1	2	...	1
12	12	12	16	17	10	17	10	4	...	13
15	4	6	9	13	11	17	19	17	...	13
110	49	66	60	59	34	62	61	46	...	72
33	26	26	32	14	20	36	19	13	...	8
...	...	...	...	...	...	...	1	...	...	...
...	...	...	...	...	...	...	3	...	...	...

	6 May 1978	6 May 1979	4 May 1980	9 May 1981	2 May 1982	15 May 1983	29 April 1984
Yellow-breasted Chat	41	34	26	23	28	42	9
Summer Tanager	24	59	41	45	57	52	41
Scarlet Tanager	28	30	38	40	27	50	38
Northern Cardinal	159	160	144	146	209	105	164
Rose-breasted Grosbeak	5	4	1	4	4	5	8
Blue Grosbeak	12	15	13	19	11	19	10
Indigo Bunting	30	68	66	101	34	137	6
Rufous-sided Towhee	120	81	55	65	125	59	62
Chipping Sparrow	141	38	55	68	115	68	116
Field Sparrow	39	32	21	22	32	22	27
Savannah Sparrow	142	15	7	6	11	2	22
Grasshopper Sparrow	8	4	1	3	2	1	6
Sharp-tailed Sparrow	...	...	...	2	...	2	1
Seaside Sparrow	...	...	2	3	4	2	5
Song Sparrow	71	72	45	47	52	51	80
Lincoln's Sparrow	...	...	...	...	...	...	...
Swamp Sparrow	9	8	1	2	4	2	7
White-throated Sparrow	9	29	40	19	224	7	222
White-crowned Sparrow	5	...	...	...	...	...	...
Dark-eyed Junco	...	...	...	...	...	...	1
Bobolink	574	132	355	139	671	449	11
Red-winged Blackbird	723	416	272	508	249	360	559
Eastern Meadowlark	96	51	61	44	84	32	91
Rusty Blackbird	1	...	...	...	...	...	129
Boat-tailed Grackle	4	8	3	4	3	4	1
Common Grackle	375	158	333	306	106	200	332
Brown-headed Cowbird	113	49	109	111	179	89	107
Orchard Oriole	26	26	24	35	25	27	13
Northern Oriole	2	3	2	12	2	2	14
Purple Finch	4	...	...	7	8	...	4
House Finch	...	1	1	2	2	4	14
Pine Siskin	51	...	...	31	26	...	3
American Goldfinch	212	58	61	107	602	85	235
Evening Grosbeak	41	5	13	5	26	...	64
House Sparrow	315	85	88	181	154	154	155
Total species	161	141	145	155	149	152	160
Total individuals	12,618	7593	7543	7559	11,320	7503	9479



5 May 1985	4 May 1986	3 May 1987	1 May 1988	7 May 1989	29 April 1990	28 April 1991	3 May 1992	2 May 1993	8 May 1994
21	25	21	30	23	13	13	27	8	16
49	29	47	48	50	46	64	68	46	93
42	17	27	36	41	26	24	33	30	40
221	146	153	184	213	197	211	148	187	162
3	7	7	3	11	...	2	6	6	4
23	15	21	19	20	15	22	42	20	27
129	13	78	26	67	20	10	77	29	84
40	53	74	86	73	113	103	107	90	61
96	97	87	141	148	127	120	108	107	81
23	23	40	46	19	37	35	17	41	20
14	59	72	20	16	12	14	23	19	4
22	1	7	2	6	2	4	1	...	4
3	1	...	...	...	...	1	2	2	...
4	3	2	3	3	3	3	5	4	2
70	70	50	76	36	56	40	31	32	32
...	...	1	...	...	...	...	...	...	...
11	13	3	2	4	1	1	6	...	2
21	113	55	133	58	70	111	59	55	2
...	...	...	...	1	...	...	...	...	...
...	...	...	...	...	...	3	1	...	...
150	413	227	45	193	66	...	356	57	540
1050	310	338	1422	699	240	522	307	513	420
83	72	118	42	104	53	81	69	38	33
...	6	1	28	...	...	33	...	...	...
4	1	1	2	1	1	2	1	5	1
502	443	547	535	407	305	382	308	340	302
101	105	118	177	145	189	122	203	79	97
14	43	53	37	30	38	41	54	44	51
2	5	4	3	7	2	6	3	1	3
1	...	1	...	...	...	...	...	...	...
34	17	38	46	103	62	84	85	132	250
...	71	5	11	272	10	13	...	...	...
184	226	251	253	...	484	269	254	118	118
...	...	11	4	149	...	9	...	...	...
156	120	82	142	...	71	71	42	30	49
152	161	161	162	166	155	156	164	150	153
10,299	9349	8772	11,746	10,169	7812	8150	8290	10,212	8398



Twenty species of waterfowl have been seen during the counts. Of the migrants, only the Ruddy Duck (*Oxyura jamaicensis*) could be considered regular, having been recorded on 12 of the 17 counts. The next most common species are American Black Duck (*Anas rubripes*), Blue-winged Teal (*A. discors*), and Red-breasted Merganser (*Mergus serrator*), all of which have been seen on 11 counts. The only species remaining which exceed five counts are Lesser Scaup (*Aythya affinis*) and Green-winged Teal (*Anas crecca*) seen on nine and eight counts respectively. Wood Ducks (*Aix sponsa*) and Mallards (*A. platyrhynchos*) are local nesters.

Aside from Great Blue Herons (*Ardea herodias*), Yellow-crowned Night-Herons (*Nyctanassa violacea*), and Green Herons (*Butorides virescens*), all of which nest locally, the Snowy Egret (*Egretta thula*) is the only large wader that is somewhat regular, with 10 count records.

Fourteen shorebird species have made the cumulative list. Common Snipe (*Gallinago gallinago*) have been seen on 12 counts and Semipalmated Plovers (*Charadrius semipalmatus*) have been found on 11 counts. Black-bellied Plovers (*Pluvialis squatarola*) have been seen on the counts 10 times and Dunlin (*Calidris alpina*) nine times.

Among the gulls and terns reported, Bonaparte's Gulls (*Larus philadelphia*) have been observed 12 times. Forster's Tern (*Sterna forsteri*) could be considered somewhat regular with 14 count appearances. Common Tern (*S. hirundo*) and Least Terns (*S. antillarum*) have been noted 12 and 10 times respectively.

One of the great thrills of spring counts is finding migrant thrushes, vireos, warblers, sparrows and icterids. The Williamsburg count has recorded four non-breeding thrush species, the most commonly occurring being the Veery (*Catharus fuscescens*) found on 10 counts. Solitary Vireos (*Vireo solitarius*) have also made appearances on 10 counts and there is one count record for Warbling Vireo (*V. gilvus*).

The cumulative warbler species count is 32, including 12 local breeders and two possible breeders, American Redstart (*Setophaga ruticilla*) and Black-and-white Warbler (*Mniotilta varia*). Blackpoll (*Dendroica striata*) and Black-throated Blue (*D. caerulescens*) warblers have been the most consistently recorded non-breeders at 16 counts apiece. Blue-winged Warbler (*Vermivora pinus*) at 15 counts and Northern Waterthrush (*Seiurus noveboracensis*) at 13 counts are the next most often observed. All other warbler species have been rarely encountered, many only five to six times.

It is interesting to note that Pine Siskins (*Carduelis pinus*) and Evening Grosbeaks (*Coccothraustes vespertinus*) have each been recorded on nine counts and that seven of those have been in coincidental years. Likewise, Purple Finches (*Carpodacus purpureus*) have been found six times, five of those overlapping with the previous two species. An easy conclusion to draw is that these are a result of a feeder effect. Several of the records, however, have occurred quite distant from housing and feeders.

Comparing averages of selected species from the first four count years to their averages for the last four count years offers a means of sampling differences or trends, if any, over the 17-year count period. For example, the data track the arrival and establishment of the House Finch (*Carpodacus mexicanus*) in the Williamsburg area. From an average of one bird per count over the first four years, the population has exploded to an average of 138 for the last four years.

Also documented is an inverse relationship between the House Finch and the House Sparrow (*Passer domesticus*). House Sparrows have declined 72% from an average of 172 during the first four years to an average of 48 during the last four years.

Ospreys (*Pandion haliaetus*) and Bald Eagles (*Haliaeetus leucocephalus*) have rebounded from earlier declines, thanks to special attention given to them for the past 20 years, by a variety of agencies. The number of Ospreys recorded on the count averaged only 18 the first four years, but has risen to an average of 79 the last four years. Bald Eagles show a similar dramatic increase from an average of one the first four years to an average of nine the last four years.

Canada Goose (*Branta canadensis*), considered a rare breeder locally when the count began, has increased substantially as a common resident breeder. During the count's first four years, this species averaged 95 birds per year. The last four count years it has averaged 186, with many of the adults attending downy young.

Commercial and residential development may have affected Eastern Meadowlarks (*Sturnella magna*), as they have declined 45% from an average of 63 during the first four count years to an average of 35 the last four count years.

Interestingly, Rock Doves (*Columba livia*) and European Starlings (*Sturnus vulgaris*), birds commonly associated with urbanized settings, have both declined. Rock Doves averaged 138 for the count's first four years, but only averaged 30 the last four years. Starlings dropped from an initial 4-year average of 427 to an average of 236 the last four years.

Neotropical migrants have received a lot of attention in recent years as possible indicators of the effects of Central and South American deforestation. The following are four-year average comparisons for some of the more numerous species on this count: Red-eyed Vireos (*Vireo olivaceus*) averaged 217 for the first four years and 161 for the last four years; Ovenbirds (*Seiurus aurocapillus*) averaged 88 for the first four years and 78 for the last four years; Blackpoll Warblers averaged 33 for the first four years and 20 for the last four years; Yellow-throated Warblers (*Dendroica dominica*) averaged 28 for the first four years and 40 for the last four years; Prairie Warblers (*D. discolor*) averaged 41 for the first four years and 45 for the last four years; American Redstarts averaged 40 for the first four years and 19 for the last four years; Common Yellowthroats (*Geothlypis trichas*) averaged 98 for the first four years and 60 for the last four years; Indigo Buntings (*Passerina cyanea*) averaged 66 for the first four years and 50 for the

last four years; Ruby-throated Hummingbirds (*Archilochus colubris*) averaged nine for the first four years and 15 for the last four years Eastern Wood-Pewees (*Contopus virens*) averaged 26 for the first four years and 24 for the last four years.

Local and statewide concern about the Northern Bobwhite (*Colinus virginianus*) population seems to be borne out by the downward trend in the Williamsburg area. Their count numbers averaged 106 for the first four years and 40 for the last four years.

A comparison of the latest count date on 15 May 1983, with the three early count dates on 29 April 1984, 29 April 1990 and 28 April 1991 indicates some arrival and departure patterns within this two-week transition period.

The April counts recorded an average of five migrant duck species, while the 15 May count recorded only a single Red-breasted Merganser. Of the three species of late-arriving migrant thrushes, the April counts recorded a total of only seven Veerys, while the 15 May count recorded 14 Veerys, 10 Gray-cheeked Thrushes (*Catharus minimus*) and 12 Swainson's Thrushes (*C. ustulatus*). Yellow-billed Cuckoos (*Coccyzus americanus*) totalled 1, 0, and 5 on the three April counts, while 10 were found on the 15 May count.

Blackpoll Warblers totalled 24, 0, and 4 on the April counts and 83 for the 15 May count. American Redstarts totalled 37, 8, and 16 for the April counts and 85 for the May 15th count. Savannah Sparrows (*Passerculus sandwichensis*) totalled 22, 12, and 14 for the April counts and only two for the 15 May count. White-throated Sparrows totalled 222, 70, and 111 to only seven for the 15 May count.

The value of sharing bird census data is that it increases the perspective on avian population trends. Drawing conclusions from these data has its limitations, however, due to the innumerable variables which influence bird counts.

Certainly, 50 years of information would be more revealing than 17 years. Continuing spring count efforts will lead to additional insights about bird movements and the health of populations. Well documented information can also be important in strengthening conservation efforts. It is hoped that the information presented here will invite analysis and stimulate further count comparisons in Virginia and elsewhere.

ACKNOWLEDGEMENTS

The cooperation of the Williamsburg Bird Club, for furnishing the count records, is deeply appreciated, as are the efforts of all those who took part in the counts.

HAWK-WATCH—1993

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In 1993 nine stations reported hawk-watching results to the *Raptorian*, a publication assembled and printed each year by Myriam Moore of Lynchburg, Virginia. Seven of the reporting sites have submitted summaries in years past. Cuba Point in Gloucester County and Woodpecker Ridge in Botetourt County are new to the line-up this year.

Even though the total number of stations reporting their results was the lowest in many years, total numbers of hours and days stations were open were much higher than those of the previous year. The 522 total days of hawk-watching in Virginia are the most recorded for any given year since the activities were organized in 1976.

Total numbers of raptors seen, however, were disappointing, in the face of this stepped-up coverage. Although the season's total of 54,840 individuals was higher than any of the previous four years, it was far below the season totals of the mid-1980s when as many as 90,000 or more birds were seen during fall hawkwatches.

Two very unusual species seen this year—a Rough-legged Hawk (*Buteo lagopus*) and a Swainson's Hawk (*B. swainsoni*) at Snicker's Gap—brought the total number of raptor species to 17. It should be noted, however, that the Swainson's Hawk documentation is presently being reviewed by the records committee and the final outcome of the evaluation is not yet available.

One of the special highlights of the 1993 season was the revitalization of the Rockfish Gap hawk-watching group. Data obtained at this site over the past 18 years has shown that it is one of the most important observation points along the Blue Ridge. Its beginnings in 1976 were very modest with one observer reporting 765 individuals over a 6-hour period on one day, the sum total of hawk-watching activities for the entire year at that site. As the years wore on, however, more and more people took an interest, and under the able leadership of YuLee Larner, the site flourished from 1983 to 1990. In 1991, however, Larner was not able to oversee the hawk-watching activities at the site and participation dropped dramatically. Then came John Irvine who, in one year, set the wheels in motion to rebuild interest and organize efforts to fully man the station again. He held meetings to coordinate volunteer activities, prepared careful schedules, and even produced an attractive brochure describing hawk-watching activities at the site, including tips on identifying raptors that might be seen there.

Suddenly hawkwatching activities at Rockfish rose from 46 days and 246 hours in 1992 to a whooping 93 days and 669 hours in 1993. That represents the second highest number of days the station has been manned in one year and an all-time high number of hours. It is an outstanding example of what dedication and enthusiasm can accomplish. The results of the Rockfish Gap hawk-watch, along with the totals from other stations around the state, can be found in Table 1 on pages 106-107.

(Continued on page 108)

TABLE 1. *Virginia hawk lookout totals—1993.*

	Black Vulture	Turkey Vulture	Osprey	Bald Eagle	Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk	Northern Goshawk	Red-shouldered Hawk
1. Kiptopeke	119	1560	905	130	648	6396	813	10	23
2. Cuba Point	21	...	17	6	10	81	8	...	12
3. Arlington (Friend residence)	2	101	10	...	3	20	4	...	6
4. Short Hill Mt.	N/R	N/R	76	32	129	828	222	17	98
5. Snicker's Gap	N/R	N/R	224	56	260	2080	347	42	282
6. Rockfish Gap	105	1020	174	30	88	901	98	3	63
7. Harveys Knob	N/R	N/R	109	5	46	673	46	2	27
8. Woodpecker Ridge	N/R	N/R	...	1	3	52	2	...	6
9. Mendota	36	...	38	10	5	76	39	1	2
Totals	283	2681	1543	269	1186	11,035	1573	75	507

1993 VIRGINIA HAWK LOOKOUT SITES

1. Kiptopeke Beach: At the southern tip of the Eastern Shore.
2. Cuba Point: At the confluence of the York and Perrin rivers in Gloucester County.
3. Arlington: The residence of Jim and Charlotte Friend.
4. Short Hill Mt: Across the Potomac River from Harper's Ferry in Loudoun County.
5. Snicker's Gap: at the intersections of Rts. 7 and 601 on the Loudoun-Clarke county line.

Broad-winged Hawk	Red-tailed Hawk	Rough-legged	Golden Eagle	American Kestrel	Merlin	Peregrine Falcon	Unidentified	Total individuals	Total hours station manned	Total days station manned
289	443	...	4	3533	366	201	144	15,584	610	74
1	9	...	...	1	4	1	1	65	104	62
4623	33	...	...	10	...	...	1	4813	32	14
189	1701	...	13	50	6	12	78	3451	342	70
7209	1848	1	22	115	16	26	203	12,731	562	88
6031	668	...	6	57	5	7	133	9389	669	93
2577	463	...	3	45	5	8	124	4133	427	87
...	188	...	1	2	...	...	9	264	42	14
4139	6	...	...	35	2	4	17	4410	93	20
20,434	5129	1	48	3835	400	258	699	49,698	2881	522

1993 VIRGINIA HAWK LOOKOUT SITES (cont'd)

6. Rockfish Gap: Crest of the Blue Ridge on Afton Mountain, adjacent to Interstate Highway. 64.
7. Harvey's Knob: Crest of the Blue Ridge at milpost 95 on the Blue Ridge Parkway.
8. Woodpecker Ridge: A nature center hawk-watching station in Troutville, Boetourt County.
9. Mendota Fire Tower: Crest of Clinch Mountain near Rt. 802 in Washington County.

Another interesting story concerning hawk-watching sites is the platform constructed at the newly-established Woodpecker Ridge Nature Preserve on the property of Barry Kinzie outside of Troutville in Botetourt County. Perched high on a hilltop, the site overlooks a broad expanse of ridges and valleys and should produce some highly valuable data in years to come.

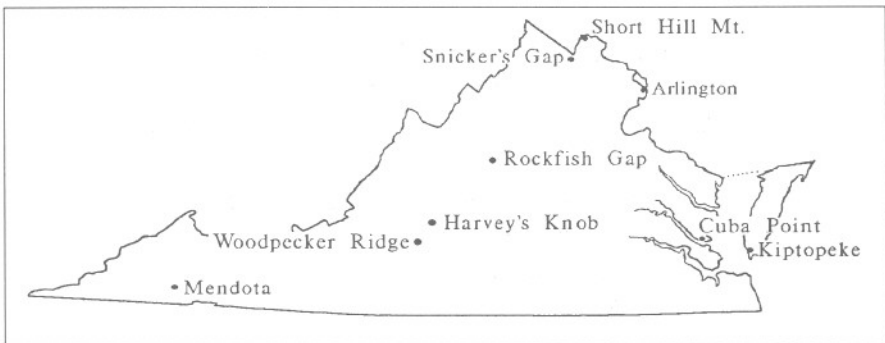
The platform has been dedicated to Myriam Moore, the compiler of Virginia hawk-watch data. Most who have had contact with Moore, know her to be one of the most principal organizers of hawk-watching in Virginia. She has probably inspired more birders to become involved in hawk-watching, especially in the western part of the state, than any other individual.

Another interesting feature to look for when visiting the site is the names of active Virginia hawkwatchers that have been neatly carved into each plank that makes up the floor of the platform.

Another site that has undergone a spectacular change is the Kiptopeke station on the Eastern Shore. A magnificent elevated platform was erected there in 1993, providing observers with a much better view of raptors sweeping down along the Delmarva Peninsula, one of the main migrational corridors along on the coast. Hawkwatchers were also grateful that the high platform elevated them enough to avoid the onslaught of ticks and chiggers, problem insects that have bedeviled participants at that station for years.

Figure 1 below shows the approximate location of each of the hawkwatch sites listed in Table 1 on pages 106 and 107.

FIGURE 1. *The location of the 1993 hawk-watching sites listed in Table 1 on pages 106-107.*



A SUMMARY OF THE 1993 BEACH-NESTING AND COLONIAL WATERBIRD SURVEY OF THE VIRGINIA BARRIER ISLANDS

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Over the four-day period, 20-23 June 1993, our nineteenth consecutive beach-nesting and colonial waterbird survey was completed, encompassing all of the Virginia barrier islands from Assawoman on the north, through Fishermans on the south. Michael Beck provided skilled and valuable field assistance and Jim Wood of the Eastern Shore of Virginia National Wildlife Refuge provided vehicular access to Fishermans Island.

Disruptive weather severely impacted colonial and beach-nesting waterbird reproductive efforts the previous four summers (Williams, 1990a; Williams, et al, 1991; 1992; 1993). Such was not the case in 1993. Eastern Virginia experienced a prolonged drought throughout the summer months, providing a meteorological stability which may have contributed to an apparently successful nesting effort for all species surveyed. For the first time in nine surveys, the team consistently encountered downy young Black Skimmers (*Rynchops niger*). Downy Common Tern (*Sterna hirundo*) young were also quite prevalent. Casual late summer observations of numerous fledglings for these two species along the coast provides some anecdotal evidence their nesting season was successful.

Although a major storm lashed the Eastern Shore in mid-March, no significant changes in the islands' physiography was noted.

During the survey, herons, ibis and egrets throughout the area were attending downy-to-feathered young. Beach-nesting species were actively feeding downy young, as previously indicated, or in late stages of incubation. We found little evidence of renesting due to storm or tide-related damage.

Great Blue Herons (*Ardea herodias*) nested among Great Egrets (*Casmerodius albus*) on Fishermans Island for the second consecutive year. Four nests were found compared to one in 1992 (Williams, et al, 1993). The Cattle Egret (*Bubulcus ibis*) count (79) was the third lowest in survey history, significantly below the 212 18-mean (Williams, et al, 1993). Tricolored Heron (*Egretta tricolor*) numbers (258) were the

TABLE 1. Total number of adult birds found on each island during the 20-23 June 1993 Virginia barrier islands survey.

[illegible][illegible]

fourth lowest count registered, also significantly below their 18-year mean of 545. Other species totals noticeably below average were: Snowy Egret (*Egretta thula*), 52% below; Black-crowned Night-Heron (*Nycticorax*), 61% below; Yellow-crowned Night-Heron (*Nyctanassa violacea*), 84% below; and Glossy Ibis (*Plegadis falcinellus*), 63% below.

Nesting Brown Pelicans (*Pelecanus occidentalis*) were located only on the northeast corner of Fishermans Island. Situated on high dunes and surrounded by nesting Herring (*Larus argentatus*) and Great Black-backed gulls (*L. marinus*), the pelican colony contained 324 active nests. This count more than triples the combined 102 nests found in two barrier island colonies in 1992 (Williams, et al, 1993). A single American White Pelican (*Pelecanus erythrorhynchos*) was seen near the Flounder Point heronry off the north end of Cedar Island on 22 June.

Herring and Great Black-backed gull numbers were little changed over the previous year's survey. The Laughing Gull (*Larus atricilla*) count, however, was the second lowest since the survey began in 1975 when 3730 breeding adults were found (Williams, 1976). Colonies this year were again found on Wreck and Fishermans islands.

Gull-billed Tern (*Sterna nilotica*) numbers remained relatively stable this year. In contrast, Least Tern (*S. antillarum*) totals were the fourth lowest recorded and Royal Terns (*S. maxima*) had their second lowest total, surpassed by the 1976 total of 1330 (Williams, et al, 1990b), and 40% below the 18-year mean for that species.

Black Skimmers continued their decline for the fifth consecutive year, setting another all-time low. Contrary to the previous eight surveys when virtually no downy young of this species were noted, the presence of this summer's young provides hope they may reverse their downward trend.

For the second consecutive year, American Oystercatchers (*Haematopus palliatus*) were at an all-time low count. Though the species seems evenly distributed throughout the survey area, it is worth noting that 32% (224) of the total were on Metompkin Island.

The three northernmost islands in the survey area, Assawoman, Metompkin, and Cedar have had extensive sand overwashes created by 1991 and 1992 winter storms. These sand/cobble areas attracted the majority of the survey area's Piping (*Charadrius melodus*) and Wilson's (*C. wilsonia*) plovers. Sixty-five of the 97 Piping Plovers recorded on the survey came from these three islands. Similarly, and even more dramatic, 43 of the 54 Wilson's Plovers resided there. While overall numbers for these species remain somewhat stable, distribution of individuals over time varies considerably, an apparent function of preferred nesting habitat.

Interesting birds seen during the survey included single Whimbrels (*Numenius phaeopus*) on Smith and Hog islands, 21 and 22 June, respectively. Single Marbled Godwits (*Limosa fedoa*) were observed on Ship Shoal Island on 21 June and Hog Island on 22 and 23 June. On Ship Shoal Island, 21 June, 325 Red Knots (*Calidris canutus*) and 250 Black-bellied Plovers (*Pluvialis squatarola*) were counted. Pelagic species seen included three Wilson's Storm-Petrels (*Oceanites oceanicus*) over 60°F water off Metompkin Island on 22 June, a dead Greater Shearwater (*Puffinus gravis*) found on Hog Island and a dead second-year Northern Gannet (*Morus bassanus*) discovered on Metompkin Island. A Barn Owl (*Tyto alba*) nested in an old stove in a burned-out storage

shed next to the Hog Island Machipongo Coast Guard Station. At least three young could be seen.

Virginia Coast Reserve Manager, Barry Truitt, was our always reliable host and boat captain. Jackie and Charlie Farlow treated us to the Eastern Shore's finest hospitality and repast. Mr. Walkley Johnson allowed us access to privately-owned portions of Fishermans Island.

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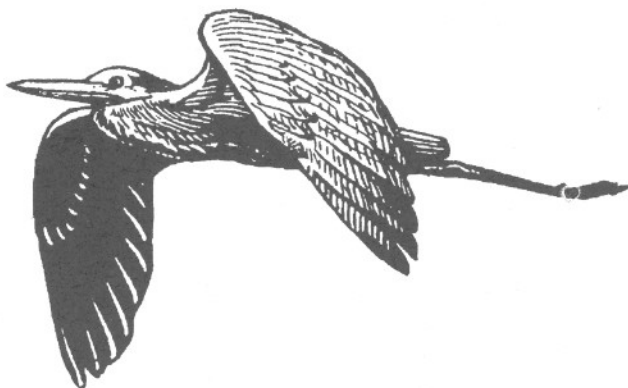
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BANDING RESULTS AT KIPTOPEKE BEACH—1993

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The thirtieth year of operation of the banding station in the Kiptopeke area began on 5 September 1992 and lasted through 3 November. The station operated for 55 days, closing only five days because of inclement weather.

Net hours increased 16% over 1992 to 9373 while the number of birds banded (4517) was 59% higher than the previous year. Some of the increase in numbers may be attributable to relocation of nets to forest-edge areas, as well as an increase in personnel. There were no foreign recoveries this year, but there were 28 returns of birds banded in previous years, and 345 repeats of birds banded in 1993.

The station, which overlooks Chesapeake Bay at the southern tip of the Eastern Shore of Virginia, is operated by the Migratory Birds Committee of the Virginia Society of Ornithology. In 1993 the station cooperated with the Northampton County Critical Habitat Study which was operated by Sarah Mabey and Bryan Watts. One of their study team assisted daily in record keeping and banding. The specific net in which each bird was trapped was recorded, along with its weight and fat class. The former information was needed to determine habitat usage and the latter statistics to assess the value of the area for migrants' fat recovery. These data are now being analyzed.

The birds most commonly banded in 1993 are listed in Table 1. Because net-hours were up 16% in 1993, the percent change for 1993 versus 1992 was based on birds per net-hour.

TABLE 1. *The most commonly banded birds at Kiptopeke in 1993 and the percent of change in numbers for 1993 versus 1992.*

Species	Number of individuals banded in 1992	Number of individuals banded in 1993	Percent of change from 1992 to 1993
Yellow-rumped Warbler	1123	1890	45
American Redstart	166	348	76
Common Yellowthroat	130	225	50
Gray Catbird	92	181	73
American Goldfinch	4	161	N/A

High counts in the history of the station were set for American Goldfinch (*Carduelis tristis*) (161); Field Sparrow (*Spizella pusilla*) (80); Savannah Sparrow (*Passerculus sandwichensis*) (38); White-crowned Sparrow (*Zonotrichia leucophrys*) (7); Vesper Sparrow (*Pooecetes gramineus*) (6); and Lincoln's Sparrow (*Melospiza lincolnii*) (6). Factors contributing to these results include extending station operation by five days into November and locating two nets adjacent to a large brush pile.

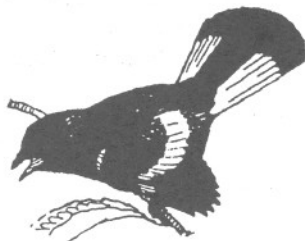
The species listed in Table 2 are those for which 1993 was the highest count-year in the recent past. Although 1993 was not the best banding year compared to all past years, there was, nevertheless, a significant gain in numbers.

TABLE 2. *Species for which 1993 was the highest count year in the recent past.*

Species	Number of birds banded in 1993	Year of previous high count
White-eyed Vireo	23	1987
Solitary Vireo	7	1980
Red-eyed Vireo	59	1989
Black-throated Blue Warbler	158	1989
Prairie Warbler	16	1990
Black-and-white Warbler	60	1989
American Redstart	348	1988
Common Yellowthroat	225	1990
Chipping Sparrow	29	1979
Northern Oriole	6	1988

Banding of an Eastern Bluebird (*Sialia sialis*) for the first time in 1993 brought the cumulative total species list for the station to 158.

Licensed banders in charge of the station for varying periods of time were Don Schwab, Walter Smith, John Dillard, David Leake, and Bryan Watts. Other banders and assistants played a vital role in the success of the station and their help is greatly appreciated. Permission to use the site was given by Dennis Baker, Director of the Division of Parks. On-site assistance was provided by Scott Flickinger, Park Manager. A grant provided by the Virginia Department of Game and Inland Fisheries, and sponsored by Karen Terwilliger, supplied funds to cover equipment expenses of the station. Walter Smith did the editing and tabulation of the field records as well as the comparison to past records.



THE 1993 ANNUAL MEETING

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The 59th annual meeting of the Virginia Society of Ornithology was co-hosted by the Clinch Valley Bird Club and the Cumberland Nature Club. The business meeting and banquet were held at the Holiday Inn in Norton, Virginia, and the paper session was conducted at Clinch Valley College in Wise.

President A. Clair Mellinger called the meeting to order at 8:00 p.m. on Friday, 14 May 1993. He thanked our hosts and announced that the 60th annual meeting will be held in Harrisonburg and will be hosted by the Rockingham Bird Club. He then reminded the gathering that all VSO members are welcome to attend meetings of the board of directors.

The treasurer's report was given by Sue Thrasher. Sue said that although the general fund was low, the various endowment funds were healthy. In response to questions, Sue and Clair explained the uses of the various funds, explaining, for example, that the interest earned on the Life Membership Fund paid the equivalent of dues for the life members and that the Endowment fund was used for education and research.

Dr. Richard H. Peake then read the slate of officers and board members recommended by the nominating committee. They were as follows:

Officers

<i>President</i>	Clair Mellinger, Harrisonburg
<i>Vice President</i>	Bill Akers, Midlothian
<i>Secretary</i>	Larry Robinson, Richmond
<i>Treasurer</i>	Sue Thrasher, Lynchburg
<i>Raven Editor</i>	Teta Kain, Gloucester
<i>Newsletter Editor</i>	Bettye Fields, Newport News

Directors, Class of 1996 (three-year terms):

Lisa Hamilton, Staunton
Carolyn Wells, Farmville
Charles Ziegenfus, Harrisonburg

There were no nominations from the floor. The slate was approved by acclamation.

Clair Mellinger then highlighted the proposed changes in articles V and VI of the VSO bylaws, as enumerated in the April 1993 newsletter. A motion to accept the proposed changes carried. The changes are as follows:

Present Article V (COMMITTEES)

Section I. At each annual meeting, the President shall appoint an auditing committee, composed of two members, to audit the accounts of the Treasurer.

Section II. At the beginning of each annual meeting, the President shall appoint a Committee on Resolutions, composed of three members.

Section III. At least 90 days in advance of the annual meeting, the President will appoint a Program Committee, and a Local Committee on Arrangements, which shall perform such duties as may be assigned to it in connection with the annual meeting.

Section IV. At least 90 days in advance of the annual meeting, the President shall appoint a Nominating Committee to nominate officers and directors to be voted on at the annual meeting.

Proposed changes to Article V

Section I. Since the VSO now employs an accountant to prepare our tax returns, it is felt that the audit committee is not needed. It is thus proposed that Section I, as currently worded, be eliminated. To ensure financial integrity it is proposed that an Article VI (Finances), Section V, be created to read as follows:

Section V. The accounts of the Treasurer will be audited annually and in a manner specified by the president.

This wording will give the President latitude to use an accountant to audit when one is needed to prepare tax returns, or to appoint a committee or individual where appropriate.

To aid in conducting business between scheduled meetings of the Board of Directors, the following bylaw is recommended as Section I:

Section I. Business of the corporation between meetings of the Board of Directors will be conducted by an Executive Committee consisting of the President, Vice President, Secretary, Treasurer, Editor of *The Raven* and Editor of the Newsletter. A quorum will consist of four officers. Meetings will be called by the President, who will notify the entire Board at least four days in advance. The committee will not modify action taken by the Board and will report action taken as a committee at the next board meeting.

Section II. Current practice is for an individual to be asked by the President to prepare proclamations. It is felt that this is a function that does not require a committee, so it is proposed that Section II be deleted.

Section III. Planning a program for the annual meeting is best done by the host chapter and this is current practice. Therefore it is proposed that Section III be eliminated.

Section IV. The membership must be notified 30 days prior to the annual meeting of nominees for officers and directors. Section IV now provides only two months for the committee to find nominees, and, in some circumstances, this short length of time is inadequate. Therefore, it is proposed that the 90-day provision in Section IV be

increased to 180 days and that the section number be changed to II to be compatible with eliminating Sections II and III as proposed above.

Proposed additions to Article VI (Finances)

Section VI. The Board has adopted a budget method of operation to improve the financial integrity of the VSO. For this to be effective, people spending VSO funds need to adhere to the approved budget. To facilitate this, the following bylaw is proposed:

Section IV. An annual operating budget will be approved by the Board of Directors. Expenditures in excess of the approved budget are the responsibility of the person incurring them. The Board of Directors may subsequently approve the excess expenditures if adequately justified from both a need and timing standpoint.

Section VII. As a further enhancement of financial stability, the Board feels that it is appropriate to bond VSO personnel handling significant funds. The following bylaw is proposed:

Section VII. The Treasurer and Membership Committee Chair (who receives all dues) will be bonded.

A motion to approve the bylaws as amended carried.

Next on the agenda, progress on specific projects and various board activities were discussed.

In the absence of David Johnston and Erika Wilson, President Mellinger gave an update on the status of the Breeding Bird Atlas. He stated that currently, a number of individuals were writing species accounts and submitting them for editing. He also reported the resignation of John Bazuin from the Atlas committee. Mellinger said that a development officer was needed for the project, and more help was needed with other aspects of the project. Volunteers were encouraged. The atlas concept has evolved: there will be maps, species accounts, and, hopefully, photographs.

Mellinger then observed that the VSO had a long wish list and lots of unfilled jobs. He encouraged members to volunteer.

After Larry Lynch distributed the new VSO brochures and membership applications. John Dillard gave a presentation on the new bird observation platform at Kiptopeke State Park. The first objective will be to provide a better hawk-watch facility and a focal point for handling visitors. He presented a rendering of the structure, which will have a shelter, places to sit down, and will be accessible to persons with disabilities. The VSO is to provide \$3000 toward the construction, the State will provide the remainder. This observations platform is hoped to be a first step toward the establishment of a comprehensive bird observatory at Kiptopeke State Park.

Dillard then talked of the upcoming Eastern Shore Birding Festival to be held on 9-10 October 1993. The festival will be headquartered at the Sunset Beach Inn on the lower tip of the Eastern Shore in Northampton County. The purpose of the festival will be to stimulate ecotourism and provide environmental education. Entities supporting the festival include the Northampton County Department of Education, The Virginia

Department of Game and Inland Fisheries, The Nature Conservancy, and the U. S. Fish and Wildlife Service. There will be programs for children on Thursday and Friday, the 7th and 8th, and programs for the tourists on Saturday and Sunday, the 9th and 10th.

Activities will include tours of the banding station and hawk-watch sites, walks on the new wildlife trail, and trips to Fishermans Island. There will be canoe trips on the refuge and hikes at locations such as the Nature Conservancy property at Brownsville. The VSO is an affiliate sponsor of the event.

Brian Patteson was next on the program with a polished slide show on pelagic birding. His remarkable slides and commentary gave some of the finer points of identification of pelagic birds, include some rare species.

After Larry Lynch reviewed the publications of the local chapters, Dick Peake ended the evening's activities with a preview of the field trips planned for the weekend.

The Saturday papers session was presided over by VSO Vice President Bill Akers. The papers were as follows:

"The role of the volunteer in ornithological research," Teta Kain, Gloucester County.

"Habitat management for wildlife on the Jefferson National Forest with particular attention to the Clinch Ranger District," Lisa Nutt, Wildlife Biologist, Clinch Ranger District.

"The natural history of the White-eyed Vireo (*Vireo griseus*)," Steve Hopp, Emory and Henry College.

"Breeding bird ecology on Mt. Rogers," Phil Shelton, Clinch Valley College.

"Preliminary bird population studies on selected sites at the Powell River Project," by Jon Rockett and Richard Peake, Clinch Valley College.

Following a field trip tally and social hour, the annual VSO banquet was held at the Holiday Inn, Norton. The following awards were given to VSO members:

The James Eike Service Award is given in memory of James Eike, who was twice (non-consecutively) president of the organization, and perhaps, more than anyone else, was the "spirit" of the VSO. The award this year was given to VSO Vice President, Bill Akers, for his long and loyal service.

The Jackson Abbott Conservation Award is given in memory of Jack Abbott, the Northern Virginia chapter member who began the winter Bald Eagle surveys and compiled the Fort Belvoir Christmas count. It was awarded this year to Dr. Porter Kier. Dr. Kier was instrumental in the preservation of large tracts of Great Blue Heron habitat and other critical habitats on the Northern Neck. He has conducted an inventory of birds for the Natural Heritage Program on the Neck, and has negotiated conservation easements and transfers of habitat to the Nature Conservancy.

The J. J. Murray Award is given to support research which will increase the understanding of the birds of Virginia. This year's award was given to Amanda Allen for a study of tidepool morphology: "Determinants of tide pool use by migrating and breeding birds."

President Clair Mellinger then gave his assessment of the "State of the VSO."

He felt encouraged by the progress made on upcoming publications—The Breeding Bird Atlas: energy and funding are needed to complete the project; The VSO Site Guide—Jeff Blalock is working on a revision that will put the book into ABA (American Birding Association) format. If this is done, the ABA may be willing to publish the guide.

The Kiptopeke Bird Observatory is envisioned to be more than a hawk-watch platform. The cooperative efforts on its behalf auger well. The bird banding and hawk watching will be used as a vehicle for education of the public, and will help save a small, but important, part of the coastal migration route.

Forays, field trips and record keeping: The organization has made progress on the prompt publication of the results of forays and field trips, and has developed a new sensitivity for the usefulness of good records.

Mellinger reported that he had attended the Ridge and Valley meeting of "Partners in Flight," an thought that we should work with them to help prioritize species and habitat protection. He observed that environmentalists, in general, are looking at bird species as indicators of the health of the environment, and that this is a place where we can be of help.

Dick Peake then oversaw the awarding of door prizes, and Mellinger gave thanks and expressed appreciation to the clubs and individuals who put together this very special weekend.

Peake then introduced the featured speaker for the evening, Ted Ewbank. Ted gave a fascinating talk and slide show on birding the upper Texas coast, "the best birding spot in North America." He pointed out that the area is truly, where "east meets west meets south." Along with showing the slides, he described certain fine points of identification of selected problem species, and he emphasized the importance of habitat.

Ewbank stressed that when we become habituated to a good birding spot, we should look at the habitat anew, looking at the "micro" habitats, assessing the plant species there and then working to preserve those species.

The meeting adjourned after a brief review of the next day's field trips was presented.

Participants on both the Saturday and Sunday field trips visited the top birding spots in the area, from wooded mountain tops to a reclaimed strip mine. Some of the many highlights were Golden-winged (*Vermivora chrysoptera*), Swainson's (*Limnothlypis swainsonii*) and "Brewster's" (*Vermivora pinus/chrysoptera*) warblers at the lower elevations, and Blackburnian (*Dendroica fusca*), Magnolia (*D. magnolia*), and Chestnut-sided (*D. pensylvanica*) warblers on the mountain top. Several nests of the Chestnut-sided Warbler were found, one in a tangle twelve inches off the ground, three feet from the road.

THE 1994 ANNUAL MEETING

JOHN DILLARD
7803 Brentford Drive
Richmond, Virginia 23225

President Clair Mellinger welcomed members and guests to the business session of the 60th annual meeting at 8:10 p.m. on Friday, 13 May 1994, in the Sheraton Inn at Harrisonburg. After welcoming everyone, the president reviewed the status of the sequestered funds and told the group that since there has been difficulty meeting the yearly budget, the board plans to raise dues next year to help remedy the situation. Even with the increase, however, the dues structure will still be in line with other organizations of like size and function.

Several ongoing projects were discussed. David Johnston, publications committee chairman, reminded the membership that our charter includes publication of studies relating to Virginia birds. One approach to that end has been the publication of the Virginia avifauna series which includes Johnston's book, *Birds of Prey*, and all editions of *Virginia's birdlife: an annotated checklist*. The latest work in the series, to be published in the near future, is a book by Roger Clapp detailing Virginia nest and egg dates. Also, work proceeds on a new site guide for Virginia, to be published, hopefully, sometime within the next year, by the American Birding Association. Negotiations are under way with that organization concerning publishing arrangements, including royalties to be paid to VSO.

Bettye Fields, chairman of the Breeding Bird Atlas committee reported that over 40 species accounts for that book have been completed thus far. Crista Cabe has joined the committee to serve as fund-raiser. Richard Banks has also joined committee and will serve as one of the editors.

Brian Taber reported that a meeting was held last month to start organizing a non-profit foundation that would support a bird observatory at Kiptopeke. Most of the founders of that organization are VSO members.

Ruth Beck, president of the Williamsburg chapter, reported that plans have been made to hold the next annual meeting at Williamsburg from 4 through 7 May 1995, in conjunction with the Wilson Society.

Peggy Spiegel, nominating committee chairman, reported the following slate:

<i>President</i>	Bill Akers	Midlothian
<i>Vice President</i>	Dick Peake	Wise
<i>Secretary</i>	Ruth Beck	Barhamsville
<i>Treasurer</i>	Sue Thrasher	Lynchburg
<i>Raven Editor</i>	Teta Kain	Gloucester
<i>Newsletter Editor</i>	Bettye Fields	Newport News

Directors, Class of 1996 (three-year terms):

Wallace Coffee	Bristol, Tennessee
Sarah Cromer	North Tazewell
David Hughes	Portsmouth

A motion was made, seconded, and passed to accept the slate as submitted.

Clair Mellinger noted that chairmen are needed for several committees and members interested should talk with officers or directors about what duties are entailed for specific committees that interest them.

Bill Akers led a round of applause recognizing Mellinger's two years of able leadership as president.

Dr. John Irvine, president pro tem of the Rockingham Bird Club and a volunteer at the Wildlife Center of Virginia at Weyer's Cave, introduced Ed Clark who gave an outstanding program about this important wildlife rehabilitation facility. Clark reviewed the history of the center which was founded in 1982. He outlined its modest beginnings and mentioned that in 1983, on a part time basis, he gave 100 conservation programs to 6,000 people. The project has been growing ever since. As an example of that growth, Clark stated that last year, four full-time center employees presented 500 programs to 93,000 people. The programs given in the schools are coordinated to fit in within school curricula.

Clark also reviewed the history of pesticide usage in the state over the past 15-year period, and emphasized the lack of federal or state controls over the application of most substances used, many of which are harmful or fatal to wildlife.

At the conclusion of Clark's presentation, plans for field trips were reviewed and the meeting was adjourned at 10:10 p.m.

Vice President Bill Akers presided over the paper session which started at 2:00 p.m. on Saturday. The following papers were presented:

"Bird population survey—ten years later," Charles and Melva Hansrote, Lynchburg. The results of a population study initiated in 1982 and extending to 1992 were shared with the audience. The effort was designed to determine the population on an annual basis, the seasonal variations, and the effects of urbanization. The study area was visited 572 days and 114,537 birds sightings were made over the study period.

"Dominance relationships and flock structures in a winter population of northern Dark-eyed Juncos (*Junco hyemalis*)," Stephanie Shepherd and Charles Ziegenfus, Eastern Mennonite College, Harrisonburg. Analysis revealed that males dominate females within age classes, older males dominate younger males, and prior residents dominate newer residents. It was found that the population was fluid in December and January in that individual birds would arrive, spend a few days, and depart. In the next two months the population was stable.

"Reviving a troubled hawk-watch," John Irvine, Harrisonburg. The process followed in turning around the Rockfish Gap Hawk-watch was described. The effort

involved obtaining funding and staffing from three bird clubs. It also included providing procedures for volunteers to follow that considers their special needs, along with effective means to train them. The final step in the program included recognition of efforts made by the volunteers.

"Chickadee hybridization in Virginia: a story of song, size and genes." Gene Sattler. DNA-type studies were made of ten populations of Black-capped (*Parus atricapillus*) and Carolina (*P. carolinensis*) chickadees in areas where hybridization was expected. The range of percent hybridization was 10-62%. With the variation in songs heard in these populations, the conclusion was that songs are not a reliable method of identification in areas where the two species overlap. Another conclusion reached was that the two species should not be combined as one, based on this study.

The paper session was concluded at 4:30 p.m.

The Saturday evening session was convened at 8:00 p.m. by Cricket Barlow, President of the Rockingham Bird Club who welcomed the VSO to Harrisonburg. He thanked individual members of the annual meeting planning committee, some of whom have been working on the project for two years. Table arrangements were distributed and a drawing was held for door prizes.

Clair Mellinger praised the efforts of Cricket Barlow who led the annual meeting team for this year, as well as work of Mary and Dick Smith who provided leadership for the previous meeting at Harrisonburg. He also recognized the contributions of VSO officers, directors, and committee chairmen during the past year. He emphasized the continuing need for dedicated volunteer help to continue ongoing programs and to take on new jobs.

John Bazuin, conservation committee chairman, introduced Grady Wood, Environmental Officer of the Amoco Oil Company's Yorktown Refinery. Wood accepted the 1994 Jackson M. Abbott Conservation Award on behalf of the refinery. The board voted to present the award to the refinery for its program and support of the Hampton Roads Waterfowl Rescue Organization. Spring and fall bird counts have been initiated to determine the status of birds in the area and bird habitat has been improved at the refinery. A tern nesting area has been created with help from students. This is the first time that the award has been made to a for-profit organization. It is hoped other businesses will follow Amoco's exemplary leadership.

The featured speaker of the evening, Rob Simpson, presented a program about what one might expect to see in the Shenandoah area from the standpoint of a naturalist and photographer.

The evening session ended at 9:30 p.m.

OFFICERS AND COMMITTEES OF THE VSO, 1994-95

Officers:

- President:* J. WILLIAM AKERS, 2808 Woodmont Drive, Midlothian, VA 23113-1135
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Immediate Past President: CLAIR MELLINGER, Eastern Mennonite College, Harrisonburg, VA 22801

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Class of 1995

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Brian Taber, 104 Druid Court, Williamsburg, VA 23185
Erika Wilson, 2032 Brooks Square Place, Falls Church, VA 22043

Class of 1996

- Lisa Hamiton, 321 York Avenue, Staunton, VA 24401
Carolyn Wells, 204 Fayette Street, Farmville, VA 23901
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Class of 1997

- Wallace Coffee, 100 Bellebrook Drive, Bristol, TN 37620
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Site Guide: David W. Johnston, 5219 Concordia Street, Fairfax, VA 22032 and Jeffrey Blalock, 103 Elizabeth Court, South Boston, VA 24592

LOCAL CHAPTERS OF THE VSO

This list of local chapters has been revised to May 1994. Numbers of members in each chapter were not available at the time of publication and have been omitted in this report.

1. Augusta Bird Club, Staunton-Waynesboro
 2. Bristol Bird Club, Bristol
 3. Cape Henry Audubon Society, Norfolk
 4. Clinch Valley Bird Club, Tazewell
 5. Cumberland Nature Club, Wise
 6. Eastern Shore Bird Club, Accomac
 7. Fairfax Audubon Society, Vienna
 8. Foothills Bird Club, Martinsville
 9. Hampton Roads Bird Club, Newport News-Hampton
 10. Lynchburg Bird Club, Lynchburg
 11. Margaret H. Watson Bird Club, Farmville
 12. Marion Bird Club, Marion
 13. Monticello Bird Club, Charlottesville
 14. Montpelier Naturalists, Gordonsville-Orange County
 15. New River Valley Bird Club, Blacksburg
 16. Northern Neck of Virginia Audubon Society, Kilmarnock-White Stone
 17. Northern Shenandoah Valley Audubon Society,
Winchester-Strausburg-Front Royal
 18. Northern Virginia Chapter, Arlington-Fairfax
 19. Richmond Audubon Society, Richmond
 20. Roanoke Valley Bird Club, Roanoke-Salem
 21. Rockbridge Bird Club, Lexington
 22. Rockingham Bird Club, Harrisonburg
 23. Virginia Beach Audubon Society, Virginia Beach
 24. Westmoreland Bird Club, Montross
 25. Williamsburg Bird Club, Williamsburg
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REVIEW

DAVID W. JOHNSTON

5219 Concordia St.
Fairfax, Virginia 22032

The Human Nature of Birds. A Scientific Discovery with Startling Implications. Theodore X. Barber. 1994. Penguin Books, 375 Hudson St., New York, NY 10014. 226 pp. Illustrated. \$10.95.

Written by a behavioral scientist who eschews an "official scientific taboo against anthropomorphisms," this engaging little book offers his reassessment of avian behavior and draws heavily on independent research, observations of caged birds, and scientific investigations. What is this "startling" discovery? Apparently it is that birds possess intelligence comparable, and in some cases, superior to that of humans. Readable chapters are intended to prove that birds have individual personalities, make and use tools, express emotions (happiness, grief), create complex musical compositions, and communicate with each other and humans by expressing opinions, desires, and choices "just as people do."

To enjoy this book, you have to read it quickly and try not to stop and reason out his conclusions. For me that was difficult. For example, having myself studied bird migration for many years, I was surprised by the statement that "birds migrate when it is the sensible thing to do. When there is insufficient food, they migrate." Contrary to these views, abundant scientific evidence (which this author ignores) has shown that (a) increasing daylight hours in the spring *trigger* northward migration (not a bird's "sensible decision") and (b) birds migrating northward from the tropics in the spring *leave* both an equitable climate and rich food resources.

Nonetheless, a final chapter is especially interesting and poignant. Based in part on foregoing chapters, the author addresses "revolutionary implications of animal intelligence." He seems to say that new generations of humans will accept "as natural that people and birds can understand each other and relate to each other not only as equals but also as friends." He also concludes that "*instinctual guidelines for living have to be implemented flexibly to fit varying circumstances.*" Although these ideas are not really so revolutionary, the book does direct our attention to the fascinating and complex world of bird behavior.

REVIEW

BILL WILLIAMS

154 Lakewood Drive
Williamsburg, Virginia 23135

Birds of Colonial Williamsburg, a historical portfolio. Alan Feduccia. 1989. The Colonial Williamsburg Foundation, Publisher. 161 pages. Illustration by: H. Douglas Pratt. \$24.95

Carefully displayed among the upscale tourist memorabilia and quality crafts produced by Colonial Williamsburg, this book could readily be dismissed as just another coffee table decoration. It's elegant and striking dust-cover portrait of a male Cardinal perched among magnolia blossoms in a colonial garden, readily invites even those with a passing love of birds to open and browse. Contrary to the adage, this work could be accurately judged by looking at the cover.

Inside one encounters a cornucopia of colonial natural history gaining refreshingly rich insights into the lore of a number of the areas more noteworthy bird species. The author devotes his entire introduction to an erudite discussion of ornithological contributions made by John Lawson, John White, Thomas Hariot, Thomas Morton, John Josselyn, Mark Catesby, William Bartram, Thomas Jefferson, and William Byrd. Among them, Catesby has received the most notoriety, an overview of which is well-developed.

The text of the book is devoted to 75 species presentations. Each is preceded by a beautiful and exceptionally accurate full-page color portrait of the subject species. Most of the artwork is set against pleasing pastoral colonial backdrops providing a presentation quality that alone merits owning this book. Readers will be enthralled by the delicate beauty of the Red-headed Woodpecker and Bufflehead and will note with some surprise the grace and beauty of the Yellow-rumped Warbler presented in winter plumage.

Many of the species' accounts commence with an anecdote about the bird from either Catesby or Lawson. The more one pursues these and the substance of the species' passages, the more one realizes the scholarly depth and historical value being presented. Each species discussion is limited to several short paragraphs on a single page describing distribution, both geographic and temporal, identifying plumage characteristics, song, where appropriate, and a brief natural history.

Accounts are given historical definition by concluding paragraphs derived from notes from one or more of the aforementioned naturalists. John Lawson on the cardinal, "They will sing very prettily when taken old, and put in a cage." On the Chuck-Will's-Widow, Catesby notes, "The Indians say these birds were never known till a great massacre was made of their country folks by the English, and that they are the departed spirits of the massacred Indians." Over and over, the reader is offered such engaging treasures. Like the thrill and adventure of birding, they bring wonderful intellectual discovery to every species encountered.

Quite unlike most bird books the species are not presented in strict phylogenetic or checklist order. The account sequence more closely resembles a morning of random

field observations standing as a curious contradiction to an otherwise well conceived, organizational format.

Consistent with all Colonial Williamsburg Foundation products, this work is impeccably rendered. Solidly bound and cloth-covered, the pages are heavy bond, smooth paper and the textual layout is pleasing and inviting. The quality of the color print reproduction is immaculate and precise.

This book has received limited attention within Virginia's birding community largely because of where it is marketed. For its serious and noteworthy contributions to the state's ornithology it is highly recommended. I came to know this work in its prepublication form as one of the manuscript reviewers and was so taken by its depth and intellectual value, I did not hesitate, when asked, to recommend H. Douglas Pratt for the art work. His paintings offer more than an intimate encounter with a bird. They present a mood expressing the genteel nature of a time when the natural world was seen and appreciated for its contribution to a quality of life. The text confirms this many times over, melding a perfect complement of two art forms.

Read this book casually and often to learn things about Sora, Yellow-billed Cuckoos, Passenger Pigeons, and even Rock Doves you will be pleased to discover. There are many treasures here waiting to be revealed and cherished. Readers will be warmly taken by the colonial perspective enveloping these neighbors we often forget have given others before us so much pleasure and meaning.



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